(No Model.)

H. A. W. BRAUNE.

Solar Camera.

No. 243,497. **Patented June 28, 1881.**

Fig: 1.

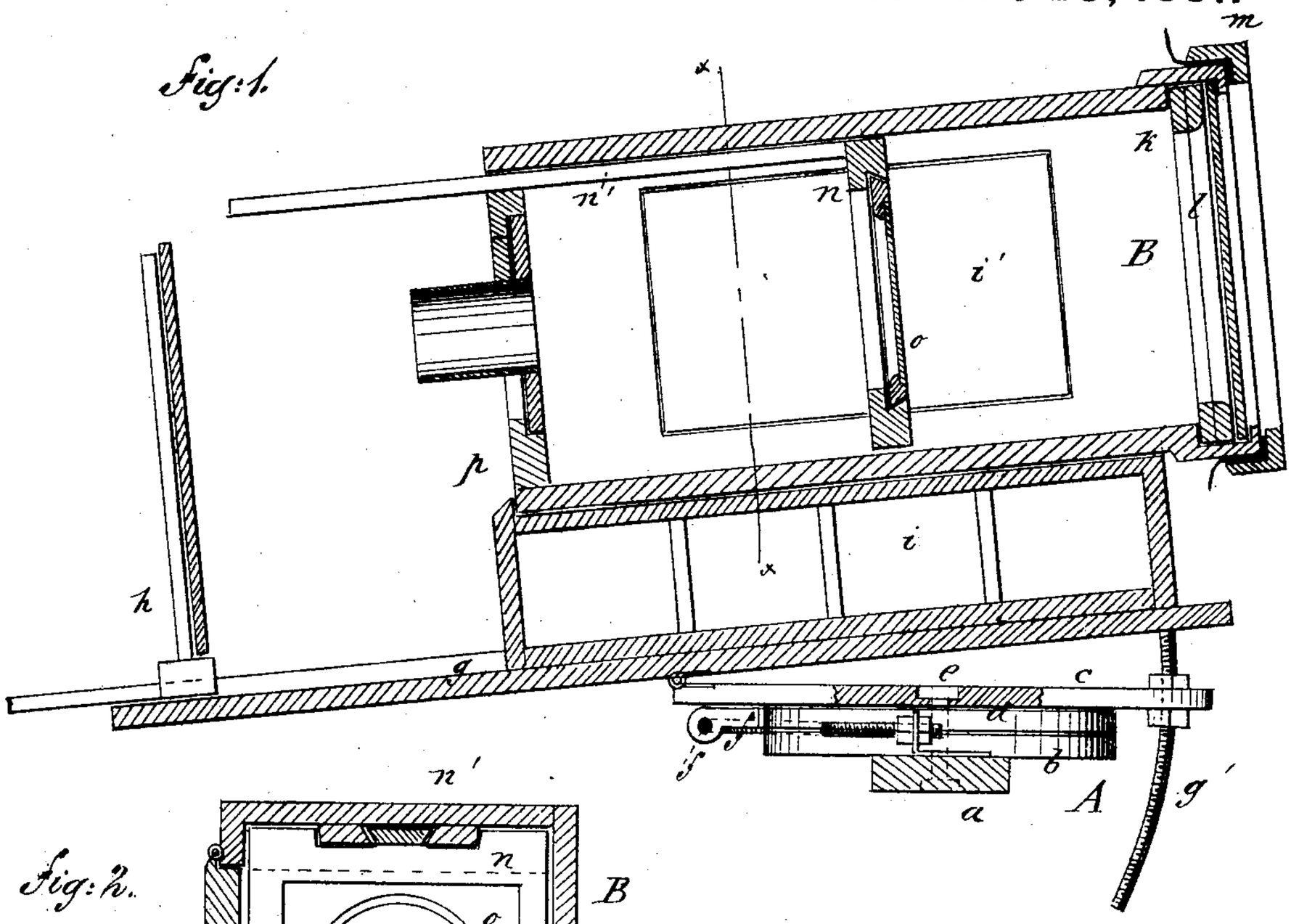


Fig: 2.

