

# *Levick's Notebook*



ANTARCTIC HERITAGE TRUST

## *Foreword*

In the Antarctic summer of 2012, Antarctic Heritage Trust Artefact Programme Manager Lizzie Meek made a surprise discovery while working at Captain Robert Falcon Scott's 1911 expedition base at Cape Evans, Antarctica; a photographic notebook not seen for over a century.

Each year the summer snow melt around the building causes variations in run-off patterns and ground erosion. That particular summer melt revealed a Wellcome Photographic Exposure Record and Diary 1910 which belonged to George Murray Levick – surgeon, zoologist and photographer. His name can be seen written in the opening pages.

Levick was a part of Scott's 1910-1913 expedition and a member of the Northern Party. The Northern Party of six men summered (1911-1912) at Cape Adare, and is notable for surviving the winter of 1912 in a snow cave on Inexpressible Island before sledging back to the Cape Evans base, incredibly, all alive.

The notebook is a missing part of the official expedition record and contains Levick's pencil notes detailing the date, subjects and exposure details for the photographs he took during 1911 while at Cape Adare. Close examination reveals links between the notations in the notebook and photographs held by the Scott Polar Research Institute, Cambridge and attributed to Levick. See examples on page 5-7.

George Murray Levick's notebook required specialist conservation treatment; the notebook's binding had been dissolved by 100 years of ice and water damage and the pages were fused together. The Trust's contract Paper Conservator, Aline Leclercq, undertook the meticulous task of conserving the notebook. This involved separating each individual page, stabilising and cleaning the pages, rebuilding the notebook into sections before sewing the book back together and reconstructing the cover remnants. Conservation treatment provided the opportunity to digitise each page of the notebook allowing for more comprehensive study without risking the fragile object.

A video of the conservation process can be found on the Trust's You Tube channel: <https://www.youtube.com/user/AntarcticHeritage>

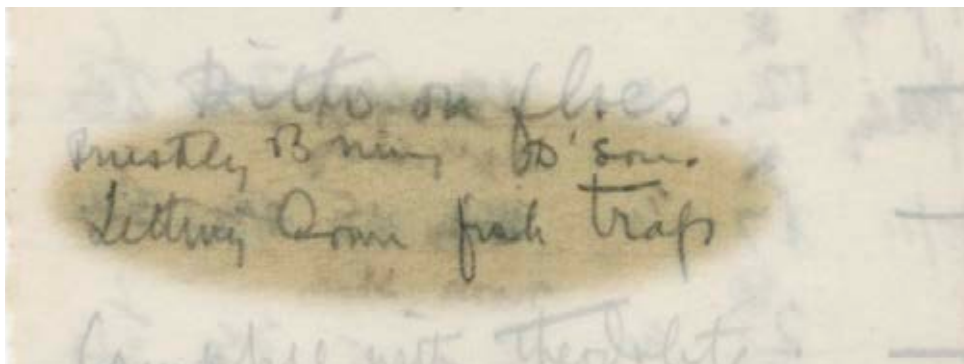
During the 2014-2015 season, the Antarctic Heritage Trust completed a comprehensive seven-year conservation programme to secure and weatherproof the building and artefact collection at Cape Evans before putting a long-term maintenance and monitoring programme in place. The notebook numbers among the 11,000+ artefacts conserved by the Trust that remain on-site, contributing to a powerful sense of place.



## ANTARCTIC HERITAGE TRUST

The Antarctic Heritage Trust is a New Zealand-based charity with a vision of inspiring explorers. The Trust's mission is to conserve, share and encourage the spirit of exploration. The Trust is engaged in a long term, cold-climate heritage conservation project in Antarctica's Ross Sea region to protect the Antarctic explorers' legacy: the five expedition bases and 20,000 artefacts left behind by Captain Robert Falcon Scott, Sir Ernest Shackleton, Carsten Borchgrevink and Sir Edmund Hillary, for current and future generations.

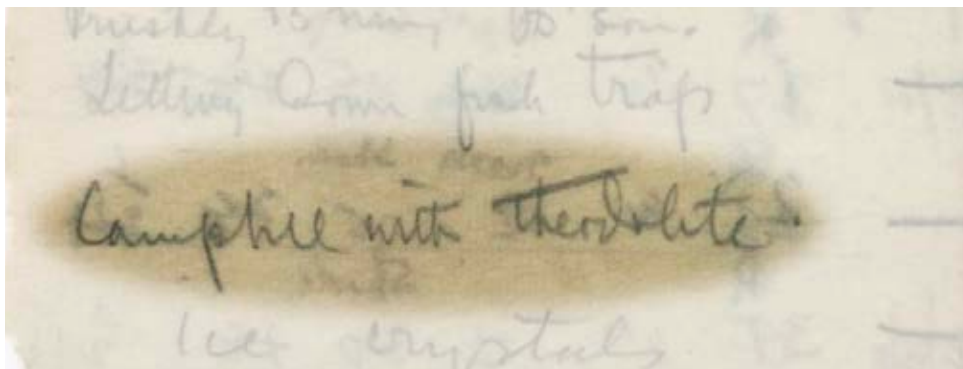




Levick journal entry links to photographic image: Priestley, Dickason and Browning set a fish trap.



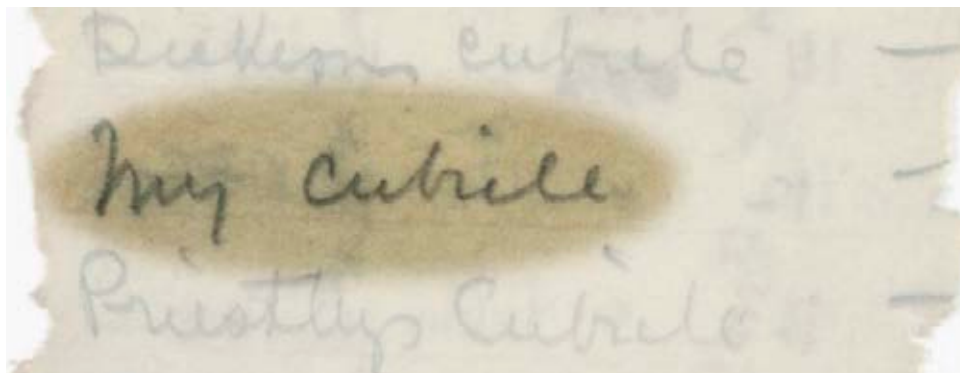
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Levick journal entry links to photographic image: Campbell with theodolite.



© P48/14/119 Scott Polar Research Institute, University of Cambridge.



Levick journal entry links to photographic image: My [Levick's] cubicle



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# RECORD, DIARY & MEMO PAGES

Five Exposures ...	85-140
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1909			1910			1911		
JANUARY	FEBRUARY	MARCH	JANUARY	FEBRUARY	MARCH	JANUARY	FEBRUARY	MARCH
1 1909 2 1909 3 1909 4 1909 5 1909 6 1909 7 1909 8 1909 9 1909 10 1909 11 1909 12 1909 13 1909 14 1909 15 1909 16 1909 17 1909 18 1909 19 1909 20 1909 21 1909 22 1909 23 1909 24 1909 25 1909 26 1909 27 1909 28 1909 29 1909 30 1909 31 1909	1 1909 2 1909 3 1909 4 1909 5 1909 6 1909 7 1909 8 1909 9 1909 10 1909 11 1909 12 1909 13 1909 14 1909 15 1909 16 1909 17 1909 18 1909 19 1909 20 1909 21 1909 22 1909 23 1909 24 1909 25 1909 26 1909 27 1909 28 1909 29 1909 30 1909	1 1909 2 1909 3 1909 4 1909 5 1909 6 1909 7 1909 8 1909 9 1909 10 1909 11 1909 12 1909 13 1909 14 1909 15 1909 16 1909 17 1909 18 1909 19 1909 20 1909 21 1909 22 1909 23 1909 24 1909 25 1909 26 1909 27 1909 28 1909 29 1909 30 1909 31 1909	1 1910 2 1910 3 1910 4 1910 5 1910 6 1910 7 1910 8 1910 9 1910 10 1910 11 1910 12 1910 13 1910 14 1910 15 1910 16 1910 17 1910 18 1910 19 1910 20 1910 21 1910 22 1910 23 1910 24 1910 25 1910 26 1910 27 1910 28 1910 29 1910 30 1910 31 1910	1 1910 2 1910 3 1910 4 1910 5 1910 6 1910 7 1910 8 1910 9 1910 10 1910 11 1910 12 1910 13 1910 14 1910 15 1910 16 1910 17 1910 18 1910 19 1910 20 1910 21 1910 22 1910 23 1910 24 1910 25 1910 26 1910 27 1910 28 1910 29 1910 30 1910 31 1910	1 1910 2 1910 3 1910 4 1910 5 1910 6 1910 7 1910 8 1910 9 1910 10 1910 11 1910 12 1910 13 1910 14 1910 15 1910 16 1910 17 1910 18 1910 19 1910 20 1910 21 1910 22 1910 23 1910 24 1910 25 1910 26 1910 27 1910 28 1910 29 1910 30 1910 31 1910	1 1911 2 1911 3 1911 4 1911 5 1911 6 1911 7 1911 8 1911 9 1911 10 1911 11 1911 12 1911 13 1911 14 1911 15 1911 16 1911 17 1911 18 1911 19 1911 20 1911 21 1911 22 1911 23 1911 24 1911 25 1911 26 1911 27 1911 28 1911 29 1911 30 1911 31 1911	1 1911 2 1911 3 1911 4 1911 5 1911 6 1911 7 1911 8 1911 9 1911 10 1911 11 1911 12 1911 13 1911 14 1911 15 1911 16 1911 17 1911 18 1911 19 1911 20 1911 21 1911 22 1911 23 1911 24 1911 25 1911 26 1911 27 1911 28 1911 29 1911 30 1911 31 1911	1 1911 2 1911 3 1911 4 1911 5 1911 6 1911 7 1911 8 1911 9 1911 10 1911 11 1911 12 1911 13 1911 14 1911 15 1911 16 1911 17 1911 18 1911 19 1911 20 1911 21 1911 22 1911 23 1911 24 1911 25 1911 26 1911 27 1911 28 1911 29 1911 30 1911 31 1911

## 5 USEFUL DATES FOR 1910 AND 1911

	1910	1911
Ash Wednesday	Feb. 9	Mar. 1
Good Friday	Mar. 25	Apr. 14
Easter Monday	Mar. 28	Apr. 17
Whit Monday	May 16	June 5
August Bank Holiday	Aug. 1	Aug. 7
Advent Sunday	Nov. 27	Dec. 3
Christmas Day	Sun., Dec. 25	Mon., Dec. 25
Boxing Day	Mon., Dec. 26	Tues., Dec. 26



## CUSTOMS' REGULATIONS

Packages containing photographic materials sensitive to light are liable to examination by Customs' officials in the same way as ordinary luggage. In most cases, however, a dark room is provided for the examination of photographic plates, films, etc., all packages of which should therefore be labelled distinctly, so as to indicate the nature of their contents. Some suggestions for labelling are given below. Such a precaution, combined with courtesy and politeness, will, as a rule, prevent all difficulty. If, however, any trouble should arise, it is best to ask for the chief officer.

English	Italian
PHOTOGRAPHIC MATERIALS	MATERIALE FOTOGRAFICO
SENSITIVE TO LIGHT	SENSITIVO ALLA LUCE
French	Portuguese
PHOTOGRAPHES	MATERIAES PHOTOGRAPHICOS
LUMIERE	SENSITIVOS A LUZ
German	Spanish
ANTIKERL	MATERIALES FOTOGRAFICOS
EDLICH	SENSITIVOS A LA LUZ



## FOCUSSING BY SCALE

In focussing by scale, as is common in most hand cameras, it is useful to know at what point the indicator should be set to secure the greatest depth of definition. This varies with the focus of the lens and the stop, and is known as the hyperfocal distance. It may be calculated approximately as follows:—

"Multiply the square of the focal length by 100, and divide by the  $f$  number of the stop multiplied by 12." Thus, with a 4-in. lens working at F8 we have

$$(4)^2 \times 100 = \frac{200}{8 \times 12} = 16 \text{ ft. 8 in.}$$

For convenience in reference the following table is given. The figures, which represent feet, are approximate only, but sufficiently exact for practical purposes:—

EQUIVALENT FOCUS OF LENS	APERTURES				
	F5.6	F8	F11.3	F16	F22.6
	HYPERFOCAL DISTANCE (approx.)				
3 inches	13	9	7	4	3
3-1/2 "	17	13	9	7	4
4 "	24	17	12	8	6
4-1/2 "	30	21	15	10	7
5 "	36	26	18	13	9
5-1/2 "	45	32	22	16	11
6 "	54	38	27	19	14
6-1/2 "	62	44	31	22	
7 "	72	50	36	25	18

This table is useful in several ways, following are examples:—

- (1) By setting the scale to the hyperfocal distance of the lens and stop in use, the greatest depth of definition is secured, viz., from half distance to infinity with the most critical at the hyperfocal distance. Thus, if at F11.3 focussed on 18 ft., the depth of definition is from 9 ft. to infinity. Between these distances is sufficient work, but for enlarging it is better to figure in the next column to the right. If the conditions named, we should be focussed on 26 ft., and consider from 13 ft. to infinity the depth of field in which good definition is secured.

6

No. 3  
CHINESE  
TINKER AND  
CROCKERY  
MENDER

Reproduction  
of original  
Lantern Slide

Color obtained  
by simple

superimposition

with TASCOT

K. J. C. L. T. Co. real

See page



No. 1  
CHINA  
CROCKERY  
MENDER  
NORTH  
CHINA

Reproduction  
of lantern  
slide  
Lantern Slides  
Colour obtained  
by simple  
development  
with 'TABLOID'  
'RYTOL' Universal  
Developer



See page 133

- (2) It shows what stop to use to secure sufficient depth of definition for the subject. Thus, with a  $5\frac{1}{2}$  in. lens, F11.3 or F16, according to the degree of definition required, must be used to render all objects sharp from 11 ft. (half 22) to infinity.
- (3) If the lens is focussed on infinity the figures in the table indicate the nearest point in approximate focus according to the stop in use.



### ILLUSTRATIONS

The reproductions on pages 1, 2, 11 and 12 are from photographs by the Rev. B. M. McOwen of Tai-Au-Fu, North China. The negatives were developed on the spot with 'Tabloid' 'Rytol' Universal Developer; the reproductions are from lantern slides produced with the same developer.

SLIDE No. 1.—"CHINESE BARBER SHAVING" (page 1).  
was produced with the normal lantern slide developer for black tones.

'Tabloid' 'Rytol'	One
'Tabloid' 'Rytol' Accelerator	One
Water	$2\frac{1}{2}$ ounces
Exposure normal.	

SLIDE No. 2.—"CHINESE HAIRDRESSER" (page 2).

Developer as above	Half ounce
Water	$1\frac{1}{2}$ ounces
'Tabloid' Ammonium Bromide	Two
Exposure—Eight times normal.	

SLIDE No. 3.—"CHINESE TINKER AND CROCKERY MENDER" (page 11).

Developer as for No. 1	$1\frac{1}{2}$ ounces
'Tabloid' Ammonium Bromide	Four
Exposure—Fifteen times normal.	

SLIDE No. 4.—"CHINESE CROCKERY MENDER AT WORK" (page 12).

Developer as for No. 1	$1\frac{1}{2}$ ounces
'Tabloid' Ammonium Bromide	Seven
Exposure—Twenty times normal.	

NOTE.—These four illustrations give some idea of the range of colour obtainable on lantern slides by simple development with 'Tabloid' 'Rytol' Universal Developer.



## TEMPERATURE CHART

The following table, in addition to giving the equivalents on the Fahrenheit and Centigrade scales, serves as a general guide to the temperatures for various photographic operations:—

Fahren-heit	Centi-grade	
212°	100°	Boiling point.
194°	90°	
180°	82.2°	Hot bath Platinotype process: for under-exposure and warmer tones.
170°	76.7°	Hot bath Platinotype process: normal.
150°	65.6°	
122°	50°	Hot bath Platinotype process: over-exposure and cold tones.
120°	48.9°	Development of carbon prints.
107° 10 102°	41.6° 10 38.8°	Development of Ozobrome prints.
100°	37.8°	
95°	35°	Development of Ozotype prints.
80°	26.7°	Cold bath Platinotype process: under-exposure and warm tones.
70° 68°	21.1° 20°	Development of Artigue prints.
65°	18.3°	Cold bath Platinotype process: normal.
60°	15.5°	Development of very fully exposed Gum Bichromate prints.
55° 50° 32°	12.8° 10° 0°	Normal temperature for ordinary developing, toning and fixing baths. Cold bath Platinotype process: over-exposure and coldest tones. Development of Gum Bichromate prints.
		Temperate.
		Freezing.

To convert Fahrenheit into Centigrade: deduct 32, multiply the remainder by 5, and divide by 9.  
To convert Centigrade into Fahrenheit: multiply by 9, divide by 5, and then add 32.

8

## WEIGHTS AND MEASURES

It has been commonly stated that in making up photographic formulae the troy or apothecaries' ounce of 480 grains is used, whilst the chemicals themselves are sold by the Imperial or avoirdupois ounce of 437-1/2 grains. Such a statement is, however, erroneous, because the official ounce, for selling or compounding, contains 437-1/2 grains. In prescriptions, the symbols  $\mathfrak{z}$ ,  $\mathfrak{ss}$  and  $\mathfrak{℥}$  are still commonly employed to indicate the troy or apothecaries' ounce of 480 grains, the drachm of 60 grains and the scruple of 20 grains. For photographic purposes, however, these symbols should be avoided, as they are likely to lead to confusion. The photographer's table of weights, therefore, should read

$$437\frac{1}{2} \text{ grains} = 1 \text{ ounce}$$

$$7000 \text{ grains} = 16 \text{ ounces} = 1 \text{ pound}$$

All chance of error is obviated when the weight is given in grains, because the troy, apothecaries' and avoirdupois grains are equal; moreover, the British grain is the same as that for the United States of America.

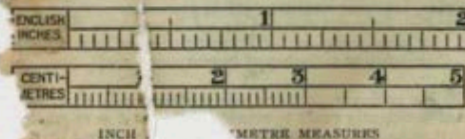
With 'Tabloid' Brand Chemicals, the employment of weights or scales of any kind is quite unnecessary.

### VOLUME

#### British Imperial Fluid Measure—

60 minims	= 1 fluid drachm
8 fluid drachms	= 1 fluid ounce
20 fluid ounces	= 1 pint
2 pints	= 1 quart
4 quarts	= 1 gallon

NOTE.—If working from an American formula, it is necessary to remember that the United States pint contains only 16 fluid ounces. The U.S.A. fluid ounce is, however, slightly larger than the Imperial ounce, so that an American pint contains approximately 16.5 Imperial ounces.





## THE METRIC SYSTEM

In view of the constantly-increasing use of the metric system of weights and measures by photographers, the following tables are given. The equivalents in Imperial Standards are also shown.

It should be borne in mind that on the Continent, for dispensing purposes, liquids are always weighed, not measured.

### WEIGHT

1 kilogram (kgm.)	= 1000 grammes	= 2.2 pounds
1 gramme (gm.)	= 10 decigrams	= 15.4324 grains
1 decigram (dg.)	= 10 centigrams	= 1.5432 grains
1 centigram (cg.)	= 10 milligrams	= 0.1543 grain

### CAPACITY

1 litre (L.)	= 10 decilitres	= 35.196 Imp. fl. oz.
1 decilitre (dl.)	= 10 centilitres	= 3.519 " " "
1 centilitre (cl.)	= 10 millilitres	= 0.352 " " "
* 1 c.c. (cubic centimetre)	= 0.999 millilitre	= 16.9 minims

### LENGTH

1 metre	= 10 decimetres	= 39.3701 inches
1 decimetre	= 10 centimetres	= 3.937 " "
1 centimetre	= 10 millimetres	= 0.3937 inch

For a comparison of the values of some of the more frequently employed expressions of the Metric and Imperial systems the following may be found convenient for reference:—

1 mgm. (milligram)	= 0.01543 grain (or approx. 1/64 grain)
1 gm. (gramme)	= 15.4324 grains.
1 kgm. ("kilo." or kilogram)	= 2 lb. 3 1/4 ounces avoird.
1 pound avoirdupois	= 453.592 grammes.
1 ounce avoirdupois	= 28.35 grammes.
1 grain	= 0.0648 gramme or 64.8 milligrams.
1 mm. (millimetre)	= 1/25 of an inch.
1 cm. (centimetre)	= 1/5 of an inch.
1 inch	= 25 millimetres or 2 1/2 centimetres.
1 L. (litre)	= 35.2 fluid ounces, Imperial measure (approx.)
1 fluid ounce, Imperial measure	= 28.42 grammes.
1 pint, Imperial measure	= 568.34 grammes.
1 gallon, Imperial measure	= 4.546 litres or 10 lb. avoird.
of pure water at 62° F. and under an atmospheric pressure of 30 inches of mercury.	

\* For ordinary photographic purposes it is convenient and sufficiently exact to consider  
that 28 c.c. = 1 fluid ounce and  
1000 c.c. = 1 litre.



## MODERN PHOTOGRAPHIC METHODS

In the following pages will be found a summary of the modern methods of carrying out such important photographic processes as negative making, bromide printing, gaslight printing, lantern-slide making, toning, intensification, reduction, etc. The aim is to provide plain and definite directions by which successful results may be obtained with the greatest certainty and the least trouble.

Beginners, who follow these directions, will find that success is attained with astonishing certainty and ease, and even the most experienced workers may well consider, whether these simple modern methods are not an advance on old-time ideas. Practical experience is the deciding factor in all photographic work, and no process should be condemned without trial because of its simplicity or because it seems opposed to traditions of the past. Scientific research has done much to simplify photography, and it is at least unwise to refuse to profit thereby.

### DEVELOPMENT

The old-fashioned way of development entailed a dim light, a collection of bottles of developer, accelerator and restrainer, and a struggle to decide when the negative was finished. It was thought that, by juggling with the contents of the various bottles, wonders could be achieved in the way of correcting errors in exposure. That was a fallacy which modern scientific investigation has exploded. So long as the exposure has been reasonably correct, so long as the developer is properly compounded and contains pure active chemicals, development is robbed of its difficulties, and becomes a simple, certain operation.

The easy way to correct exposure is shown in the article on the subject, the end of this book. The

certain way to secure fresh accurate solutions of pure chemicals is to use 'TABLOID' DEVELOPERS.

Under these conditions, modification of the developer is not only unnecessary but unwise, because negatives of any required degree of density or contrast can be obtained without fail by simpler methods.

### Factorial Development

This method admits of the dark room being comfortably lighted, since the plate can be kept covered during development, except for the few seconds necessary to watch for the first appearance of the image. It automatically compensates for differences of temperature and for considerable errors in exposure. It makes the best of a negative which has been considerably under-exposed or over-exposed, and provides a certain means of obtaining good negatives from correctly-exposed plates.

**DIRECTION.**—Mix the developer according to instructions; set up a watch or clock in the dark room so that it can be seen easily. Place the plate or film in the dish, which should be held in the left hand. Then take the vessel holding the developer in the right hand, and when the hand of the watch or clock touches an even minute flow the solution quickly, but steadily and evenly, over the plate. Now begin to count seconds, and rock the dish gently. Note the number of seconds which elapse before the first sign of an image appears. Multiply this number by the factor for the developer in use, and you get the total time to continue development. Factors for 'Tabloid' developers are given in the table on the next page. For portraits, interiors and other photographs in which there is no sky on the negative, you should develop for two-thirds only of the time. That is to say, if image appears in 30 secs. and the factor is 12, develop for 4 minutes instead of 6 minutes.

After the first appearance of the image, cover the dish, and rock occasionally. Do not remove the plate from the developer until the time is up, and then transfer it to the fixing bath.

### Factors for Factorial Development

Developers	A	B	C
	For Soft Contrast	For Normal Contrast	For Strong Contrast
'Tabloid' Amidol			
Normal strength ...	7	10	12
Half normal strength	10	12	15
'Tabloid' Edinol ...	14	20	24
'Tabloid' Eikonogen...	8	12	15
'Tabloid' Glycin	9	13	16
'Tabloid' Hydroquinone	3	4½	5
'Tabloid' Metol	20	30	35
'Tabloid' Metol-Quinol	10	12	15
'Tabloid' Ortol	7	10	12
'Tabloid' Paramidophenol	12	16	18
'Tabloid' Pyro			
Normal strength ...	4	6	7
Half normal strength	6½	10	12
'Tabloid' Pyro-Metol	6	9	11
'Tabloid' 'Rytol'			
Normal strength	10	12	15
Half normal strength	12	14	18
One-third normal strength	14	17	22

**Example:**—The image appears in 45 seconds with 'Tabloid' Pyro Developer. The total development must be six times this—270 seconds, or 4½ minutes from pouring on the developer.

Dilution does not alter the factor except in the cases given.



The factors given may be altered to suit individual requirements. It is only necessary to remember that decreasing the factor lessens contrast; increasing it increases contrast. Exposure controls the density of a negative; alteration in the factor controls the contrast. Judge the result by the print and not by the negative.

#### Varying the Time Factor

For cloud negatives, snow scenes, portraits and very light objects, use the factors for soft contrast, as also for negatives intended for enlarging or for printing on gas-light or gum papers. For P.O.P. platinotype and direct bromide printing, use the factors for normal contrast; for carbon printing and for copying black and white prints, use the factors for strong contrast.

This method is covered by the patent of the discoverer, Mr. Alfred Watkins, of Hereford, who has placed on the market a special clock—the Eikronometer—so constructed as to render the method delightfully simple and certain. For all who have any difficulty in development it is an excellent investment. Mr. Watkins, however, gives free permission for the use of his system with an ordinary watch only.

#### Other Methods

Prominence is given to the FACTORIAL SYSTEM because prolonged experience has shown that this method, combined with the employment of 'TABLOID' DEVELOPERS and the exercise of care in exposure, ensures the most certain and uniform results. Experts can vary the developer as may be thought desirable, and can follow any method of development to which they have become accustomed.

#### Methods of Control

Alterations in the constituents after development has commenced effect little, if any, control over the result. The most effective method of controlling known over exposure is to soak the plate before development in a 10 per cent. solution of potassium bromide, subsequently

developing in pyro or hydroquinone developer, to each ounce of which two 'Tabloid' Potassium Bromide have been added.

If over-exposure be not discovered until development has started, use the factor for strong contrast, and subsequently reduce the negative with 'Tabloid' Potassium Ferricyanide. (See page 58.)

For known under-exposure, warming the developing solution is the best remedy, although some developers which contain little or no potassium bromide, and are but slightly influenced by the restraining effect of this chemical, give better results than others. Such developers are 'Tabloid' 'Rytol,' Metol-Quinol, Metol, Amidol, or Paramidophenol. 'Tabloid' Pyro-Metol is serviceable, because it gives the image a yellow colour which increases the printing value of thin negatives. If under-exposure be discovered after development is commenced, the best plan is to use the factor for soft contrast, and subsequently intensify. (See page 59.)

#### Time Development

The introduction of extremely rapid plates, particularly such as are highly sensitive to red light, has led to the study of a method which renders examination of the plate during the process of development quite unnecessary. This method is known as "TIME DEVELOPMENT" and must be carefully distinguished from Factorial Development which is described on pages 18 to 20. Time Development makes the photographer independent of the ordinary dark-room ruby lamp. He can, if necessary or desired, work in any room so long as it can be made light-tight and has a light which can be turned out when required.

The method of developing plates in a dilute solution for a stated time has been practised for many years under the name of "Standard Development," and is, of course, "Time Development," but the scientific study and research devoted to the subject recently have elucidated many points unknown to the early users of this method, and

have brought to light the reasons for the uncertainty that attended it as originally carried out.

In the past, the dilution of the developer and sometimes the temperature were the only points considered in determining the time to leave the plate in the developer. It is now recognised that the character of the plate used is at least of equal importance; some plates, in fact, require three times as long as others under the same conditions.

#### Time and Temperature Table

To make Time Development quite simple for all users of 'Tabloid' Chemicals, a table has been worked out by careful scientific experiment which gives the times for the development of various kinds of plates at different temperatures and with all 'Tabloid' Developers. (See page 24.)

This table may be employed when using any of the machines or tanks now supplied for time development, as well as when working with ordinary dishes. The times may be increased or decreased if pluckier or weaker negatives are required.

Remember that the length of the exposure governs the density of the negative; the length of development governs contrast. Therefore, if the negatives are too thin, the cause is under-exposure; if too dense, the cause is over-exposure. If the negatives yield flat prints, development has been too short for the printing process; if the prints are too contrasty, development has been too long.

#### Times for development of average plates and films

The figures given in the tables on pages 24 and 25 apply to plates and films which develop with average rapidity. They should therefore be used as a basis for timing the development of all plates and films except those specially mentioned under the heading "Variations" on the opposite page. If in using these figures the contrast is found to be too slight or too great to suit the worker's requirements, the plate or film may be placed in Class A, B, C or D for future use.

#### Variations

The following plates and films require shorter or longer development than indicated in the tables on pages 24 and 25.

**CLASS A.**—For these plates increase the time of development by one-quarter, i.e. give 5 minutes instead of 4, and so on.

Barnet Extra Rapid and Red Seal; Cadett Special Extra Rapid; Eastman Ortho; Edward's Medium Iso; Snap-Shot and Empire; Imperial Flash Light; Kodak N.C. Film; "Kodoid"; Lumière Violet Label; Marion Iso; Mawson Ortho B; Paget xxx, xxxxx, Extra Special Rapid; Premo Film Pack; Warwick Special Rapid, Double Instantaneous and Warpress; Wellington Speedy; Wratten Drop Shutter and Verichrome.

**CLASS B.**—For these plates increase the time of development by one-half, i.e. give 6 minutes instead of 4, and so on.

Austin Edwards' Leaf Film; Barnet Roll Film; Wellington Extra Speedy, Special and Press and Roll Film; Wratten Allochrome; 20th Century Fast.

**CLASS C.**—For these plates decrease the time of development to three-quarters, i.e. give 3 minutes instead of 4, and so on.

Adams' Extreme Rapid, Special Rapid and Iso; Barnet Medium Ortho; Gem Universal; Ilford Ordinary and Empress; Imperial Ordinary; Lumière Ordinary, and Ortho A; Marion Ordinary and Portrait; Paget Ortho; Rajar Films; Sanger Shepherd Ortho A and B; Seed 26x; Seed 27, Gilt Edge and Ortho L; Wesner Colour; Warwick Ordinary and Rainbow Fast; Wellington, Speedy Iso and Landscape; Wratten Ordinary and Instantaneous.

**CLASS D.**—For these plates decrease the time of development to one-half, i.e. give 2 minutes instead of 4.

Warwick Rainbow Slow and all process plates.



34 10 min. at 72°

Temperatures

Developers	45° F. mins.	50° F. mins.	55° F. mins.	60° F. mins.	65° F. mins.	70° F. mins.
'TABLOID' 'RYTOL' Normal strength	8	7	6	5	4½	3½
'TABLOID' 'RYTOL' Half normal strength (8 ounces of water to each pair of products)	21	18	15	13	11	9
'TABLOID' 'RYTOL' One-third normal strength (12 ounces of water to each pair of products)	34	28	24	20	17	14
'TABLOID' METOL-QUINOL Normal strength	5½	4½	3½	3	2½	2
'TABLOID' METOL-QUINOL Half normal strength (4 ounces of water to each pair of products)	7	6	5	4½	3½	3
'TABLOID' METOL-QUINOL One-third normal strength (6 ounces of water to each pair of products)	9½	7½	6½	5½	4½	4

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'TABLOID' GLYCIN Normal strength	40	32	25	20	16	13
'TABLOID' GLYCIN One-third normal strength (3 ounces of water to each pair of products)	120	95	75	60	45	35
'TABLOID' PYRO	9½	7½	6	5	4	3½
'TABLOID' PYRO-METOL (Imperial Standard Formula)	3	2½		1½	1½	1
'TABLOID' PYRO-SODA (Liford Formula)	8	6½	5½	4½	3½	3
'TABLOID' AMIDOL	7½	6	5	4	3½	2½
'TABLOID' HYDROQUINONE	5½	4½	3½	2½	2½	1½
'TABLOID' METOL	10½	9½	7½	6½	5½	4½
'TABLOID' ORTOL	6½	5½	4½	3½	3	2½
'TABLOID' EDINOL	12	9½	8	6½	5½	4½
'TABLOID' PARAMIDOPHENOL	5	4	3½	2½	2	1½
'TABLOID' EIKONOGEN	18	14	11½	9	7½	6

34 10 min. at 72°

25

## Simple Time Development

A description of the method and notes on suitable developers for the various machines and tanks which have been put on the market for carrying out Time Development with roll films, or with cut films and plates, are here given.

