

No. 754,893.

PATENTED MAR. 15, 1904.

J. A. ROBERTSON.
PHOTOGRAPHIC VIEW FINDER.

APPLICATION FILED JAN. 26, 1903.

NO MODEL.

Fig. 1.

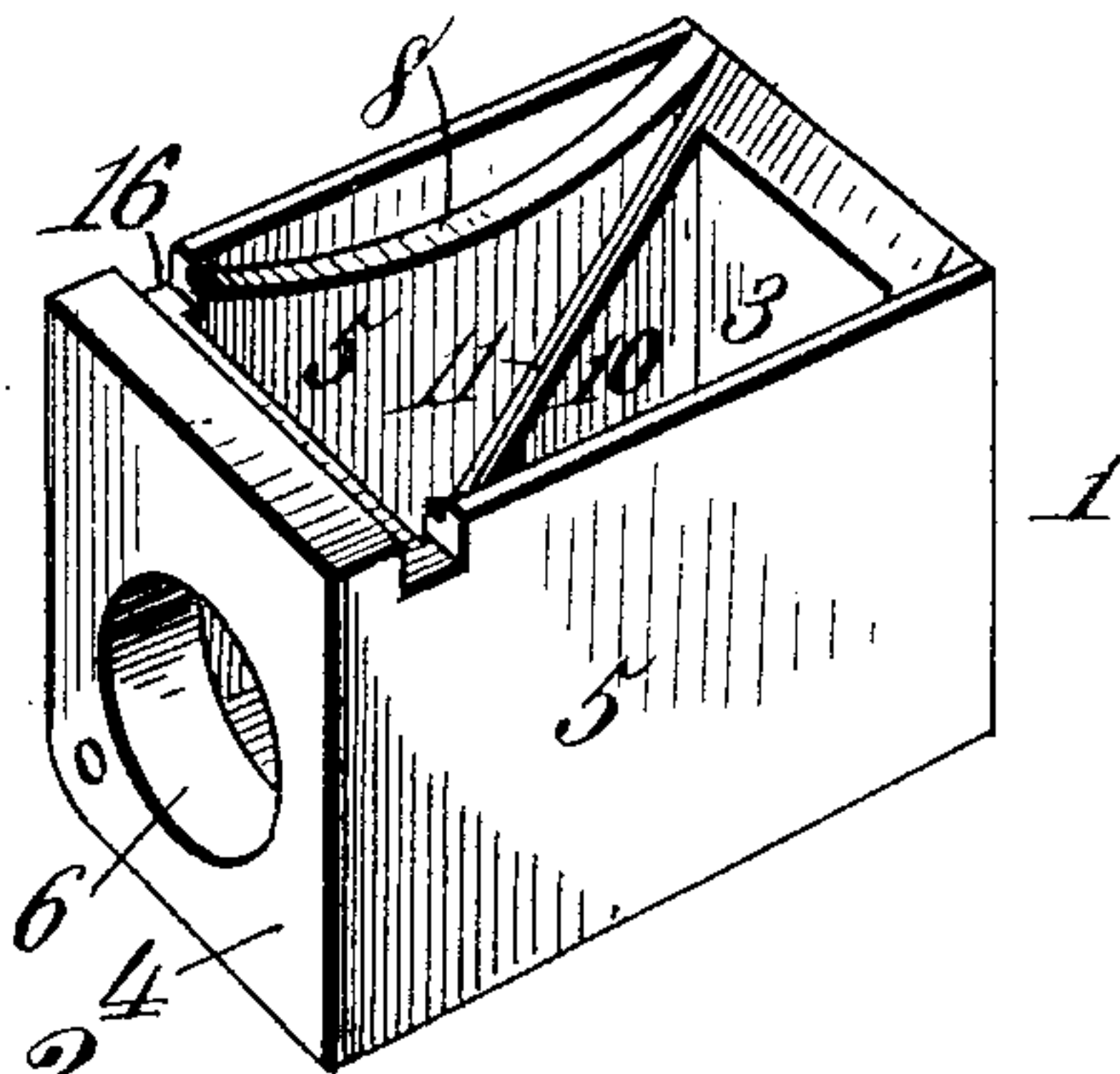


Fig. 2.

