No. 665,615. Patented Jan. 8, 1901.

G. E. MELLEN.

VIEW FINDING INSTRUMENT FOR CAMERAS.

(Application filed May 2, 1900.)

(No Model.)

Fig 1

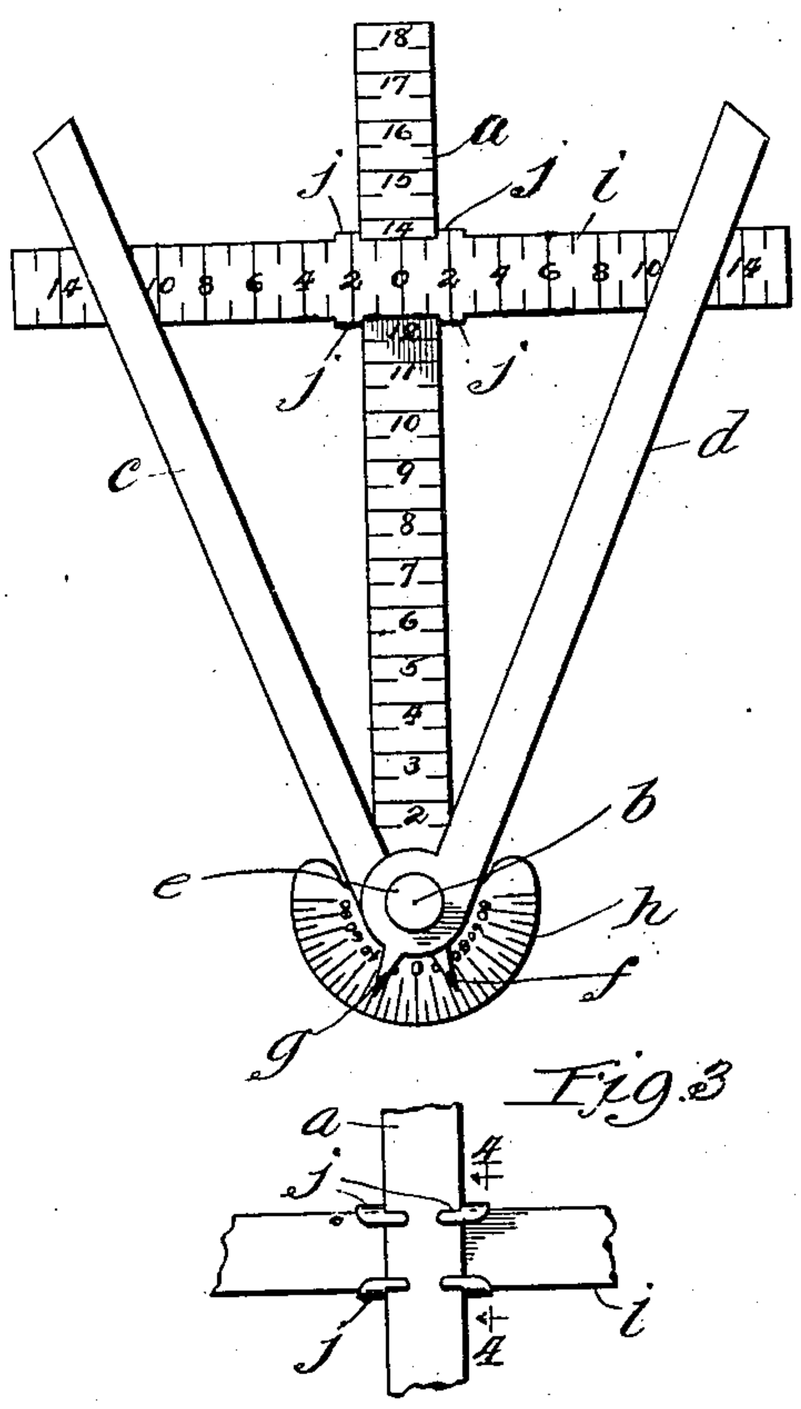


Fig 2

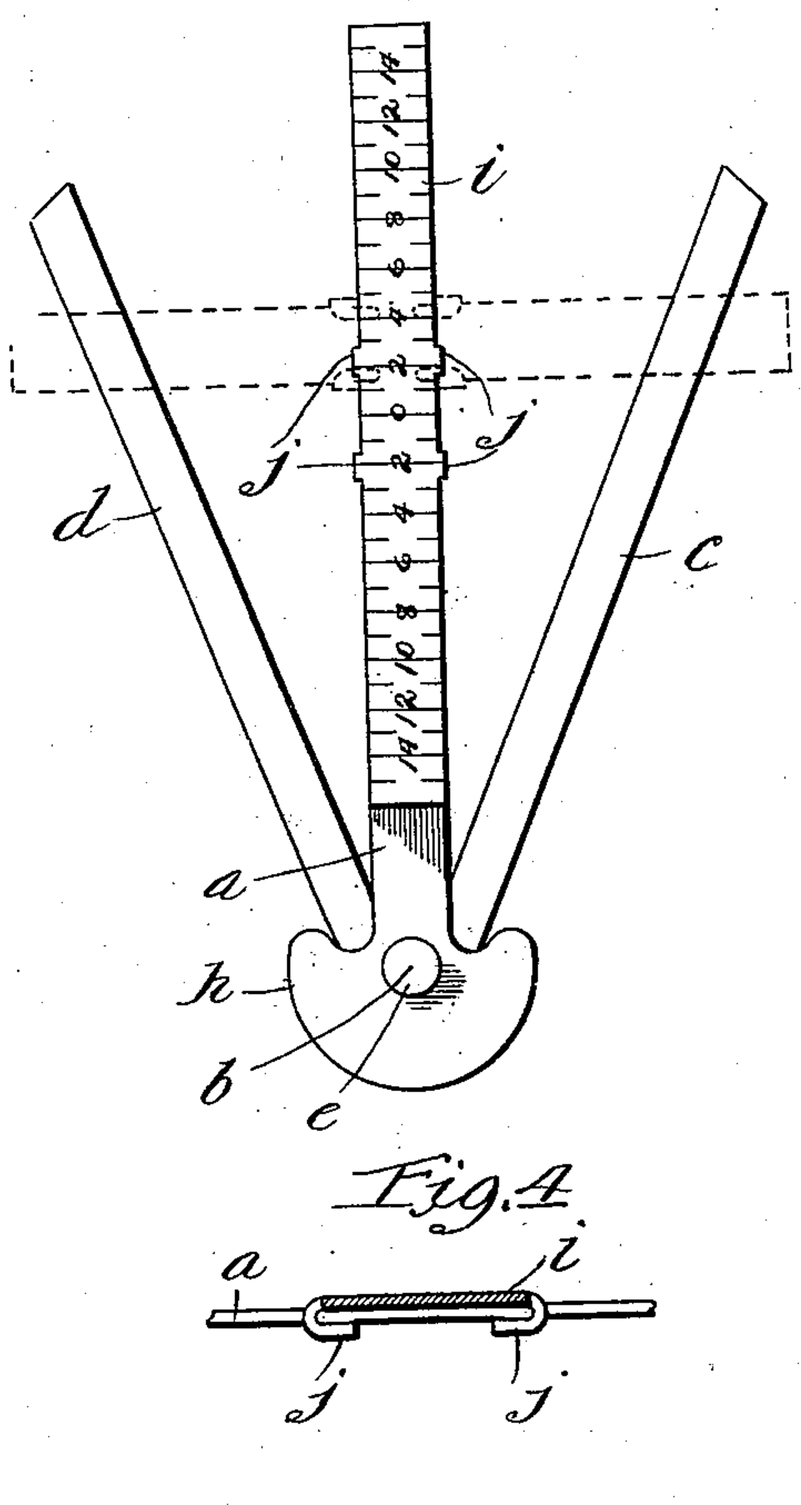


Fig. 3

Fig. 4

Fig. 5.

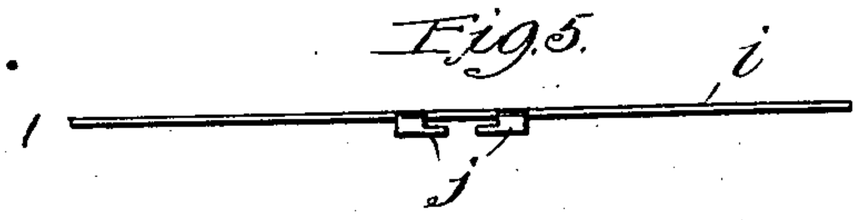
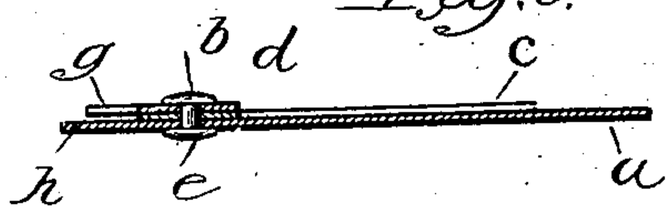


Fig. 6.



Witnesses
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UNITED STATES PATENT OFFICE.

GEORGE EGBERT MELLEN, OF CHICAGO, ILLINOIS.

VIEW-FINDING INSTRUMENT FOR CAMERAS.

SPECIFICATION forming part of Letters Patent No. 665,615, dated January 8, 1901.

Application filed May 2, 1900. Serial No. 15,201. (No model.)