**DIRECTION.**—Make up the developer in the ordinary way, but be sure to use water which has been drawn from the tap for some time. The reason for this is that the temperature of water direct from the tap is often different from that of the room. Take the temperature of the developer, or of the room, with an ordinary thermometer. Ascertain from the Time and Temperature Card the correct time to develop at this temperature with the plate and developer in use. Turn out the light, put the plate in the dish, pour on the developer, cover the dish with a piece of card or the lid of a plate box, turn up the light and develop until the time is up. Again turn down the light and place the plate in the fixing bath. During development rock the dish now and again.

**NOTE.**—If working with a ruby light, it is not necessary to turn this out as directed, except when using red sensitive plates. The directions given above are for use when working with an ordinary white light or with red sensitive plates.

## Machine, Tank or Stand Development

Users of 'TABLOID' DEVELOPERS can obtain perfect results by applying these products to the methods of machine and tank development which have become popular within the last few years.

The most suitable developers for this purpose are 'Tabloid' 'Rytol', 'Tabloid' Metol-Quinol, or 'Tabloid' Glycin.

## Machine Development for Roll Films

Where the exposed film is to be revolved or agitated in a machine, the following strengths of developer are recommended:—

- A. The normal strengths of 'Tabloid' 'Rytol' or 'Tabloid' Metol-Quinol Developer, as given for negatives (*see pages 44 and 46*), are suitable for use when it is desired to complete development at a normal temperature in 3 to 5 minutes. The amount of solution made up must of course depend on the particular machine in use. The precise time for development depends on the plate or film in use and the developer (*see pages 22 and 24*).
- B. If working with a machine which takes a considerable quantity of solution, it is more economical to use a more dilute developer. The following formulae are therefore recommended. They produce the same results as those given under A, whilst the time of development is one-and-a-half to four times as long (*see pages 22 and 24*).

(1) 'Tabloid' 'Rytol'	One
'Tabloid' 'Rytol' Accelerator	One
Water	Eight to twelve ounces

Use enough products to produce sufficient solution to fill the machine in use. Two of each for 16 to 24 ounces, three of each for 24 to 36 ounces.

(2) 'Tabloid' Metol-Quinol	One
'Tabloid' Metol-Quinol Accelerator	One
Water	Four to six ounces

Use enough products to produce sufficient solution to fill the machine in use.

## Tank or Stand Development

When films or plates are to be immersed in a tank or trough, either of the developers given under B above may be used with advantage, and may be further diluted if it be desired to prolong the time of development. For slow stand development (approximately one hour at normal



temperatures), 'Tabloid' Glycin Developer diluted as below is recommended:

(3) 'Tabloid' Glycin	One
'Tabloid' Glycin Accelerator	One
Water	Three ounces

Use enough products to produce sufficient solution to fill the tank in use.

If a special tank be used, the directions for inserting films or plates therein will be given in the printed instructions, and should be followed. Plates or cut films may be developed by the stand development method, either in ordinary dishes, or preferably in one of the grooved troughs sold for that purpose.

NOTE.—In the absence of special machines or troughs, the above notes are applicable to development in the ordinary dishes. In the case of plates, a number may be laid in a large flat dish, the developer being then poured on and allowed to act for the determined time. The dish should be covered over with a piece of card and rocked gently from time to time. Continuous rocking is not necessary. Should there be any tendency to fog, owing to over-exposure, staleness, etc., potassium bromide should be added to the developer. One 'Tabloid' Potassium Bromide, gr. 1, to each 'Tabloid' Accelerator will be found sufficient, except in extreme cases. Such addition is not generally necessary.

#### Development in Warm Weather and in Tropical Countries

'Tabloid' Amidol Developer is particularly recommended for development in warm weather and in tropical countries. It has the special advantage of being compounded with Sodium Sulphite as accelerator, and consequently is far less liable than developers containing carbonates or hydrates to soften the gelatin or cause frilling. Experience with this developer in hot weather proves that the image may flash up in five seconds even when the exposure has been approximately correct, but in such cases development by the factorial method for ten times the time of appearance ( $5 \times 10 = 50$  seconds) will give excellent negatives.

#### Developing Bromide Papers, Lantern Slides, Transparencies and Enlarged Negatives

With bromide or gaslight papers the appearance of the print is usually a sufficient guide as to when to stop development. In the case of bromide papers, however, the factorial method may be adopted with advantage should any difficulty arise. The factors for such work are lower than those for negatives, and are best determined by each worker to suit the developer he uses. As a basis for trial, divide the negative factor by three.

For lantern slides and transparencies the factors can only be accurately determined by trial, but once found they are exceedingly valuable. The negative factor divided by two is suggested as a basis for trial.

The factorial method is decidedly best for enlarged negatives, since workers accustomed to small plates are liable to over-develop large plates when they trust to the appearance by transmitted light. The ordinary negative factors should be used.

#### INTENSIFICATION AND REDUCTION

For intensification and reduction the use of fresh reliable solutions is imperative. Stale solutions introduce great risks of staining, and their use often means the entire loss of a valuable negative. It should be, therefore, an absolute rule never to keep stock solutions for these purposes. Such solutions will only be required at irregular intervals and will never be dependable.

Fresh solutions of reliable chemicals are easiest made by the use of 'Tabloid' Intensifiers and Reducers.

Next to the use of fresh reliable solutions the most important points are that the plates, films, or prints to be treated should be (a) perfectly fixed, (b) properly washed.

If it be d.y., immerse the plate, film or paper in water for 15 minutes before attempting intensification or reduction. This ensures even action.

The actual details of manipulation vary with the formula used. They will be found on pages 57 to 60.



### Chromium Intensifier

'Tabloid' Chromium Intensifier simply requires dissolving in water. It intensifies by adding chromium to the original silver image, and gives in one application as great intensification as any of the highly-poisonous mercury formulae hitherto in use. It possesses the further great advantage that the operation may be repeated several times with an increase of intensification each time.

'Tabloid' Chromium Intensifier is especially notable for its value in the intensification of lantern slides and bromide prints, for which the mercury intensifiers are usually unsuitable, and for enabling soft bromide and gaslight prints or enlargements to be secured when employing hard and brilliant negatives. (See also page 59.)

### Mercury Intensifier

The most reliable mercury intensifier is undoubtedly the mercuric iodide and sodium sulphite formula; although highly poisonous, the 'Tabloid' products are much safer than stock solutions. They are distinctive in shape and colour and are easily stored in a safe place. This formula presents a great advantage over ordinary mercury intensifiers, because it increases the strength of the weakest deposits and does not destroy delicate details in the shadows. (See also page 60.)

A useful method of intensification, by toning the image with 'Tabloid' Sepia Toner, is given on page 61. In this case there is no increase in the density of the image, but its opacity or printing value is greatly improved by conversion from black to brown.

### Reducers

(1) For negatives which are under-exposed, over-developed, hard, or exhibit halation, and for positives which are too dense in the shadows, 'TABLOID' AMMONIUM PERSULPHATE should be used. (See page 57.)

(2) For over-exposed negatives which are too dense and fogged, or for lantern slides which are veiled in the high lights, use 'TABLOID' POTASSIUM FERRICYANIDE.

It is also useful for clearing the lines in negatives of black-and-white drawings, engravings, etc., and may be employed, before intensifying, to remove fog. (See page 58.)

Neither ammonium persulphate nor the ferricyanide reducer will keep in solution. They must be freshly prepared and used at once. The 'Tabloid' products, which keep perfectly, are therefore most convenient and reliable.

(3) For correctly-exposed but over-developed negatives, lantern slides or even bromide prints, use 'TABLOID' BLEACHING COMPOUND. By modifying the method of procedure, this product can be used also to clear surface fog and increase contrast. (See page 58.)

### Ozobrome Process

The Ozobrome process is a patented method of making carbon prints without the direct action of light.

An ordinary bromide print and a piece of Ozobrome Pigment plaster are required. The bromide print is soaked in water, the pigment plaster is immersed from 2 to 2½ minutes in the Ozobrome Pigmenting Solution, transferred to an acid bath and then brought in contact with the face of the bromide print under water, squeezed and left for 15 to 20 minutes. A developable image is thus transferred to the pigment plaster which may now be developed with warm water like a carbon print, using either the non-transfer or the transfer process.

By arrangement with the Ozobrome Co. a 'Tabloid' product for preparing the patented Ozobrome Pigmenting Solution is now issued. It is specially convenient for workers in distant countries and for those who use the process occasionally. (See page 67.)

### Bromoil Process

The process invented by Mr. E. Welborne Piper permits of the use of a bromide print as the basis for a picture in oil pigment. 'Tabloid' Ozobrome Pigmenting Compound may be used for this process also. (See page 67.)

## CONTACT PRINTING BY ARTIFICIAL LIGHT

In making Bromide or Gaslight Prints, Lantern Slides, Transparencies, etc., the distance at which the printing frame is placed from the source of light materially affects the time of exposure. Approximately the exposure varies as the square of the distance. Thus, if the correct exposure at 1 ft. be 10 seconds, at 2 ft. it will be 40 seconds, and at 3 ft. 90 seconds.

As it is often inconvenient to make such calculations in the dark room, a table is provided on the *opposite page* which gives, approximately, relative exposures at different distances from the source of light.

It is best to have a standard distance from the light for printing from negatives of normal density. Dense negatives should be printed nearer to the light to attain a soft result; thin negatives should be printed further from the light to get as plucky a print as possible.

The table may be used in two ways, thus:—

**Example I.**—If the exposure under given conditions is 20 seconds at 2 ft., what will it be at 4 ft.?

Find the figure 20 in the column headed 2 ft., then follow the line along to the right, and under the column headed 4 ft. will be found the number of seconds which is approximately correct at that distance, viz., 80.

**Example II.**—Supposing the exposure is 15 seconds at 2 ft., what is the exposure at 3 ft.?

The number 15 does not actually occur in the 2 ft. column. The nearest number is 16, and the corresponding exposure at 3 ft. is 36 seconds. This will be near enough in most cases, but if it be desired to be more exact, proceed as follows: Find the line on which the figure 1 occurs in the column headed 2 ft. and then multiply the exposure at 2 ft. by 24, which is the figure in the same line but in the 3 ft. column. This gives  $15 \times 24 = 36$  seconds approximately as the correct exposure at 3 ft.

DISTANCE FROM LIGHT							
4 in.	6 in.	9 in.	12 in.	18 in.	2 ft.	3 ft.	4 ft.
RELATIVE EXPOSURES							
1/120	1/60	1/30	1/15	1/8	1/4	1/2	1
1/60	1/30	1/15	1/8	1/4	1/2	1	1 1/2
1/30	1/15	1/8	1/4	1/2	1	2 1/4	4
1/15	1/8	1/4	1/2	1	2	4 1/2	8
1/8	1/4	1/2	1	2 1/4	4	9	16
1/4	1/2	1	2	4 1/2	8	18	32
3/8	3/4	1 1/2	3	6 3/4	12	27	48
1/2	1	2	4	9	16	36	64
5/8	1 1/4	2 1/2	5	11 1/4	20	45	80
3/4	1 1/2	3	6	13 1/2	24	54	96
7/8	1 3/4	3 1/2	7	15 3/4	28	63	112
1	2	4	8	18	32	72	128
1 1/8	2 1/4	4 1/2	9	20 1/4	36	81	144
1 1/4	2 1/2	5	10	22 1/2	40	90	160

**NOTE.**—The figures in this table are relative only. They are to be read as SECONDS or MINUTES according to whether the known exposure is in seconds or minutes. If the exposure be in seconds, fractions may be disregarded.



### TONING BROMIDE AND GASLIGHT PRINTS AND LANTERN SLIDES

Directions for the use of the popular Sepia Toner, and for toning by the Ferguson process, are given in detail on pages 61-63. The following points should, however, be borne specially in mind:—

Prints or slides for toning should have been correctly exposed and fully developed in order to obtain the best results. Over-exposed and under-developed prints and slides give weak washed-out tones.

Perfect fixation and thorough washing also are most essential. Partially fixed or imperfectly washed prints or slides are frequently the cause of patchy toning and stains.

#### Sulphide Toning

The most common source of failure in sulphide toning has been its liability to produce weak yellow tones, even from strong originals. This would occur without warning when every precaution had been taken in development, fixing, washing, etc. For a long time no satisfactory explanation was forthcoming, but experiment has proved that the trouble is due to the unstable nature of sodium sulphide. It is very difficult to obtain this salt in a pure state, and when so obtained it is practically impossible to keep it pure, even by the exercise of extreme care. Whether in crystal, solution, or any other form, it tends to decompose and to become partly converted into hypo. The result of applying a solution of hypo to a bleached print is, that part at least of the original silver image is dissolved away, and the resulting tone, instead of being a strong rich brown, is a weak yellowish colour.

Special researches carried out in the B. W. & Co. Laboratories revealed the fact that certain compounds of sodium, tin and sulphur, whilst free from this tendency to become converted into hypo, would sulphide a bleached image in the same way as the unstable sodium salt. The application of these compounds to photography is quite novel and has been protected by B. W. & Co. A suitable combination is presented to photographers as 'Tabloid' Sulphiding Compound, and the use of

this preparation in sulphide toning is the only sure way of avoiding the trouble to which reference has been made above.

The methods mentioned below under "Toning Gaslight Papers" may be employed, if colder tones are required, but light prints should be selected, as the image is somewhat strengthened.

#### Combined Copper and Sulphide Toning

Pleasing variations of colour may be obtained by immersing bromide prints or lantern slides in the copper toning bath (*see page 63*) for a short or long period and then transferring them to a solution of 'Tabloid' Sulphiding Compound.

#### TONING GASLIGHT PAPERS

Amongst other difficulties presented by the ordinary methods of sepia toning was that of getting a good colour on gaslight as well as bromide papers. The problem was referred by many photographers to Burroughs Wellcome & Co., and, as the result of the research carried out to elucidate the problem, it is possible to give the following information:—

For yellow-brown tones on gaslight papers, use 'Tabloid' Sepia Toner as directed for bromide papers.

For warm pure brown tones on gaslight papers, bleach in the following way and then darken in the ordinary solution of 'Tabloid' Sulphiding Compound.

Bleacher—

'Tabloid' Bleaching Compound ...	One
'Tabloid' Mercuric Iodide and Sodium Sulphite...	One
Water ... ..	4 ounces

For dark cold brown tones on gaslight papers, bleach in a solution of 'Tabloid' Mercuric Iodide and Sodium Sulphite, and darken in the ordinary solution of 'Tabloid' Sulphiding Compound.

It should be noted that in the above bleaching baths, the image of the print or slide changes colour, but does not disappear.

## PRINTING AND TONING P.O.P.

The production of good P.O.P. prints with certainty and ease is one of the greatest difficulties which the beginner encounters. Much of the trouble arises from the use of negatives, poor in quality, owing to errors in exposure and development. It is extremely difficult to get good tones on P.O.P. from very weak negatives, whereas over-strong negatives give harsh results and are liable to produce prints with which it is almost impossible to avoid double toning. These troubles are obviated by following the system of exposure and development advocated in this book.

In printing and toning, the general instructions issued by the maker of the paper in use should be closely followed, especially as regards depth of printing, and washing before toning.

The following, however, may be considered as standard directions for separate toning and fixing:—

- (1) Print in the shade or in diffused light, except in the case of very harsh negatives. Very thin negatives should be printed in a weak light, or the face of the printing frame should be covered by one or more layers of tissue paper.
- (2) Thin negatives as a rule require deeper printing than dense negatives. Prints on matt paper also generally require to be more fully printed than those on glossy paper.
- (3) Except when using the combined bath, prints must be carefully washed before toning. Here soaking is useless. They must be placed in running water and kept on the move until all traces of milkiness in the water depart. If running water be not available, use a number of quick changes until the water is no longer

milky. If time or the supply of water be limited, immersion in a solution of common salt (1 oz. to the pint) for five minutes may take the place of this washing before toning.

- (4) Make up sufficient toning baths for the prints which require toning. Each pair of 'Tabloid' Gold Toning Products is sufficient for 8 to 16 quarter-plate, 6 to 9 five by four, 4 to 6 half-plate, or 2 to 4 whole-plate prints. Do not tone prints separately, but immerse as many as can be conveniently handled in the toning solution and keep turning them over until toning is completed. Never allow one print to rest on another for any length of time, or uneven toning will result.
- (5) Judge toning by looking through the print or by surface inspection as directed with the particular paper in use. So soon as toning is judged to be sufficient, immerse the prints in running water, or, better still, in salt and water as above for 10 minutes.
- (6) To fix prints, immerse them in 10 per cent. hypo solution and keep them moving for fifteen minutes. This fixing bath is made by dissolving 1 oz. of hypo in 10 oz. of water, or one of 'Tabloid' Hypo in each ounce. Use a fresh fixing bath for each batch of prints.
- (7) Keep all solutions, if possible, at a temperature of from 60° F. to 65° F. If colder, prints tone very slowly; if warmer, they tone too rapidly.
- (8) Make sure that all dishes used for washing, toning and fixing are scrupulously clean.

Directions for "Combined Bath" are given on page 65.



'TABLOID' Chemicals are sold by all Photographic Chemists and Dealers.



BURROUGHS WELLCOME & Co. do not execute retail orders direct, but will always give prompt and full attention to queries and suggestions from photographers.



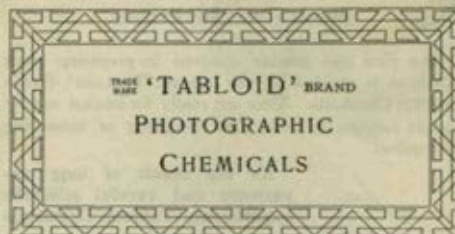
If the particular 'TABLOID' product required be not in stock, the dealer can obtain it by return of post. Should, however, any difficulty arise, kindly communicate with BURROUGHS WELLCOME & Co.



Always insist on being supplied with 'TABLOID' Brand Photographic Chemicals. Substitutes and imitations are NOT so good as the genuine products.



The word 'TABLOID' as applied to photographic chemicals is the sign of purity, permanence, reliability and constancy. It is the trade mark of BURROUGHS WELLCOME & Co.



The word 'Tabloid' is a brand which designates fine products issued by Burroughs Wellcome & Co. To ensure the supply of these pure and reliable preparations, this brand should always be specified when ordering.

'Tabloid' Photographic Chemicals not only rid development, toning and other processes of all the uncertainties which accompany the use of impure chemicals and stale solutions, but they also simplify these operations in a remarkable way and impart to them a scientific precision which cannot otherwise be attained by the average worker.

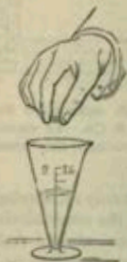
The chemicals of which 'Tabloid' Photographic products are composed are submitted to rigorous tests in the analytical laboratories of the 'Wellcome' Chemical Works before they are allowed to enter the special manufacturing departments of the firm. Here they are handled by experts who have by long experience attained special knowledge in the manipulation of photographic chemicals. By the aid of machinery which works with the precision of fine clockwork, they are mixed, divided into accurate quantities, suitably compressed, and then packed in sealed bottles and tubes, so that their full activity is preserved until the moment of use.

In providing the purest chemicals accurately divided into definite quantities, 'Tabloid' Photographic products entirely obviate the trouble of weighing. Simply dropped into a measure-glass containing the stated quantity of water, they disintegrate under slight pressure from a stirring-rod, and dissolve with remarkable rapidity. (See next page.)

Directions for the use of 'Tabloid' Chemicals are given on the following pages. For full list, see pages 69 and 70.

## PREPARING SOLUTIONS

The time and trouble involved in preparing stock solutions is avoided by the use of 'TABLOID' Photographic Chemicals. They are ready for instant use by simple solution in water; no weighing or measuring is required.



Drop the 'Tabloid' product or products into the necessary amount of water

As the result of long experience and careful scientific experiment, 'Tabloid' Chemicals are so prepared as to break up readily and to dissolve quickly. No special apparatus is required for effecting rapid solution. These are amongst the features which distinguish 'Tabloid' Chemicals from imitations.

'Tabloid' products should be dropped whole into the stated amount of water, broken up with a rod and stirred into solution. No preliminary powdering is necessary. Solution takes place more rapidly than with ordinary crystalline salts.

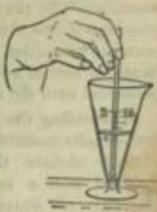
The whole operation is simple, rapid and convenient, the use of scales and weights being entirely obviated.

The most convenient stirring-rod to use is one with a flattened end.

### Amount of Developer Required

After a little experience one ounce of developer will generally be found sufficient for a quarter-plate, but the beginner should use at least an ounce-and-a-half to two ounces. For a half-plate, two to three ounces of developer should be used; for a whole plate, three to four ounces.

Before starting development, sufficient solution for the work in hand may be made up, and a portion of this used for each plate.



Reduce to powder by gentle pressure with a glass or ebonite rod. Stir and solution will take place promptly



## DEVELOPERS

BURROUGHS WELLCOME & Co., as the result of continuous experiment and scientific research, have issued a developer under the trade mark 'RYTOL' which embodies the result of their experience and expert knowledge. They believe it to be the best all-round developer available.

Since, however, some photographers desire to continue the use of a developing agent to which they have become accustomed and yet have the advantage of using 'Tabloid' products, practically every developer which has established its utility is available as a 'Tabloid' product.

'Tabloid' Developers are unrivalled for purity of ingredients, accuracy of content, and certainty of action. No other photographic chemicals yield such ideal solutions. They bring speedy success to the beginner, and by their freshness, reliability and constancy prevent waste, thus reducing the photographer's expenditure.

'Tabloid' 'RYTOL' Universal Developer.—Each carton contains materials for 88 ounces of normal solution. This developer possesses exceptional all-round utility, and gives capital results with plates, films, bromide and gaslight papers or lantern slides. It works well in all methods of development—machine, stand, tank, etc. 'Tabloid' 'Rytol' Developer does not irritate the skin nor stain film or fingers.

'Tabloid' Metol-Quinol Developer.—Each carton contains materials sufficient for at least 22 to 44 ounces of solution.

This is a very reliable developer for all kinds of work, and is deservedly popular with workers whose skins are not sensitive to the action of metol.

'Tabloid' Pyro Developer.—Each carton contains materials sufficient for at least 40 ounces of solution.



A developer yielding negatives of excellent quality and of that characteristic colour which is highly esteemed by many photographers.

**'Tabloid' Pyro-Soda Developer (Ilford Formula).**—Each carton contains materials sufficient for at least 40 ounces of solution.

An excellent formula for general negative work, slightly more energetic than 'Tabloid' Pyro Developer, originated for use with Ilford plates.

**'Tabloid' Pyro-Metol Developer (Imperial Standard Formula).**—Each carton contains materials sufficient for 22 to 44 ounces of solution, corresponding in formula to the developer recommended by the Imperial Dry Plate Company.

The combination forms a very effective and powerful developer. It gives high speed, good density, a deposit of a particularly non-actinic character, and is used with marked success in the development of rapid shutter work.

**'Tabloid' Hydroquinone (Quinol) Developer.**—Each carton contains materials sufficient for at least 40 ounces of solution.

A good developer for all-round work, tending to give rather stronger contrasts than pyro. Excellent for copying and lantern slides. Not recommended for bromide papers.

**'Tabloid' Metol Developer.**—Each carton contains materials sufficient for 22 to 44 ounces of solution. An excellent developer for general use, and of special value for interiors or portraiture and instantaneous work. The same solution may be used more than once if desired.

**'Tabloid' Ortol Developer.**—Each carton contains materials sufficient for at least 22 to 44 ounces of solution.

A valuable developer for negatives, bromide and gas-light papers or lantern slides. Ortol does not stain or injure the skin.

**'Tabloid' Paramidophenol Developer.**—Each carton contains materials sufficient for at least 22 ounces of solution. This formula is of special value in dealing with plates which have received a minimum exposure. Its use is not recommended where there is reason to suspect over-exposure.

**'Tabloid' Amidol Developer.**—Each carton contains materials sufficient for 22 to 44 ounces of solution.

The favourite developer for bromide papers. Useful for negatives, especially during warm weather and in tropical or sub-tropical countries.

**'Tabloid' Edinol Developer.**—Each carton contains materials sufficient for 22 to 44 ounces of solution.

Specially recommended for hand-camera and other negatives intended for subsequent enlargement. It is compounded to give a soft image, full of gradation, such as is requisite for the finest results in producing enlarged positives and negatives.

**'Tabloid' Eikonogen Developer.**—Each carton contains materials sufficient for 20 to 40 ounces of solution.

Used chiefly for portraiture, still-life and "snap-shot" work. An excellent developer for bromide paper and lantern slides.

**'Tabloid' Glycin Developer.**—Each carton contains materials sufficient for 22 to 66 ounces of solution.

This developer is slow in action, but gives negatives with great sparkle and clearness in the shadows and with vigorous high lights. It is of great service for producing negatives of pictures, photographic prints, or black-and-white drawings.

The formulæ given in the following pages are the sum of extensive experiment and may be relied upon to yield excellent results.



**'TABLOID' 'RYTOL' UNIVERSAL DEVELOPER**  
(Trade Mark)

Purpose	Directions	Remarks
Normal Developer for Negatives and Bromide Papers	'Tabloid' 'Rytol' ... One 'Tabloid' 'Rytol' Accelerator ... One Water ... 4 ounces	<p><b>SPECIAL NOTE.</b>—Always use an acid fixing bath for papers developed with 'Rytol'.</p> <p><b>ACID FIXING BATH.</b>—In each ounce of normal fixing bath, dissolve one 'Tabloid', Potassium Metabisulphite, gr. 10.</p> <p>Factors for factorial development— For soft contrasts—10 For normal contrasts—12 For strong contrasts—15</p> <p>All formulae should be compounded in the order given.</p>
Gaslight Papers	'Tabloid' 'Rytol' ... One 'Tabloid' 'Rytol' Accelerator ... One Water ... 4 ounces	
Lantern Slides Warm Black	'Tabloid' 'Rytol' ... One 'Tabloid' 'Rytol' Accelerator ... One 'Tabloid' Ammonium Bromide, gr. 1 ... Two Water ... 4 ounces Twice normal exposure	
Brown Black	'Tabloid' 'Rytol' ... One 'Tabloid' 'Rytol' Accelerator ... One 'Tabloid' Ammonium Bromide, gr. 1 ... Five Water ... 5 ounces Five times normal exposure	

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Sepia	To each ounce of the above developer add— Water ... 1 ounce 'Tabloid' Ammonium Bromide, gr. 1 ... One # Eight times normal exposure	With the dilute solutions, development takes place slowly. The dish should be covered over, and ample time given.
Warm Sepia to Purple	Developer as for Gaslight Papers ... 14 ounces 'Tabloid' Ammonium Bromide, gr. 1 ... Four Fifteen times normal exposure Approx. time of development 10 to 15 mins.	These colours are obtainable on slow or warm tone lantern plates only.
Purple to Red	Developer as for Gaslight Papers ... 14 ounces 'Tabloid' Ammonium Bromide, gr. 1 ... Seven Twenty times normal exposure Approx. time of development 15 to 25 mins.	
Machine, Tank or Stand Development	'Tabloid' 'Rytol' ... One 'Tabloid' 'Rytol' Accelerator ... One Water ... 8 to 12 ounces	See pages 21 to 27. Also Time and Temperature Card.

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# 'TABLET' METOL-QUINOL DEVELOPER

PURPOSE	DIRECTIONS	REMARKS
Normal Developer for Negatives and Bromide Papers	'Tablet' Metol-Quinol ... .. One ounce Water ... .. One	The same solution may be used several times in succession.
Gaslight Papers	'Tablet' Metol-Quinol Accelerator ... .. One Water ... .. One	For Special "Velox" and "Velox" Post Cards, use the diluted developer as given for plates.
Gaslight Lantern Plates	'Tablet' Metol-Quinol Accelerator ... .. One Water ... .. One	Factors for factorial development— For soft contrasts—10 For normal contrasts—12 For strong contrasts—15 (See also pages 18 to 20)
Warm Black Tones	'Tablet' Metol-Quinol Accelerator ... .. One 'Tablet' Potassium Bromide, gr. 1 ... .. Five Twice normal exposure	
Brown Tones	'Tablet' Metol-Quinol ... .. One Water ... .. One 'Tablet' Metol-Quinol Accelerator ... .. One 'Tablet' Potassium Bromide, gr. 1 ... .. Eight Five times normal exposure	
Red Tones	Take one ounce of the developer for Brown Tones as above, add one ounce of water and one 'Tablet' Potassium Bromide, gr. 1 Ten times normal exposure	

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Lantern Slides Black Tones	'Tablet' Metol-Quinol ... .. One Water ... .. One 'Tablet' Metol-Quinol Accelerator ... .. One 'Tablet' Potassium Bromide, gr. 1 ... .. Two	NOTE.—With the dilute solutions plates develop slowly. The dish should be covered and the plates kept in the developer until the required development is given. The quantities of water and bromide given in these formulae may be varied to obtain intermediate tones if required, the exposure being adjusted to the new conditions.
For Machine Tank or Stand Development	'Tablet' Metol-Quinol ... .. One Water ... .. One 'Tablet' Metol-Quinol Accelerator ... .. One (See also pages 21 to 27)	
'TABLET' PYRO-METOL DEVELOPER (Imperial Standard Formula)		
Negatives	'Tablet' Pyro-Metol Compound ... .. One Water ... .. One 'Tablet' Pyro-Metol Accelerator ... .. One If less colour be desired in the negative, add one 'two' 'Tablet' Sodium Sulphite to each ounce of developer. For softer results, dilute with an equal volume of water.	Factors for factorial development— For soft contrasts—6 For normal contrasts—9 For strong contrasts—11 (See also pages 18 to 20)



'TABLET' PYRO DEVELOPER

PURPOSE	DIRECTIONS	REMARKS
Negatives or Lantern Slides	'Tablet' Pyro Accelerator ... One Water ... 1 ounce 'Tablet' Pyro ... One	Factors for factorial development— For soft contrasts—4 For normal contrasts—6 For strong contrasts—7 (See also pages 18 to 20)
Lantern Slides Slow or Warm tone plates	'Tablet' Pyro Accelerator ... One 'Tablet' Potassium Bromide, gr. 1 ... Three Water ... 1 ounce 'Tablet' Pyro ... One	
Warm Black Tones	Twice normal exposure	
Golden Brown Tones	'Tablet' Pyro Accelerator ... One 'Tablet' Potassium Bromide, gr. 1 ... Five Water ... 2 ounces Immerse plate in above for one or two minutes. Remove plate and add to solution :— 'Tablet' Pyro ... One Complete development with this solution in the ordinary way. Ten times normal exposure	
'TABLET' PYRO-SODA DEVELOPER (Ilford Formula)		
Negatives	'Tablet' Soda Compound ... One Water ... 1 ounce 'Tablet' Pyrogalllic Acid ... One	Factors and Lantern for- mulae, as above

'TABLET' HYDROQUINONE (QUINOL) DEVELOPER

PURPOSE	DIRECTIONS	REMARKS
Negatives	'Tabloid' Hydroquinone ... .. One Water ... .. 1 ounce 'Tabloid' Hydroquinone Accelerator ... One	NOTE.—In cold weather, Hy- droquinone dissolves slowly and acts slowly. Care must therefore be taken to ensure complete solution, and ample time given for development. Factors for factorial development— For soft contrasts—3 For normal contrasts—4 For strong contrasts—5
Lantern slides Black Tones	To each ounce of the above developer add— 'Tabloid' Potassium Bromide, gr. 1 .. One	
Warm Tones	To each ounce add also— 'Tabloid' Ammonium Bromide, gr. 1 ... One to five And give two to four times normal exposure	
'TABLET' METOL DEVELOPER		
Negatives and Bromide Papers	'Tabloid' Metol ... .. One Water ... .. 1 ounce 'Tabloid' Metol Accelerator ... .. One	Factors for factorial development— For soft contrasts—20 For normal contrasts—30 For strong contrasts—35
Lantern Slides Black Tones	To each ounce of the above developer add— 'Tabloid' Potassium Bromide, gr. 1 ... One	



'TABLOID' ORTOL DEVELOPER

PURPOSE	DIRECTIONS	REMARKS
Negatives and Bromide Papers	'Tabloid' Ortol ... .. Water ... .. 'Tabloid' Ortol Accelerator ... .. Dissolve in order given	For soft grey tones on bromide papers, dilute with an equal quantity of water. Factors for factorial development— For soft contrasts—7 For normal contrasts—10 For strong contrasts—12
Lantern Slides Warm black Tones	To each ounce of the above developer add— 'Tabloid' Potassium Bromide ... .. By increasing the Bromide and the exposure, still warmer tones can be obtained, especially on slow lantern plates.	
'TABLOID' AMIDOL DEVELOPER		
Negatives Bromide or Gaslight Papers and Lantern Slides	'Tabloid' Amidol Accelerator ... .. Water ... .. 'Tabloid' Amidol ... .. NOTE.—In bromide printing, the exposure should be 50 per cent. longer with this developer than with 'Tabloid' Metol-Quinol. Amidol developer should always be freshly prepared.	Factors for factorial development— For soft contrasts—7 For normal contrasts—10 For strong contrasts—12 (See also pages 18 to 20)

'TABLOID' PARAMIDOPHENOL DEVELOPER

PURPOSE	DIRECTIONS	REMARKS
Negatives	'Tabloid' Paramidophenol ... .. Water ... .. 'Tabloid' Paramidophenol Accelerator ... ..	If it be desired to use the same solution more than once, or to dilute it, add one 'Tabloid' Sodium Sulphite. Factors for factorial development— For soft contrasts—12 For normal contrasts—16 For strong contrasts—18
Lantern Slides and Bromide Papers	'Tabloid' Paramidophenol ... .. 'Tabloid' Paramidophenol Accelerator ... .. 'Tabloid' Sodium Sulphite ... .. Water ... ..	Two One Two Three
'TABLOID' EDINOL DEVELOPER		
Negatives, Bromide and Gaslight Papers or Slides	'Tabloid' Edinol ... .. 'Tabloid' Edinol Accelerator ... .. Water ... ..	The same solution may be used more than once if desired. Factors for factorial development— For soft contrasts—14 For normal contrasts—20 For strong contrasts—24
Warm Tones on Lantern Slides	To each ounce of the above developer add— 'Tabloid' Potassium Bromide ... .. According to warmth of tone required; and increase the exposure.	One or more

# 'TABLOID' EIKONOGEN DEVELOPER

PURPOSE	DIRECTIONS	REMARKS
Negatives	'Tabloid' Eikonogen ... Two 'Tabloid' Eikonogen Accelerator ... Two Water ... 1 ounce	N.B.—Eikonogen is not a very soluble chemical, hence care must be taken that the whole of it is dissolved.
Bromide Paper	Dilute the above developer with an equal volume of water.	Factors for factorial development— For soft contrasts—8 For normal contrasts—12 For strong contrasts—15
Lantern Slides	'Tabloid' Eikonogen ... One 'Tabloid' Eikonogen Accelerator ... One 'Tabloid' Potassium Bromide, gr. 1 ... One Water ... 1 ounce	
'TABLOID' GLYCIN DEVELOPER		
Negatives and Lantern Slides	'Tabloid' Glycin Accelerator ... One Water ... 1 ounce 'Tabloid' Glycin ... One	Factors for factorial development— For soft contrasts—9 For normal contrasts—13 For strong contrasts—16
Stand Development	Dilute each ounce of the above developer with two ounces of water. (See also pages 21 to 28)	

## RESTRAINERS

Restrainers are used to prevent chemical fog, and to retard development. Three 'TABLOID' RESTRAINERS are issued, viz.:—'Tabloid' Ammonium Bromide, gr. 1; 'Tabloid' Potassium Bromide, gr. 1; and 'Tabloid' Sodium Citrate, gr. 1. 'TABLOID' DEVELOPERS contain sufficient restrainer for correctly-exposed fresh plates, etc. For known over-exposure, for stale plates and for lantern-slide making, additional restrainer may be required.

