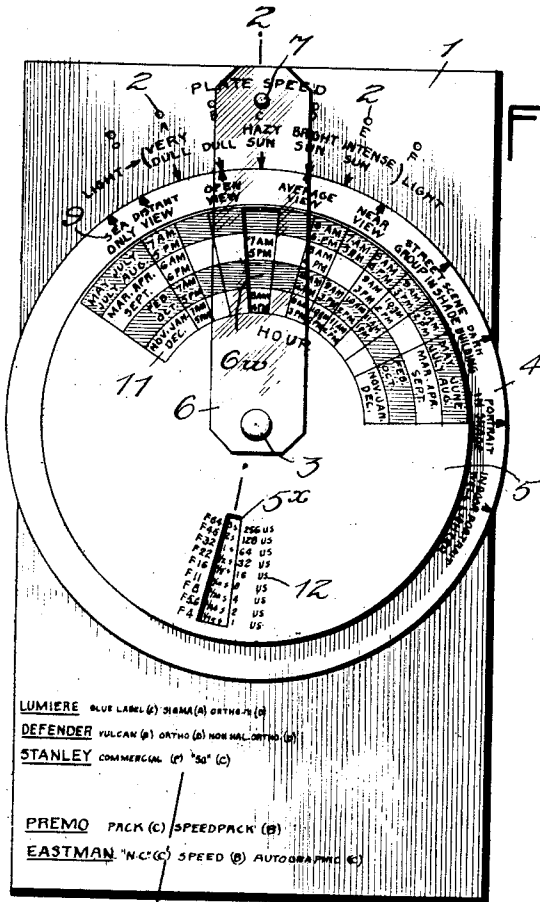


W. W. VENABLE.
EXPOSURE METER.
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1,207,448.

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EXPOSURE-METER.

1,207,448.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM W. VENABLE, a citizen of the United States, and a resident of Charleston, in the county of Kanawha and State of West Virginia, have invented certain new and useful Improvements in Exposure-Meters, of which the following is a specification.

My invention relates to improvements in exposure meters for use in photography, and it consists in the combinations, constructions, and arrangements herein described and claimed.

An object of my invention is to provide a simple and handy device by means of which the time of exposure may be quickly ascertained under varying conditions of light, kind of plate or film used, time of the year, number of the stop, etc.

A further object of my invention is to provide a device of the type described which is exceedingly simple in operation, but which shows at a glance the exposure time for a whole series of stop values, this series being arranged radially and being viewed through a panel or window.

Other objects and advantages will appear in the following specification, and the novel features of the invention will be particularly pointed out in the appended claims.

My invention is illustrated in the accompanying drawings forming part of this application, in which—

Figure 1 is a face view of the device as assembled. Fig. 2 is a section along the line 2—2 of Fig. 1. Fig. 3 is a face view of one of the rotatable tables, and Fig. 4 is a perspective view of a movable transparent arm.

In carrying out my invention, I provide a base portion 1 which may consist of any suitable material, such as cardboard. At the top of the base 1 is provided a series of holes 2 arranged on the arc of a circle. It will be noted that these holes are provided with indicating marks, such as those shown at A, B, C, etc.

Referring to the bottom of the base portion, it will be seen that I have provided a partial list of plates and films of standard make. These plates or films have indicating letters which correspond with the letters adjacent to the openings 2. In the drawing I have shown only a few of the names of the plates and films of standard make, but it will be understood that a comparatively

small card is entirely sufficient for containing the names of all of the standard makes of plates or films in ordinary use.

Pivotally mounted at 3 is a circular plate 4, preferably of cardboard and extending slightly beyond the edge of the base portion 1, while concentrically mounted is a circular disk 5 having a diameter less than that of the member 4. An arm 6 which is made of some transparent material, such as celluloid or the like, is also pivotally mounted at 3, and is provided with an opening 7 arranged to register with the openings 2 as the arm 6 is shifted on its pivot 3. I find that it is convenient to make use of a flexible brass fastener for the pivot 3, and also to use a smaller fastener 8 to secure the arm 6 in its adjusted position, see Fig. 2.

