
INSTRUCTIONS FOR USING

Ihagee »Auto-Ultrix«

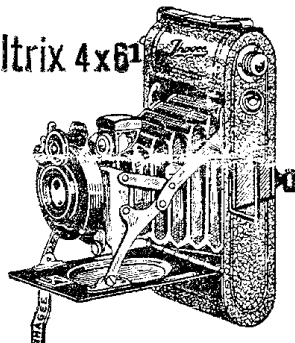
No. 2860

For Roll film

Auto-Ultrix 4x6¹

3 ¹/₄ × 2 ¹/₄ in.

(6 × 9 cm)



DRESDEN · SCHANDAUER STR. 24

Opening the Camera. — Hold the camera in the hand and press with the thumb on the knob "A" below the film winding key, when the baseboard will spring open and the camera is focussed automatically for Infinity. It is advisable to tilt the camera slightly towards the front (Fig. 1) so that the baseboard will come out far enough to allow the pressers "B" of the side struts to snap into place.

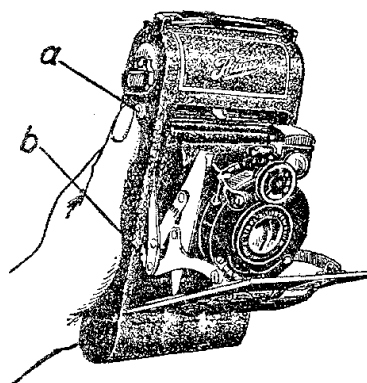


Fig. 1

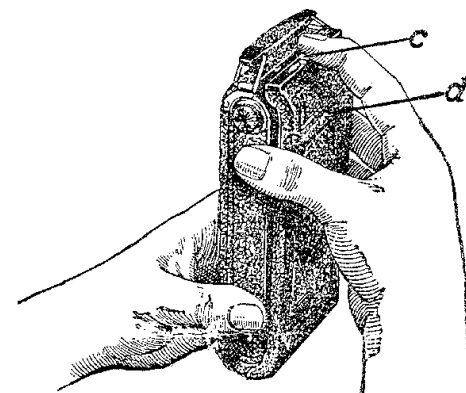


Fig. 2

Loading and Unloading. — Before putting in the film be sure that the shutter is closed. Take the camera, handle upwards, in the hand as shown in Fig. 2, press the knob "C" in the direction of the pointer, and lift off the back "D". Place the roll film with the printed side up on the spring of the lower empty compartment and press the spool lightly into the camera. As shown in Fig. 3, draw the pointed paper straight over the rolls and between the guides "E" up to the other empty spool, insert the pointed portion of the paper in the wider slot of the wooden core, give the key one to three turns to prevent

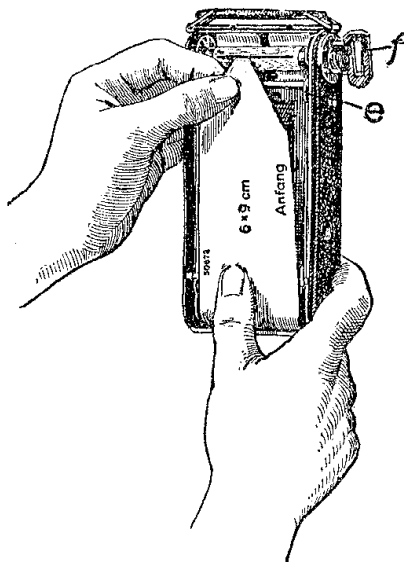


Fig. 3

the paper from slipping out again, and replace the back while making sure that the lower slide of the camera body fits exactly into the groove of the back.

Wind the film only when camera is open! Push aside the flap covering the red film window and turn the winding key "F" in the direction of the arrow. After a few turns a warning hand or arrow appears in the red window. Keep on turning slowly now until the figure 1 appears which indicates that the first film is ready for exposure. Make it a habit to wind the film after each exposure so as to prevent double exposures.