'Tabloid' Ammonium Bromide is chiefly used in lantern-slide work.

'Tabloid' Potassium Bromide is generally employed with 'Rytol,' Pyro, Hydroquinone, Edinol, Metol-Quinol, Ortol, Paramidophenol and Eikonogen developers.

'Tabloid' Sodium Citrate is the most suitable for use with Metol and Amidol.

DIRECTIONS.—If less than a grain of restrainer be required, dissolve one 'Tabloid' product in a drachm of water and add a portion of this to the developer. If one or more grains of restrainer are needed, the necessary number of 'Tabloid' products may be added direct to the developing solution.

## PRESERVATIVES

Preservatives are necessary in stock solutions of pyro and other developing agents, to delay the deterioration to which such solutions are liable. 'Tabloid' Developers contain sufficient preservative to ensure proper action of the solution in normal use. When the normal developer is diluted, or is to be kept in solution for some time before use, additional preservative may be required. For this purpose add one 'Tabloid' Sodium Sulphite to every one or two ounces of solution.

No attempt should be made to keep a solution of Amidol. It must be freshly prepared to obtain the best results.



'Tabloid' Sodium Sulphite, Dried, gr. 5, possesses great advantages over the ordinary crystals, especially in keeping quality. It may be used in exactly the same way, either for compounding the photographer's own formula, or for adding to 'Tabloid' Developers when dilution or under-exposure necessitates prolonged immersion in the developing solution. The fact that 5 grains of the 'Tabloid' salt are equivalent to 10 grains of the ordinary crystals must always be borne in mind.

'Tabloid' Potassium Metabisulphite, gr. 10, may be conveniently used in compounding any formula in which potassium metabisulphite is indicated. Should it be desired to dissolve sufficient 'Tabloid' Pyro developer for several days' use, 'Tabloid' Potassium Metabisulphite may be employed as indicated below.

No. 1 Solution—

'Tabloid' Potassium Metabisulphite, gr. 10	...	One
'Tabloid' Pyro, gr. 2	...	Twenty
Water	...	10 ounces

No. 2 Solution—

'Tabloid' Pyro Accelerator	...	Twenty
Water	...	10 ounces

(Equal parts of No. 1 and No. 2 to be mixed together at the time of using.)

It must always be borne in mind, however, that freshly mixed developers are more active than stock solutions. With amidol, a few drops of a solution of potassium metabisulphite act as an efficient restrainer. To some extent also potassium metabisulphite is a preservative of amidol, but since fresh solutions are most active and are so easily made from 'Tabloid' Amidol, its use with this developer is not advocated except under exceptional circumstances.

To shorten the time necessary for washing plates or prints after they have been bleached with 'Tabloid' Chromium Intensifier (see page 59), a solution of one 'Tabloid' Potassium Metabisulphite to each ounce of water may be rapidly poured on and off the plate, print, until the yellow stain disappears. Then wash for a minute or two.

## ALKALI

The alkali generally used in making accelerating solutions is common soda, which is indefinite in strength and frequently impure.

'Tabloid' Sodium Carbonate provides the photographer with a pure, reliable, portable alkali in convenient ready-weighed quantities.

It is supplied in bottles of 22. One in an ounce of water forms approximately a 10 per cent. solution of sodium carbonate, a little of which may be added if desired to the normal developer to accelerate its action. The 'Tabloid' product may be employed also in compounding developers of special formulae, and for any other purpose for which the ordinary crystals are used.

## FIXER

'Tabloid' Hypo is specially convenient for preparing small quantities of fixing bath and for use when travelling.

**NORMAL FIXING BATH.**—The normal fixing bath for plates, films, lantern slides and bromide papers is made by dissolving two 'Tabloid' Hypo in each ounce of water. For P. O. P. prints, dissolve one in each ounce of water.

**ACID FIXING BATH.**—For those who prefer acid fixing baths, the following will be found suitable. In each ounce of normal fixing bath dissolve 'Tabloid' Potassium Metabisulphite, gr. 10. No rinsing is necessary before fixing, excessive pyro stain is prevented, and the solution keeps clear longer than the normal fixing bath. This bath must not be used for P. O. P. prints.

**ALKALINE FIXING BATH.**—In each ounce of normal fixing bath dissolve 'Tabloid' Sodium Carbonate and 'Tabloid' Sodium Sulphite, one of each. This is preferred by some to acid baths, and is certainly better for P. O. P. prints and for negatives which have only to be intensified or reduced.



## CLEARER AND HARDENER

When a clearing and hardening bath for plates, films, lantern slides, gaslight or bromide prints is required,

'Tabloid' Alum and Citric Acid Compound will be found convenient and serviceable (one product in each ounce of water). This bath is used after developing and before fixing. No washing is necessary before immersion, but 10 minutes washing before fixing is advisable. It is *not* suitable for use with P. O. P. prints.

## HARDENER

Frilling is not so common now as in the past, and should occur only in very hot weather or in warm climates when it is impossible to control the temperatures of the various solutions used. Under such circumstances the following will prove serviceable:—

'Tabloid' Alum, gr. 10. This product is supplied in bottles of 30. It may be used for plates or prints, a useful formula being—

'Tabloid' Alum, gr. 10	...	...	One to two
Water	...	...	One ounce

The exact strength depends on the amount of hardening desired. Time of immersion about 10 minutes.

SENSITISER FOR CARBON AND OIL  
PIGMENT PROCESSES

Hitherto a solution of potassium bichromate, rendered alkaline by the addition of strong solution of ammonia, has been employed for the purpose of sensitising carbon tissue. The 'Tabloid' preparation of the double chromate of potassium and ammonium is supplied in tubes of 6, and simplifies the operation by obviating the necessity of using ammonia solution. This preparation is equally suitable for the Oil Pigment process, and therefore is preferred to stock solutions by amateurs who make occasional carbon and oil prints.

## 'Tabloid' Potassium Ammonium Chromate, gr. 24

DIRECTION.—To sensitise carbon tissue for use with normal negatives—

'Tabloid' Potassium Ammonium Chromate, gr. 24,	One
Water	...
Water	One ounce

If printing from soft negatives, dissolve one 'Tabloid' product in two ounces of water; or, if from very hard negatives, one in six drachms of water.

Soak the carbon tissue in the sensitising solution, or float it on the surface, for two or three minutes, as directed by the manufacturers of the tissue used; squeegee to remove excess of moisture, and then dry in the dark.

To sensitise oil pigment paper—use as above, and soak the paper in the sensitising solution, for two to three minutes, coated side upwards, taking care no air bells are formed. Hold up to drain, and dry in the dark.

## DENSITY REDUCERS

## 'Tabloid' Ammonium Persulphate, gr. 11

This 'Tabloid' Reducer is supplied in tubes of 15.

DIRECTION.—For general use, dissolve one 'Tabloid' Ammonium Persulphate in one ounce of water.

This is practically a 2½ per cent. solution. Two to the ounce may be employed in extreme cases, but one in two ounces will be sufficient if only a slight modification of density be desired. Before reduction, the negative or positive should have a special washing for 15 minutes in running water, or several changes, to ensure even action of the reducer, and then immersed in the ammonium persulphate solution as above. When the solution commences to turn milky it is a sign that reduction has started. Directly the desired result is obtained the plate or print must be transferred, without washing, to a solution of sodium sulphite, which may be made by dissolving two 'Tabloid' Sodium Sulphite in each ounce of water.

After five minutes in this bath the plate should be immersed in a clean fixing bath and then well washed in the ordinary way.

NOTE.—If sufficient reduction be not obtained in five minutes it is important to throw away the used reducing solution and replace with fresh.

**'Tabloid' Potassium Ferricyanide, gr. 2**

This 'Tabloid' product is supplied in tubes of 22.

DIRECTION.—To make Farmer's Solution for reducing and clearing over-dense or foggy negatives, and for general use dissolve one 'Tabloid' Potassium Ferricyanide in two ounces of plain hypo solution (as used for fixing prints).

Place the negative in the reducing solution and rock gently till the desired result is attained. Then remove quickly and rinse under the tap to prevent further action. A thorough washing of at least half an hour in running water should follow.

For clearing lantern slides and cleaning up the lines in negatives of black and white subjects, take the slide or negative direct from the fixing bath and wipe it over with a pledget of cotton wool soaked in the above solution. Watch the effect carefully, as the action is very rapid. As soon as the whites are clear, rinse under the tap to stop further action and then wash thoroughly. If the negative or slide is dry, soak it in water for ten minutes before applying the ferricyanide and hypo solution.

**'Tabloid' Bleaching Compound**

This product is supplied in tubes of 12.

DIRECTION.—For negatives and slides, dissolve one product in two ounces of water: for bromide prints, use four ounces. Soak in this solution until the image is fully bleached, wash well, and then re-develop with a dilute developer. As soon as sufficient density is obtained, and, in the case of plates, whilst the white bleached image on the back still appears in the denser portions, remove from the developer solution.

immerse in a fixing bath. Fix and wash for the usual periods. This method softens the high lights in negatives, and considerably reduces halation if present. A weak developer is used to allow of control in removing the plate at a suitable moment. As some experience is necessary to judge this, experiment with waste plates is recommended. If it be desired to clear surface fog and increase contrast, the plate or print should be immersed for a moment or two only, and immediately plunged in the fixing bath. Then wash as usual.

**INTENSIFIERS**

**'Tabloid' Chromium Intensifier**

This product is supplied in bottles of 25. It is the result of the latest investigations, and gives as great intensification in one application as any formula containing highly-poisonous mercury salts. It possesses the further great advantage that the degree of strengthening is under control and can be increased if necessary by repeating the process.

DIRECTION.—Dissolve one 'Tabloid' Chromium Intensifier in two ounces of water. In this solution immerse the plate, film, or print, and gently rock the dish until the image is fully bleached. Wash in running water for ten to thirty minutes, or if it be desired to shorten this process, wash for one minute, and then pour rapidly on and off a solution of one 'Tabloid' Potassium Metabisulphite to each ounce of water until the yellow stain disappears. Then wash for a minute or two.

The image must now be re-developed. For this purpose any developer may be employed. When, however, as in the case of very thin negatives, it is necessary to bleach and re-develop the plate a second or even a third time, 'Tabloid' Amidol is the only safe developer to use.

Be careful to develop fully. No harm will be done by continuing development longer than necessary, but if the time be too short the full effect of the process will not be obtained.



**Special Note.**—It is quite safe to work by gaslight, lamplight, incandescent, electric light or subdued daylight, but if the process be carried out in full daylight, stains may appear.

TO DECREASE CONTRASTS in making bromide and gaslight prints or enlargements.

It occasionally happens that by the usual methods, a difficulty is found in obtaining the soft gradation desired, especially in the case of enlargements, when the negative is hard and brilliant.

This is successfully overcome in the following manner:

**DIRECTION.**—Increase the exposure from two to five times the normal. Dissolve one 'Tabloid' Chromium Intensifier in sixteen ounces of water. Before development, immerse the print or enlargement in this solution for half-a-minute to a minute, then, still by the dark room light, wash in several quick changes of water, develop, and fix as usual.

**NOTE.**—Should the contrasts of the print or enlargement be decreased too greatly, the above solution needs to be further diluted.

#### 'Tabloid' Mercuric Iodide and Sodium Sulphite

This intensifier is supplied in tubes of 15. It is extremely poisonous and is distinctive in shape and colour. Each contains Mercuric Iodide, gr. 2, and Sodium Sulphite, Dried, gr. 16.

**DIRECTION.**—The normal solution is made by dissolving one 'Tabloid' product in each ounce of water. Having soaked the plate in water, place it in the intensifier and rock gently. The image will gradually grow in strength and may be examined from time to time by transmitted light. As soon as sufficient density is attained the plate should be removed from the dish and washed for a short time. If at this stage the intensification is found to be too great, it may be removed by immersing the plate in normal hypo solution. The plate should be washed for five minutes after intensification and then re-developed with any ordinary developer. With 'Tabloid' Mercuric Iodide and Sodium Sulphite

there is no danger of stains or irregular markings. A final washing for a few minutes completes the operation, the whole of which may be conducted in daylight. (See also page 62)

#### 'Tabloid' Bleaching Compound and 'Tabloid' Sulphiding Compound

Each product is supplied in tubes of 12. The two constitute 'Tabloid' Sepia Toner.

**DIRECTION.**—Dissolve one 'Tabloid' Bleaching Compound in two ounces of water. In this solution immerse the plate until fully bleached. Wash in running water for ten minutes and then immerse in a solution of one 'Tabloid' Sulphiding Compound in four ounces of water for two minutes. Finally wash for ten minutes. The image becomes brown in colour and has a greatly increased printing value. For slight intensification by this method, particularly when it is desired to increase the printing value of the weaker portions of the negative, bleach partially and then treat with 'Tabloid' Sulphiding Compound solution as above.

#### SULPHIDE TONER

##### FOR BROMIDE OR GASLIGHT PRINTS AND LANTERN SLIDES

'Tabloid' Sepia Toner produces rich permanent sepia tones on bromide and gaslight prints; it can also be used successfully for toning lantern slides and transparencies.

Each carton contains:—'Tabloid' Bleaching Compound and 'Tabloid' Sulphiding Compound (12 of each).

**FOR BROMIDE AND GASLIGHT PRINTS.**—These should be first immersed in a solution made by dissolving one 'Tabloid' Bleaching Compound in four ounces of water. In this they should be allowed to remain until the whole image, including the darkest shadows, is of an even pale buff colour.

It is important that the prints, etc., should be entirely free from hypo, otherwise uneven bleaching may result.



After rinsing in running water, prints should be immersed in a solution made by dissolving one 'Tabloid' Sulphiding Compound in four ounces of water. The prints will gradually acquire a rich sepia colour, or in the case of gaslight prints, a somewhat yellower tone. Do not remove them from the toning bath too quickly, but give them time to acquire full strength, then wash them in running water for about ten minutes.

REMARKS.—The best results are obtained with fairly strong and well-developed prints; those that have been fully exposed and removed from developer before development is completed tone to yellower brown. There is a slight variation in tone according to the brand of paper used, though not to any marked extent.

FOR LANTERN SLIDES AND TRANSPARENCIES a stronger solution (one 'Tabloid' Bleaching Compound in two ounces of water) may be used, as bleaching is somewhat slower owing to extra thickness of emulsion, and to the fact that the glass support does not allow the solution to act from both sides, as in the case of prints.

The results obtained by 'Tabloid' Sepia Toner are permanent.

As the tones on gaslight papers are a yellow brown, research work has been undertaken resulting in the following simple methods of producing the much desired colder tones:—

For warm pure brown tones on gaslight papers, bleach in the following way and then darken in the ordinary solution of 'Tabloid' Sulphiding Compound.

Bleacher—

'Tabloid' Bleaching Compound ...	One
'Tabloid' Mercuric Iodide and	
Sodium Sulphite	One
Water ... ..	4 ounces

For dark cold brown tones on gaslight papers, bleach in a solution of 'Tabloid' Mercuric Iodide and Sodium Sulphite, and darken in the ordinary solution of 'Tabloid' Sulphiding Compound.

The colour of the print will be found to change, but the image does not disappear. If it be desired to treat bromide prints, those of a light character should be selected.

Both solutions can be used several times in succession until exhausted. The action naturally becomes slower, but the quality of the results is not impaired thereby.

(For Reduction and Intensification with these products, see pages 58 and 61.)

'Tabloid' Brand Copper Ferrocyanide Toning Compound.—This preparation enables the photographer to avail himself of the Ferguson process of copper toning without the necessity of encumbering his shelves with three additional bottles of solutions. It is supplied in tubes of 15.

DIRECTION.—Dissolve one 'Tabloid' product in each ounce of water. The bromide prints or lantern slides to be toned must be well freed from hypo, otherwise they will lose vigour and be liable to exhibit stains and spots. Plates or prints should be first soaked in water for five minutes to ensure an even action of the toning bath. As soon as the desired colour is reached, wash in the ordinary way for about ten minutes. No further treatment is necessary.

BROMIDE PRINTS.—A black, greeny-black, or rusty-looking bromide print can be changed in colour to a pleasing warm black by an immersion of from one-half to one minute, whilst, if the toning action is allowed to continue, a fine red chalk colour will be obtained. If it be desired to secure this red colour at its best it is advisable to start with **very vigorous prints**. Between these extremes, various shades of purple, brown and red are obtainable. The bath is not suitable for toning glossy bromide prints.

Prints developed with amidol tone best in this bath. Gaslight prints tone unevenly in the early stages, but this disappears if the operation be continued until the full red stage is reached. Strong gaslight prints toned in this way are very pleasing.

**LANTERN SLIDES.**—Half to one minute's immersion will give a pleasing warm tinge to a cold black lantern slide. By prolonging the action a purple black colour is produced, which grows warmer and warmer as toning progresses, yielding a series of beautifully transparent purples, browns and reds, till the final red chalk tone is reached. The brilliance and permanence of toned slides is enhanced by coating them with ordinary negative varnish.

**NOTE.**—This bath works more slowly in cold weather.

### GOLD TONERS

The photographer has the choice of six different formulae, each of which is supplied in a compact carton. Each carton contains the materials for preparing six baths, and each bath will tone on an average 8 to 16 quarter-plate, 6 to 9 five by four, 4 to 6 half-plate, or 2 to 4 whole-plate prints.

**B 1. 'Tabloid' Gold Chloride with Borax.**—Recommended for Paget, Wellington, "Glycia" and Ilford P. O. P. Collodion and Albumenised P. O. P. Ready for use as soon as dissolved. The mixed solutions do not keep.

**B 2. 'Tabloid' Gold Chloride with Sodium Bicarbonate.**—Gives excellent results with Ilford, "Solio," Paget, Wellington and Albumenised P. O. P. Ready for use as soon as dissolved. The mixed solutions do not keep.

**B 3. 'Tabloid' Gold Chloride with Sodium Phosphate.**—Specially recommended for Wellington P. O. P. Also excellent for Paget and Albumenised P. O. P.; works best when made up an hour before using.

**B 4. 'Tabloid' Gold Chloride with Sodium Tungstate.**—Works best when made up an hour before it is used. Gives most excellent results with Paget, "Solio," Ilford and Cadett, also with Albumenised P. O. P.

**B 5. 'Tabloid' Gold Chloride with Sodium Formate Compound.**—Ready for use as soon as dissolved. The mixed solutions do not keep. When used at full strength this formula works very rapidly especially in warm weather. To tone more slowly dilute with an equal volume of water. Specially recommended by the makers of Wellington, Ilford and Cadett P. O. P. Also excellent for Paget and "Solio" P. O. P.

**B 6. 'Tabloid' Gold Chloride with Sulphocyanide Compound.**—This bath works well with all papers intended for sulphocyanide toning.

### PREPARING THE TONING BATH

Whichever formula be chosen, one 'Tabloid' product from the larger tube is dissolved in four ounces of water. Then one product from the smaller tube is dissolved in a separate ounce of water, and this solution is added gradually to the first, stirring meanwhile. Finally, if necessary, add more water to make up the solution to the number of ounces indicated on the label.

**B 10. 'Tabloid' Gold Chloride with Thiosulphate Compound.**—This bath is for Gold toning and fixing, in one operation. It works well with all makes of P. O. P. Dissolve one 'Tabloid' product from the larger tube in two and a half ounces of 20 per cent. **Hypo Solution** (see Note below). Then take one 'Tabloid' product from the smaller tube, and dissolve it in two and a half ounces of water. Add this solution slowly to the former.

Immerse the prints in the mixed solutions, **without previous washing**, and tone from seven to ten minutes or more. Short toning gives warm brown; long toning, cold purples. As soon as the desired colour is obtained, wash as directed under "Gold Toning." If the desired toning be reached in less than seven minutes, it is wise to wash the prints in running water for ten minutes and then immerse them in a 10 per cent. solution of hypo for five minutes before the final washing.

**NOTE.**—The 20 per cent. **Hypo Solution** is the stock solution of potassium hyposulphite (1 lb. in 80 ounces of water, or five 'Tabloid' Hypo in two and a half ounces of water).



## PLATINUM TONER

'Tabloid' Platinum Toning Compound.—Each product contains one-third of a grain of potassium platinate, with citric acid and sodium chloride.

DIRECTION.—Dissolve one 'Tabloid' product in three to four ounces of water. Before toning, wash the prints in running water, or several quick changes, until all milkiness disappears. Tone till the surface assumes a rich claret colour; rinse and place in an alkaline bath (one 'Tabloid' Sodium Carbonate, gr. 44, in two ounces of water; or washing soda, one ounce, or one tablespoonful; water, 20 ounces) for 10 to 15 minutes. Fix in a 10 per cent. solution hypo ('Tabloid' Hypo, one; water, one ounce), in which the prints will turn to a red-brown colour, but will dry a fine sepia. Warmer colours are obtained by diluting the bath by an equal volume of water. The alkaline bath may be omitted if the fixing bath is made alkaline with soda.

## OZOBROME PROCESS

'Tabloid' Ozobrome Pigmenting Compound.—This product has been prepared and issued by B. W. & Co., by arrangement with the Ozobrome Co. It is used to prepare the patent solution known as the Ozobrome pigmenting solution.

DIRECTION.—Dissolve one 'Tabloid' Ozobrome Pigmenting Compound in an ounce of water and use this solution in precisely the same way as instructed for the *diluted* or working solution in the Ozobrome direction booklet.

## OIL-OZOBROME

In this method a print either on Bromoil, or on bromide, paper is treated in such a manner that the greasy image will take up greasy ink, while the uncoloured portions will reject it. The result is a *greasy* print, which takes the

place of the black silver image of the original print. As the ink is put on with a brush, almost unlimited control can be exercised in expressing personal artistic feeling.

DIRECTION.—Make up a 1 per cent. stock solution of Hydrochloric Acid thus—

Water ... ..	25 ounces
Pure Hydrochloric Acid ... ..	120 minims

## BLEACHING BATH

Ozobrome Pigmenting Solution (made by dissolving one 'Tabloid' Ozobrome Pigmenting Compound in each ounce of water) ... .. 1 ounce  
Stock Acid Solution, as above ... .. 1 ounce

(For large prints use 2 ounces or more of each)

Immerse the bromide print in the above bleaching bath until the image is changed to a faint yellow brown color; then transfer it, *without washing*, to the following fixing and softening bath—

Water ... ..	20 ounces
Hypo ... ..	2 ounces
Liq. Ammonia .880 ... ..	100 minims

where it should remain for from 2 to 6 minutes, according to the original hardness of the bromide emulsion.

The hardness of the bromide emulsion may be roughly gauged by the time the image takes to bleach in the bleaching bath. If the bleaching is completed in one minute or less, it is an indication that the gelatin is fairly soft, and 2 to 3 minutes in the fixing bath should be sufficient, but if the time occupied in bleaching is 2 to 3 minutes or longer, then the print should remain in the hypo for from 5 to 6 minutes or even longer.

Finally wash for from 6 to 10 minutes in running water.

After the removal of superfluous water from the surface, the print is ready for inking up in the usual manner.

NOTE.—Both the Ozobrome Pigmenting Solution and the Bleaching Bath for Oil-Ozobrome may be employed for a fair number of prints, provided they are used within an hour or so, after which they should be rejected.



## COLOUR EFFECTS BY STAINING

Many striking and original colour effects may be obtained by immersing lantern slides, bromide, platinotype and similar prints in solutions of suitable aniline dyes. Portraits, fireside and forge studies may be stained red; moonlight effects blue, and sunlit landscapes and street scenes green or orange, with marked success. For this purpose solutions made from certain 'Soloid' stains are very convenient. For orange, use 'Soloid' Eosin; for red, 'Soloid' Fuchsin; for violet, 'Soloid' Gentian Violet or 'Soloid' Methyl Violet; and for blue, 'Soloid' Methylene Blue. The exact strength depends on the depth of tint desired; it is therefore advisable to make a solution of one product in five ounces of water, and to dilute this according to requirements. For yellow, use 'Soloid' Methyl orange, one in one ounce of water. For green, 'Tabloid' Aniline Green Dye may be used. Dissolve one in a pint of hot water for stock, and dilute this according to strength of stain required. Soak prints, which should not have been previously hardened, in water until flaccid, immerse in the dye solution for a few minutes, rinse and dry in the usual way.

The most artistic effects are obtained in the majority of cases, by employing very dilute solutions, thus obtaining a suggestion of colour, rather than a pronounced tint.

*'Soloid' Stains and 'Tabloid' dyes are obtainable of all Chemists and Dealers.*



FIRELIGHT STUDY

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By  
J. WESTON AND SON  
Folkestone

Reproduced from a Bromide print developed with  
TABLOID \* TO \* UNIVERSAL DEVELOPER

GRACE VALLEY  
was awarded  
Baroness Wilton's  
for the  
Scientific Excellence  
of  
TABLOID  
Photographic Chemicals  
at the  
First - Belgian Exhibition  
London, 1908



DIPLOMA FOR GRAND PRIX  
FRANCO-BRITISH EXHIBITION, LONDON, 1908  
Baroness Wilton's ... have awarded Seven Grand Prizes  
One Diploma of Honour and Two Gold Medals

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TRADE MARK  
'TABLOID' BRAND  
PHOTOGRAPHIC PRODUCTS

Prices in London

'Tabloid' Brand Developers

Per  
Carton

'TABLOID' 'RYTOL' UNIVERSAL DEVELOPER	2/-
'TABLOID' AMIDOL DEVELOPER	1/-
'TABLOID' EDINOL DEVELOPER	...
'TABLOID' EIKONOGEN DEVELOPER	...
'TABLOID' GLYCIN DEVELOPER	...
'TABLOID' HYDROQUINONE (QUINOL) DEVELOPER	...
'TABLOID' METOL DEVELOPER	...
'TABLOID' METOL-QUINOL DEVELOPER	...
'TABLOID' ORTOL DEVELOPER	1/-
'TABLOID' PANAMIDOPHENOL DEVELOPER	1/-
'TABLOID' PYRO DEVELOPER	1/-
'TABLOID' PYRO-METOL DEVELOPER	...
<i>(Imperial Standard Formula)</i>	
'TABLOID' PYRO-SODA DEVELOPER <i>(Ilford Formula)</i>	1/-

'Tabloid' Brand Toners

'TABLOID' COPPER FERROCYANIDE TONING COMPOUND	6d.
'TABLOID' GOLD CHLORIDE WITH BORAX (B 1)	1/-
'TABLOID' GOLD CHLORIDE WITH SODIUM BICARBONATE (B 2)	1/-
'TABLOID' GOLD CHLORIDE WITH SODIUM PHOSPHATE (B 3)	1/-
'TABLOID' GOLD CHLORIDE WITH SODIUM TUNGSTATE (B 4)	1/-
'TABLOID' GOLD CHLORIDE WITH SODIUM FORMATE COMPOUND (B 5)	1/-
'TABLOID' GOLD CHLORIDE WITH SULFIDOCYANIDE COMPOUND (B 6)	1/-
'TABLOID' GOLD CHLORIDE WITH THIOSULPHATE COMPOUND (COMBINED BATH) (B 10)	1/-
'TABLOID' PLATINUM TONING COMPOUND	1/-
'TABLOID' SEPIA TONER	1/-

'Tabloid' Brand Restrainers

'TABLOID' AMMONIUM BROMIDE, gr. 1	6d.
'TABLOID' POTASSIUM BROMIDE, gr. 1	6d.
'TABLOID' SODIUM CITRATE, gr. 1	6d.