Referring again to the base portion 1, it will be seen that the light conditions are arranged in an arc concentric with the disks 4 and 5. The disk 4 is provided on its outer edge with indicating marks for indicating the kind of view to photographed. These are shown at 9. At 10 I have shown a table made up of concentric rows provided with numerals and arranged in such a way that a series of radially extending tables is formed, these tables indicating exposure times for particular stop values.

Upon the disk 5 is a series of concentric circles marked with the months of the year and also with the hours of the day.

The plate arm 6 is provided with a window 6* which is arranged to register with those numerals indicating the hours of the day and which, as will be seen, are formed in radiating tables similar to the exposure time.

The disk 5 is provided with a window or opening 5* and on each side thereof are stop values 12.

From the foregoing description of the various parts of the device, the operation thereof will be readily understood.

With a device similar to that shown in Fig. 1, let us assume that it is desired to find the time of exposure for an average view, in bright sunlight, at seven o'clock a. m., on a day in April, with a 16 U. S. stop. Let us further assume that the exposure is to be made on a Premo film pack film.

The plate arm 6 is first moved to the position in which the opening 7 registers with the opening C in the base 1, since

this is the position which is indicated by noting the character C after the words "Premio pack" under the heading "Films," at the bottom of the base member 1. The disk 4 is now turned until the designation "Average view" coincides with the designation "Bright sun."

The concentric row on the disk 5 in which the month of April appears is found, and the hour, seven a. m. is brought under the window 6^w. The table for the correct exposure time will appear at the window 5^x, and on noting the figures opposite the stop value 16 U. S. it will be observed that the time is given as $\frac{1}{8}$ of a second. Obviously any other exposure time may be ascertained by similar procedure.

I claim:—

1. A time exposure meter for photographic purposes, which consists of a flat base, a circular disk mounted for rotation on said base, a second disk mounted for rotation on the face of said first named circular disk, a rotatable arm mounted on the face of said second named circular disk, said disks and said arm having a common pivot and said arm projecting beyond the edge of said first named disk, said base having a series of holes disposed in arc-shaped arrangement concentric with said disks, said arm being provided with an opening arranged to register with any of said holes and being provided with a window, said first named disk having a series of radially extending tables, said second named disk being provided with an opening arranged to register with said tables and having a series of radially extending tables arranged to register with the window in said arm.

2. A time exposure meter for photographic purposes, consisting of a base portion having a series of indicating marks arranged in arc-shaped form, and a series of data indicating the kind of light arranged in arc-shaped form, a rotatable disk having on its edge a series of data indicating the kind of views, a second rotatable disk mounted on said first named rotatable disk, a pivoted arm mounted on said second named rotatable disk, said disk and said arm having a common pivotal point and

each of said disks being provided with certain data, said arm having a window arranged to expose to view the data on said second named disk, and said second named disk having a window for exposing to view certain data on said first named disk.

3. In an exposure meter, a base member having a plurality of sets of indicating marks arranged in arc-shaped form thereon, a rotatable disk mounted on said base member and having indicating marks arranged to register with one of said sets of indicating marks and being provided with a series of radially extending indicating tables, a second rotatable disk mounted on the face of the first rotatable disk, a rotatable arm having an indicating mark arranged to register with another set of indicating marks on said base, each of said disks being provided with indicating tables on the surface thereof, said arm having a window arranged to expose the tables on said second named disk, and said second named disk having a window arranged to expose the tables on said first named disk.

4. In an exposure meter, a base member having a plurality of sets of indicating marks arranged in arc-shaped form thereon, a rotatable disk mounted on said base member and having indicating marks arranged to register with one of said sets of indicating marks and being provided with a series of radially extending indicating tables, a second rotatable disk mounted on the face of the first rotatable disk, a rotatable arm having an indicating mark arranged to register with another set of indicating marks on said base, each of said disks being provided with indicating tables on the surface thereof, said arm having a window arranged to expose the tables on said second named disk, and said second named disk having a window arranged to expose the tables on said first named disk, said second named disk also being provided with a series of stop value indicating marks on the edges of the window, each of said marks corresponding to one of the exposure time value marks on said first named disk.

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