After the full number of exposures (6, 8 or 12) has been made, continue to wind until there is no more red paper visible in the window. Then remove the cover as described, pull out the knob "G" and give it a quarter-turn so that it cannot spring back. In most cases the spool will then come out of the camera, but if it is raised only on one side, grip this side with thumb and forefinger and draw it out upwardly in inclined position. Then fasten the covering paper by means of the strip of paper attached thereto. Remove the empty spool in the lower compartment and put it in the upper one by holding the side with the round hole and placing the clearance on the opposite side over the pin of the film winding key, whereupon the spool is pressed lightly against the spring with the thumb of the right hand and the knob "G" turned back until it snaps.

Before putting in a new film, examine the film rolls whether they are perfectly clean to prevent scratches.

The Shutter. — See pages 8 to 12 of this pamphlet.

Exposure. — Before making an exposure one should ascertain the correct time for it by means of an exposure meter or the table printed at the end of these instructions. Moreover,

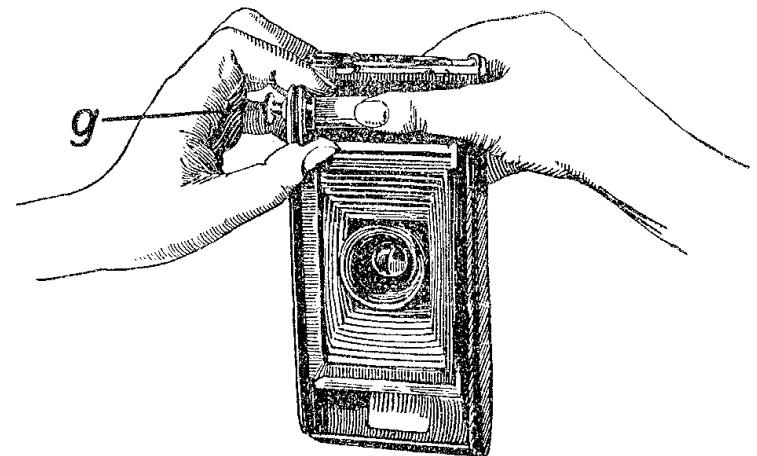


Fig. 4

do not hold the camera in your hand except for snapshots. If the time of exposure exceeds $\frac{1}{25}$ th. second, screw the camera on to a stand or put it on a table. For this purpose the camera is provided with a bottom support "H" which can be turned down and with two bushes for upright and oblong pictures. If the distance of the object to be taken is equal to approximately two hundred times the focal length, exposures are made by focussing for infinity, the focal length being the distance from the centre of the lens to the film and, in "Auto-

Ultrix", measuring $4\frac{1}{4}$ in. (10,5 cm.). For nearer subjects focus by means of the helical focussing mount of the lens, which is operated by the knob "I". By moving the lever to the left, set the pointer above the lens to the number of metres wanted, such as 3 for 3 metres. Observe the picture to be taken through the Finder "J" attached to the upper left side of the front. In vertical work the Finder remains in its normal po-

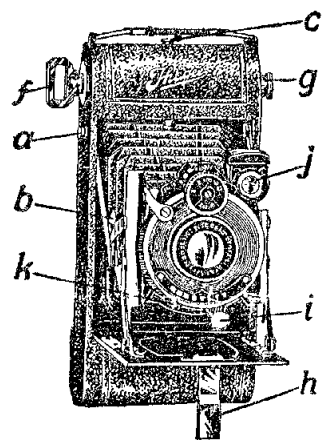


Fig. 5

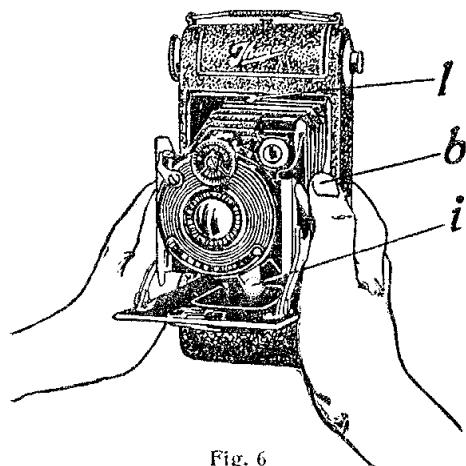


Fig. 6

sition, but is turned 90° to the left about its own axis for taking horizontal pictures. When the desired view is secured in the Finder, the shutter can be released.