'Tabloid' Brand Alkali

'TABLOID' SODIUM CARBONATE, gr. 44	6d.
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PHOTOGRAPHIC PRODUCTS

- Per Carton
- 'Tabloid' Brand Preservatives
- 'TABLOID' POTASSIUM METABISULPHITE, gr. 10 ... 6d.
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- 'Tabloid' Brand Hardening and Clearing
- 'TABLOID' ALUM, gr. 10 ... 6d.
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- 'TABLOID' AMMONIUM PERSULPHATE, gr. 11 ... 6d.
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- 'TABLOID' BLEACHING COMPOUND ... 6d.
- 'Tabloid' Brand Intensifiers
- 'TABLOID' CHROMIUM INTENSIFIER ... 6d.
- 'TABLOID' MERCURIC IODIDE AND SODIUM SULPHITE 6d.
- 'TABLOID' BLEACHING COMPOUND, with 'TABLOID' SULPHIDING COMPOUND ... 1/-
- 'Tabloid' Brand Sensitiser
- 'TABLOID' POTASSIUM AMMONIUM CHROMATE, gr. 24 6d.
- 'Tabloid' Brand Fixing Salt
- 'TABLOID' SODIUM THIOSULPHATE, Dried, gr. 28.5 6d.
- 'Tabloid' Brand Product for Ozobrome Process
- 'TABLOID' OZOBROME PIGMENTING COMPOUND ... 1/-
- 'Tabloid' Brand Photographic Outfit (No. 905)
- A complete, compact, chemical outfit for developing, toning and fixing. The standard fitting consists of one regular package each of 'Tabloid' 'Rytol' Universal Developer to make 88 ounces of normal solution, 'Tabloid' Chromium Intensifier to make 30 ounces, 'Tabloid' Combined Bath to make 30 ounces, 'Tabloid' Hypo and 'Tabloid' Sepia Toner. Outside measurements:  $4 \times 4 \times 2\frac{1}{2}$  in. each 5/-

*Supplied in Rex Red, Royal Blue, Imperial Green, or Bright Scarlet enamelled metal, or in Black japanned metal.*

*When ordering, please state which colour is desired.*

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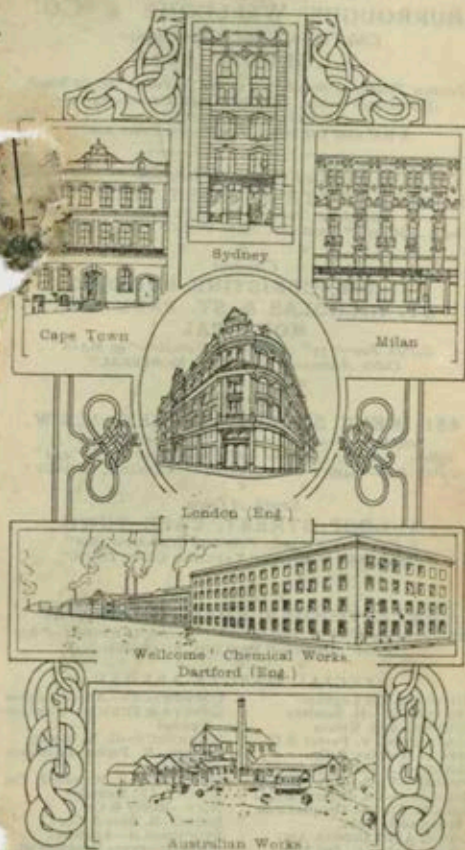
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G.P.O. Box—"1013" Telephone Number—"698"  
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BASLE—Nadolny & Co.	LISBON—F. Freire d'Andrade
BERLIN—Linkenbell & Co.	& Irujo
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BURROUGHS WELLCOME & CO.'S OFFICES,  
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BURROUGHS WELLCOME & CO.

INTERNATIONAL  
EXPOSITION  
ST. LOUIS, 1904

THREE GRAND PRIZES  
AND  
THREE GOLD MEDALS

INTERNATIONAL  
EXHIBITION  
LIÈGE, 1905

SIX GRAND PRIZE  
THREE DIPLOMAS OF HONOUR  
AND  
THREE GOLD MEDALS

INTERNATIONAL  
EXHIBITION  
MILAN, 1906

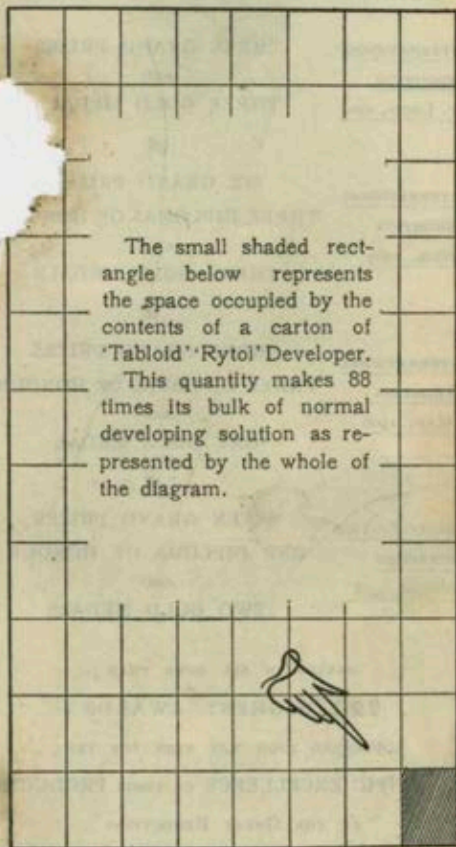
THREE GRAND PRIZES  
THREE DIPLOMAS OF HONOUR  
AND  
ONE GOLD MEDAL

FRANCO-BRITISH  
EXHIBITION  
LONDON, 1908

SEVEN GRAND PRIZES  
ONE DIPLOMA OF HONOUR  
AND  
TWO GOLD MEDALS

MAKING IN ALL MORE THAN  
220 HIGHEST AWARDS  
CONFERRED UPON THE FIRM FOR THE  
SCIENTIFIC EXCELLENCE OF THEIR PRODUCT  
AT THE GREAT EXHIBITIONS  
OF THE WORLD

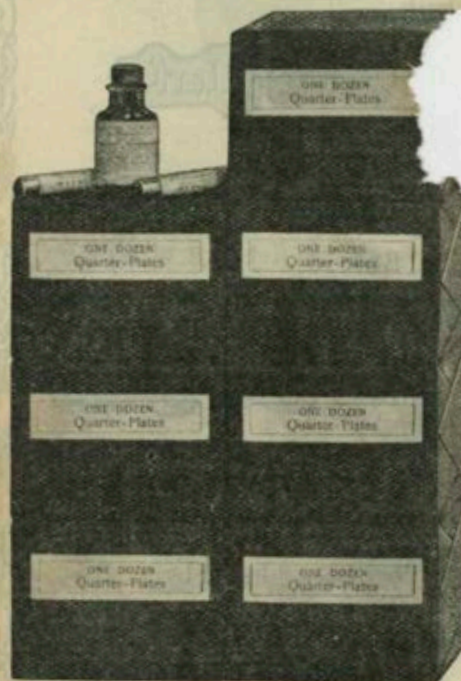
Diagram illustrating the compactness and concentration of 'TABLOID' 'RYTOL' Universal Developer



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Photograph illustrating the great concentration and developing power of 'TABLOID' 'RYTOL' Universal Developer.



(Approx.  $\frac{1}{8}$  size of original)

Each carton of 'TABLOID' 'RYTOL' Universal Developer contains a bottle and two tubes (as represented above), the contents of which are more than sufficient to develop the SEVEN dozen plates shown in the photograph.

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THE

Trade Marks

'Tabloid' }  
AND }  
'Soloid' }  
Invented  
by  
B. W. & Co.

Are  
B. W. & Co.

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Burroughs Wellcome & Co.

They mean "Issued by,  
Burroughs Wellcome & Co."

They stand for

24 CARAT products

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## PERMITS TO PHOTOGRAPH

APPLY for permits well in advance of the date required. Always enclose stamped address for reply.

### United Kingdom—

Any member of the R.P.S. or its affiliated societies permitted to photograph in the following places, production of his copy of "The Red Book." Particulars are obtainable from the Secretary, Royal Photographic Society, 35, Russell Square, London, W.C. An asterisk indicates that this permission applies to hand cameras only, and that the photographing of persons or groups is not permitted: Burnham Beeches, \*Bushey Park, Coulsdon Common, Farthingdown, Kenley Common, Riddlesdown, West Wickham Common, \*Green Park, \*Greenwich Park, \*Hampton Court (Gardens and Green), Highgate Woods, \*Hyde Park, \*Kensington Gardens, \*Kew Green, Queen's Park (Kilburn), \*Natural History Museum Gardens, \*Parliament Square Gardens, \*Primrose Hill, \*Regent's Park, \*Richmond Park and Green, \*St. James's Park, St. Paul's Churchyard (to 12 noon), \*Victoria Tower Gardens, Bristol, Hereford and Lichfield Cathedrals and Romsey Abbey.

### IN GENERAL—

Permits for Abbey and Castle Ruins are obtainable from the Stewards, for Cathedrals from the Deans, for Churches from the Vicars, for Colleges from the Masters or Deans, for Private Parks, Mansions and Estates from the Estate Agents, the Stewards, or from the owners.

### LONDON AND ITS ENVIRONS—

Bethnal Green Museum—from the Secretary, Board of Education, South Kensington, S.W.  
Botanical Gardens—from the Secretary, Botanical Gardens, Regent's Park, N.W.  
British Museum—from the Director, British Museum, Bloomsbury, W.C. The object to be photographed must be specified. Visitors are allowed to use portable cameras (not requiring a stand) to photograph exhibited objects. If photographs of special non-exhibited objects be required a professional must be employed. A fee is charged. See special regulations obtainable of the Director on request.  
Epping Forest—from the Town Clerk, Guildhall, E.C.

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LONDON AND ITS ENVIRONS—*continued*

- Guildhall—from the City Lands Committee, Guildhall, E.C.
- Guildhall Art Gallery—from the Library Committee, Guildhall, E.C.
- Hampton Woods—no permit necessary.
- Joint Stock Companies—from the Clerks to the various Companies.
- House of Commons—from the Secretary, Lord Chamberlain's Office, House of Lords, S.W.
- Imperial Institute—from the Secretary, Imperial Institute, South Kensington, S.W.
- Kew Gardens—from the Director, Royal Gardens, Kew. Permits are not granted for Sundays, Christmas Day, Good Friday, or Bank Holidays.
- Lincoln's Inn—from the Steward, Lincoln's Inn Hall.
- National Gallery—from the Director, National Gallery, Trafalgar Square. Permits are only granted to professional photographers.
- Natural History Museum—from the Director, Natural History Museum, Cromwell Road, South Kensington, S.W.
- Public Record Office—from the Secretary, Public Record Office, Chancery Lane, W.C.
- St. Bartholomew's Church, Smithfield—from the Official in Charge on payment of a fee of 2s. 6d.
- St. Paul's Cathedral—from the Dean. Fee, 2s. 6d. per day.
- South Kensington Museum—from the Secretary, Board of Education, South Kensington, S.W.
- Tate Gallery—from the Keeper, National Gallery of British Art, Millbank, S.W. Permits are given to professional or known photographers under special conditions.
- Tower of London—from the Constable of the Tower of London. Exterior only no fees.
- Warstead Park—from the Town Clerk, Guildhall, E.C.
- Westminster Abbey—from the Chapter Clerk, The Sanctuary, Westminster, S.W. Permission only rarely granted and under exceptional circumstances.
- Zoological Gardens—Cameras not larger than 4-plate, and held in the hand, may be used without special permit. For stand cameras, and large hand cameras, a permit (costing 10s.) must be obtained from the Secretary. No photography is permitted on Sundays. A dark room for changing is available.

PROVINCES—

- Bath Abbey—from the Rector and Rural Dean of Bath. No fee to accredited photographers.
- Bristol Cathedral—from the Dean on application enclosing stamped addressed envelope.
- Canterbury Cathedral—from the Head Clerk, fee, 5s. The Nave and Precincts are free.
- Cheetham's Hospital and Library—from the Head Clerk, on payment of 1s. in addition to charge for admission (6d.).
- Chester Cathedral—from the Dean. Entrance to Choir, 6d.
- Chichester Cathedral.—2s. 6d. and copies of photographs taken.
- Durham Cathedral—from the Dean. Special fee for particular parts.
- Exeter Cathedral—from Chancellor Edmonds, Cathedral Close. Fee for Chancel, 6d.
- Ely—from the Dean. No special fee. Apply to the Head Verger for regulations.
- Fountains Abbey—A small charge for dark room.
- Gloucester Cathedral—from the Sub-Sacrist's Clerk. Fee for the day, 2s. 6d.
- Haddon Hall—hand cameras, 6d. Stand cameras: interior (not allowed); exterior, 6d., in addition to entrance fee (4d.).
- Hastings Castle—Admission 3d. Week-days only.
- Lincoln Cathedral—from the Dean. No fee for Nave. Elsewhere 6d. to Visitors' Fund.
- Liverpool Cathedral—from the Rector of Liverpool.
- Liverpool Docks or Dock Estate—gratis from the Dock Office, Canning Place, Liverpool. Special permission is required for the Graving Docks.
- Ludlow Castle—on payment of admission fee, 4d.
- Newcastle Cathedral Church—from the Vicar and Canon Residentiary.
- Norwich—permits may be obtained on application to the Sub-Sacrist at the Cathedral. Fees, one day, 1s. 6d.; two days, 2s. 6d.
- Peterborough Cathedral—permission by card, obtainable at the Deanery. The Nave is open free. Entrance to Choir, 6d.
- Pevensey Castle—No special fee.
- Raglan Castle—stand cameras, 2s. 6d.; hand cameras, 1s. Admission, 6d.
- Selby Abbey—Free. Apply to the Churchwarden (next door). Under restoration.
- St. Asaph Cathedral—from the Dean. Gratuity to Verger. Stand cameras may not be erected in the Cathedral or Cathedral yard.

PROVINCES—*continues*

- St. Mary's Church, Warwick—fee, 2s. 6d.  
 Stokesay Castle—fee 6d.  
 Tokesbury Abbey—fee, 1s.  
 Torm Abbey—fee, 6d. Special fee to professionals.  
 Torm College, Cambridge—on signing book at  
 er's Lodge.  
 Cathedral—from the Canon in Course; apply  
 one of the Vergers. Fee, 2s. 6d.  
 Tonia Waters—from Captain Campbell, Holly  
 Grove, Windsor Park.  
 Torm Castle—fee for grounds and courtyards,  
 2s. 6d. Apply at the Estate Office. For interior  
 work, apply to the Earl of Warwick.  
 Wells—Bishop's Palace—Admission 6d. Special  
 permit from the Bishop.  
 Wells Cathedral—from the Dean. Entrance to  
 Chancel, 6d. No special fee.  
 Winchester Cathedral—from the Dean. Fee, 1s. for  
 the day; 2s. 6d. for week.  
 Windsor Castle—from the Lord Chamberlain, or at  
 the Entrance Gate, Castle Hill.  
 Windsor Green Park—from Captain Campbell,  
 Holly Grove, Windsor Park.  
 York Minster—Fee, 2s. 6d. per day. Permits obtain-  
 able at Chapter Clerk's Office, St. William's College.

France—

- Photographs may be taken in the streets of Paris  
 and other French towns, so long as no incon-  
 venience to traffic is caused. A permit, obtainable  
 from the Prefecture of the Seine (La Prefecture de  
 la Seine), is necessary before photographing in the  
 public parks and squares in Paris.  
 Cathedrals—In some cases permission may be  
 obtained from the local officials, but to avoid  
 disappointment, it is advisable, whenever possible,  
 to write in advance to Monsieur le Ministre de  
 l'Intérieur, Paris.  
 State Museums and Palaces—from the Director of  
 the particular building in which it is desired to  
 photograph.  
 State Monuments—from Messieurs les Conservateurs  
 des Monuments d'Etat, L'Administration, Rue  
 de Valois.  
 Le Jardin d'Acclimatation—from Monsieur le  
 Directeur du Jardin d'Acclimatation.  
 Le Jardin des Plantes—from Monsieur le Directeur  
 du Jardin des Plantes.  
 Le Trianon and le Petit Trianon—from Monsieur le  
 Conservateur du Château de Versailles.

Germany—

- Any person desirous of taking photographs in the  
 various streets, parks and public gardens in  
 Berlin, or other towns in Germany, must  
 for a permit to the Police Station (Polizei-  
 belonging to the particular district in which  
 object intended to be photographed is situated.  
 The Government prohibits the taking of pho-  
 of the works of art exhibited in the  
 Gallery (National-Galerie), Berlin, but it  
 grants permission to photograph in other  
 Museums.  
 All of the public galleries and museums in Berlin  
 are under the administration of the General  
 Direktion der Königlichen Museen, Altes Museum,  
 Am Lustgarten, Berlin, C., and all applications for  
 permits must be addressed to that department.

Greece—

- No permit necessary for street work. Permits to  
 photograph in museums are obtainable from the  
 Superintendent of Antiquities.

Italy—

- Permission to photograph in public buildings, etc.,  
 must be obtained by personal application at the  
 Ministry of Public Instruction. No restrictions  
 for street work, etc., with hand cameras.

Norway—

- No special restrictions for street work, except on such  
 occasions as processions, opening of buildings, etc.,  
 when permission must be obtained from the police.

Portugal—

- No permit necessary for streets. For work in  
 churches, public buildings and municipal gardens,  
 permits must be obtained from the respective  
 authorities of the same.

Russia—

- Special permission must be obtained from the Prefect  
 before taking photographs in the streets or of the  
 public buildings.

Other Countries—

- Similar regulations to those indicated are in force in  
 most countries. Should any difficulty arise, apply  
 to the British Consul or Chargé d'Affaires. In  
 many countries a passport is a convenience if not  
 a necessity.

*Special care must be taken to avoid the use of a  
 camera in the vicinity of fortifications, military  
 or naval works.*



## POSTAL INFORMATION FOR THE UNITED KINGDOM

**Inland Letter Rates.**—Not exceeding 4 oz., *1d.*, and *½d.* extra for every additional 2 oz. No letter may exceed 2½ in. in length, 12 in. in width, or 12 in. in depth, unless sent from a Government office.

**Newspaper Rates.**—Every registered inland newspaper must be wrapped so that it may be easily examined by office authorities, *½d.*, without regard to weight; or one in a packet, *½d.* for each newspaper. Newspaper packets must not exceed 5 lb. in weight, 12 in. in length, and 1 foot in width or depth.

**Penny Packets.**—The undermentioned articles are transmissible for *½d.* provided they conform to the regulations published in the Post Office Guide, and do not exceed 2 oz. in weight. Above that weight they are liable to letter postage, unless sent by Parcel Post. Books and other printed and written matter not in the nature of a letter, drawings, photographs, maps, plans, invoices, orders for goods, receipts, statements, circulars, Christmas cards, birthday cards, manuscripts, proofs, etc.

**Registration.**—The fee for registering an inland letter or packet is *2d.*, in addition to the ordinary postal rate. The packet *must* be enclosed in a strong cover, securely sealed, and *must* be given to a post office official, and a receipt obtained for it; if containing coin, it *must* be enclosed in a special registered letter envelope. A fee of *2d.* effects an insurance against loss or damage up to £5; *3d.* up to £20; *4d.* up to £40; and so on, at the rate of an extra *1d.* for every additional £20 up to £400, unless contents are coins, when the limit of compensation is £5.

The fee for registration to places abroad is *2d.* Insurance, including registration on letters to Foreign Countries for which insurance can be accepted, is *4d.* for £12, and *2d.* extra for every additional £12 up to £400.

**Letter Cards.**—*1½d.* each, or *9d.* for 5.

**Post Cards.**—Stout or thin cards, *½d.*; *6d.* for 11; stout cards, *5d.* for 110; and thin cards, *10d.* for 220.

**Parcel Rates.**—1 lb., *3d.*; 2 lb., *4d.*; 3 lb., *5d.*; 5 lb., *6d.*; 7 lb., *7d.*; 8 lb., *8d.*; 9 lb., *9d.*; 10 lb., *10d.*; 11 lb., *11d.* No parcel may exceed 11 lb. in weight. The greatest length allowed is 3 ft. 6 in., and the maximum of length and girth combined is 6 ft.; *i.e.* a parcel of 3 ft. 6 in. long may measure 2 ft. 6 in. in girth round the thickest part.

**Money Order Rates.**—For sums not exceeding £2, *2d.*; above £2, but not exceeding £3, *3d.*; above £3, but not exceeding £10, *4d.*; above £10, but not exceeding £20, *6d.*; above £20, but not exceeding £30, *8d.*; above £30, but not exceeding £40, *10d.*

**Inland Postal Order Rates.**—*6d.*, *1s.*, *1s. 6d.*, *2s.*, *2s. 6d.*, *3s.*; 3s. to 15s. inclusive, *1d.*; 15s. *6d.* to 21s. inclusive, *1½d.* The value of a Postal Order may be increased by affixing stamps not exceeding three times the number and to an amount not exceeding *5d.*

**Telegram Rates.**—Throughout the United Kingdom, *6d.* for the first 12 words, and *½d.* for every additional word, the name and address of receiver, and of telegraphed, being counted. London district telegrams count as one word, and figures as five to a word.

**Foreign and Colonial Letter Rates.**—The rate of postage on letters from the United Kingdom to all Foreign Countries (except Egypt and U.S.A.) is *1d.* for the first oz., and *1½d.* for each succeeding oz.; to the United Kingdom to nearly all British Possessions, and to Egypt and U.S.A., the letter rate is *1d.* per oz.

**Foreign and Colonial Printed Papers and Commercial Papers, Rates for.**—The rate of postage to be prepaid in the United Kingdom on Printed Papers (such as newspapers, books, pamphlets, circulars, photographs, etc.) for all places abroad is *½d.* per 2 oz. The postage on Commercial Papers is *2½d.* for the first 10 oz. and *½d.* per 2 oz. thereafter. The limit of size for packets addressed to British Colonies or Possessions, or to non-Union Countries or Colonies, is 2 feet in length by 1 foot in width or depth; but to Foreign Countries in the Postal Union the length is limited to 18 inches. If in the form of a roll, the limit of size in either case is 30 inches in length by 4 inches in diameter. The limits of weights are: 5 lb. for British Colonies or Possessions, and for non-Union Countries or Colonies; 4 lb. for Foreign Countries in the Postal Union.

**NOTE.**—Registered Newspapers, Magazines and Trade Journals may be sent to Canada at the rate of *1d.* per lb.

**Foreign and Colonial Post Cards.**—Official Post Cards, single and reply, are transmissible to all parts of the world. Single Cards are issued with impressed stamp of *1d.*, and Reply Cards *1d.* on each half.

**Foreign and Colonial Parcel Rates.**—When alternative routes are available, the cheaper is here given. Parcels may be sent to the majority of the British Possessions at the rates of 3 lb., *1s.*; 7 lb., *2s.*; and 11 lb., *3s.*

The principal exceptions are as follows, maximum weight allowed, 11 lb.: Canada, 1 lb., *8d.*; then *6d.* per lb.; Cape Colony and Natal, *9d.* each lb.; Australian Commonwealth, 1 lb., *1s.*, then *6d.* per lb.; Rhodesia, 1 lb., *1s.* each lb.; Transvaal and Orange River Colony, *1s.* each lb.

# POSTAL INFORMATION

To the undermentioned places, the rates for parcels not exceeding 3 lb., 7 lb. and 11 lb., respectively, are as follows:—Argentine Republic, 2s., 3s., 4s.; Austria, 2s., 2s. 6d.; Belgium, 1s., 1s. 6d., 2s.; British Africa Protectorate, 2s., 3s., 4s.; Denmark, 1s., 2s.; France, 1s. 4d., 1s. 9d., 2s. 2d.; Germany, 1s., 1s. 6d., 2s.; Italy, 1s. 6d., 2s., 2s. 6d.; Japan, 2s., 4s.; Mexico, 1s., 2s. 6d., 3s. 6d.; Netherlands, 1s., 1s. 6d., 2s.; Portugal, 1s. 6d., 2s., 2s. 6d.; Russia (Europe), 2s., 2s. 6d., 3s.; Spain, 1s. 6d., 2s., 2s. 6d.; Sweden, 1s. 6d., 2s., 2s. 6d.; Switzerland, 1s. 6d., 2s.; U.S.A., official, 1s. 6d., 2s. 6d., 4s. 6d.; U.S.A., 3s. 6d., 4s. 6d., 5s. 6d., except for New York, Brooklyn, Jersey City and Hoboken, for which the rates are 2s. 6d., 3s. 6d., 4s. 6d. Parcels to places abroad are subject to Customs regulations.

Parcels for many Foreign Countries and British Possessions may be insured at the rate of 4d. for £12, and 2d. extra for every additional £12 up to £400. Parcels addressed to any Foreign Country, or to Australia, British Central Africa Protectorate, Canada, Cape Colony, Natal and other parts of South Africa, Fiji, Jamaica, Mauritius, New Zealand, Rhodesia (North-Eastern), Seychelles, Straits Settlements and Trinidad, may not contain a letter, even if sent to the addressee. Parcels for other British Possessions may contain a letter if addressed the same as the parcel, but packets of letters may not be sent by Parcel Post to any place abroad. An invoice in an open envelope, simply giving particulars of the goods, may be enclosed.

The maximum length and girth combined of parcels to India and the Colonies generally is 6 ft.

**Foreign and Colonial Telegrams** may be sent at the following charges per word: Belgium, France, Germany and Holland, 2d.; Algeria, Austria, Hungary, Italy, Luxembourg, Switzerland and Tunis, 2½d.; Denmark, Gibraltar, Norway, Portugal, Roumania, Spain and Sweden, 3d.; Bosnia-Herzegovina, Bulgaria, Eastern Roumelia, Montenegro and Serbia, 3½d.; Malta and Tangier, 4d.; Spain (via Marseilles cable), 5d.; Crete, 5½d.; Greece, Greek Islands, Turkey and Turkish Islands, 6d.; Tripoli, 7d.; Azores and Canary Islands, 9d.; Sudan (French), 1s. 4d.; Senegal, 1s. 4½d.; Cyprus (per Eastern Co.), 1s. In no case can a foreign telegram be sent for less than 10d.

**Foreign Money Orders** are issued in the United Kingdom to most Foreign Countries, for sums not exceeding £1. 7s.: £2, 6d.; £4, 9d.; the poundage being added at the rate of 3d. for every additional £2 or fraction of £2 up to £40, for which the rate is 5s. 3d.

## RECORD OF NEGATIVE EXPOSURES

THE following pages, numbered 86 to 139, are ruled for recording details of negative exposures.

The first opening is partly filled in to show how it is intended that the various columns should be used.

An index may be kept on page 140.



Date	No. of Slide	Plate or Film	Time of Day	Light	Stop	Exposure
16	1	Jones' Spec. Rap.	11 a.m.	A	F 22	1/4 sec.
		"	"	A	F 22	1/4 sec.
		"	6 p.m.	B	F 8	1/35 sec.
	4	Jones' Rap. Ortho	10 a.m.	C	F 11	36 sec.
	5	"	10 a.m.	C	F 11	6 sec.
	6	"	4 p.m.	A	F 16	1/20 sec.
Aug 29	1	Paget. 250	11 a.m.	6	7/16	1/100
	2	"	10 p.m.	6	7/16	1/100
	3	"	8 p.m.	6	7/16	1/100
	4	"	8 p.m.	6	7/16	1/100
	5	"	9 p.m.	5	7/16	1/100

45	Subject; notes on lighting, etc.	No. of Negatives
	Cottage at Oaktown, exterior F 8 used in mistake. Over-exposed	—
	Cottage at Oaktown Right stop	—
	View on River, Oaktown Sun to right of camera	—
	Flowers in Room 6 times screen	—
	Flowers in Room, as 4 No screen	—
	Cumulus clouds lighted from right 4 times screen	A 5
	View of the face of the Bavarian.	1
	ditto at a break.	2
	Bavarian Carving 3 beads close to the camera	3
	ditto	—
	4 left hand of the Bavarian carving close.	4
	5 Bavarian (destroyed in on plate)	5
	6 Bavarian (destroyed in on plate)	6

Date	No. of Slide	Plate or Film	Time of Day	Light	Stop	Exposure
	3 <sup>S</sup>	SP. Bld 250	3	4	20	100
		Payh. Telephoto	3	4	7/16	150
		SP. Bld. 3.3	3	7	22	100
	2 <sup>S</sup>	SP. Bld. 3.3	3	7	22	100
	6		4	4	20	100
	7		4	7	20	100
	35 <sup>R</sup>	Ortho. SP. Bld	3	7	11	150
	8 <sup>S</sup>	SP. Bld 5.3	5	7	16	100
	9 <sup>S</sup>		6	7	11	100
	11 <sup>S</sup>		1	10	7	100
	31 <sup>R</sup>	Ortho	1	10	7	11
	32 <sup>R</sup>	Ortho	1	10	7	11

46 Subject, notes on lighting, etc. No. 6  
Negat.

Antarctic penguins on floor  
Telephoto.  
Fau of Cape Collinson  
~~2 hrs, off Cape Collinson~~  
~~20 stars, clouds, stars~~  
~~Panicle ice~~  
~~"~~  
Telephoto  
Icebergs in distance? picture  
Indistinct, made by long Cape Collinson  
Panicle ice  
Frame  
Frame etc } Yellow  
Frame etc } Screen  
80



Date	No. of Slide	Plate or Film	Time of Day	Light	Stop	Exposure
11/11	11 <sup>R</sup>	Ortho	1am	10	711	$\frac{1}{50}$
	12 <sup>R</sup>	Ortho	1am	10	711	$\frac{1}{50}$
	13 <sup>R</sup>	Ortho	2:45	7	718	$\frac{1}{50}$
	14 <sup>R</sup>	Ortho	"	7	718	$\frac{1}{60}$
	15 <sup>S</sup>	Ortho	"	7	718	$\frac{1}{64}$
	10	Bld				
8/2/11	11	Bld	Am 1030	4	716	$\frac{1}{60}$
	1	Accidentally				
	36 <sup>R</sup>	Ortho	2 Pm	5	716	$\frac{1}{50}$
	10 <sup>S</sup>	Bld	5 Pm	4	720	$\frac{1}{100}$

Subject, notes on lighting, etc.

No.  
Negat

Frame etc } Yellow  
Frame etc } Screen  
Yellow screen  
Sun Clouds & Sunlight on Bay with  
Yellow Screen  
Sun Clouds on Frame  
Point A. Bay of Whales.

(~~Telephoto~~) Face of Banner in  
Discovery Bay 11/4

Face of Barrier in Dixson Bay 12

Coulman Island

Exposed  
yellow series  
at center of crevasse.

Tongue of Cape Barn. Glavin

Date	No. of Slide	Plate or Film	Time of Day	Light	Stop	Exposure
						X250
	9 <sup>R</sup>	Wtth	6am	11	711	50
						X250
	"		6am	11	711	50
		Bld	730am	6	716	100
	15 <sup>R</sup>	Wtth	Spolet			
	16 <sup>A</sup>	"	730am	6	711	50
	7 <sup>S</sup>	Bld	9am	4	716	100
	5 <sup>S</sup>	"	"	4	716	100
	13 <sup>R</sup>	Wtth	10am	4	716	75
	4 <sup>S</sup>	Bld	11am	4	716	100
	13 <sup>S</sup>	Bld	12m	4	720	100
	14 <sup>S</sup>	Bld	noon	4	716	100
	17 <sup>S</sup>	"	"	6	711	100

48	Subject, notes on lighting, etc.	No. of Negative
	view on newly landed Bay with glaci troupe	1
	about 10 miles south of above	
	Berg	
	Viet. Coast	
	" with ice front	
	" " "	
	" " " d. berg	
	" Glacier & bluff.	
	" Glacier V. G.	
	" do. do.	
	Berg	





Date	No. of Slide	Plate or Film	Time of Day	Light	Stop	Exposure
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5 <sup>R</sup>						
R			2 1/2	5	745	800

6			mm	8	78	1/50
---	--	--	----	---	----	------

32			"	8	710	1/25
----	--	--	---	---	-----	------

25						
----	--	--	--	--	--	--

24						
----	--	--	--	--	--	--

17			Cape			
----	--	--	------	--	--	--

18			Basalt			
----	--	--	--------	--	--	--

50						
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6R			Birds			
----	--	--	-------	--	--	--

17						
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18						
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50

Subject, notes on lighting, etc.