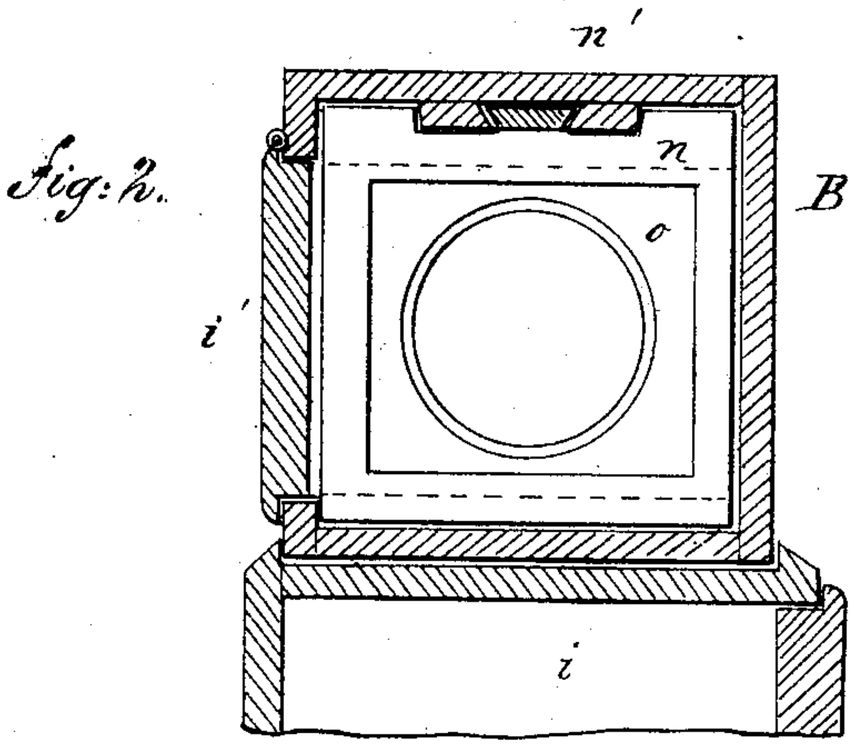
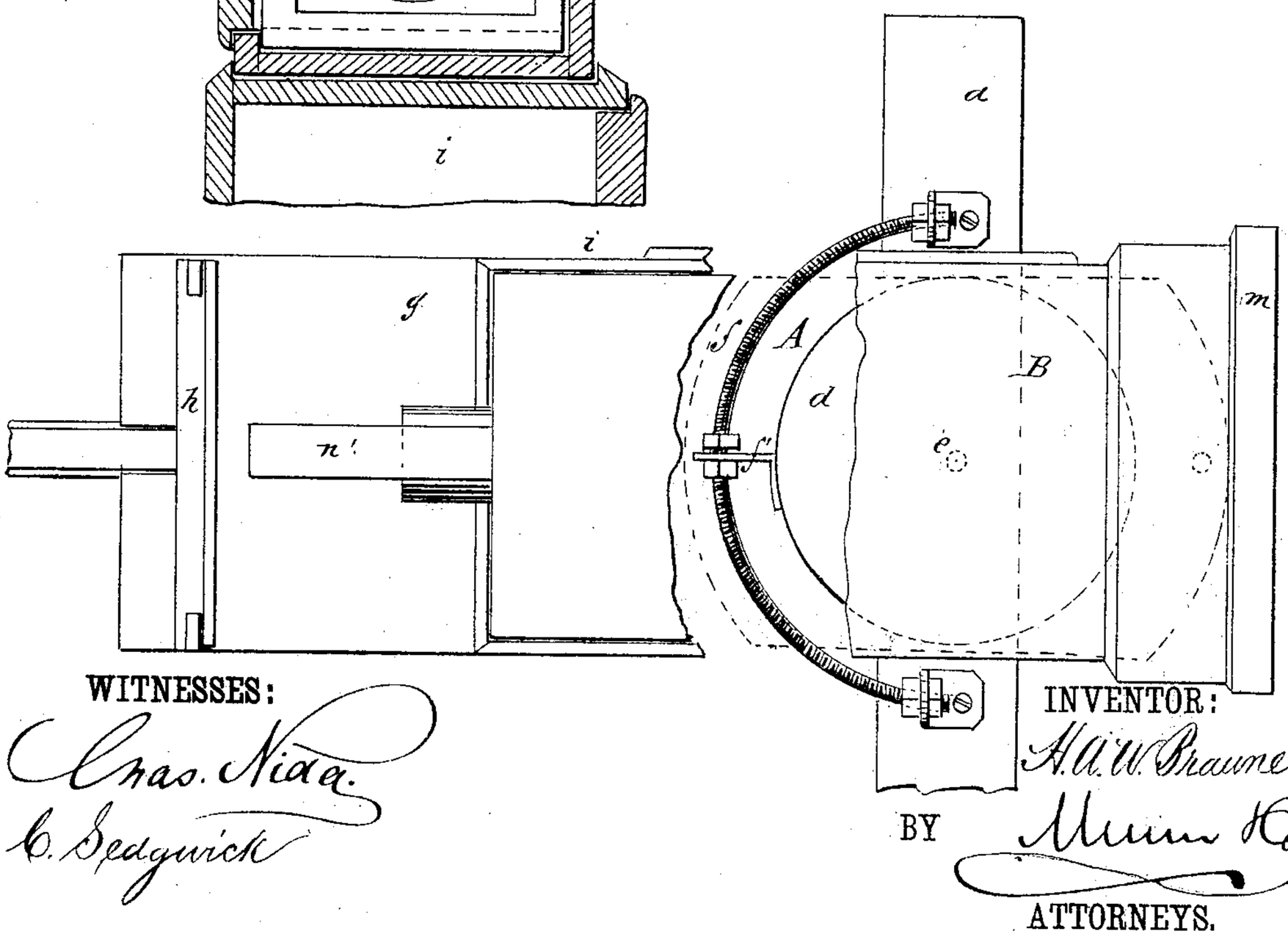


Fig: 3.