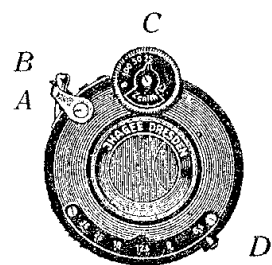
The Diaphragm. — Every shutter is fitted with a diaphragm or stop actuated by the lever "K", the moving of which will reduce or enlarge the lens aperture (area of stop). The reduction of the diaphragm results in better depth of focus, which is especially required for great depths where far and near points are equally sharp. If objects being, respectively, 3 and

6 metres (abt. 120 and 240 in.) distant from the camera are to appear equally sharp in the same picture, stopping down is necessary. It is advisable to choose a middle course and stop down to 12—18, though it should be taken into consideration that the smaller the stop is, the longer must be the exposure. Therefore, very little stopping down will be possible for instantaneous exposures, and small stops always involve time exposures.

Closing the Camera (Fig. 6). — Before closing the camera, return the finder to its normal position and turn the lens back to infinity, by moving the lever "I" to the right (when seen from the front). Depress with the thumbs lightly the pressers "B" to release the side struts and press the baseboard on to the camera until the catch "L" snaps audibly into position.

Shutters for Ihagee Cameras

The shutters used in connection with our cameras are briefly described below:



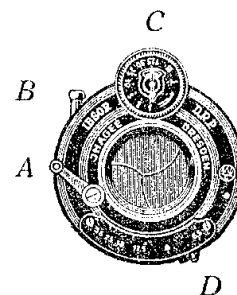
Shutter for time and instantaneous exposures $\frac{1}{25}$ – $\frac{1}{100}$ sec. The **Zenith Shutter** shown is of the automatic type, i. e.: it is always ready and need not be set. Exposure is made by depressing the finger release A or, if preferred, the wire release which can be screwed into the small nut B.

If **longer time exposures** are desired, adjust the milled disc C so that the letter Z is opposite the pointer. The shutter will now open by pressure on the release and remain open until a second pressure. When the release has been pressed after the shutter is set to Z, the latter is opened for long time exposures as often required for indoor work.

For **short time exposures** set the disc to B. If the release is pressed down now, the shutter will open but close again as soon as the pressure ceases so that both very short and longer exposures can be made.

When making **instantaneous exposures** or snapshots observe the following: The instantaneous shutter speeds stated are parts of a second; 25, for example, means $\frac{1}{25}$; 50, $\frac{1}{50}$; and 100, $\frac{1}{100}$ sec. According to the time of exposure ascertained, one of these three speeds should be chosen by turning the milled disc so that the pointer indicates the speed desired. Then depress the finger or wire release, whereupon the shutter will open, remain open for the time set, and close again automatically. The exposure is made now.

The **Diaphragm Scale** will be found below the lens. A small pointer D can be displaced to the right and left and easily set to the correct diaphragm in each case.



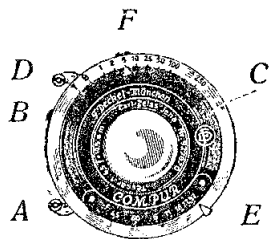
The **Ibsor Shutter** shown here is also an automatic one which is always ready and requires no setting. Exposure is made by the depression of the finger release A or, if preferred, of the wire release which may be screwed into the small nut B.

For **prolonged time exposures** turn the small milled disc C above the lens until the pointer is at Z. Pressure on the release will cause the shutter to open and a second pressure will close it again so that exposures of unlimited duration are possible.