No. of Negative

under exposed.  
Spray on floor  
Coast exposure  
Group of penguins  
Telephoto Coast exposure  
a penguin

Telephoto  
Mount from ridge  
Tessie  
Black

Prister, Campbell &  
abbott on the ridge

Peninsula from C. Abbot

Surf



Date	No. of Slide	Plate or Film	Time of Day	Light	Stop	Exposure
	R					
	11					
	R					
	12					
	R					
	22					
	R					
	36					
	R					
	35					
	R					
4/3/11	13	ortho	12	7	710	$\frac{1}{20}$
	R					
6/5/11	14	"	3 <sup>00</sup> PM	10	722	15
	R					
	31					
	R					
	32					
	R					
	23	ortho	10 <sup>45</sup> AM	10	710	$\frac{1}{20}$
	R					
	24	ortho	"	10	710	$\frac{1}{20}$

51	Subject, notes on lighting, etc.	No. of Negative
	Surf	11
	Surf	25
	Surf	35
	Surf	35
	Telephoto. +2 screen	V.G.
	Tab. very showing cube printing	
	Telephoto. +2 screen	
	Mountains with cloud effect	
	East of Pau	35
	Pau Telephoto	
	Pau Telephoto	

Date	No. of Slide	Plate or Film	Time of Day	Light	Stop	Exposure
	9 R	1				
	10 R	2				
	11 R					
	12 R					
	13 R					
	14 R					
	15 R					
	16 R					
	17 R					
	18 R					
	19 R					
	20 R					
	21 R					
	22 R					
	23 R					
	24 R					
	25 R					
	26 R					
	27 R					
	28 R					
	29 R					
	30 R					
	31 R					
	32 R					
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	37 R					
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	41 R					
	42 R					
	43 R					
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	89 R					
	90 R					
	91 R					
	92 R					
	93 R					
	94 R					
	95 R					
	96 R					
	97 R					
	98 R					
	99 R					
	100 R					

52	Subject, notes on lighting, etc.	No. of Negative
1		
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99		
100		



Date	No. of Slide	Plate or Film	Time of Day	Light	Stop	Exposure
	3 <sup>R</sup>		12	8.7	732	$\frac{1}{2}$
	4 <sup>R</sup>			?	"	$\frac{1}{2}$
	20 <sup>S</sup>	Bld	am 10	5	711	$\frac{1}{36}$
6/3/11	12 <sup>S</sup>		6 <sup>pm</sup>	20	78	$\frac{1}{16}$
	3 <sup>S</sup>	Bld	3 <sup>pm</sup>	6	711	$\frac{1}{32}$
	15 <sup>R</sup>	ortho	am 1130	25	732	$\frac{1}{2}$
	16 <sup>R</sup>	ortho	"	95	732	$\frac{1}{2}$
	5 <sup>R</sup>	"	"	"	"	"
	6 <sup>R</sup>	"	"	"	"	"
	13 <sup>R</sup>					
	14 <sup>R</sup>					
	1 <sup>R</sup>					
	2 <sup>R</sup>					

53	Subject, notes on lighting, etc.	No. of Negative
	Panorama + 2 Sec	—
	Panorama	—
	Boys hut with drifts	2
	ice flns <sup>by the mud sea</sup> washed into beach	22
	ice cave with Browning	—
	Panorama + 2 Velox	—
	Spot "Slides	—
	" Empty	—
	" " " "	—
	Pan	—
	Pan	—
	Pan	—

Date	No. of Slide	Plate or Film	Time of Day	Light	Stop	Exposure
	9 R					
	10 R					
	29 R		12	7	732	$\frac{1}{2}$
	30 R		4	9	732	$\frac{1}{2}$
	2 S					
	2 R	12	8	76		$\frac{1}{34}$
	18 S	1	7:30 am	76		$\frac{1}{16}$
	13 S	10	10:40	8	711	$\frac{1}{36}$
	29 R	10	8	718		
	30 R	"	10	8	716	$\frac{1}{2}$
	3 R	"	11	9	752	18
	4 R	"			717	2
	12 R	"			21	
	14 R	"				

54	Subject, notes on lighting, etc.	No. of Negative
	Pan	9 p —
	Pan	9 01 —
	Panaram + 2 S	9 ps —
	Panoram	9 02 —
	Gomps	9 5 —
	Lansul, Pra	9 1 —
	Berg of Rid. beach	—
	Stranded log with lumps on log	Paired
	Log & Pine with bark	Paired
	Beach. Pile of	Paired
	Core abbot	Paired
	Can abbot	Paired
		Paired



Date	No. of Slide	Plate or Film	Time of Day	Light	Stop	Exposure
Dec 31	9	R ambal ortho				722 72
	10	R				718 16
	11	R		8		722 16
	12	R				
	13	R				
	14	R				16 30 722 20
	15	R				
	16	R				
	17	R				
	18	R				
	29	R				
	30	R				

55	Subject, notes on lighting, etc.	No. of Negative
	Pressure ice with Brinley	Packed
	Pressure ice	Packed
	Pressure ice	Packed
	Pressure ice with Brinley	Packed
	Pan ice with Brinley	Packed
	do	Packed
	Cane with abbr	Packed
	Pan 3	Packed
	Pan 3	Packed
	Pan 3	Packed
	Pan 3	Packed
	Pan 3	Packed
	Pan 3	Packed
	Pan 3	Packed

Date	No. of Slide	Plate or Film	Time of Day	Light	Stop	Exposure
	9	R 13Kd 1140				
	10	R 1				
	13	R				
	14	R				
	5	R				
	6	R				
	1	R	2:30	6	7 1/2	1/24
	2	R				
Apr 2	15	R		6	7 1/2	1/24
	16	R			11	1/24
	25	R	4	50	7 1/2	1/24
	26	R	4	10	7 1/2	1/24

56	Subject, notes on lighting, etc.	No. of Negative
	Pan 3	Packed
	Pan 3	Packed
	Pan 3	Packed
	Pan 3	Packed
	Pan 3	Packed
	Pan 3	Packed
	Pan (3 <sup>rd</sup> )	Packed
	Blocks on bench	Packed
	Stone wall	Packed
	Statuettes	Packed
	Self Cape down through dirty ice	Packed



Date	No. of Slide	Plate or Film	Time of Day	Light	Stop	Exposure
	12	B&W				1
	27	ortho	3	6	7 1/2	32
	28	"	3	4	7 1/2	50
	11	S				
V	10	S				
V	9	S				
V	21	S				
V	8	S				
V	1	S				
		accidentally				
	R	Bild sun				
Ap. 2	27	ortho	12	5	7 1/2	3
	28	"	"	"	7 1/2	3
	15	"	"	"	"	"
	16	"	"	"	"	"

57 Subject, notes on lighting, etc. No. of Negative

blocks  
~~Therm~~ Therm up by surf  
ice foot & beach  
Abbott  
28. 11.  
exposed  
Lancaster in with Priestley  
" " with P. & Campbell  
trapped black of ice  
all of ice blocks 3 figures

Date	No. of Slide	Plate or Film	Time of Day	Light	Stop	Exposure
4/2	29	R unrolled	1	5	7 1/2	1/36
4	30	"	1	5	7 1/2	1/36
	9R	"	1:15	6	7 1/2	1/24
	10R	"	1:15	6	7 1/2	1/24
	13	"	11	16	7 1/2	1/16
	14	"	11	20	7 1/2	1/16
	3	"				
	4	R	am	10:30	20	7 1/2
	17	R	am	10	10	7 1/2
	18	R	am	10	10	7 1/2
4/6	5	R	min	1	7 3/2	5
"	6	"	1 min	7 3/2	1/5	

58	Subject, notes on lighting, etc.	No. of Negative
	Seal	—
	Ice fort with self	—
	Group	—
	Group	—
	Ice with Campfire	—
	Cox with a & V	—
	Spruit	—
	Campfire in Kayak	—
	Warming of wind	—
	View along north beach	—
	Seal & Bicycles	—



Date	No. of Slide	Plate or Film	Time of Day	Light	Stop	Exposure
	9 <sup>R</sup>	Ortho Bild	3	7	764	2"
	10 <sup>R</sup>	"	10 <sup>30</sup>	Dull	75	1/6
	35 <sup>R</sup>	"	3	7	764	2"
	36 <sup>R</sup>	"	3	7	764	2"
	15 <sup>R</sup>	"	3	7	764	2Sun
	16 <sup>R</sup>	"	"	"	"	"
Apr 20?	29 <sup>R</sup>	"	4	40	23	1Sec
	30 <sup>R</sup>	"	4	40	78	7/1
	25 <sup>R</sup>	"	3	Sun	15	7/16
	26 <sup>R</sup>	"	10	Cloud	20	7/11
	27 <sup>R</sup>	"	3		20	7/11
	28 <sup>R</sup>	"	4		20	7/11

55	Subject, notes on lighting, etc.	No. of Negative
"	Mountains	—
"	Circles on seaward	—
"	Mountains	—
"	Mountains	—
"	Mountains	—
"	Mountains	—
"	Circles	—
"	Core in ice foot	—
"	Cape Adair	—
"	Fortetops in snow	—
"	Breast in ice foot	—
"	Yellow snow	—
"	Sunset	—

Date	No. of Slide	Plate or Film	Time of Day	Light	Stop	Exposure
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	11	R Bhd	3 Pm	Sun	15	716 1/16
	12	"	"	"	15	" 1/16
	21	"	"	"	15	" 1/16
	22	"	"	"	15	" 1/16
	23	"	"	"	"	"
	24	"	"	"	15	716 1/16
	7	R	2	Sun	15	716 1/16
	8	R	2	"	15	716 1/16
	1	R	12:30	Sun	10	722 1/16
	2	R	12:30	"	10	722 1/16
	31	R	12	Sun	10	716 1/16
	32	R	12	"	10	722 1/16

Subject, notes on lighting, etc.

No. of Neg. in

Sprink 12:30

ice flower? spritz

Finger spray on 5 Beach

ditto on flies.

mostly 13 min. 60 sec.

Setting, some fish trap

Campfire with theodolite

ice crystals

Stretched 2 flies with Campfire

Launch of the "Adelie" with Campfire

ice tapestry

ice crystals

ice view along ice foot



Date	No. of Slide	Plate or Film	Time of Day	Light	Stop	Exposure
23	R 35	Ortho	1	12	720	$\frac{1}{24}$
24	R 36	"	1	7	711	$\frac{1}{24}$
Aug 19	R 23	"				
"	R 24	"	noon	100	722	3 sec
"	R 27	"	noon	100	722	3 sec
	R 28	"				
	R 5	"				
	R 6	"				
11	R	Bauled				
12	R	<del>Ortho</del>				
23	R	"				
24	R	"				

61	Subject, notes on lighting, etc.	No. of Negative
	Abbott & Priestley my Hae	
	Long view along ice front	
	Yellow screen	
	Same effect on ice	
	Sprith	ES
	Kayaks without figures	
	Kayaks with figures	
	{ Sprith }	
	Dieter's cubicle	
	My cubicle	
	Priestley's Cubicle	
	Browning's cubicle	

Date	No. of Slide	Plate or Film	Time of Day	Light	Stop	Exposure
	R	Baird		$\frac{1}{3}$		
	15	Plain		Flash 78		
	16	"		Flash 78		
	R	"	PM			
	1	"	12:20	2'	732	3"
	R	"	PM			
	2	"	12:20	2'	732	3"
	R	"				
	31	"	12	4'	732	7"
	R	"	12	4'	732	7"
	R	"	PM			
	27	"	1:15	Pull	722	5600
	R	"				
	28	"	11:45	2'	732	3"
June	2	"	PM			
8	15	"	12	7	732	20"
	R	"	PM			
28	16	"	12	7	732	20"
June	11	"	6 PM	7	710	2"
	R	"				
12		"	30 PM	Pull	76	$\frac{1}{2}$ min

62	Subject, notes on lighting, etc.	No. of Negative
	Cape Adair	11
	Cape Adair	11
	Cape Adair	15
	Cape Adair	20
	Brüster	
	Beach with tide mark sheet	
	Pressure ice. Seal	
	Seal	
	Stakebite Birell	
	with Birming	
	view along beach first after gale	
	Stakebite ice blocks with Birming	
	Same near to	



No. of Slide	Plate or Film	Time of Day	Light	Stop	Exposure
21	R BRd				
22	"	12	16	7/8	1/16
11	"	12	40	7/8	1/16
12	"	12	40	7/8	1/16
1	"	11:30	15	7/8	1/24
2	"	12	15	7/8	1/24
31	"	2	30	7/8	1/24
32	"	2	30	7/8	1/24
15	"	12	15	7/16	1/24
16	"	11	15	7/9	1/24
7	"	20	7/11		
8	"	2	10	7/20	

Subject, notes on lighting, etc.	No. of Negative
Abbot's Cuticle	—
Campbell's cuticle	—
Ice flowers	—
Ice flowers	—
Ice Cambridge	—
Mouth of do	—
ice crystals on windows	—
Ice flowers	—
Seal black hole	—
Iceberg upspit	—
Telephone	—
The Moon	—
Looking in at hut window	—

Date	No. of Slide	Plate or Film	Time of Day	Light	Stop	Exposure
	R	Baird				Mem
	23	Rain	12N.	Flash	7/16	$\frac{1}{3}$
Mar 22	24	"	9 PM	Flash	7/16	$\frac{1}{2}$
Mar 10	27	"	9 PM	Flash	7/16	$\frac{1}{3}$
Mar 10	28	"	9 PM	Flash	7/16	$\frac{1}{2}$
	31	"	6 PM	Flash	7/16	—
	32	"	6 PM	Flash	7/16	10 min
	1	"	3:00 PM	Flash	7/22	16 sec
	2	"	3:00 PM	Flash	7/22	16 sec
	15	ESR	ditto			7 sec
	16	"				4 sec
Mar 27	"	"	9 PM	Flash	7/22	$\frac{1}{2}$
	28	"				

54	Subject, notes on lighting, etc.	No. of Negative
	Frozen Champagne.	—
	Midwinter Day in light	—
(Priestley)	Cape Adair	—
	View in Cathedral Can	—
	(Priestley)	—
	Cave South of Cathedral Can C. Adair	—
	Cave Burg inside	—
	Cave Burg outside	—
	Fairy Cave	—
	Fairy Cave	—
	Protrusion nature	—
	ditto	—
	Midwinter Day	—
	Spirit	—



Date	No. of Slide	Plate or Film	Time of Day	Light	Stop	Exposure
11	ESR	3	mm	716	8sec	
12	"	3	mm	732	7sec	
5	"			Flash		
6	"					
27	"	mm	764	5sec		
28	"	mm	710	5sec		
31	"		act.		9sec	
32	"				15sec	
27	"	10Pl	722	7sec		
28	"	"	722			
31	"	"	722			
32	"	"	722			

65	Subject, notes on lighting, etc.	No. of Negati.
	moon cross Telephoto	—
	moon cross Telephoto.	—
	Photos in hut	—
	do.	—
	Telephoto mirage & bay	—
	Sporulated protocrus	—
	Shutter, did not work well	—
	Sunrise C. adair	—
	ice Caves N. cliff	—
	"	—
	"	—
	"	—

Date	No. of Slide	Plate or Film	Time of Day	Light	Stop	Exposure
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July 17	15	ESR	3 <sup>PM</sup>	Had	720	1/100
"	16	"	7 <sup>PM</sup>	"	716	1/100
"	22	5	"	7 <sup>PM</sup>	762	1/100
"	23	6	"	noon 2 <sup>1</sup> ?	740	2"
"	23	11	"	12:30 <sup>PM</sup>	730	2"
"	23	12	"	"	730	5"
"	23	1	"	1 <sup>PM</sup>	730	5"
"	23	2	"	6-8 <sup>PM</sup>	75	2 hrs
"	30	11	ortho	11:10 <sup>am</sup>	75	78 1/2
"	30	12	ortho			
"	29	1	ortho	noon	?	756 1/2
"	2	ortho	noon	?	756	1/2

66

Subject, notes on lighting, etc.

No. of Negative

Kayak in Bngy	21	1/100
Self Shaving	21	—
Aurora	22	1/100
Telephoto.		
Open fields in distance from Kuvall	23	—
Open fields near bay	11	—
"		
" first steam behind		—
Aurora		—
First appearance of Sun		—
Spirits?		—
The Boston sledge team		—
Abbott, with fur in sweat		—

Date	No. of Slide	Plate or Film	Time of Day	Light	Stop	Exposure
Aug 5	5	Wm	12	70	78	$\frac{1}{40}$
"	6	"	12	70	78	$\frac{1}{40}$
Aug 21	31	"	1	20	711	$\frac{1}{24}$
"	32	"	2:30	30	716	$\frac{1}{24}$
Aug 29	29	ESR	1 Pm	405	711	$\frac{1}{24}$
Aug 30	30	"	1 Pm	405	711	$\frac{1}{24}$
Aug 9	7	"	11:00	4 m	711	$\frac{1}{26}$
Aug 11	8	"	12:20	30S	711	$\frac{1}{24}$
Aug 16	17	"	11m	30	711	$\frac{1}{40}$
"	18	"	"	30	711	$\frac{1}{40}$
"	23	"	"	30	711	$\frac{1}{40}$
"	24	"	"	60	78	$\frac{1}{40}$

67	Subject, notes on lighting, etc.	No. of Negative
1a	Black with birdhouse	—
	Spotted ice	—
	Sastrugi on ice	—
	Sastrugi on beach	—
	Pomarine on ice	—
	Crab enter ice	—
	Clubbed stactites	—
	The hut.	—
	Edge of sea ice	—
	Open water in Rob. Bay.	—
	Terrace on N. beach.	—
	Ross Sea from top of C. ad.	—



Date	No. of Slide	Plate or Film	Time of Day	Light	Stop	Exposure
Aug 11	R					T-12p
Aug 11	15	ESR	11 am	7 1/2		T-12p
Aug 11	16	"	11 am	7 1/2		T-12p
Aug 11	27	"	11 am	40S	7 1/2	T-12p
Aug 11	28	"	11 am	40S	7 1/2	T-12p
Aug 14	8 <sup>s</sup>	S.R.				
	9 <sup>s</sup>					
	10 <sup>s</sup>					
	11 <sup>s</sup>					
	12 <sup>s</sup>					
	7 <sup>s</sup>					
	7 <sup>s</sup>					
	16 <sup>s</sup>					

Views under ice

68	Subject, notes on lighting, etc.	No. of Negative
	Panorama with ...	—
	Top of l. adan	—
	Sea ice in R. Bay from top	—
	Top of C. adan	—
	Series W. of C. adan from	—
	Pressure	—
	Little ? on upped	—
	Same as 14	—
	Strat. Rock	—
	From top of l. adan	—
	Same as 25 + 26	—
	Strat. Rock	—

Date	No. of Slide	Plate or Film	Time of Day	Light	Stop	Exposure
	3	FSR				
	4					
	13					
	14					
Aug 22	35		2:15	20	711	$\frac{1}{36}$
	36					
Aug 22	31					
Aug 22	32					
"	7		15	22	2	
"	8		15	22	11	
	25					
	26					

Subject, notes on lighting, etc.	No. of Negative
Developed in	2
Mistake	1
	21
	14
Telephoto Park (present)	12
	32
? ice flowers	12
Ice frost	50
Pikeland bay	5
Pine	8
Dev. in Mistake	1
	12





Date	No. of Slide	Plate or Film	Time of Day	Light	Stop	Exposure
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20	25	ESR	noon	15	22	$\frac{1}{32}$
21	26		noon	15	22	$\frac{1}{32}$
22	27	9	noon	60	78	$\frac{1}{64}$
23	28	10	noon	60	78	$\frac{1}{64}$
24	29	1	15	72	5	$\frac{1}{64}$
25	30		1:15	15	78	$\frac{1}{64}$
26	31		noon	20	716	$\frac{1}{64}$
27	32		noon	20	716	$\frac{1}{64}$
28	33		noon	15	722	$\frac{1}{64}$
29	34		noon	30	8	$\frac{1}{64}$

71	Subject, notes on lighting, etc.	No. of Negative
----	----------------------------------	-----------------

Bunch of clubbed stalactites	
Spout water with fresh ice	
Ice fork underlapse adn.	
Bay off Cape adn.	
Telephoto frozen cascade	
Speech was not!	
Speech was.	
Circle underlapse adn.	
Sisters.	
Slab of pressure ice	
Smoke over open water	
ditto	

# INDEX OF NEGATIVE EXPOSURES

Sept. 2. 27 <sup>2</sup> ~~unlabeled~~ ortho Cathedral Cars  
 " 28 ditto  
 " 31 Sprink  
 " 32 Ice flowers  
 " 9 Can Burg  
 " 10 3 Seals & ditto  
 " 1 Telephoto C. Adam  
 " 2 ditto  
 21  
 22  
 " ~~7~~ <sup>7</sup> Stone on sea car  
 " 8 The in sea car

72

## RECORDS OF POSITIVE EXPOSURES

The following pages, numbered 142 to 155, are ruled for recording positive exposures. The first opening is partly filled in to show how it is intended that the various columns should be used. Such a system is extremely valuable, as when the correct exposures from any negative for bromide, carbon, platinotype prints, etc., or for lantern slides, have been recorded they are always available when duplicates are required.

An index may be kept, if desired, on page 156.

141





No. of Negative	Make of Bromide Paper or Lantern Plate	Light
23.	0	711 24 15
24	0	
9	0	
10	0	
1	0	
2	0	
31	0	
32	6	
13	0	30 710 24
14	0	
3	0	30 710
4	0	8 716

Distance or Stop	74	Exposure and Notes	Actinometer Thins for Carbon, Platinotype, etc.
		From S. North tongue	
		S edge of North tongue	
		Last day	0 9
		Last day	0 01
		Near Camp	0 1
		Ice block lateral view	
		along	0 12
		North glacier	
		ditto	0 01
		N. Panaman	0 1
		ditto	0 01
		ditto	0 8
		Yellow S. clouds on N. end	

No. of Negative	Make of Bromide Paper or Lantern Plate	Light
11	0	(76)
12	0	7163a
5	0	ditto
6	0	ditto
29	0	7163a
30	0	ditto
35	0	7163a
36	0	ditto

Distance or Stop	Exposure and Notes	Actinometer Tints for Carbon, Platinotype, etc.
75	1/50 sec	0 11
75	Center of glass	0 11
75	Center of 122	0 11
75	Between the two tongs	0 11
75	1st Pan. (10 sec of glass)	0 11
75	ditto	0 11
75	Stripe in Net type	0 11
75	Stratification in Net type	0 11

No. of negative	Make of Bromide Paper or Lantern Plate	Light
1 <sup>1/2</sup>	720 16	Spring
2	as above.	
3	725 1/2	10
4		
5		
6	16 7 22	
7	722 1/2	
8		
9		
10		
11		
12		

148

Distance or Stop	Exposure and Notes	Actinometer Tints for Carbon, Plate, Jotype, etc.
76	Face of Camp Tongue	Spring
	Panorama corner mountain	
	ditto	4
	ditto	2
	S. of N. Tongue	
	Face of Tongue	

149





No. of  
Negative

Make of Bromide Paper or  
Lantern Plate

Light

170	Seal	6
180	Seal	flavir
50	E	no 45
60	D	no 45
250	N	
260	O	
150	P	
160	Q	
200	I	
40	J	
340	A	
320	H	

152

Distance  
or  
Stop

78

Exposure and Notes

Actinometer Tints for  
Carbon, Platinotype, etc.

714	$\frac{1}{24}$	Y.S?	0	F
12	27	16	50	E
				D
				N
				O
				P
				Q
				I
				J
				A
				H

153

No. of Negative      Make of Bromide Paper or Lantern Plate      Light

30 C

40 B

110 K

120 L

290 Camp glacier 8

300 12" of panorama 8

90 M

100 Black

150 2" of Pan. W

160 Hypocrite

130 7

140 7

154

Distance or Stop      Exposure and Notes      Actinometer Tints, for Carbon, Platinotype, etc.

75 0

8 0

120 0

120 0

711 36 45

711 36 45

M

120 0

glacier 45

glacier 45

155



INDEX OF POSITIVE EXPOSURES

5 OD Co Wood Pan. 4/22/50

6 OD "

32 D as 7 etc.

32 D Rep. of right side in  
in case the  
3rd side was  
split and  
spun

9 D Case in Great Glen 8/24/50

10 D Bligh and C. Chain 1/15/50

27 D T. C. Wood. 4/15/50

28 D T. C. Wood. 4/15/50

29 D Same as 26

30 D "

31 D Same as 5 & 6

32 D C. Wood 1/15/50

156

31 Days 80 JANUARY

1910

SRD

15 Case of C. Wood. 3/22/50

SRD

16 Bligh and C. Chain 1/15/50

17 D T. C. Wood. 4/15/50

18 D T. C. Wood. 4/15/50

35 D Bligh and C. Chain 1/15/50

36 D 4/22/50

23 D Camp at 3 Island

24 D Camp at Wood. Pan

3/22/50 (right side of C. Wood)

3/22/50 (right side of C. Wood)

3/22/50 (right side of C. Wood)

3/22/50 (right side of C. Wood)

3/22/50 (right side of C. Wood)

3/22/50 (right side of C. Wood)

3/22/50 (right side of C. Wood)

157

31 Days

JANUARY

1910

S 2

D 1° as 7 2 right

D 2°

D M 3° 4. 722 1/45

D 8° do } Pan. Can

D 21° SR Slipped boy in W.B. Bay  
4/22/50

D 30° SR Lute. G. can by W.B. Can

D 21° SR SE corner W.B. Bay

D 22° SR 722 1/4 1/4

D 21° P

D 2° D

D 7° D

D 28° D

D 25° D

D 26° D

158

31 Days

81

JANUARY

1910

S 9

M 10

to Cape Horn Bar

T 11

3/722/50  
W 12

D 9° SW. corner abby. to Isles Bay

D 16° Bluff &amp; lamps on Sunday night

D 5° D. incline at 3.50

D 6° Bay with men 3.50

D 11° S. of plain W. of islands 4/22/50

D 17° Fat. island &amp; Point

SAT 15

159



31 Days

JANUARY

1910

31S 25 SR Face of Longlake Glacier, 3/32/10  
 3D 26 SR Bitto. Bitto.  
 3D 11 SR } Weddell & Young  
 M 17 SR }  
 3D 12 SR }  
 3D 3 SR Carr (atby) & Camp entrance  
 T 18 SR Sprit.  
 D 5 SR Headlight of atby Carr  
 W 19 SR Young bear & mother  
 3D 31 SR } Weddell & Young  
 3D 32 SR }  
 3D 27 SR View of Carr headlight  
 F 21 SR Snow pit on ice in Carr

SAT 22

160

31 Days

Loaded at atby Carr, 1910

3D 25 } SR - 1/16/26  
 D 26 } atby Carr from in front  
 D 24/1 Quartz near atby Carr  
 D 12 Camp under Barrier.  
 D 29 another view of atby Carr  
 F 25 D 30 Bite in Barrier with Carving  
 D 27 View of atby Carr to right of barrier  
 W 26 D 28 Felted penguin skin  
 D 31 } Young calf.  
 D 32 }  
 4 D 3 } Young calf  
 F 28 D 4 }

SAT 29

161





28 Days

FEBRUARY

1910

S 1<sup>st</sup> *S.R.*  
*Penguin*

D 2

D 4  
M 14

D 5

D 1

D 2<sup>nd</sup>  
T 25

D 21

D 22  
W 16

D 5

D 6  
Th 17

D 3

D 4

D 5

D 6

D 7

D 8

D 9

D 10

D 11

D 12

D 13

D 14

D 15

} *Leptogale* 22/10/11  
} *V. indus*} *Penguin*} *Penguin*

164

28 Days

FEBRUARY

1910

S 20

D 25

D 26

M 21

D 16

D 7

T 25

D 5

D 6

W 23

D 22

D 13

Th 24

D 34

D 25

F 25

D 26

D 27

D 28

D 29

D 30

D 31

D 32

D 33

D 34

D 35

D 36

D 37

} *Penguin*} *Penguin*} *Penguin*} *Penguin*} *Penguin*} *Penguin*} *Penguin*} *Penguin*