To all whom it may concern:

Be it known that I, GEORGE EGBERT MELLEN, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in View-Finding Instruments for Cameras, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in which corresponding letters of reference in the different figures indicate like parts.

The primary object of my invention is to provide a simple and cheap instrument which may be folded into a compact space and so constructed that it may be used in connection with photographic cameras for determining the field which may be represented upon a photographic plate of a given size, the focus of the lens being known, without setting up the camera.

A further object is to provide means in connection with said instrument for determining at a glance the angle of a lens showing a given field and length of focus.

To these ends my invention consists in the combination of elements hereinafter more particularly described and specifically pointed out in the claims.

In the drawings, Figure 1 is a face view of an instrument embodying the features of my invention, the same being shown as it would appear when adjusted for use. Fig. 2 is a rear view thereof, showing the cross-bar in the position in which it would appear when the instrument is folded. Fig. 3 is a rear view of portions of the main bar and cross-bar, showing the manner of adjustably connecting the same for use. Fig. 4 is a transverse sectional view taken upon the line 4 4, Fig. 3. Fig. 5 is an edge view of the cross-bar; and Fig. 6 is a central longitudinal sectional view of said instrument as it would appear when folded, the section being taken through the main bar *a*.

Referring to the drawings, *a* represents a flat bar or piece of sheet metal of uniform thickness and width upon which is indicated a graduated scale, as shown, representing inches or such other standard of measurement as may be adopted. The scale commences at the zero-point *b* and is carried outwardly to any desired extent. Pivoted to the bar *a* at the point *b* are straight flat bars or arms *c d*, which are attached by means of a rivet or other analogous device in such a way as to exert a slight frictional action upon said arms, so as to hold them in any desired position when adjusted. Indicators or pointers *f g* are formed upon the arms *c d*, respectively at the pivoted ends of said arms, said indicators being in operative proximity to a graduated protractor-scale formed upon the enlarged semicircular end *h* of the bar *a*. Said pointers, respectively, are in alinement with the inner edges of the arms to which they are attached, which are also in alinement with the pivotal axes of said arms.

A detachable cross-bar *i* of a width corresponding to the bar *a* is provided with four lugs or flanges *j* near its middle, so bent and adjusted as to fit over the bar *a* and hold the two bars in engagement with each other whether the bar *i* be placed at right angles to the bar *a*, as shown in Figs. 1, 3, and 4 and indicated in dotted lines in Fig. 2, or arranged lengthwise of it, as shown in said last-named figure. The cross-bar *i* is provided with a graduated scale bearing the same units of measurement as the bar *a*, except that the scale commences at the middle, as shown, and runs in opposite directions.

My improved instrument may be used in the following manner: The zero-point *b* is intended to represent the position of the lens of a photographic camera, the scale upon the bar *a* the foci of different lenses, and the scale of the cross-bar the length or width, as the case may be, of different-sized sensitive plates used in the camera. Assuming the back focus of the lens to be twelve and one-half inches and the size of the plate used to be ten inches, in order to determine by the use of the instrument the "field" which would be shown upon the plate, the cross-bar upon the bar *a* is adjusted to the position shown in Fig. 1, when the arms *c d* are caused to diverge until the inner edge of each is brought to the figure "10." The instrument may then be held in the hand or placed flatwise upon any stationary object, when the user sighting across the point

b lengthwise of the arms is enabled to determine at a glance the field of view which would be shown upon the plate. By looking at the indicators *f g* the angle of the lens may also be determined.

By means of my improved device one may be enabled to select vantage points of view adapted to different lenses and different-sized plates without setting up a camera at all, the importance of which is obvious to photographers. Moreover, the instrument is especially applicable to interior work, where it is often impossible to determine the field without resort to special and unsatisfactory expedients.

My improved instrument while especially designed for the purpose described is also applicable to other uses. It may not only be employed to advantage as a drafting instrument, but may be used in working out problems of construction. A carpenter, for example, may at once determine the "pitch" of a rafter by causing the scales *a i* to represent the base and perpendicular, respectively, and one of the arms *d* or *c* the rafter.

Having thus described my invention, I claim—

1. The combination of the graduated bars *a i*, means for adjustably and detachably securing one to the other, adjustable arms *c d* pivoted upon a common axis to the bar *a*, protractor *h* and pointers *f g*, substantially as and for the purposes specified.

2. The combination of the graduated bars *a i* and pivoted bars *c d*, the bar *i* being provided with means for detachably and adjustably securing it to the bar *a* either at right angles to or lengthwise thereof, substantially as and for the purposes specified.

In testimony whereof I have signed this specification, in the presence of two subscribing witnesses, this 30th day of April, 1900.

GEORGE EGBERT MELLEN.

Witnesses:

D. H. FLETCHER,

WARREN BLILES.