For **short time exposures** turn the disc to B. Pressure on the release will open the shutter which will close again when the pressure ceases so that both very short and longer exposures can be made.

For **instantaneous and short time exposures** of definite duration set the disc to the time required, that is, to one of the figures on the disc. 1 is equal to 1 second, 2 to $\frac{1}{2}$, 5 to $\frac{1}{5}$, 10 to $\frac{1}{10}$ second, etc. Set the pointer to one of these figures, according to the time of exposure ascertained, and press the release. The shutter will then open, remain open for the time desired, and close again automatically. The snapshot is made.

The **Diaphragm Scale** will be found below the lens. A small pointer D can be displaced to the right and left and set to the correct diaphragm in each case.



The **Compur Shutter** is an ingeniously designed clockwork and should be treated as such. Above all, never use force and do not fail to read the instructions carefully. Exposure is made by pressing the finger release A or, if preferred, the wire release which can be screwed into the small nut B.

Explanation of Letters: Lever A serves for releasing the shutter. The wire release is screwed into the small nut B. By turning the disc C the various speeds are adjusted. By means of the lever D the shutter is set for snapshots, and the pointer E serves for setting the diaphragm. By being pushed back **after the shutter has been set** the button F will disengage the lever D for a second additional setting whereby the automatic release is set. However, the button F is found only on shutters provided with automatic release. Shutters lacking this device contain all the parts described with the exception of the button F.

Time Exposures: are made automatically, and the shutter need not be set. For longer time exposures the outer ring C is turned until the letter T is at the point marked. Pressure on the finger release A or on the wire release will open the shutter which remains open until the release is pressed again. In case of time exposures of shorter duration the letter B is moved to the marked point, and when the finger release A or the wire release is pressed, the shutter will open and remain open as long as the pressure lasts. This procedure is followed if exposures exceed 1 second.

Instantaneous Exposures: For instantaneous and short time exposures up to 1 second, turn the outer ring C until the

desired exposure time is at the marked point when the shutter will close automatically if opened. The figures marked on the ring, with the exception of 1, indicate fractions of a second, 2 being equal to $\frac{1}{2}$, 5 to $\frac{1}{5}$, 10 to $\frac{1}{10}$, etc., while at 1 the shutter will remain open a full second. When the desired time coincides with the marking, push up the tension lever in the direction of the arrow until it clicks. The shutter is now set and ready for exposure. Pressure on the finger release A or the wire release will cause the shutter to unwind by opening automatically, remaining open for the time set, and closing again. The shutter is then ready again for time exposures after the ring has been set to T or B, while every instantaneous exposure requires previous setting.

Correct Position of Diaphragm is Important! The Compur shutter is constructed so that if the letters T and B are on the index line, the tension lever D is locked, and in case of speeds ranging from 1 second to maximum, the time mechanism (T-B) is disengaged, an arrangement which prevents failures even if the camera is handled carelessly. The speeds increase without interruption from 1 second to $\frac{1}{100}$ sec., and it is possible to obtain intermediate speeds by setting between two figures, (for example, between $\frac{1}{50}$ and $\frac{1}{100} = \frac{1}{75}$ sec.). No intermediate speeds are possible between $\frac{1}{100}$ and maximum speed ($\frac{1}{200}$, $\frac{1}{250}$, $\frac{1}{300}$) or between B and 1 second. For maximum speeds arrange the time before setting the shutter, as it will be hardly possible after setting.

Automatic Release applies only to shutters which are fitted with an advance mechanism and the button F. If you wish to appear in the picture to be taken, set the shutter as described and push back the knob F located on the edge, whereby additional tensioning of the lever D is made possible and the

automatic release will be set. Release takes place in the regular way by depressing the lever A or the wire release, whereupon the automatic release will release the shutter in about 12 seconds and exposure be made according to the time set. The shutter is now set again for normal work, and it is necessary to proceed as described if one wishes to take a picture of oneself. The automatic release can be employed for all instantaneous speeds stated with the exception of the maximum ones ($1/250$ to $1/300$).