165

28 & 31 Days FEB.—MARCH

1910

S 27

28

M 28

11

12

29

T MARCH 1

30

1

W 2

2

17

Th 3

18

9

10

SAT 5

166

31 Days 85

MARCH

1910

SR 61

SR 22

SR 17

M 7

11

18

29

T 8

30

11

11

12

7

13

14

15

16

17

18

19

20

21

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21

22

23

24

25

26

27

28

29

30

31

1

2

3



31 Days

MARCH

1910

S 13

12

17

M 14

18

31

T 15

32

78

W 16

Th 17 Irish Bank Holiday

18

SAT 19

168

31 Days

MARCH

1910

S 20

1

2

9

M 21

10

15

16

21

22

T 22

13

14

3

4

W 23 Sick penguin 26/11/11

6 Bull whistled 28/11/11

SR

Th 24

8 Blank

17

F 25

18

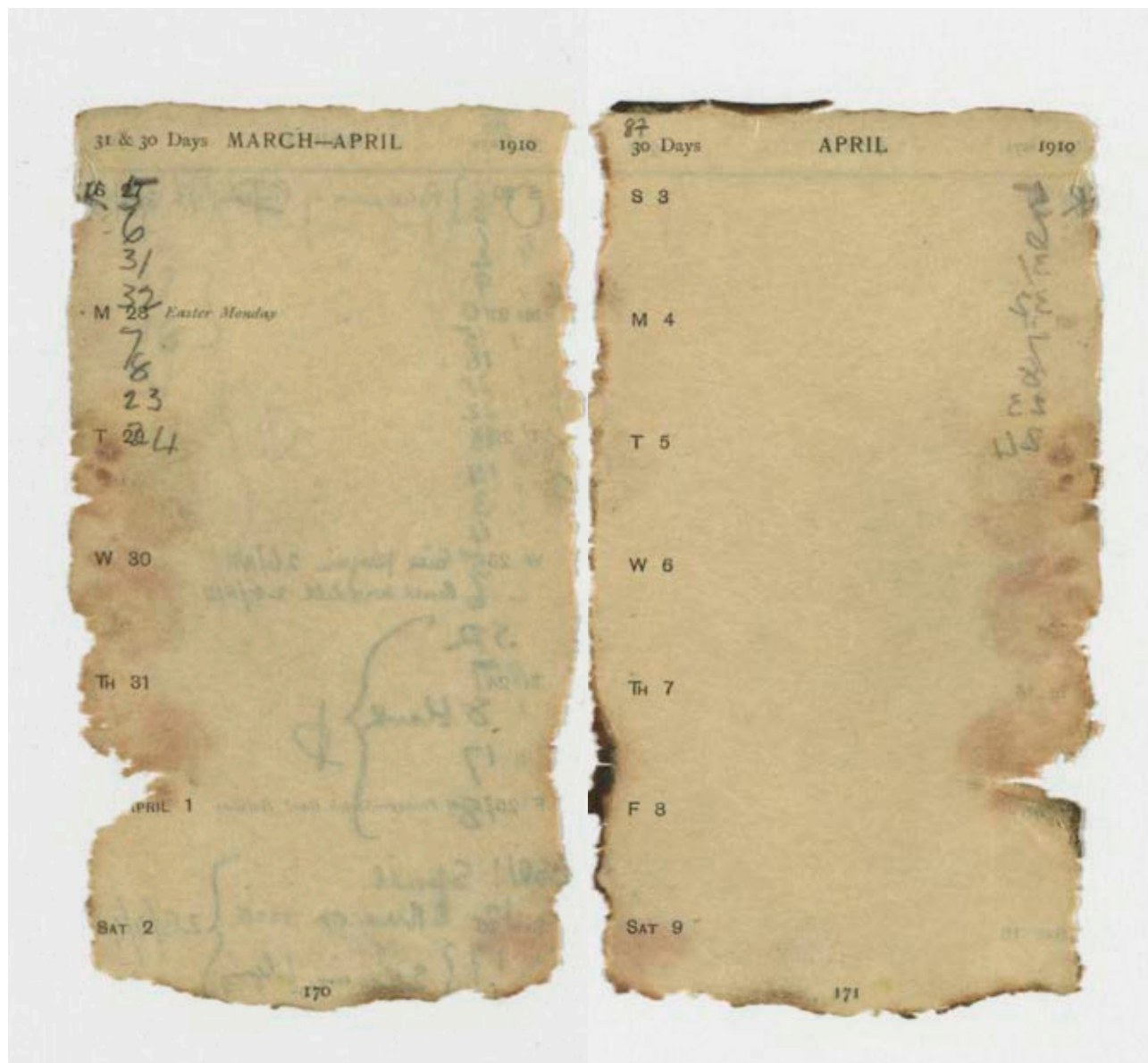
Friday—Scotch Bank Holiday

ESR 1 Spirit

SAT 26

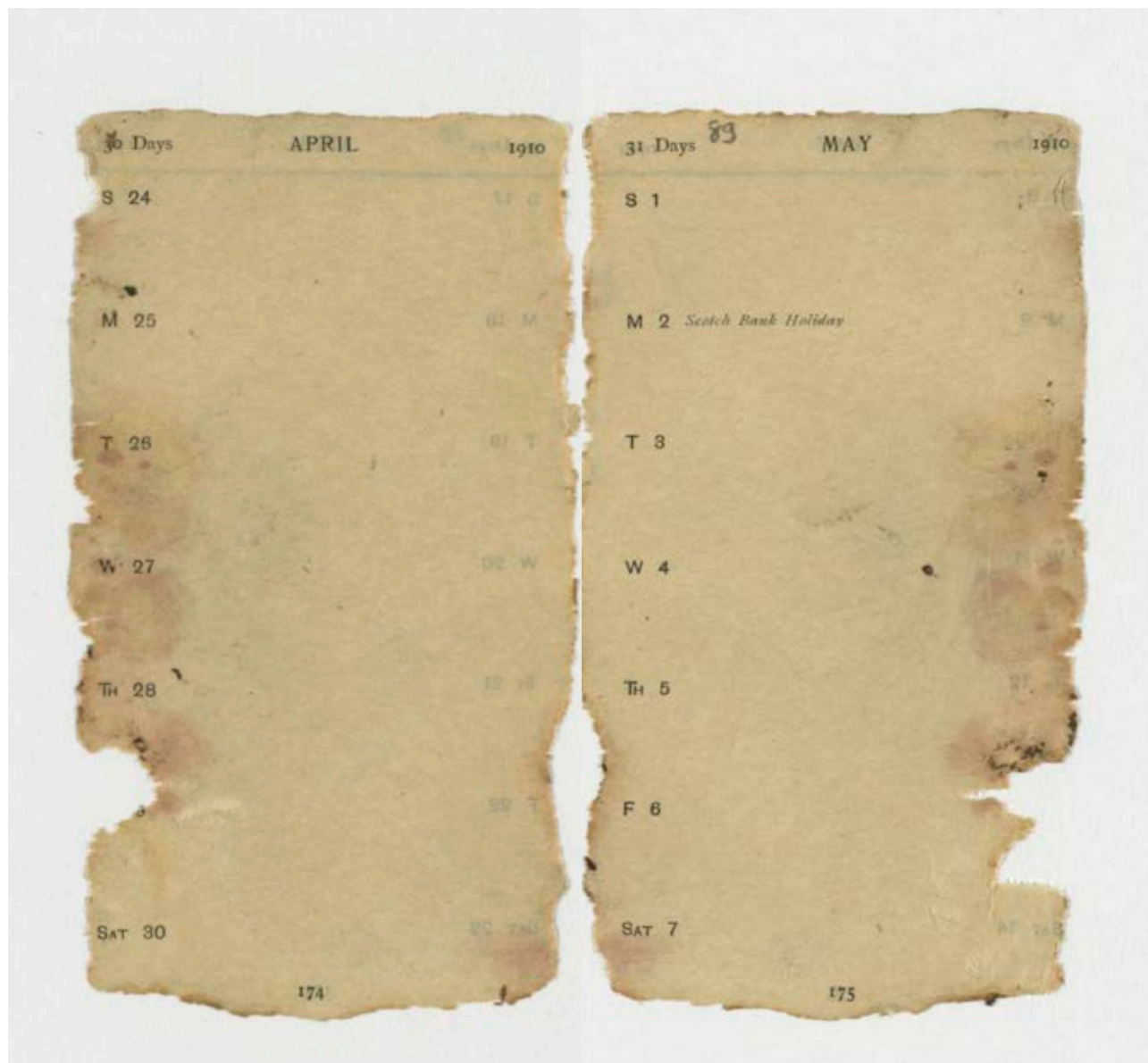
17

169

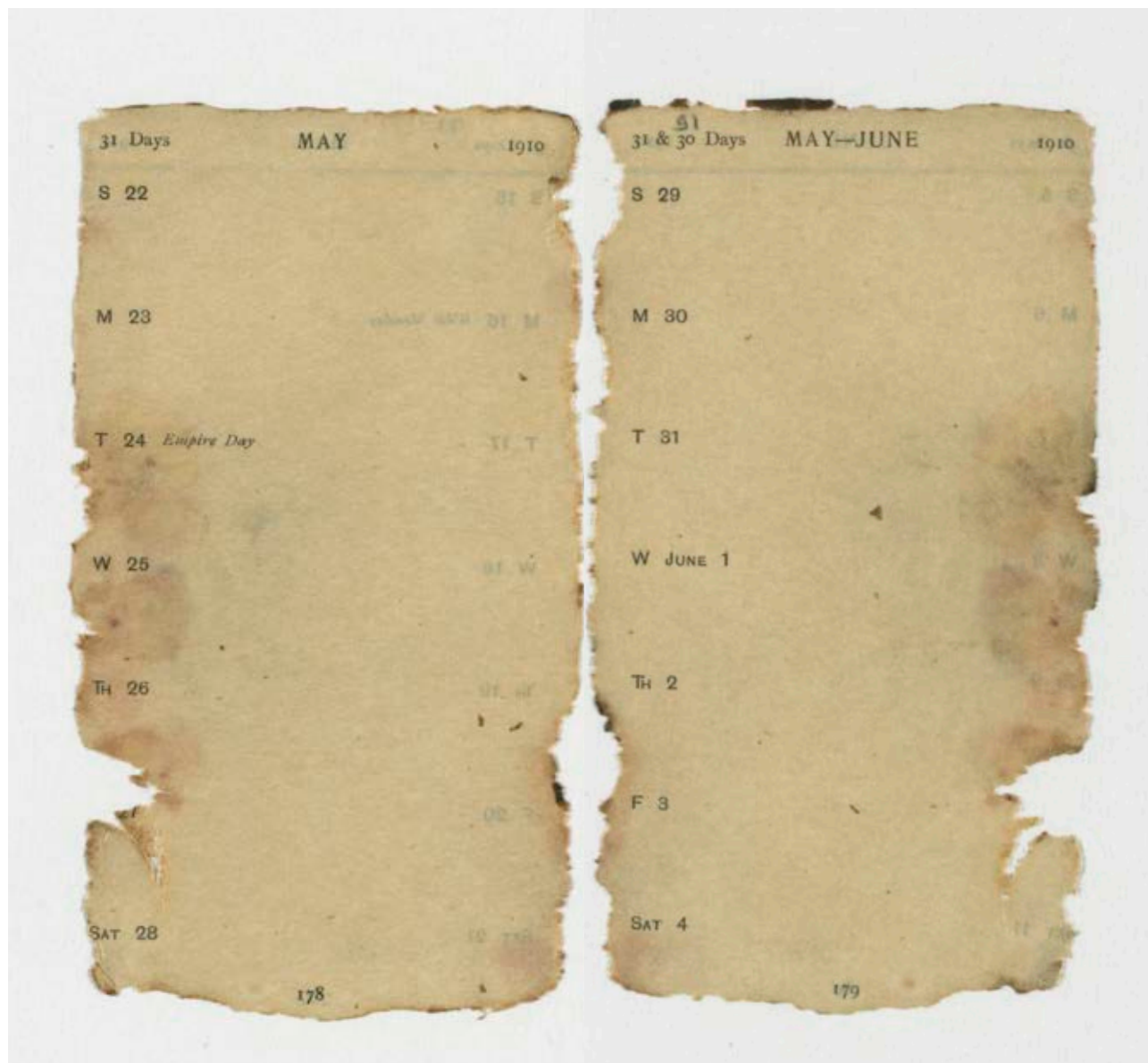














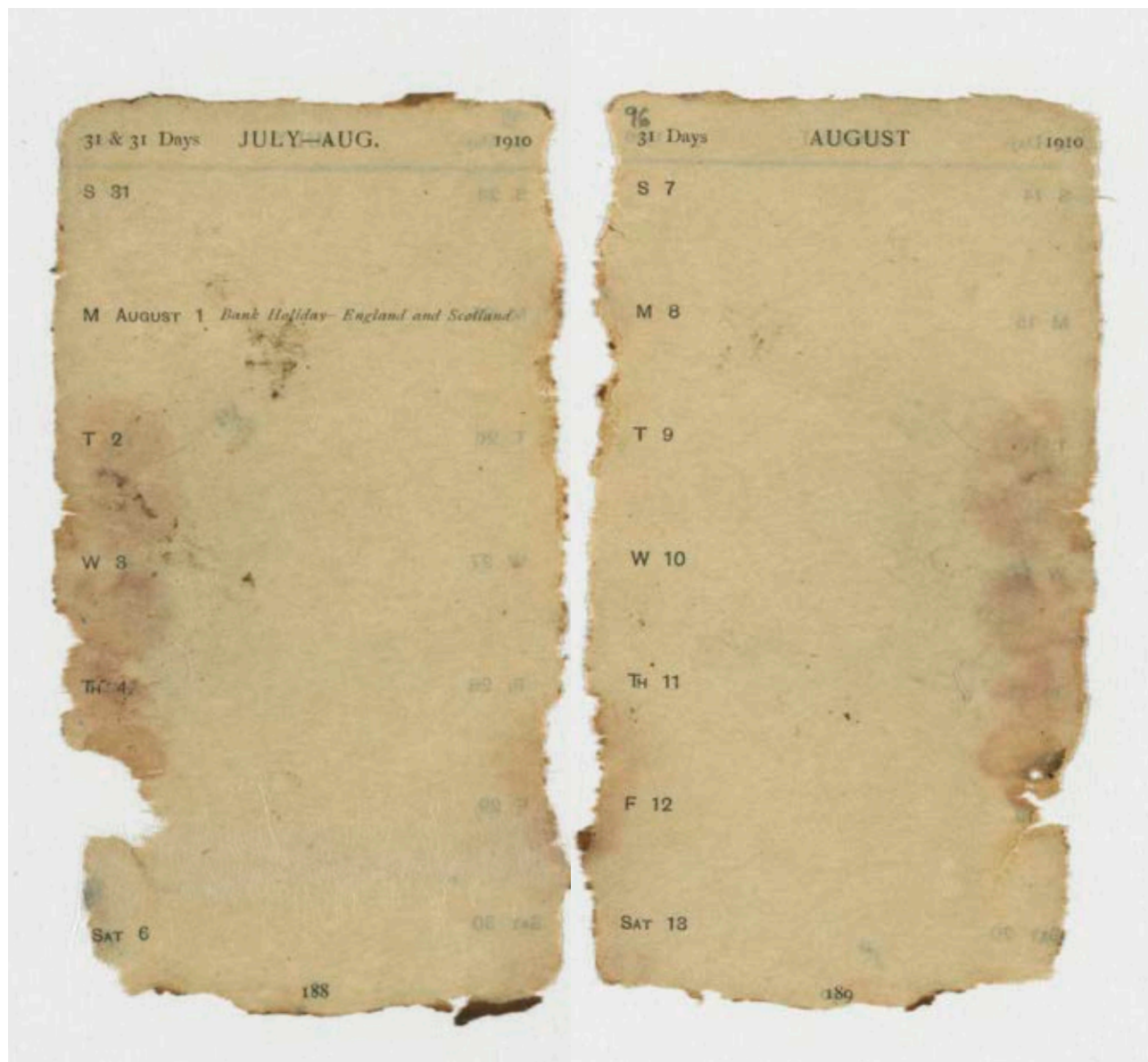
















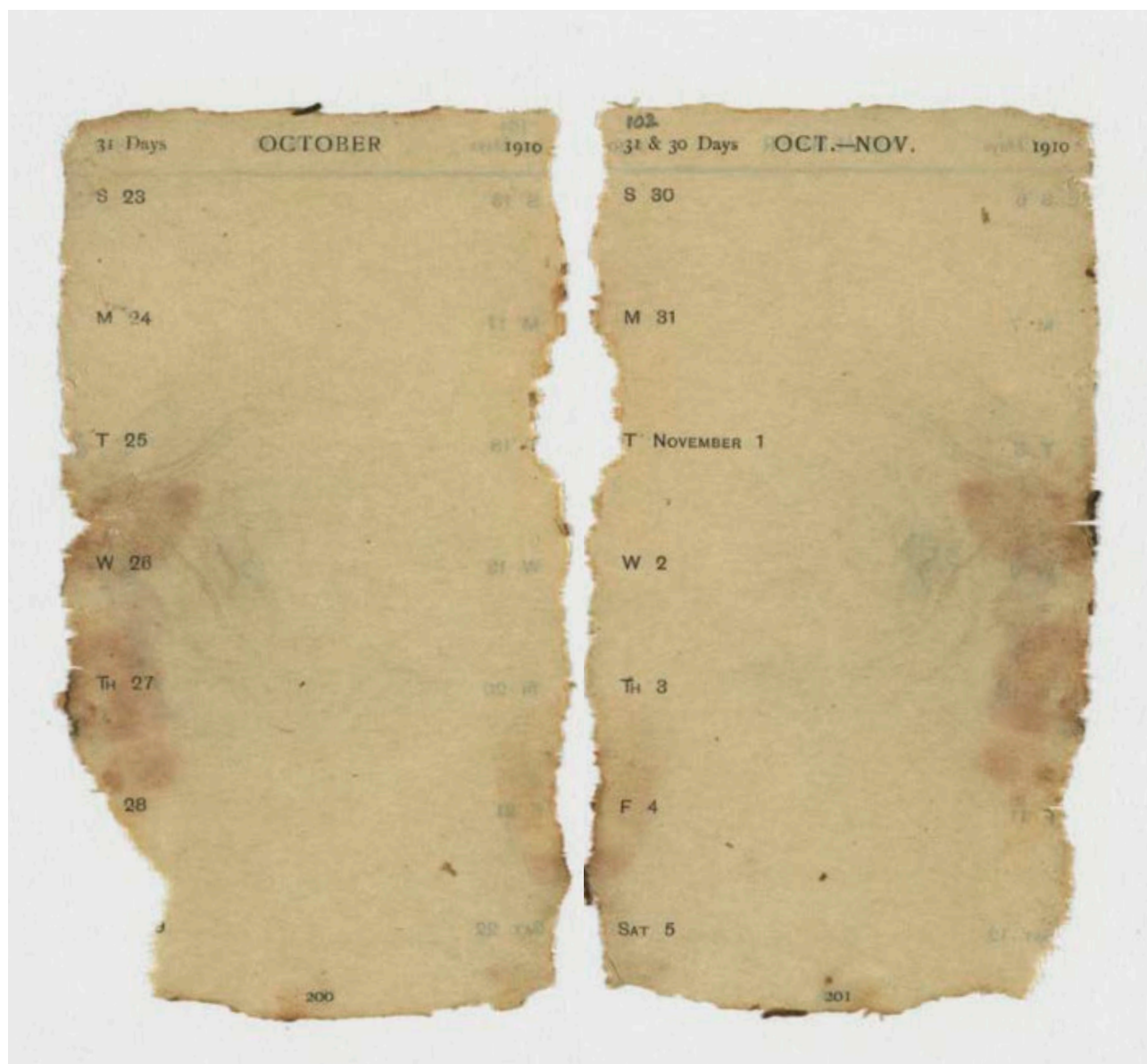






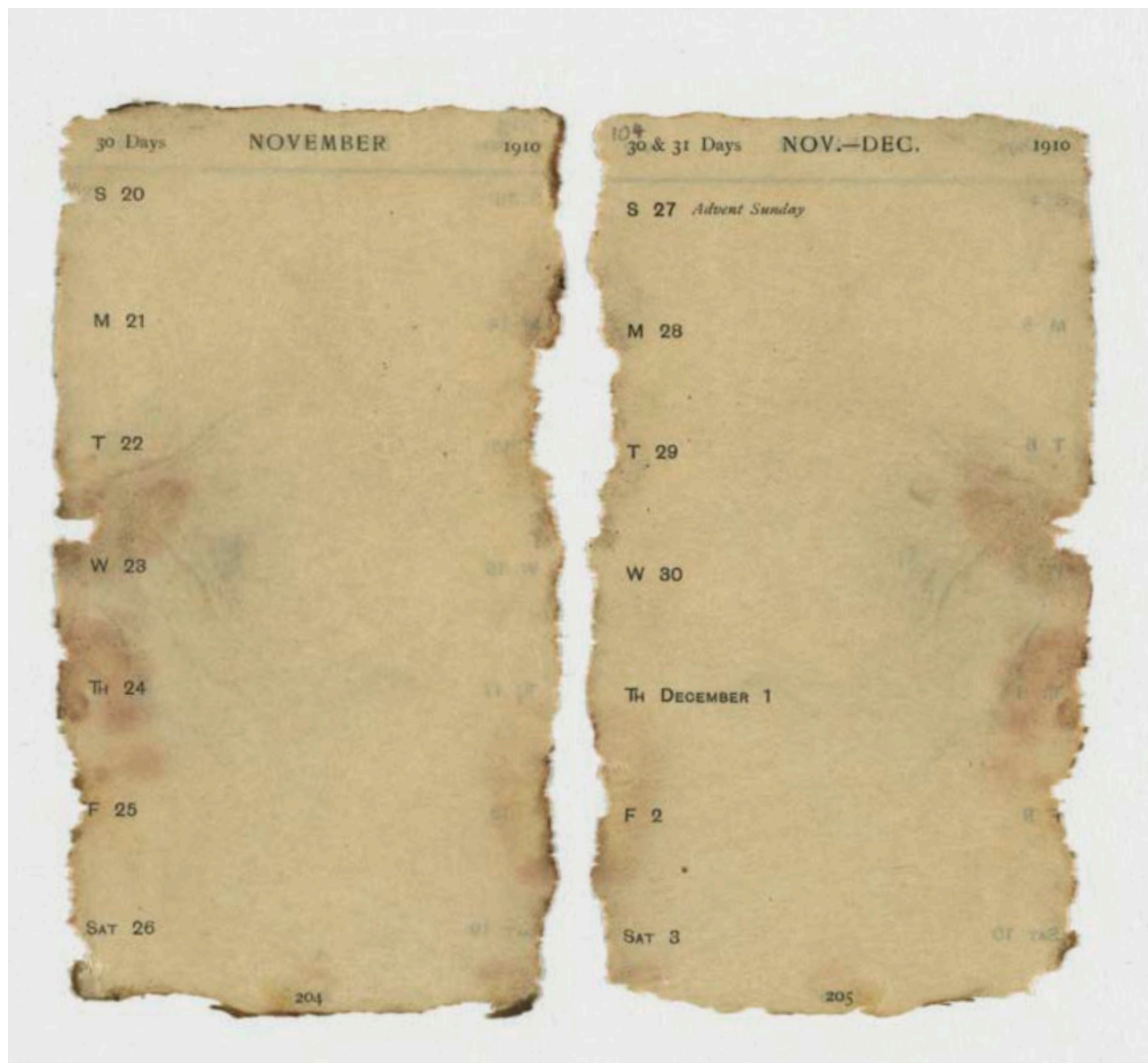




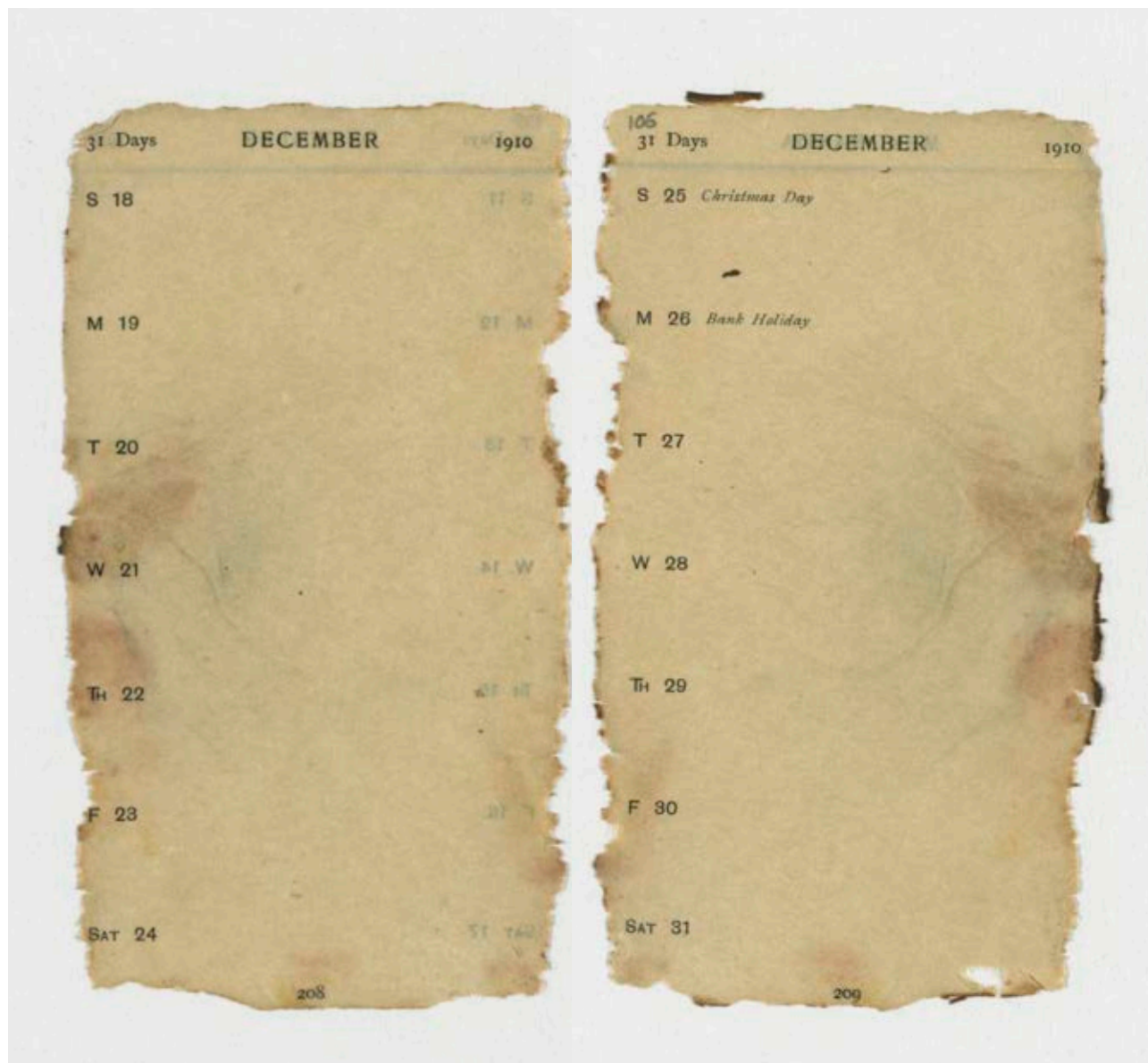




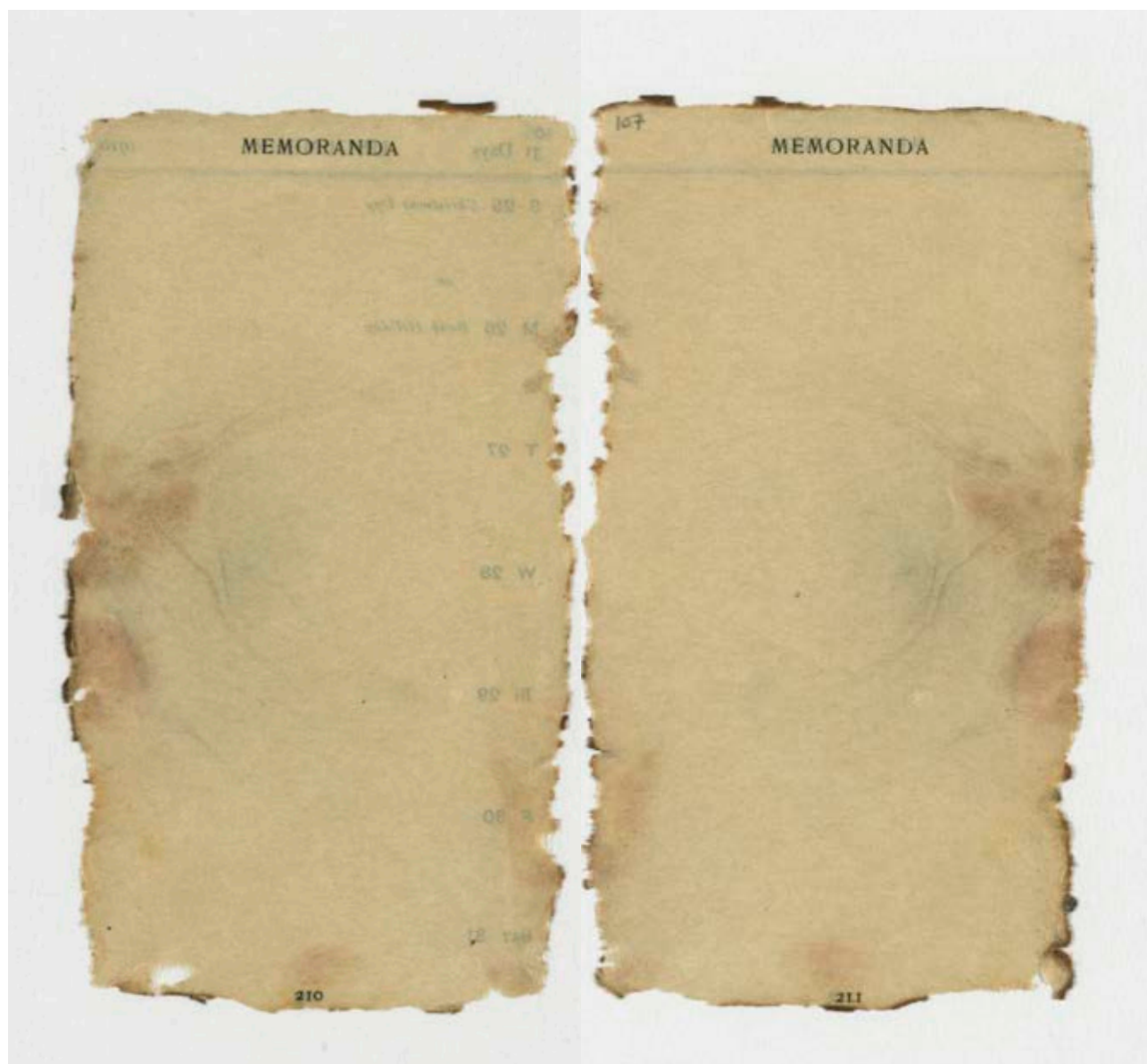








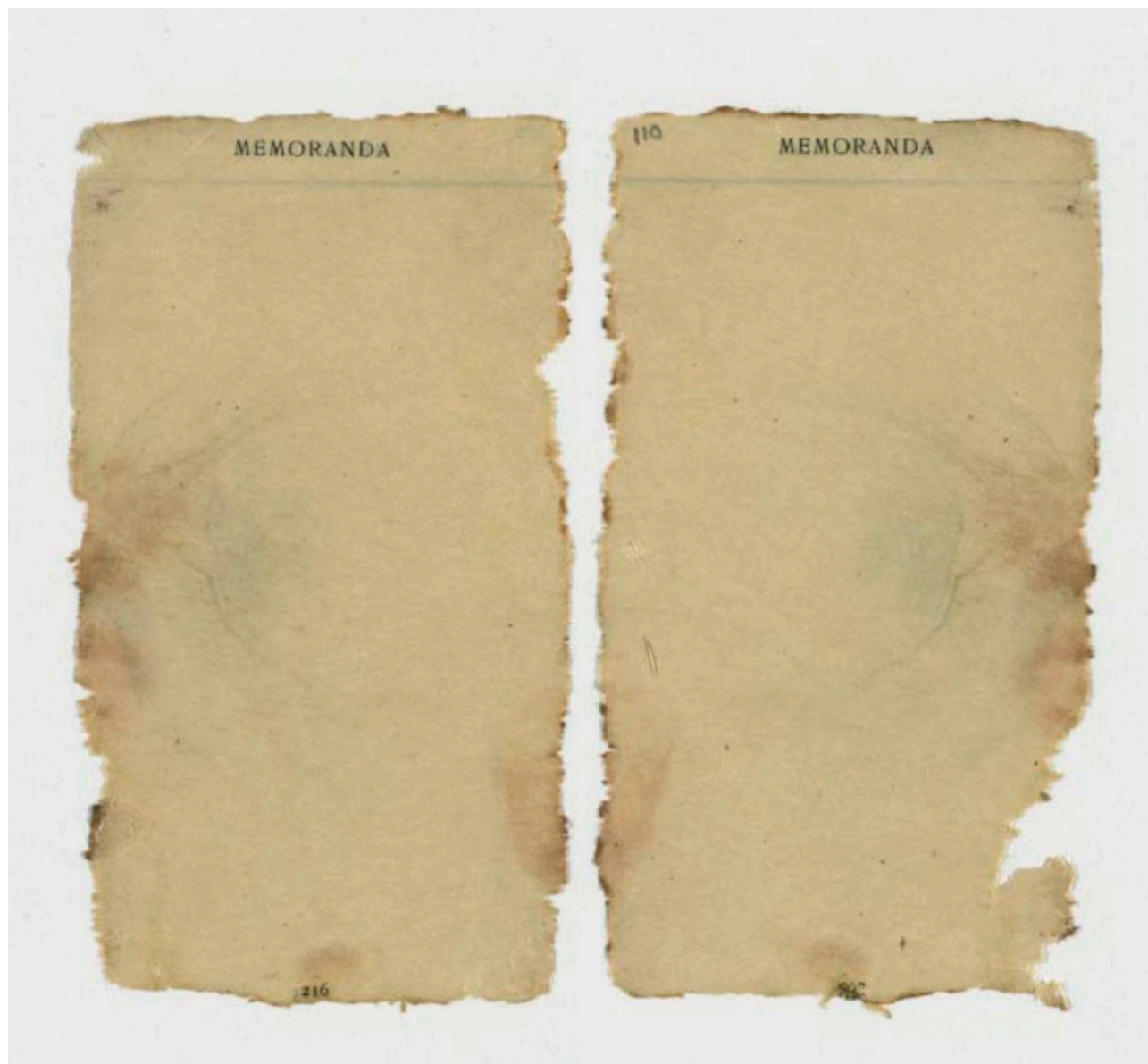


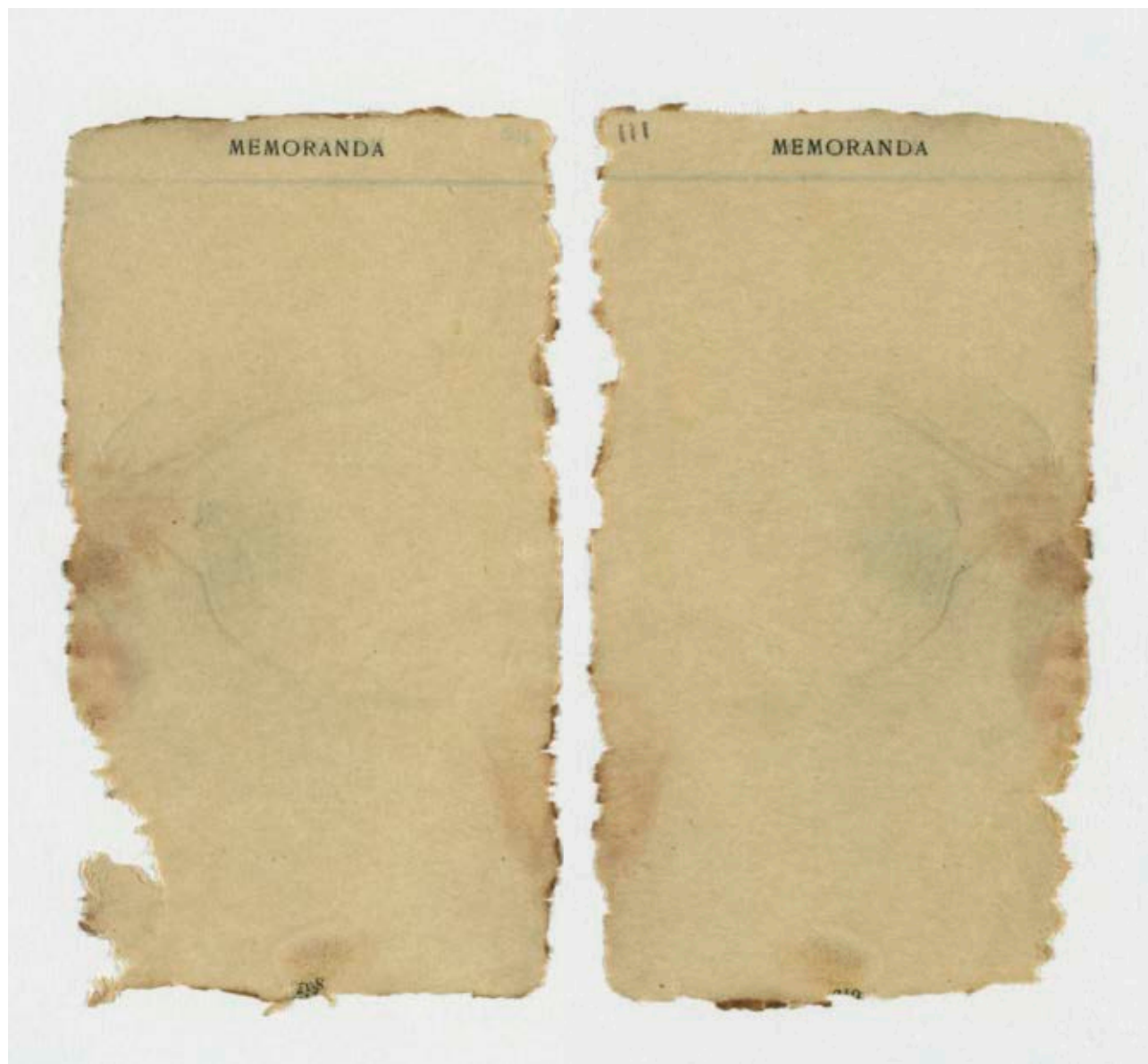










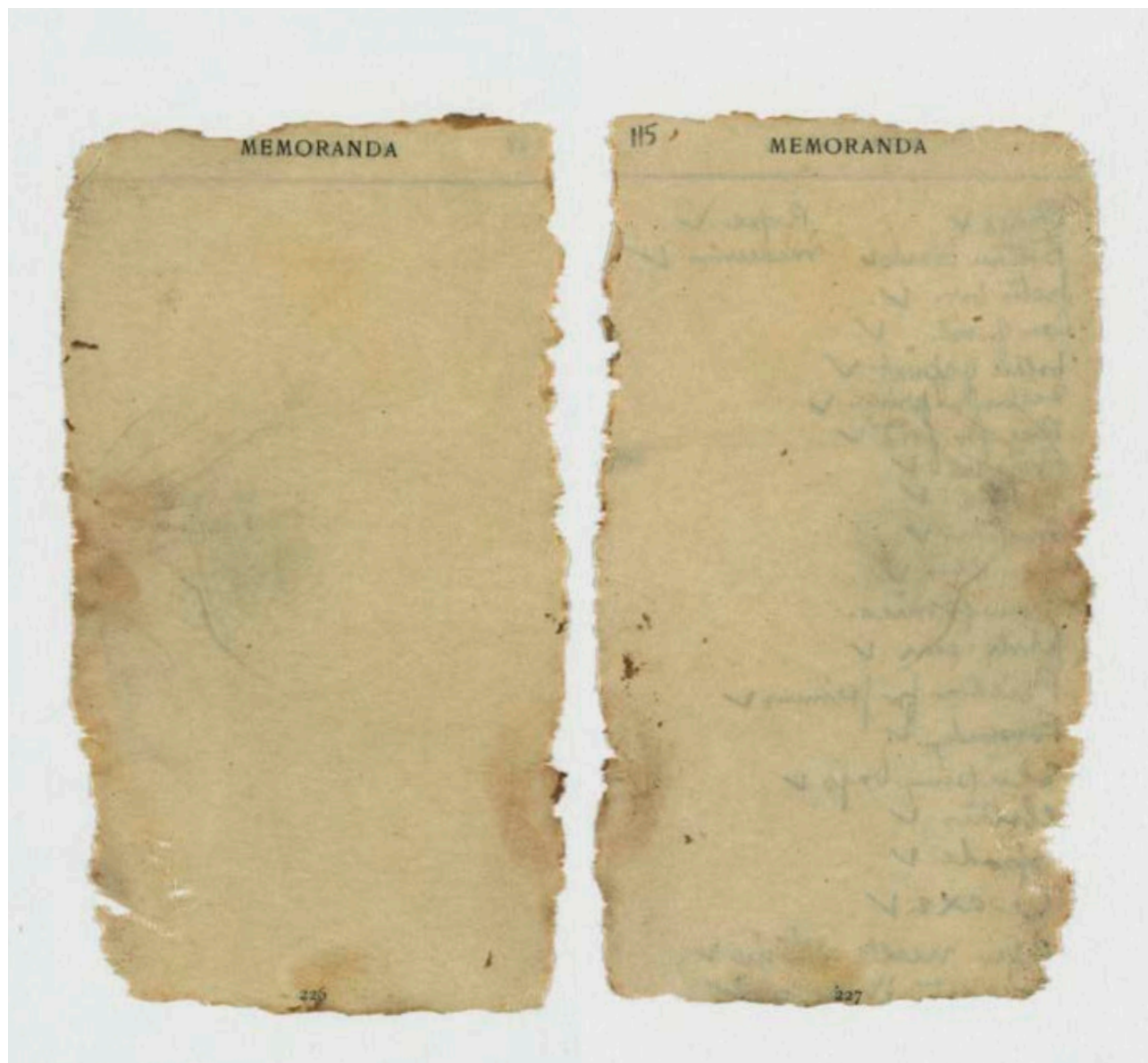














# MEMORANDA

Sledge ✓      Rope ✓  
 Bottom boards ✓      medicine ✓  
 Jute box ✓  
 Can of oil ✓  
 bottle of spirit ✓  
 Zellerbach primus ✓  
 Bag for food ✓  
 Primus ✓  
 Corker ✓  
 matches ✓  
 Candles ✓  
 Lamp mica  
 photo. gear ✓  
 Bricks for primus ✓  
 Brandy ✓  
 Sleeping bags ✓  
 clothes ✓  
 Spade ✓  
 Ice axe ✓  
 Safety needle & thread ✓  
 The other boxes ✓

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## EXPOSURE

BY following the simple instructions given in the succeeding pages, it is easy, even for a beginner, to estimate the exposure with accuracy. Thus the great initial obstacle to successful photography is overcome.