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UNITED STATES PATENT OFFICE.

HEINRICH A. W. BRAUNE, OF MEMPHIS, MISSOURI, ASSIGNOR OF ONE-THIRD TO WENDELL ZUMSTEG, OF SAME PLACE.

SOLAR CAMERA.

SPECIFICATION forming part of Letters Patent No. 243,497, dated June 28, 1881.

Application filed August 23, 1880. (No model.)

To all whom it may concern:

Be it known that I, HEINRICH A. W. BRAUNE, of Memphis, in the county of Scotland and State of Missouri, have invented a new Improvement in Solar Cameras, of which the following is a specification.

The object of my invention is to furnish a cheap and efficient solar camera in a portable form.

The construction and operation will be described in detail with reference to the accompanying drawings, forming part of the specification.

In the accompanying drawings, Figure 1 is a vertical longitudinal section of my improved camera. Fig. 2 is a cross-section of the same on line *x x* of Fig. 1. Fig. 3 is a plan view with the box partially removed to show the base more clearly.

Similar letters of reference indicate corresponding parts.

A is the supporting-base of the instrument, consisting of cross-bar *a*, fitted with a circular disk, *b*, and board *c*, fitted upon an upper disk, *d*, these parts being connected together by a central pin, *e*, so that the upper disk, *d*, with the parts it supports, may turn on the disk *b*.

To the cross-bar *a* is attached a screw-rod, *f*, which is bent in semi-annular form and extends through a plate, *f'*, that projects from the upper disk, *d*. There are nuts on screw *f*, at opposite sides of plate *f'*, to retain the disk in place as turned.

Upon the board *c* is hinged a board, *g*, which is provided at one end with a screw-rod, *g'*, that extends through the board *c* and carries nuts for clamping the screw-rod to the board *c*, and retaining-board *d*, in a more or less inclined position. By this construction the proper inclination and east-and-west adjustment of the camera may be obtained.

The board *g* is fitted with the printing-slide *h*, which consists of a cross-bar retained in suitable slideways, and carrying uprights for supporting the printing-frame.

Upon the board *d* is also fixed a box, *i*, that is divided by partitions and provided with a hinged door at one side, whereby the box is adapted as a receptacle for chemicals and negatives. The box *i* also supports the camera-box B, which is retained in place by the raised edges on the upper side of box *i*. The camera-box B is formed at its upper end with a rabbet for receiving the frame *k* of the condensing-lens, and also with grooves for a shutter, *l*, by which the light may be cut off, more or less, from the lens. The lens-frame *k* sets snugly in the rabbet, and is retained in place by the shutter, so that when the latter is removed the frame may be taken out.

m is a rectangular frame adapted for setting over the end of box B, and provided with a cloth for use to exclude the light from the print.

Within the box B is an apertured slide, *n*, fitted for movement from the outside by a bar, *n'*, and also fitted with a frame, *o*, that is adapted for receiving the negative. The slide *n* is formed with undercut rabbets at two opposite sides of its central aperture, which receive and retain the frame *o*, and at the side of box B is a door, *i'*, by which access may be had to the negative-frame for removing the same.

In the lower end of the box B is fitted a movable plate, *p*, that closes the end of the box, and will carry the lens-tube.

In using the apparatus the frame *o*, fitted with the negative, is to be placed in the slide *n* and the slide then moved to or from the condensing-lens according to the size of portrait. The plate *p*, carrying the lens-tube, is also to be moved in the box B to or from the condensing-lens, according to the size of print.

The light may be partially excluded by means of the cloth carried by frame *m*, or cut off from the whole of the print by the shutter *l*.

The advantages of this camera may be stated as follows: The instrument is light and portable, and may be readily taken apart or set up, as required. Any ordinary tube may be used in the instrument, and no extra tubes are required. The print being detached from the camera-box, the printing may be watched and the light regulated according to the shades desired. The instrument may be readily handled and managed by one person.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a solar camera, the supporting-base

consisting of the bar *a*, disks *b d*, and hinged boards *c g*, with the screws *f* and *g'*, provided with clamping-nuts, combined substantially as shown and described.

2. The combination, in a camera, of a negative-carrying slide, a plate carrying a focusing-tube and lens, a printing-slide, and a supporting-base, all constructed and arranged substantially as shown and described.

HEINRICH AUGUST W. BRAUNE.

Witnesses:
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