Exposure Table

Table "A" lists the subjects and Table "B" shows at a glance the correct exposure at an aperture of F/12.5 in sunshine, taking into account the month and the hour, and at a plate speed of 275° H. & D. If the speed is 450° H. & D., only one-half of the time should be taken, and at 130° H. & D. the time should be doubled. When the sky is cloudy, double the exposure, and in very dull weather, treble it.

If the aperture is not F/12.5, look at Table "C" where the correct exposure for any aperture is given on the same line on which the time for F/12.5 is stated.

Table "A"

- 1 = Open Landscapes, Beach Scenes.
- 2 = Landscape with Foreground, Street Scenes,
Studio Work.
- 3 = Architectural Subjects, Portraits, Outdoors.
- 4 = Light Interiors, Portraits in Room.

Table "C", Times of Exposure for other Lens Apertures

F/4.5	F/5.6	F/6.8	F/8	F/11	F/16	F/22	F/32
$\frac{1}{400}$	$\frac{1}{250}$	$\frac{1}{160}$	$\frac{1}{128}$	$\frac{1}{64}$	$\frac{1}{32}$	$\frac{1}{16}$	$\frac{1}{8}$
$\frac{1}{192}$	$\frac{1}{128}$	$\frac{1}{80}$	$\frac{1}{64}$	$\frac{1}{32}$	$\frac{1}{16}$	$\frac{1}{8}$	$\frac{1}{4}$
$\frac{1}{125}$	$\frac{1}{80}$	$\frac{1}{60}$	$\frac{1}{40}$	$\frac{1}{25}$	$\frac{1}{10}$	$\frac{1}{6}$	$\frac{1}{3}$
$\frac{1}{96}$	$\frac{1}{64}$	$\frac{1}{40}$	$\frac{1}{32}$	$\frac{1}{16}$	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{2}$
$\frac{1}{96}$	$\frac{1}{60}$	$\frac{1}{40}$	$\frac{1}{30}$	$\frac{1}{15}$	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{2}$
$\frac{1}{72}$	$\frac{1}{40}$	$\frac{1}{32}$	$\frac{1}{20}$	$\frac{1}{10}$	$\frac{1}{5}$	$\frac{3}{8}$	$\frac{3}{4}$
$\frac{1}{48}$	$\frac{1}{32}$	$\frac{1}{20}$	$\frac{1}{16}$	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{2}$	1
$\frac{1}{48}$	$\frac{1}{30}$	$\frac{1}{20}$	$\frac{1}{15}$	$\frac{1}{7}$	$\frac{1}{3}$	$\frac{1}{2}$	1
$\frac{1}{40}$	$\frac{1}{25}$	$\frac{1}{18}$	$\frac{1}{13}$	$\frac{1}{6}$	$\frac{1}{3}$	$\frac{5}{8}$	$1\frac{1}{4}$
$\frac{1}{40}$	$\frac{1}{24}$	$\frac{1}{18}$	$\frac{1}{12}$	$\frac{1}{6}$	$\frac{1}{3}$	$\frac{3}{4}$	$1\frac{1}{4}$
$\frac{1}{36}$	$\frac{1}{20}$	$\frac{1}{16}$	$\frac{1}{10}$	$\frac{1}{5}$	$\frac{3}{8}$	$\frac{3}{4}$	$1\frac{1}{2}$
$\frac{1}{36}$	$\frac{1}{18}$	$\frac{1}{16}$	$\frac{1}{9}$	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{7}{8}$	$1\frac{1}{2}$
$\frac{1}{24}$	$\frac{1}{16}$	$\frac{1}{10}$	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{2}$	1	2
$\frac{1}{24}$	$\frac{1}{14}$	$\frac{1}{10}$	$\frac{1}{7}$	$\frac{1}{3}$	$\frac{5}{8}$	$1\frac{1}{8}$	$2\frac{1}{4}$
$\frac{1}{20}$	$\frac{1}{12}$	$\frac{1}{9}$	$\frac{1}{6}$	$\frac{1}{3}$	$\frac{5}{8}$	$1\frac{1}{4}$	$2\frac{1}{2}$
$\frac{1}{18}$	$\frac{1}{10}$	$\frac{1}{8}$	$\frac{1}{5}$	$\frac{3}{8}$	$\frac{3}{4}$	$1\frac{1}{2}$	3
$\frac{1}{12}$	$\frac{1}{8}$	$\frac{1}{5}$	$\frac{1}{4}$	$\frac{1}{2}$	1	$1\frac{3}{4}$	$3\frac{1}{2}$
$\frac{1}{10}$	$\frac{1}{6}$	$\frac{7}{32}$	$\frac{1}{3}$	$\frac{1}{2}$	1	$2\frac{1}{4}$	$4\frac{1}{2}$
$\frac{1}{9}$	$\frac{1}{5}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{3}{4}$	$1\frac{1}{2}$	3	6
$\frac{1}{6}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	1	2	4	7
$\frac{7}{32}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	$1\frac{1}{4}$	$2\frac{1}{2}$	5	8
$\frac{1}{5}$	$\frac{1}{3}$	$\frac{7}{16}$	$\frac{5}{8}$	$1\frac{1}{4}$	$2\frac{1}{2}$	5	10
$\frac{1}{3}$	$\frac{1}{2}$	$\frac{3}{4}$	1	2	4	8	16
$\frac{3}{4}$	1	$1\frac{1}{2}$	$2\frac{1}{4}$	$3\frac{1}{2}$	8	16	32