The system advocated has been employed by tens of thousands of photographers during the last eleven years and with universal success in all parts of the world. It is carried out by means of the simplest instrument yet invented for calculating exposures. This instrument is called

### The 'Wellcome' Exposure Calculator

and indicates the correct exposure under any condition by ONE TURN OF ONE SCALE.

It is placed inside the back cover of this book, and is used as follows:—

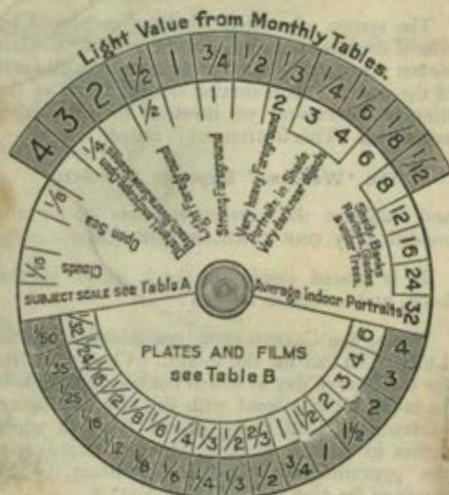
Facing the CALCULATOR are tables giving the LIGHT VALUES for the month. Choose the line for the time of day at which the photograph is to be taken. On a level with this are five figures or fractions. Of these, choose the one which comes in column A, B, C, D or E, according to the prevailing atmospheric condition. This figure or fraction is the LIGHT VALUE.

Place the tips of two or three fingers on central disc of the Calculator and revolve it until the SUBJECT to be photographed comes exact against the correct LIGHT VALUE. All that remains is to know the factor of the plate in use.

This is given in Table B (page 247). Select the correct factor for your plate in the small segment on the Calculator labelled "PLATES AND FILMS." Against this figure will be found a red one.

This is the correct exposure at F 8 (U.S. 4) in seconds or fractions of a second.

The exposure at F 11 (U.S. 8) is double this, and is found in the 2nd segment to the right;



F 16 (U.S. 16) it is double again, and is found in the 4th segment to the right; and so on as indicated in Table C (page 254), and also beneath the Calculator itself.

EXAMPLE.—To find the exposure under the following conditions: Landscape with very heavy foreground, July, 3 p.m., dull, with a plate the factor for which is given as 1/4 in Table B.

In the July light table the figure opposite 3 p.m. and below D is 1/3. Set "very heavy foreground" against 1/3 in the top segment, and then against 1/4 in the Plate Speed segment will be found the red figure 1/6. This means one-sixth of a second's exposure at F 8 (U.S. 4); at F 11 (U.S. 8) it will be 1/3 sec., which is the red figure in the 2nd segment to the right, or at F 22 (U.S. 32) it will be 1-1/2 seconds, the figure in the 6th segment to the right.

In the illustration the central revolving disc is represented by the light portion, and all the figures are printed in black. It is set in accordance with the example here given.

These instructions cover all that is necessary to ensure good average results. The tables have been periodically and systematically checked during the last eleven years by actual tests in the laboratory and in the field. In the event of under- or over-exposure resulting, it will most probably be found that—

- (1) The shutter works quicker or slower than supposed, or than the indicator marks;
- (2) an error has been made in judging the class of subject;
- (3) the developing solution is too hot or too cold;
- (4) an error has been made in the stop, or the stops are wrongly marked.



If the exposures indicated appear to differ from those obtained from other sources, it is suggested that comparative tests should be made in the camera and developed in accordance with "Modern Photographic Methods" (page 17).

### FURTHER POINTS ABOUT EXPOSURE

Although, as has been said, the Calculator will do all that is absolutely necessary to get good average negatives, there are many occasions when judgment and experience are essential if the best possible results are desired. To be able to exercise judgment and utilise experience, the various factors which govern exposure must be understood. They are therefore discussed in detail in the following pages.

#### (1) Actinic Value of the Light

Five distinct conditions of light are recognised in the Monthly Light Tables.

**A. BRIGHT SUNLIGHT.**—The sun is shining unobscured by cloud or mist; the sky may be either entirely cloudless or there may be light clouds which do not obstruct the sun's rays.

**B. SUN SHINING THROUGH LIGHT CLOUDS.**—There are light clouds or a slight mist, but the light is still sufficiently powerful to give the feeling of sunlight and to throw strong shadows. Even in the brightest weather it is advisable to use this column when working in large towns, to allow for loss of actinic power due to smoke, etc.

**C. DIFFUSED LIGHT.**—There is a general even light, but no direct sunlight. With this light it is just possible to distinguish cast shadows.

**D. DULL.**—The sky is covered with dull clouds as distinct from the bright clouds which are usual with Diffused Light.

**E. VERY DULL.**—The whole sky is overcast with heavy gloomy clouds.

### COLOUR OF LIGHT

In the early morning or towards evening the light is frequently yellow or even red, and is consequently of far less actinic value so far as ordinary plates are concerned. Unless, therefore, yellow- or red-sensitive plates are employed, due allowance must be made, as indicated in the footnotes to the Monthly Tables.

#### LATITUDE

The actinic value of the light at different times of the day and year varies with the latitude. This point is fully discussed on pages 255 and 256.

#### ALTITUDE

The exposures given are estimated for use at or near the sea level. As the photographer ascends, the actinic value of the light increases, but it is hardly necessary to make allowance for this if the altitude be less than about 5000 ft. Between this height and about 7500 ft. the exposure should not be read opposite the speed of the plate on the Calculator but in the next segment to the left. For instance, if the Calculator gives the sea level exposure as  $1/25$  sec. at from 5000 ft. to 7500 ft.,  $1/35$  sec. will be about correct. At altitudes between 7500 ft. and 12,000 ft., the exposure may be reduced to one-half that which is correct at sea level.

#### (2) Subjects

(See subject card in wallet)

Of all the factors to be considered in arriving at correct exposure, the SUBJECT demands greatest care.

The golden rule is to expose for the deepest shadows in which detail is required, and therefore the photographer must judge each subject by its shadows, especially those near the camera.

IN TABLE A (page 246) the factors are given for various subjects, and the subject scale of the EXPOSURE CALCULATOR is arranged to correspond, so far as the most commonly photographed views, etc., are concerned. The



following notes, and the illustrations on the card enclosed in wallet, will serve to prevent any misunderstanding of the classification adopted, and will facilitate the placing of views, or objects to be photographed, in their correct class.

**Clouds.**—The exposure for average clouds is  $1/16$  of that required for a strong foreground. Very heavy rain clouds may be given twice and very light white clouds half this exposure. It is important to remember that unless orthochromatic plates are used, red or yellow sunset and sunrise clouds require longer exposures.

**Open Sea, Distant Snow-Clad Hills.**—This class includes open seascapes with no dark objects, such as rocks, boats, etc., in the immediate foreground. The factor is  $1/8$ . Snow-clad distant hills without any masses of near shadow are included in this class.

**Distant or Panoramic Landscapes, Open Beach, River and Snow Scenes, Glaciers, Ships and Yachts in the open.**—In this class, for which the factor is  $1/4$ , a large number of subjects are, as will be seen, included. The feature which they possess in common, and which determines the factor, is that the surroundings, or the objects themselves, are of such a nature as to reflect a large amount of actinic light.

**NOTE FOR TELEPHOTOGRAPHERS.**—The great majority of outdoor subjects taken with telephoto lenses come in this class. (See also page 240)

**Light Foregrounds.**—Open streets, roads, or fields, light buildings, and views with figures or animals in the middle distance are included in this class; also foreground studies of beach scenes, boats and shipping. The factor is  $1/2$ . Athletic sports in the open and many inland views of a topographical character, in which there are no near dark objects or shadows, come under this heading.

**Strong Foregrounds, Full-Length Figures.**—Factor 1.—The subjects which are included in this class

are landscapes with strong foregrounds, such as foliage, figures, and buildings of average colour; average street scenes, groups, and full-length figure and animal studies in the open.

**Landscapes with Very Heavy Foregrounds,** also badly-lighted street scenes, porches, harbours, close architectural subjects when dark in colour, three-quarter-length figures in the open, groups, and full-length figure or animal studies in the shade, on an average require the use of a factor of 2.

**Portraits in the Shade** (head and shoulders) require still more exposure, owing to the closeness of the subject to the camera and the necessity for obtaining a soft result. In this class may also be included any dark object photographed in the shade outdoors, and of which a relatively large picture is required. The factor for this class is from 3 to 4.

**Shady Banks, Ravines, Glades and under Trees.**—In these instances, owing to the light being shut out to a greater or less extent, the exposure has to be increased from 8 to 24 times, or even more in extreme cases. There must of necessity be a wide range in exposure, but a little experience will soon enable the photographer to choose a factor to suit the subject before him.

**Copying.**—In copying outdoors the subject should be placed in a well-lighted position but out of direct sunlight. The factors for ordinary indoor work are for use in a well-lighted room, near the window. The exposure must be considerably increased if made in a poorly-lighted room or away from the window. For prints or engravings yellowed by age, increase the exposure; use orthochromatic plates. This also applies to paintings containing much yellow or red. Photographs of purple or purple black colour require less exposure; those which are browner in colour. For making smaller or larger copies, consult the Table given on page 241.

**Indoor Portraits.**—Here again the exposure will vary greatly according to the brightness of the room, the colour of the subject's dress, and the distance from the window. An average factor for a portrait in a studio or near the window in a very well-lighted room is 32, but this must be used with discrimination. In exceptional circumstances, and with a sitter dressed in light-coloured materials, a factor of 16 may be sufficient, but conditions which require double the normal exposure, or more, are much more likely to prevail.

**Still-life Studies, Flowers, Fruit, etc.**—Factors or these subjects are given in Table A (page 246). They are calculated for use in photographing flowers, fruit, etc., so as to nearly fill the plate in use.

**Interiors.**—Average factors for different interiors are given in Table A (page 246). Another method of approximately estimating the time necessary for this class of subject is given on page 239, and those who find any difficulty in classifying interiors will obtain much assistance therefrom.

### (3) Plate or Film Factors

Factors for use with various plates and films are given in Table B (page 247).

These factors are given in order to enable photographers to estimate correct exposure, by means of THE 'WELLCOME' EXPOSURE CALCULATOR.

They are exposure factors rather than speed factors because the aim is to indicate a safe exposure within practical limits. They do not of necessity indicate the precise relationship in speed of one plate to another.

### (4) Lens Aperture

The stops or diaphragms with which lenses are provided control the amount of light transmitted to the sensitive plate or film, and so affect the exposure. Various methods of marking these stops have been suggested and

practised, but by far the most common is that known as the *f* system. In this system each stop is marked to indicate the relationship of its effective aperture to the focal length of the lens with which it is to be used.

Thus *f* 8 indicates a stop giving an effective aperture, the diameter of which measures  $\frac{1}{8}$  the focal length of the lens with which it is used. If the same stop were used with a lens of twice the focal length it would be no longer *f* 8 but *f* 16. This fact must be borne in mind when using the front or back combinations of an R. R. lens separately. In such cases the focal length is generally doubled, *f* 8 becomes *f* 16, *f* 11 becomes *f* 22, and the exposure required is not twice but four times as long.

The effective aperture of any stop may be determined in the following manner:—The lens must be focussed on a distant object. An opaque screen, provided in its centre with a pin-hole, is then placed in the position occupied by the plate. An illuminant is next placed immediately behind the pin-hole, and the diameter of the beam of light emerging from the front surface of the lens will be the measure of the effective aperture. *Note.*—It will be found, except when the diaphragm is situated in front of the lens, that the diameter of the diaphragm itself is seldom identical with the effective aperture.

Some lenses are marked according to the U. S., or Universal System, notably those usually supplied with Kodak cameras. Table C (page 254) gives the *f* values in common use, the corresponding U. S. numbers, the relative exposures taking *f* 8 as the unit, and also shows how the correct exposure with various stops is : once obtained when using the EXPOSURE CALCULATOR.

*NOTE.*—A correct calculation of exposure is valid if the stops are wrongly marked or the shutter is unreliable. Should the photographer fail to get satisfactory results in exposure, and is certain that has used his exposure tables correctly, he should measure



his lens aperture in the manner indicated and also test, or have tested for him, the speeds at which his shutter works.

## SHUTTERS

Shutters differ considerably in efficiency, according to their position and to their construction. The focal plane shutter gives practically perfect efficiency—that is to say, allows of the full light action throughout exposure. For this reason it is the best to employ when working at very high speeds, and when using the factors given in Col. II. and Col. III. of Table B. In ordinary blind shutters and diaphragm shutters there is some diminution of light, especially with large stops, at the beginning and end of the exposure. The factors given in Col. I. make allowance for this lower efficiency, and are therefore advised for use with such shutters.

## (5) The Character of the Result Desired

When development is carried out by the FACTORIAL SYSTEM the exposure settles the density of the negative, and the amount of contrast is controlled by altering the time factor. Some workers, however, prefer to control the density of their negatives in development, in which case they alter the contrast by decreasing or increasing the exposure, or by varying the developer.

If the *developer* remains the same, shorter exposures are given to increase contrasts and longer exposures to decrease them.

If the *exposure* remains the same, restrainer is added to the developer to increase contrasts, and a developer stronger in alkali is used to decrease them.

No tables or factors can be given, and whether the tempt to control contrasts be made in development or exposure, must be left to the personal judgment of each photographer. Beginners, at all events, are fully advised to give normal exposures and to stop by the FACTORIAL SYSTEM. A far greater percentage of successful results is to be obtained by this means than by any other.

## EXPOSURES FOR INTERIORS

Focus the subject, using the lens at its full aperture. Wait until the eyes have become fully accustomed to the subdued light, and then, without moving the head from under the focussing cloth, slowly stop down the lens until the detail in the darkest object in which detail is required, can be faintly (but distinctly) seen when the eyes are directly opposite that portion of the ground glass. Note the stop and refer to the table below.

Stop to be used for exposure	Aperture at which detail can just be seen						
	F 64	F 45	F 32	F 22	F 16	F 11	F 8
	U.S. 256	U.S. 128	U.S. 64	U.S. 32	U.S. 16	U.S. 8	U.S. 4
	min.	min.	min.	min.	min.	min.	min.
F 64	40	80	160	320	640	—	—
F 45	20	40	80	160	320	640	—
F 32	10	20	40	80	160	320	640
F 22	5	10	20	40	80	160	320
F 16	2½	5	10	20	40	80	160
F 11	1½	2½	5	10	20	40	80
F 8	sec. 40	1½	2½	5	10	20	40

In the column under the aperture at which detail can just be seen, and opposite the stop to be used, will be found the approximately correct exposure for any plate marked I in Table B (page 247). For instance, supposing detail in the shadows can just be seen when the lens has been stopped down to F 45 (U.S. 128), then the exposure, using an aperture of F 16 (U.S. 32) will be five minutes. For more rapid plates give half, one-third, one-quarter, or less, in accordance with the factors given in Table B (page 247.)

This method may also be employed when taking portraits or photographing still-life subjects indoors.



## EXPOSURES IN TELEPHOTOGRAPHY

### For Distant Objects

Find the normal exposure for the ordinary lens and stop by using the CALCULATOR in the usual way, carefully bearing in mind that the subject generally comes under the heading of PANORAMIC LANDSCAPE (factor  $1/4$ , see pages 234 and 246). It may, however, come under the heading of Open Seascapes or Distant Snow-clad Hills (factor  $1/8$ ). Multiply this exposure by the magnification squared. Thus, if the ordinary exposure for a distant landscape is 2 secs. F. 16 (U.S. 16), it will be  $2 \times 5 \times 5 = 50$  seconds, with a telephoto attachment giving a magnification of 5, and using the same stop in the positive lens. With some telephoto attachments the degrees of magnification are stated on the mount or elsewhere. If not so stated, the magnification may be found as shown below.

### For Nearer Objects

Proceed as above, altering the SUBJECT FACTOR on the Calculator in accordance with circumstances. For middle distance views the OPEN LANDSCAPE factor of  $1/2$  may be used, and for near objects a factor of  $1$  to  $4$  according to the distance and the colour of the subject.

### To find Magnification

Focus the subject to the size desired, and measure the distance from the back of the negative lens to the screen. Divide this distance by the focal length of the negative lens and add 1. Thus, with a camera extension of 24 in. and a negative lens of 3 in. focus, the magnification will be  $24 \div 3 = 8$ .  $8 + 1 = 9$  times.

### Other Calculations

The following are not necessary for ascertaining exposure if the above method be followed, but give details which may be required for other purposes:—

TO FIND THE FOCAL LENGTH OF A TELEPHOTO COMBINATION.—Multiply the focal length of the positive (any) lens by the magnification.

TO FIND THE  $f$  VALUE OF A TELEPHOTO COMBINATION.—Multiply the  $f$  number of the stop used in the positive lens by the magnification, i.e.  $f/8 \times 4 = f/32$ .

## EXPOSURES FOR COPYING

### ENLARGING AND REDUCING

The exposures for copying the same size or half size are at once obtainable by using THE 'WELLCOME' EXPOSURE CALCULATOR. For other sizes the following table must be used:—

Proportion of image to original	Factor	Proportion of image to original	Factor
Reducing to $1/30$ ...	0.27	Diam.	
" $1/20$ ...	0.28	Enlarging to 4 ...	6.25
" $1/10$ ...	0.3	" $4\frac{1}{2}$ ...	7.5
" $1/8$ ...	0.31	" 5 ...	9
" $1/6$ ...	0.34	" $5\frac{1}{2}$ ...	10.5
" $1/4$ ...	0.39	" 6 ...	12.25
" $1/2$ ...	0.56	" 7 ...	16
" $3/4$ ...	0.76	" 8 ...	20.25
Same size	1	" 9 ...	25
Diam.		" 10 ...	30.25
Enlarging to $1\frac{1}{2}$ ...	1.5	" 11 ...	36
" 2 ...	2.25	" 12 ...	42.25
" $2\frac{1}{2}$ ...	3	" 13 ...	49
" 3 ...	4	" 14 ...	56.25
" $3\frac{1}{2}$ ...	5	" 15 ...	64

### To use the Table for Copying

Find the correct exposure for copying same size, and then multiply this by the factor opposite to the size required.

### For Enlarging or Reducing

This table is also of service when using an enlarging or reducing camera. Having found the correct exposure for enlarging or reducing to any given size, it is easy to find the exposure for any other size under the same conditions.

Multiply by the figure opposite to the size desired, and divide by that opposite to the size for which the exposure is known.

Thus, if the exposure when enlarging 3 diam. (quarter-plate to  $12 \times 10$ ) is 60 seconds, that for enlarging 5 diameters (quarter-plate to  $20 \times 15$ ) will, under the same circumstances, be  $\frac{60 \times 9}{4} = 135$  seconds.

## EXPOSURES FOR MOVING OBJECTS

The following table gives in round figures the shutter speeds necessary to secure negatives sufficiently sharp for direct printing when taking moving objects, with the ordinary quarter-plate lens of about 5 in. focus. The column "A" is for objects moving directly towards the operator; B for objects moving obliquely towards or from the camera; that marked C for objects moving directly across the field of view.

For results which are to be enlarged, it is better, when possible, to give shorter exposures or to use the figures given, working at a greater distance from the object.

The figures are no guide to what is the correct exposure for the plate.

Distance of Object, 25 ft., unless otherwise stated	A	B	C
Street groups (no rapid motion) ...	1/5 to 1/10		
Pedestrians (two miles per hour) ...	1/20	1/40	1/60
Animals grazing ...	1/30	1/60	1/90
Pedestrians (three miles per hour) ...	1/40	1/80	1/120
Pedestrians (four miles per hour) ...	1/60	1/120	1/180
Vehicles (six miles per hour) ...	1/80	1/150	1/250
Cyclists and trotting horses ...	1/160	1/300	1/500
Foot races and sports ...	1/240	1/500	1/700
Rivers ...	—	1/600	1/800
Cycle races, horses galloping ...	1/300	1/750	1/900
Boats (10 knots per hour) at 50 ft.	1/60	1/120	1/180
Cameras (20 knots per hour) at 50 ft.	1/120	1/240	1/360
Trains (30 miles per hour) at 50 ft.	1/150	1/300	1/450
Trains (60 miles per hour) at 50 ft.	1/300	1/600	1/900

At 50 ft. the exposure may be double that at 25 ft.  
at 100 ft. the exposure may be double that at 50 ft.

EXPOSURES FOR PHOTOGRAPHY  
AT NIGHT

It is, of course, impossible to give exact figures for photography at night, since so much depends upon the nature of the subject, the amount of artificial light present and other conditions. The following table, therefore, merely suggests exposures as a basis for trial.

The figures given are for the following conditions:—  
Any plate the factor of which is given as 1/4 in Col. I, Table B.—Plates and Films (*see page 247*). Time, about 2 hours after sunset.

Subject	F 8 U.S. 4	F 11 U.S. 8	F 16 U.S. 16
	mins.	mins.	mins.
Shop Fronts, brightly lighted ...	2½	5	10
Illuminated Grounds or Buildings ...	5	10	20
Open Street Scenes, without near dark masses ...	10	20	40
Ditto, with snow on ground or wet pave- ments ...	7½	15	30
Street Scenes, with near dark masses ...	20	40	80
Ditto, with snow on ground or wet pave- ments ...	15	30	60

If using plates with factors of 1/12 in Table B, 1/3 the above exposures. For plates with factors of 1/25, give half the above exposures. For plates with factors of 1/6, multiply the above figures by 3/4. Always use backed plates for this class of work.



## BROMIDE PAPERS AND LANTERN PLATES

These Tables have been compiled with great care after a long series of comparative tests. The factors are so arranged as to indicate the relative exposures required; thus, a paper the factor number of which is 10, requires twice the exposure of one with a factor of 5, under the same circumstances.

If bromide papers or lantern plates are used in the camera for negative-making, the correct exposure may be calculated by using the factors here given in conjunction with THE 'WELLCOME' EXPOSURE CALCULATOR.

### BROMIDE PAPERS

Barnet Ordinary, Platino-Matt, Lustra-Matt	8
" Tiger Tongue	12
" Cream Crayon	8
" Velbro and Snow Enamel	6
Bayer	3
" Bromoil	6
Coralyte Rapid	6
" Slow	24
Criterion Platino-Matt	6
" Rough	6
" Enamel	2
Crossed Swords Smooth	4
" " Platino	6
" " Glossy	6
Edwards' A 1	3
Empire Bromyta	2
Gem	10
Griffin's Lingrain	6
Ilford Bromona	2
" Platino-Matt	2
" Rapid	2
" Slow	6
Illingworth Rapid	24
" Cream Crayon	4
" Enamel	4
" Slow	8
Imperial Platino-Matt	1
entmere	3
ak Velvet	24
Permanent Rapid	24
" Slow	8
Platino-Matt Rapid	24
" Slow	8
Nikko	3
Royal	24

### Bromide Papers (continued)

Lumière A, C, F and L	5
" B	24
Marion	10
Monox	24
Morgan and Kidd Natural	24
" " Platino-Matt	24
" " Cream Crayon	24
" " Enamel	24
Paget Platino-Matt, Cream Crayon, or Satin	4
Pearl Platino Argentic	8
" Crayon Smooth Cream	9
" Velvet	4
Rajar	8
Rotograph Rapid	2
" Slow	10
Star	4
Wellington Enammo	24
" Platino-Matt and Ordinary	4
" Cream Crayon and S.S.	4

### LANTERN PLATES

Austral	15
Barnet Cold	6
" Warm	30
Cadett Black	8
" Warm	20
Eastman Black	10
" Warm	40
Edwards' Special	20
Empire	12
Gem Warm	20
" Black	10
Ilford Special	10
" Alpha	40
Imperial Special	6
" Slow	12
Lumière Transparency	8
" Black	8
" Warm	25
Marion Chloro-Bromide	8
Mawson	6
Paget Rapid	3
" Slow	6
Royal Standard Black	8
" Warm	8
Sandell	8
Thomas	1
Wellington	15



Table A.—SUBJECTS

(For details, see pages 233-236; also subject card in wallet)

Clouds ... ..	1/16
Open Seascapes and Distant Snow-clad Hills ...	1/8
Distant or Panoramic Landscape, Open, Beach, River and Snow Scenes, Glaciers, Ships and Yachts in the open ... ..	1/4
Light Foregrounds, Open Streets, Roads or Fields	1/2
Strong Foregrounds ... ..	1
Very Heavy Foregrounds, Badly-Lighted Street Scenes, Near Figures or Groups in shade ...	2
Portraits (head and shoulders) in shade outdoors	3 to 4
Very near dark objects ... ..	8 to 24
Under Trees and Shady Banks ... ..	
Portraits:	
In studio or conservatory ... ..	16 to 32
In well-lighted room ... ..	32 to *1 or more
Still-life, flowers, fruit, etc.:-	
In shade outdoors ... ..	4
In studio or conservatory ... ..	32
In well-lighted room ... ..	*1 to *3
Copying, same size (if half size, half these factors; for other sizes, see page 241)	
Outdoors:-	
Black Lines on White Paper ... ..	1/2
Photographs, according to colour	4 to 6
Paintings " "	6 to 8
In studio or conservatory:-	
Black Lines on White Paper ... ..	3
Photographs, according to colour	24 to 32
Paintings " "	*1/2 to *1
In well-lighted room, near window:-	
Black Lines on White Paper ... ..	6
Photographs, according to colour	*1/2 to *1
Paintings " "	*1 to *2
Light (see also page 239) ... ..	*1 to *4
medium (see also page 239) ... ..	*4 to *8
dark (see also page 239) ... ..	*8 to *16
very dark (see also page 239) ... ..	*16 to *32

\* In using figures marked with an asterisk, read exposure minutes or fractions of a minute.

Table B.—PLATES AND FILMS

The figures in this table are factors given in order to guide photographers to correct exposure. When used as instructed they indicate correct exposure within the latitude available. The test of their correctness is to employ them in practice in conjunction with THE 'WELLCOME' EXPOSURE CALCULATOR. The publishers cannot discuss the relative merits or speeds of different makes of plates.

COLUMN I. gives the *normal* factors for various plates and films. In conjunction with the CALCULATOR these factors indicate exposures which will produce full detail in the shadows and good gradation. This column should be used whenever possible, and especially for negatives intended for enlarging and lantern-slide making. Its use gives exposures which are on the full side.

COLUMN II. is provided for use in calculating the **shortest exposures which should be given with ordinary shutters**. With focal-plane shutters, the efficiency of which is, under normal circumstances, considerably greater than that of other shutters, this column is usually and successfully adopted for calculating normal exposures. As, however, individual requirements differ, it is advised that, in commencing the use of these tables, two test exposures be made under equal conditions on the same subject, calculated the time in one case by Column I. and in the other Column II. Development of these test exposures will once indicate to the photographer which column best answer his general needs, and will guide him the use of Column I. or Column II. for special effects.

COLUMN III. gives factors which are for *exceptional* use only (see page 238). The use of a focal shutter is essential if exposures are calculated by factors in this column.