Table "B", Times of Exposure for F/11

A. M.	6 o'clock	7 o'clock	8 o'clock	9 o'clock	10 o'clock	11 o'clock
P. M.	6 o'clock	5 o'clock	4 o'clock	3 o'clock	2 o'clock	1 o'clock
	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4
January				$\frac{3}{8}$ $\frac{3}{4}$ 2	$\frac{1}{5}$ $\frac{1}{3}$ $\frac{3}{4}$	$\frac{1}{8}$ $\frac{1}{4}$ $\frac{1}{2}$ 1
Febr.			$\frac{3}{8}$ $\frac{3}{4}$ 2	$\frac{1}{4}$ $\frac{1}{2}$ 1	$\frac{1}{6}$ $\frac{3}{8}$ $\frac{1}{2}$	$\frac{1}{10}$ $\frac{1}{5}$ $\frac{3}{8}$ $\frac{3}{4}$
March		$\frac{1}{3}$ $\frac{1}{2}$ 1	$\frac{1}{6}$ $\frac{1}{3}$ $\frac{1}{2}$	$\frac{1}{10}$ $\frac{1}{5}$ $\frac{1}{2}$ 1	$\frac{1}{10}$ $\frac{1}{6}$ $\frac{3}{8}$ $\frac{1}{2}$	$\frac{1}{16}$ $\frac{1}{8}$ $\frac{1}{4}$ $\frac{1}{3}$
April	$\frac{1}{3}$ $\frac{1}{2}$ 1	$\frac{1}{6}$ $\frac{3}{8}$ $\frac{1}{2}$	$\frac{1}{10}$ $\frac{1}{5}$ $\frac{3}{8}$ 1	$\frac{1}{16}$ $\frac{1}{8}$ $\frac{1}{4}$ $\frac{1}{2}$	$\frac{1}{16}$ $\frac{1}{10}$ $\frac{1}{3}$ $\frac{3}{8}$	$\frac{1}{25}$ $\frac{1}{10}$ $\frac{1}{5}$ $\frac{1}{4}$
May	$\frac{1}{5}$ $\frac{3}{8}$ $\frac{3}{4}$ $3\frac{1}{2}$	$\frac{1}{8}$ $\frac{1}{5}$ $\frac{3}{8}$ 1	$\frac{1}{16}$ $\frac{1}{8}$ $\frac{1}{4}$ $\frac{1}{2}$	$\frac{1}{32}$ $\frac{1}{10}$ $\frac{1}{5}$ $\frac{1}{3}$	$\frac{1}{32}$ $\frac{1}{15}$ $\frac{1}{7}$ $\frac{1}{6}$	$\frac{1}{32}$ $\frac{1}{16}$ $\frac{1}{8}$ $\frac{1}{6}$