## EXPOSURE

Table B.—Plates and Films (continued)

	Col. I.	Col. II.	Col. III.
Adams, Videx Special Rapid ...	1/3	1/6	1/8
„ „ Iso ...	1/4	1/8	1/12
„ „ Extreme Rapid ...	1/6	1/12	1/16
Agfa ...	1/3	1/6	1/8
„ Isolar ...	1/3	1/6	1/8
„ Chromo ...	1/3	1/6	1/8
Anso Film, Non-Curling ...	1/6	1/12	1/16
Austin Edwards, Leaf ...	1/6	1/12	1/16
„ „ "Ensign" ...	1/6	1/12	1/16
Austral, Ordinary ...	1/2	1/4	1/6
„ Medium... ..	1/3	1/6	1/8
„ Fast ...	1/4	1/8	1/12
Barnet, Ordinary ...	1/2	1/4	1/6
„ Medium... ..	1/3	1/6	1/8
„ Ortho Medium ...	1/3	1/6	1/8
„ Extra Rapid ...	1/4	1/8	1/12
„ Ortho Extra Rapid ...	1/6	1/12	1/16
„ Roll Film ...	1/6	1/12	1/16
„ Red Seal ...	1/8	1/12	1/16
„ Studio, Rapid 200 ...	1/8	1/12	1/16
„ Ultra-rapid 350 ...	1/12	1/24	1/32
„ "Super Speed" Ortho ...	1/12	1/24	1/32
Cadett, Ordinary ...	2/3	1/3	—
„ Royal Standard Ortho ...	1/6	1/12	1/16
„ Professional ...	1/8	1/16	1/24
„ Royal Standard Rapid ...	1/6	1/12	1/16
„ Royal Standard Extra Rapid ...	1/8	1/16	1/24
„ Royal Standard Special Extra Rapid... ..	1/12	1/24	1/32
Central ...	1/2	1/4	1/6
Con Film ...	1/4	1/8	1/12
er, Contrast ...	1	1/2	—
Slow Iso ...	1	1/2	—
Anchor ...	1/3	1/6	1/8
„ Non-Halation ...	1/3	1/6	1/8
„ Medium Iso ...	1/3	1/6	1/8

## EXPOSURE

Table B.—Plates and Films (continued)

	Col. I.	Col. II.	Col. III.
Cramer, Banner ...	1/4	1/8	1/12
„ Inst. Iso. and Trichromatic... ..	1/6	1/12	1/16
„ Crown ...	1/6	1/12	1/16
Defender, King ...	1/6	1/12	1/16
„ Queen ...	2	—	—
„ Instantaneous Ortho ...	1/6	1/12	1/16
„ Slow Ortho ...	1	1/2	—
Eastman, Rapid ...	1/6	1/12	1/16
„ Ext. Rapid ...	1/8	1/12	1/16
„ Isochromatic... ..	1/8	1/12	1/16
„ Special Ultra Rapid ...	1/8	1/16	1/24
Edwards, Medium ...	1/2	1/4	1/6
„ Rapid ...	1/3	1/6	1/8
„ Snap Shot ...	1/4	1/8	1/12
„ Empire ...	1/3	1/6	1/8
„ Medium Isochromatic ...	1/3	1/6	1/8
„ Instantaneous ..	1/4	1/8	1/12
„ Snap Shot ..	1/6	1/8	1/12
"Ensign" Iso Film ...	1/6	1/12	1/16
Gem Process ...	1 1/2	—	—
„ Universal ...	1	1/2	—
„ Isochromatic ...	1/4	1/8	1/12
„ Meteor ...	1/6	1/12	1/16
„ Portrait ...	1/8	1/16	1/24
„ Salon ...	1/8	1/16	1/24
Hammer, Slow ...	1	1/2	—
„ Fast ...	1/3	1/6	—
„ Aurora Non-Halation ...	1/4	1/8	—
„ Extra Fast ...	1/6	1/12	—
„ Special, Extra Fast... ..	1/8	1/16	—
Ilford, Process ...	2	—	—
„ Half Tone ...	1	1/2	—
„ Ordinary ...	2/3	1/2	—
„ Chromatic ...	1/3	1/6	—
„ Empress ...	1/2	1/4	—



Table B.—Plates and Films (continued)

	Col. I.	Col. II.	Col. III.
Ilford, Rapid Isochromatic ...	1/6	1/12	1/16
.. Special Rapid ...	1/4	1/8	1/12
.. Zenith ...	1/6	1/12	1/16
.. Monarch ...	1/8	1/16	1/24
Imperial, Process ...	2	—	—
.. Landscape ...	1 1/2	—	—
.. Fine Grain Ordinary ...	1	1/2	—
.. Ordinary ...	1/2	1/4	1/6
.. Sovereign ...	1/4	1/8	1/12
.. Special Rapid ...	1/6	1/12	1/16
.. Special Sensitive ...	1/8	1/12	1/16
.. Flashlight ...	1/8	1/16	1/24
.. Orthochrome Non-Filter ...	1/4	1/8	1/12
.. .. Special Rapid... ..	1/4	1/8	1/12
.. .. Special Sensitive ..	1/6	1/12	1/16
Isolar, Ordinary or Orthochromatic ...	1/3	1/6	1/12
"Kodak" Ortho N.C. Film ...	1/6	1/12	1/16
"Kodoid" ...	1/6	1/12	1/16
Lumière, Ordinary Yellow Label ...	6	—	—
.. Extra Rapid, Blue Label ...	1/3	1/6	1/8
.. Extreme Rapidity, Sigma... ..	1/8	1/16	1/24
.. Ultra Rapidity, Violet Label ..	1/16	1/32	1/48
.. Ortho A ...	1/3	1/6	1/8
.. .. B ...	1/4	1/8	1/12
.. .. C ...	1/3	1/6	1/8
.. Roll Film ...	1/3	1/6	1/8
.. Autochrome (with filter) ...	—	—	—
.. .. Indoors ...	24	—	—
.. .. Outdoors ...	12	—	—
Mason, Ordinary ...	2/3	1/3	—
.. Special Portrait & Landscape ..	1/3	1/6	1/8
.. Instantaneous ...	1/6	1/12	1/16
.. Iso ...	1/8	1/16	1/24
.. P. S. ...	1/6	1/12	1/16
.. Supreme and Tropical ...	1/8	1/16	1/24

Table B.—Plates and Films (continued)

	Col. I.	Col. II.	Col. III.
Mawson & Swan, Photo Mechanical... ..	4	—	—
.. .. Half Tone ...	2/3	—	—
.. .. Castle ...	1/2	1/4	1/6
.. .. Electric ...	1/4	1/8	1/12
.. .. Felixi ...	1/6	1/12	1/16
.. .. Celeritas ...	1/8	1/16	1/24
.. .. Gladiator ...	1/12	1/24	1/30
.. .. Ortho A ...	1/6	1/12	1/16
.. .. .. B ...	1/3	1/6	1/8
"N. & G." and "Nydia" ...	1/4	1/8	1/12
Paget, xx ...	1/2	1/4	1/6
.. xxx ...	1/3	1/6	1/8
.. Orthochrome ...	1/2	1/4	1/6
.. xxxxx and Special Rapid ...	1/4	1/8	1/12
.. Swift ...	1/8	1/16	1/24
.. Extra Special Rapid ...	1/12	1/24	1/30
Premo Film Pack ...	1/6	1/12	1/16
Primus ...	1/4	1/6	1/8
Rotograph Negative Paper, Normal ..	4	1	—
.. .. Rapid ...	1/2	1/3	—
Sandell, Landscape ...	2	—	—
.. Ordinary ...	2/3	1/3	—
.. Perfect, Iso and Spec. Express ..	1/4	1/8	1/12
.. "Cristoid" Film ...	1/4	1/8	1/12
.. .. Iso ...	1/4	1/8	1/12
Sanger, Shepherd, Ortho A ...	1/3	1/6	1/8
.. .. B ...	1/6	1/12	1/16
Schleussner ...	1/4	1/8	1/12
.. Ortho ...	1/4	1/8	1/12
.. Viridin ...	1/3	1/6	—
.. Blue Label ...	1/6	—	—
Seed 23 ...	1/2	1/4	—
.. Non-Halation, and 26x ...	1/6	1/12	1/16
.. 27, Gilt Edge ...	1/6	1/12	1/16
.. Ortho L and Ortho C ...	1/6	1/12	1/16



Table B.—Plates and Films (*continued*)

	Col. I.	Col. II.	Col. III.
Standard, Extra and Orthonon ...	1/6	1/8	1/12
"  I. P. ...	1/8	1/12	1/16
"  Polychrome ...	1/6	1/12	1/16
Stanley ...	2/3	1/3	—
"  Regular ...	1/8	1/12	1/16
Thomas, Medium Ordinary ...	1	1/2	—
"  Medium Iso and Bee ...	1/2	1/4	1/6
"  Extra Rapid, Ordinary or Iso ...	1/3	1/6	1/8
"  A 1, Ordinary or Iso ...	1/4	1/8	1/12
Twentieth Century Medium and Iso...	1/3	1/6	1/8
"  Fast ...	1/8	1/16	1/24
Warwick, Ordinary ...	1/2	1/4	1/6
"  Special Rapid ...	1/6	1/12	1/16
"  "  128 ...	1/8	1/12	1/16
"  "  156 ...	1/12	1/16	1/24
"  Instantaneous ...	1/4	1/8	1/12
"  Double Instantaneous ...	1/6	1/12	1/16
"  Rainbow, Slow ...	1/2	1/4	1/6
"  "  Fast ...	1/8	1/12	1/16
"  Warpress ...	1/12	1/16	1/24
Wellington Film... ..	1/6	1/12	1/16
"  Landscape and Watalu... ..	1/2	1/4	1/6
"  Ortho Process ...	1	—	—
"  Speedy Iso and Watalu... ..	1/3	1/6	1/8
"  Speedy and Watalu ...	1/8	1/16	1/24
"  Speedy Portrait ...	1/8	1/16	1/24
"  Extra Speedy ...	1/12	1/24	1/32
"  (Special) Extra Speedy ...	1/12	1/24	1/32
"  Extra Speedy Press ...	1/12	1/24	1/32
"  Kessner Colour ...	1/8	1/16	1/24
"  Kittles, Ordinary ...	3	—	—
"  Instantaneous ...	2/3	1/3	—
"  Drop Shutter ...	1/6	1/12	1/16
"  Speed ...	1/8	1/16	1/24
"  Panchromatic ...	1/6	1/12	1/16
"  Achromochrome ...	1/6	1/12	1/16
"  Verichrome ...	1/8	1/16	1/24

## EQUIVALENT PLATE NUMBERS

Watkins, Wynne and B. W. &amp; Co. Systems

At the request of many users of The 'Wellcome' Exposure Record and Diary, the following table is given showing the relation between the Watkins and Wynne numbers and the B. W. & Co. factors given in Table B. The Watkins and Wynne numbers are those issued by these authorities and do not always agree in value with the figures quoted on plate boxes or in makers' lists. It is, unfortunately, impossible to include a column giving the H and D numbers, as the conditions under which these are obtained by plate makers, etc., are so different that comparisons with standardised numbers would be very misleading. The B. W. & Co. factors, as explained under Table B, aim at showing the relative exposures which different plates may be given with safety. They are plate exposure factors and not what are generally known as plate speeds.

B. W. & Co.	Watkins	Wynne	B. W. & Co.	Watkins	Wynne
16	2	F 10	2/3	45	F 45
12	3	F 11	1/2	60	F 56
8	4	F 14	1/3	90	F 64
6	6	F 16	1/4	120	F 78
4	8	F 20	1/6	180	F 90
3	12	F 23	1/8	240	F 114
2	15	F 28	1/12	360	F 156
1 1/2	20	F 32	1/16	480	F 192
1	30	F 39	1/24	720	F 288

Table C.—LENS APERTURES

The CALCULATOR automatically indicates the exposure at **F 8** (U. S. 4). The exposures for other stops are shown in the spaces on the EXPOSURE CIRCLE to the right or left of that opposite to the speed of the plate in use. Thus, if the Calculator indicates that the exposure at  $f/8$  is 1 sec., that at  $f/16$  will be  $1 \times 4 = 4$ , which is the figure in the fourth space to the right of 1.

Stops F values	Positions on Exposure Calculator	U.S. Nos.	Relative Ex- posures
$f/4$	Four spaces to left	1	
$f/5$	Two spaces to left	2	
$f/6.3$		2.48	
$f/7$	One space to left	3	
$f/8$	Opposite plate speed	4	1
$f/9$		5	1.25
$f/10$	One space to right	6.25	1.5
$f/11.3$	Two spaces to right	8	2
$f/12.5$		10	2.5
$f/14$	Three spaces to right	12.25	3
$f/16$	Four spaces to right	16	4
$f/18$		20	5
$f/20$	Five spaces to right	25	6.25
$f/22.6$	Six spaces to right	32	8
$f/25$		39	10
$f/28$	Seven spaces to right	49	12.25
$f/32$	Eight spaces to right	64	16
$f/36$		80	20
$f/40$	Nine spaces to right	100	25
$f/45.3$	Ten spaces to right	128	32
$f/50$		156	40
$f/56$	Eleven spaces to right	196	50
$f/64$	Twelve spaces to right	256	64

The exposures with various stops may be at once obtained by multiplying the exposure at  $f/8$  by the figures in the fourth column of the table above.

When necessary to ensure ease in calculating, the figures are given.

## MONTHLY LIGHT TABLES

## Northern Hemisphere

The following monthly light tables are calculated for 52° North Latitude and are approximately correct for ENGLAND, IRELAND, BELGIUM, HOLLAND, GERMANY, SOUTHERN RUSSIA, NORTHERN CHINA, NEWFOUNDLAND AND SOUTHERN CANADA.

Beneath the monthly light tables are duplicates with blank spaces for figures, which may be filled in for any latitude by multiplying the light values for 52° N. Latitude by the factors given on page 256.

The latitudes given may be taken to correspond to the following countries, etc.:-

**60° North Latitude.**—ICELAND, FAROE ISLANDS, SHETLAND ISLANDS, SOUTHERN NORWAY (BERGEN), CENTRAL SWEDEN (STOCKHOLM), NORTH RUSSIA (ST. PETERSBURG), CENTRAL SIBERIA (OKHOTSK), ALASKA, YUKON (KLONDIKE), NORTH CANADA AND SOUTH GREENLAND (CAPE FAREWELL).

**55° North Latitude.**—NORTH BRITAIN (NEWCASTLE, EDINBURGH, GLASGOW, PERTH), DENMARK (COPENHAGEN), SOUTHERN SWEDEN, CENTRAL RUSSIA (MOSCOW), SOUTHERN SIBERIA (TOMSK), CENTRAL CANADA.

**40° North Latitude.**—SOUTHERN EUROPE (THE MEDITERRANEAN), ASIA MINOR, CENTRAL CHINA (PEKIN), KOREA, JAPAN, UNITED STATES OF AMERICA (NEW YORK, CHICAGO, DENVER, SAN FRANCISCO).

**30° North Latitude.**—MADEIRA, CANARY ISLANDS, NORTH AFRICA (MOROCCO, CAIRO), AFGHANISTAN, NORTHERN INDIA (DELHI), THE CHINA (SHANGHAI), UNITED STATES OF AMERICA (FLORIDA, NEW ORLEANS, SOUTH CALIFORNIA).

## SPECIAL NOTE

At the end of each month tear away the table for the next month facing the Calculator.



# EXPOSURE FACTORS FOR VARIOUS DEGREES OF LATITUDE

The light value given in Monthly Tables for January, 12 a.m.; Bright Sunlight, is  $1/3$ . Under the same conditions, it will be  $1/3 \times 1.1/2 = 1/2$ ; in the Mediterranean,  $1/3 \times 1/2 = 1/6$

North Latitude	Dec.	Jan. Nov.	Oct. Feb.	Sept. March	Aug. April	May, June, July
60°	2	1-1/2	1-1/2	1-1/4	1	1
55°	1-1/2	1	1	1	1	1
40°	1/2	1/2	2/3	1	1	1
30°	1/3	1/3	1/3	1/2	1/2	2/3

A separate Edition of this book is published giving light tables for all countries in the Southern Hemisphere and Tropics.

TRADE MARK 'TABLOID' BRAND

## OZOBROME

### PIGMENTING COMPOUND

CONVENIENT for the preparation of the Pigmenting solution used in Ozobrome Carbon Printing, by means of which, beautiful carbon prints can be produced without exposure to daylight.

See also pages 31 & 66

### GRAND PRIZE

conferred upon B. W. & Co., at the Franco-British Exhibition, London, 1908, for the Scientific Excellence of 'Tabloid' Photographic Chemicals.



# DECEMBER

Light Values for the Month, Latitude 52° N.

LOCAL MEAN TIME	A Bright Sun-light	B Sun shining through light clouds	C Diffused light	D Dull	E Very Dull
11 a.m. to 1 p.m.	1/3	1/2	3/4	1	1-1/2
10 a.m. and 2 p.m.	1/2	3/4	1	1-1/2	2
9 a.m. and 3 p.m.	*1	*1-1/2	*2	—	—

\*These figures must be used with caution. Unless orthochromatic plates are employed they must certainly be increased from 5 to 10 times when the light is yellow or inclined to red.

Special Table for Latitude .....

LOCAL MEAN TIME	A Bright Sun-light	B Sun shining through light clouds	C Diffused light	D Dull	E Very Dull
11 a.m. to 1 p.m.					
10 a.m. and 2 p.m.					
9 a.m. and 3 p.m.					
8 a.m. and 4 p.m.					
7 a.m. and 5 p.m.					

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## A REMINDER

If you have not already done so,  
it is now time to order a copy of

THE  
'WELLCOME'  
PHOTOGRAPHIC  
EXPOSURE RECORD  
AND DIARY

FOR 1911

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# NOVEMBER

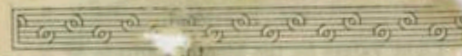
Light Values for the Month Latitude 52° N.

LOCAL MEAN TIME	A Bright Sun-light	B Sun shining through light clouds	C Diffused light	D Dull	E Very Dull
11 a.m. to 1 p.m.	1/3	1/2	3/4	1	1-1/2
10 a.m. and 2 p.m.	1/2	3/4	1	1-1/2	2
9 a.m. and 3 p.m.	*1	*1-1/2	*2	—	—

\* These figures must be used with caution. Unless orthochromatic plates are employed they must certainly be increased from 5 to 10 times when the light is yellow or inclined to red.

## Special Table for Latitude

LOCAL MEAN TIME	A Bright Sun-light	B Sun shining through light clouds	C Diffused light	D Dull	E Very Dull
11 a.m. to 1 p.m.					
10 a.m. and 2 p.m.					
9 a.m. and 3 p.m.					
8 a.m. and 4 p.m.					
7 a.m. and 5 p.m.					
6 a.m. and 6 p.m.					



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TRADE MARK 'TABLOID' BRAND

TRADE MARK 'RYTOL' MARK

## UNIVERSAL DEVELOPER

A modern developer for modern methods and materials.

It works perfectly with plates, films, bromide and gaslight papers or lantern slides, producing superb negatives and positives.

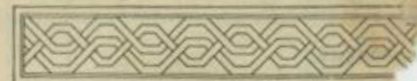
Suitable for all methods of development—time, factorial, tentative, stand, machine or tank.

The contents of each carton make over five pints of concentrated developing Solution.

Free from any tendency to irritate the skin, or to stain fingers or film.



(See also pages 13, 24, 27, 41,



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# OCTOBER

Light Values for the Month, Latitude 52° N.

LOCAL MEAN TIME	A Bright Sun-light	B Sun shining through light clouds	C Diffused light	D Dull	E Very Dull
11 a.m. to 1 p.m.	1/4	1/3	1/2	3/4	1
10 a.m. and 2 p.m.	1/3	1/2	3/4	1	1-1/2
9 a.m. and 3 p.m.	1/2	3/4	1	1-1/2	2
8 a.m. and 4 p.m.	*1	*1-1/2	*2	—	—

\* These figures must be used with caution. Unless orthochromatic plates are employed they must certainly be increased from 5 to 10 times when the light is yellow or inclined to red.

## Special Table for Latitude

LOCAL MEAN TIME	A Bright Sun-light	B Sun shining through light clouds	C Diffused light	D Dull	E Very Dull
11 a.m. to 1 p.m.					
10 a.m. and 2 p.m.					
9 a.m. and 3 p.m.					
8 a.m. and 4 p.m.					
7 a.m. and 5 p.m.					
6 a.m. and 6 p.m.					

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## 'TABLOID' BRAND SULPHOCYANIDE TONER

(Gold Chloride and Sulphocyanide Compound)

Strong in GOLD. Vigorous in Action


The ideal form of a familiar formula.

For purple and warm brown tones on P. O. P.

A clean and even toner for all papers made for the Sulphocyanide bath.

Each package will tone at least 6 dozen 1/4-plate prints.

Keeps in perfect condition in all climates.

 (See also pages 64, 65)

NOTE.—The word 'TABLOID' is Burroughs Wellcome & Co.'s Trade Mark. Avoid Imitations.



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# SEPTEMBER

Light values for the Month Latitude 52° N.

LOCAL MEAN TIME	A Bright Sun- light	B Sun shining through light clouds	C Dif- fused light	D Dull	E Very Dull
10 a.m. to 2 p.m.	1/6	1/4	1/3	1/2	3/4
9 a.m. and 3 p.m.	1/4	1/3	1/2	3/4	1
8 a.m. and 4 p.m.	1/3	1/2	3/4	1	1-1/2
7 a.m. and 5 p.m.	*1	*1-1/2	*2	—	—

\*These figures must be used with caution. Unless orthochromatic plates are employed they must certainly be increased from 5 to 10 times when the light is yellow or inclined to red.

## Special Table for Latitude

LOCAL MEAN TIME	A Bright Sun- light	B Sun shining through light clouds	C Dif- fused light	D Dull	E Very Dull
10 a.m. to 2 p.m.					
9 a.m. and 3 p.m.					
8 a.m. and 4 p.m.					
7 a.m. and 5 p.m.					
6 a.m. and 6 p.m.					
5 a.m. and 7 p.m.					

## AVOID PYRO-STAINED FINGERS

'HAZELINE' CREAM applied to the hands before developing, fills the pores of the skin and prevents the absorption of the Pyro.

Washing re-  
moves the Cream  
and leaves the  
hands soft, white  
and smooth.



Greatly reduced

'Hazeline' Cream is also an ideal toilet cream for general use, and delightfully soothing after shaving.

Sold by all Photographic Chemists  
tubes and glass pots

AUGUST

Light Values for the Month, Latitude 52° N.

LOCAL MEAN TIME	A Bright Sun-light	B Sun shining through light clouds	C Diffused light	D Dull	E Very Dull
9 a.m. to 3 p.m.	1/6	1/4	1/3	1/2	3/4
8 a.m. and 4 p.m.	1/4	1/3	1/2	3/4	1
7 a.m. and 5 p.m.	1/3	1/2	3/4	1	1-1/2
6 a.m. and 6 p.m.	*1	*1-1/2	*2	—	—

These figures must be used with caution. Unless orthochromatic plates are employed they must certainly be increased from 5 to 10 times when the light is yellow or inclined to red.

Special Table for Latitude

LOCAL MEAN TIME	A Bright Sun-light	B Sun shining through light clouds	C Diffused light	D Dull	E Very Dull
9 a.m. to 3 p.m. <i>Noon</i>		<i>3000</i>			
8 a.m. and 4 p.m.					
7 a.m. and 5 p.m.					
6 a.m. and 6 p.m.					
5 a.m. and 7 p.m.					



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TRADE MARK 'TABLOID' BRAND

## AMIDOL DEVELOPER

SPECIALLY recommended for general use in hot weather and tropical climates,



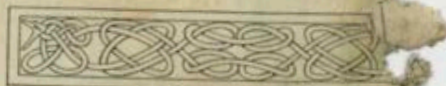
One-half actual height

being less liable to produce frilling than developers which contain strongly alkaline accelerators. Ideal for bromide prints and enlargements.

Yields rich velvety blacks and delicate greys.

(See also page 50)

NOTE.—The word 'TABLOID' is Burroughs Wellcome & Co.'s Trade Mark. Avoid Imitations.



JULY

Light Values for the Month, Latitude

LOCAL MEAN TIME	A Bright Sun-light	B Sun shining through light clouds	C Diff. light	D Dull	E Very Dull
9 a.m. to 3 p.m.	1/8	1/6	1/4	1/3	1/2
8 a.m. and 4 p.m.	1/6	1/4	1/3	1/2	3/4
7 a.m. and 5 p.m.	1/4	1/3	1/2	3/4	1
6 a.m. and 6 p.m.	*1/3	*1/2	*3/4	*1	*1-1/2
5 a.m. and 7 p.m.	*3/4	*1	*1-1/2	—	—

\*These areas must be used with caution. Unless orthochromatic plates are employed they must certainly be increased 5 to 10 times when the light is yellow or inclined to red.

Special Table for Latitude

LOCAL MEAN TIME	A Bright Sun-light	B Sun shining through light clouds	C Diffused light	D Dull	E Very Dull
9 a.m. to 3 p.m.	1/8				
8 a.m. and 4 p.m.	1/6				
7 a.m. and 5 p.m.	1/4				
6 a.m. and 6 p.m.					
5 a.m. and 7 p.m.					

136  
TABLOID BRAND

SEPIA TONE.

RICH PERMANENT BROWNS

MATCHLESS for bromide prints and enlargements, gaslight prints and lantern slides.

Two simple operations.

Solves the problem of producing beautiful sepia tones easily and with great certainty. Obviates the use of evil-smelling stock solutions.

Protected by patent, the advantages of this method can only be secured by the use of 'TABLOID' products.

(See also pages 34 & 35)

NOTE.—The word 'TABLOID' is Burroughs Wellcome & Co.'s Trade Mark. Avoid Imitation





## JUNE

### Light Values for the Month

LOCAL MEAN TIME	A Bright Sun-light	B Sun shining through light clouds	C Diffused light	D Dull	E Very Dull
9 a.m. to 3 p.m.	1/8	1/6	1/4	3/4	1/2
8 a.m. and 4 p.m.	1/6	1/4	1/3	1/2	3/4
7 a.m. and 5 p.m.	1/4	1/3	1/2	3/4	1
6 a.m. and 6 p.m.	1/3	1/2	3/4	1	1-1/3
5 a.m. and 7 p.m.	*1/2	*3/4	*1	*1-1/2	*2
4 a.m. and 8 p.m.	*2	*3	*4	—	—

These figures must be used with caution. Unless orthochromatic plates are employed they must certainly be increased from 5 to 10 times when the light is yellow or inclined to red.

### Special Table for Latitude

LOCAL MEAN TIME	A Bright Sun-light	B Sun shining through light clouds	C Diffused light	D Dull	E Very Dull
m. to 3 p.m.					
and 4 p.m.					
and 5 p.m.					
6 p.m.					

## ABOUT PURITY

IN purity, accuracy, and quick solubility, 'TABLOID' Photographic Products excel.

The Chemicals of which they are composed are submitted to rigorous tests in the analytical laboratories of the 'Wellcome' Chemical Works before they are allowed to enter the special manufacturing departments of the firm.

Before issue they are again tested for accuracy and activity by trained analysts and expert photographers.

'TABLOID' Photographic Chemicals are therefore the photographer's insurance against failure.

NOTE.—The word 'TABLOID' is Burroughs Wellcome & Co.'s Trade Mark. Avoid Imitations.

# Light Values for the Meridian Latitude 52° N.

LOCAL MEAN TIME	A Bright Sun-light	B Sun shining through light clouds	C Diffused light	D Dull	E Very dull
9 a.m. to 3 p.m.	1/8	1/6	1/4	1/2	1/2
3 p.m. and 4 p.m.	1/6	1/4	1/3	1/2	3/4
7 a.m. and 5 p.m.	1/4	1/3	1/2	3/4	1
6 a.m. and 6 p.m.	*1/3	*1/2	*3/4	*1	*1-1/2
5 a.m. and 7 p.m.	*3/4	*1	*1-1/2	—	—

These figures must be used with caution. Unless orthochromatic plates are employed they must certainly be increased 5 to 10 times when the light is yellow or inclined to red.

## Special Table for Latitude

LOCAL MEAN TIME	A Bright Sun-light	B Sun shining through light clouds	C Diffused light	D Dull	E Very Dull
9 a.m. to 3 p.m.					
3 p.m. and 4 p.m.					
7 a.m. and 5 p.m.					
6 a.m. and 6 p.m.					
5 a.m. and 7 p.m.					

## SOLUBILITY

Although photographic chemicals, when compressed into minimum space, are actually more quickly soluble than similar chemicals in crystalline form.

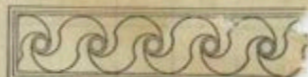
This has been achieved as the result of specialised research.

It is one of the differences between 'TABLOID' products and imitations.

Mortars, pestles or specially constructed apparatus are not necessary to secure this quick solubility.

The Quality is in the 'TABLOID' products.

NOTE.—The word 'TABLOID' is Burroughs Wellcome & Co. Trade Mark. Avoid Imitation.



Light Values for the

LOCAL MEAN TIME	A Bright Sun- light	B Sun shining through light clouds	C Dif- fused light	D Dull	E Very Dull
9 a.m. to 3 p.m.	1/6	1/4	1/3		
8 a.m. and 4 p.m.	1/4	1/3	1/2	3/4	1
7 a.m. and 5 p.m.	1/3	1/2	3/4	1	1-1/2
6 a.m. and 6 p.m.	*1	*1-1/2	*2	—	—

\* These figures must be used with caution. Unless orthochromatic plates are employed they must certainly be increased from 5 to 10 times when the light is yellow or inclined to red.

Special Table for Latitude

LOCAL MEAN TIME	A Bright Sun- light	B Sun shining through light clouds	C Dif- fused light	D Dull	E Very Dull
1 a.m. to 3 p.m.					
and 4 p.m.					
and 5 p.m.					
m.					

ID. FRANK

PERSU

for reducing harsh con-

Ammonium Persulphate

One-half actual length

THE improvement this pure product effects in over-developed, under-exposed, harsh negatives is surprising.

It is the easiest and surest means of obtaining soft results from harsh negatives.

Experts, who know how variable and how difficult to keep ordinary ammonium persulphate is, invariably use the 'TABLOID' product.

Extremely compact, costs but a trifle, and is always handy.

NOTE.—The word 'TABLOID' is Burroughs Wellcome & Co. Trade Mark. Avoid Imitation.



Values for

LOCAL MEAN TIME	Bright Sun-light	Sun shining through light clouds	Diffused light	Dull	Very Dull
10 a.m.	1/5	1/4	1/3		
11 a.m. and 1 p.m.	1/4	1/3	1/2		
2 p.m. 4 and 5 p.m.	1/3	1/2	3/4	1	1 1/2
7 a.m. and 5 p.m.	*1	*1 1/2	*2	—	—

These figures must be used with caution. Unless orthochromatic plates are employed they must certainly be increased from 5 to 10 times when the light is yellow or inclined to red.

Special Table for Latitude

LOCAL MEAN TIME	A	B	C	D	E
	Bright Sun-light	Sun shining through light clouds	Diffused light	Dull	Very Dull
6 a.m. to 2 p.m.					
3 p.m.					
4 p.m.					
5 p.m.					

# 'TABLOID' AMMO. IUM. INTEN. IAR

Simplifies Inten-  
equal to any  
ous mercurial formulae,  
ot or stain. 140

Strengthens the  
faintest details as well as  
the high lights.

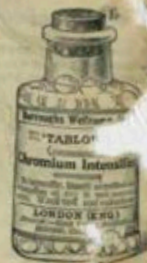
Intensifies bromide or  
gaslight prints, as well  
as negatives.

Sold without restric-  
tion by all photographic  
chemists and dealers.

Each carton contains mat-  
50 ounces of Solution.

(See also pages 30 & 31)

NOTE.—The word 'TABLOID'  
is Burroughs Wellcome & Co.'s  
Trade Mark. Avoid Imitation



Height 1 1/2



...line for the ...

11 a.m. and 1 p.m.	1/4	1/3		
12 p.m.	1/4	1/2	3/4	
1 p.m. and 3 p.m.	1/2	3/4	1	1-1/2
3 p.m. and 4 p.m.	*1	*1-1/2	*2	—

These figures must be used with caution. Unless orthochromatic plates are employed they must certainly be increased from 5 to 70 times when the light is yellow or inclined to red.

Special Table for Latitude

LOCAL MEAN TIME	A Bright Sun-light	B Sun shining through light clouds	C Diffused light	D Dull	E Very Dull
11 a.m. to 1 p.m.					
12 p.m.					
1 p.m. and 3 p.m.					
3 p.m. and 4 p.m.					

APH  
905)

... metal casket contain  
complete chemical outfit for develop-  
ing, etc.

Easily carried in pocket, cycle-case  
or kit-bag.

Enables the tourist to test exposures  
en route, and thus make sure of  
securing good negatives of scenes  
which may never be re-visited.

Ideal for home use, especially where  
room space is limited

12 p.m.	1/2	3/4	1	
1 p.m. and 3 p.m.	.1	*1-1/2	*2	—
<p>These figures must be used with caution. Unless optical            automatic plates are employed they must certainly be increased            from 5 to 10 times when the light is yellow or inclined to red.</p>				
Special Table for Latitude .....				
LOCAL MEAN TIME	A Bright Sun- light	B Sun shining through light clouds	C Dif- fused light	D Pull
11 a.m. to 1 p.m.				
2 p.m.				