June	$\frac{1}{8}$ $\frac{1}{4}$ $\frac{1}{2}$ 2	$\frac{1}{10}$ $\frac{1}{6}$ $\frac{1}{3}$ $\frac{3}{4}$	$\frac{1}{16}$ $\frac{1}{8}$ $\frac{1}{4}$ $\frac{1}{2}$	$\frac{1}{32}$ $\frac{1}{10}$ $\frac{1}{5}$ $\frac{1}{3}$	$\frac{1}{32}$ $\frac{1}{15}$ $\frac{1}{7}$ $\frac{1}{6}$	$\frac{1}{32}$ $\frac{1}{16}$ $\frac{1}{8}$ $\frac{1}{6}$
July	$\frac{1}{6}$ $\frac{1}{3}$ $\frac{1}{2}$ $3\frac{1}{2}$	$\frac{1}{10}$ $\frac{1}{5}$ $\frac{3}{8}$ 1	$\frac{1}{16}$ $\frac{1}{8}$ $\frac{1}{4}$ $\frac{1}{2}$	$\frac{1}{32}$ $\frac{1}{10}$ $\frac{1}{5}$ $\frac{1}{4}$	$\frac{1}{32}$ $\frac{1}{15}$ $\frac{1}{7}$ $\frac{1}{6}$	$\frac{1}{32}$ $\frac{1}{16}$ $\frac{1}{8}$ $\frac{1}{6}$
August	$\frac{1}{3}$ $\frac{1}{2}$ $1\frac{1}{4}$	$\frac{1}{6}$ $\frac{1}{3}$ $\frac{1}{2}$	$\frac{1}{8}$ $\frac{1}{4}$ $\frac{1}{2}$ $1\frac{1}{4}$	$\frac{1}{10}$ $\frac{1}{6}$ $\frac{1}{4}$ $\frac{1}{2}$	$\frac{1}{16}$ $\frac{1}{10}$ $\frac{1}{5}$ $\frac{1}{3}$	$\frac{1}{25}$ $\frac{1}{10}$ $\frac{1}{5}$ $\frac{1}{4}$
Sept.		$\frac{1}{3}$ $\frac{1}{2}$ $1\frac{1}{4}$	$\frac{1}{6}$ $\frac{1}{3}$ $\frac{1}{2}$	$\frac{1}{4}$ $\frac{1}{3}$ $\frac{1}{2}$ $1\frac{1}{4}$	$\frac{1}{10}$ $\frac{1}{6}$ $\frac{1}{3}$ 1	$\frac{1}{15}$ $\frac{1}{6}$ $\frac{1}{3}$ $\frac{1}{2}$
Oct.			$\frac{1}{3}$ $\frac{1}{2}$ $1\frac{1}{4}$	$\frac{1}{4}$ $\frac{1}{2}$ 1 2	$\frac{1}{7}$ $\frac{1}{4}$ $\frac{1}{2}$ 2	$\frac{1}{8}$ $\frac{1}{4}$ $\frac{1}{2}$ 1
Nov.				$\frac{3}{3}$ $\frac{3}{4}$ 2	$\frac{1}{4}$ $\frac{1}{2}$ 1	$\frac{1}{6}$ $\frac{1}{3}$ $\frac{1}{2}$ $1\frac{1}{4}$
Dec.				$\frac{1}{2}$ 1 $3\frac{1}{2}$	$\frac{1}{3}$ $\frac{1}{2}$ $1\frac{1}{4}$	$\frac{1}{5}$ $\frac{1}{3}$ 1