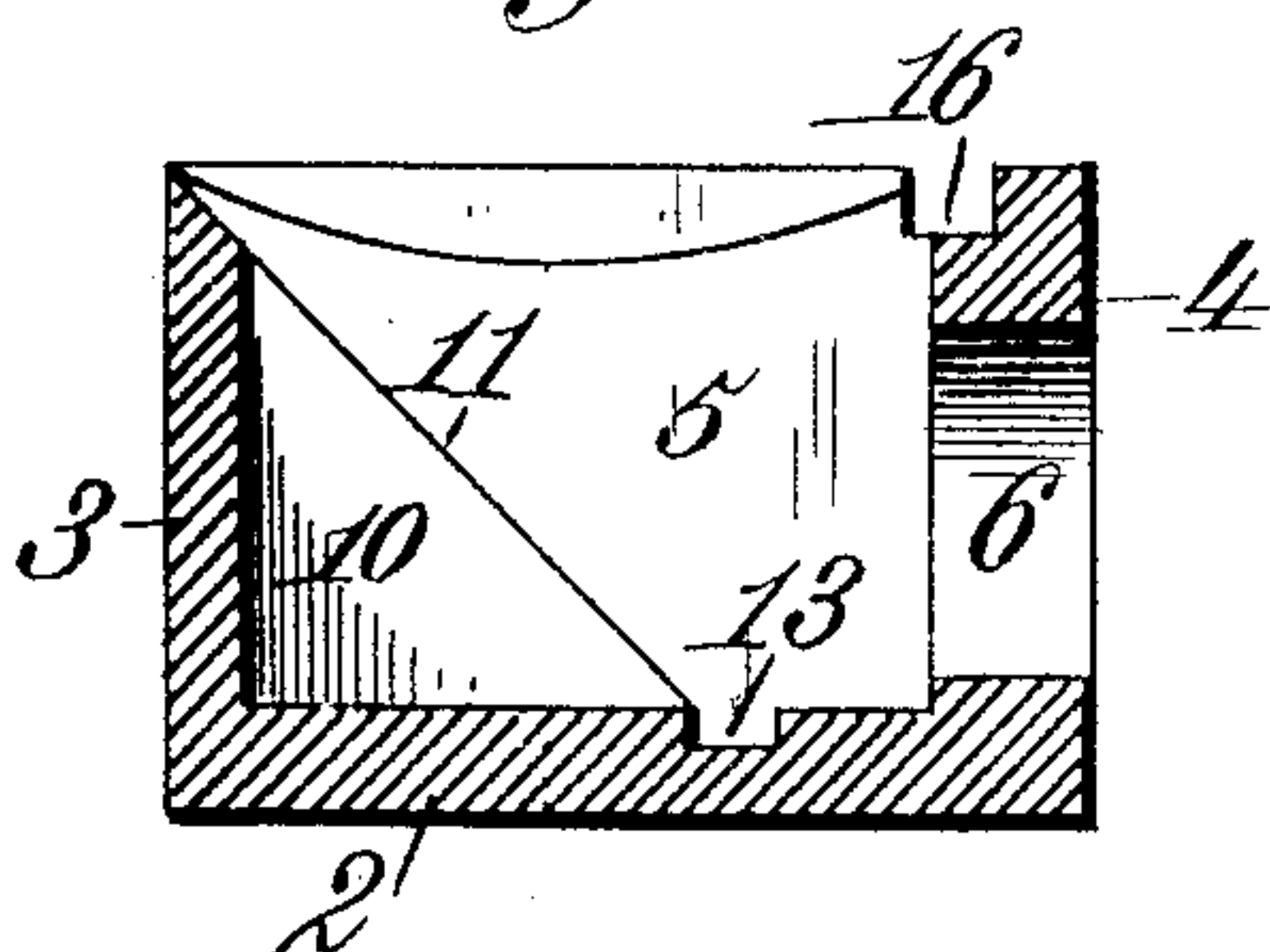


Fig. 3.

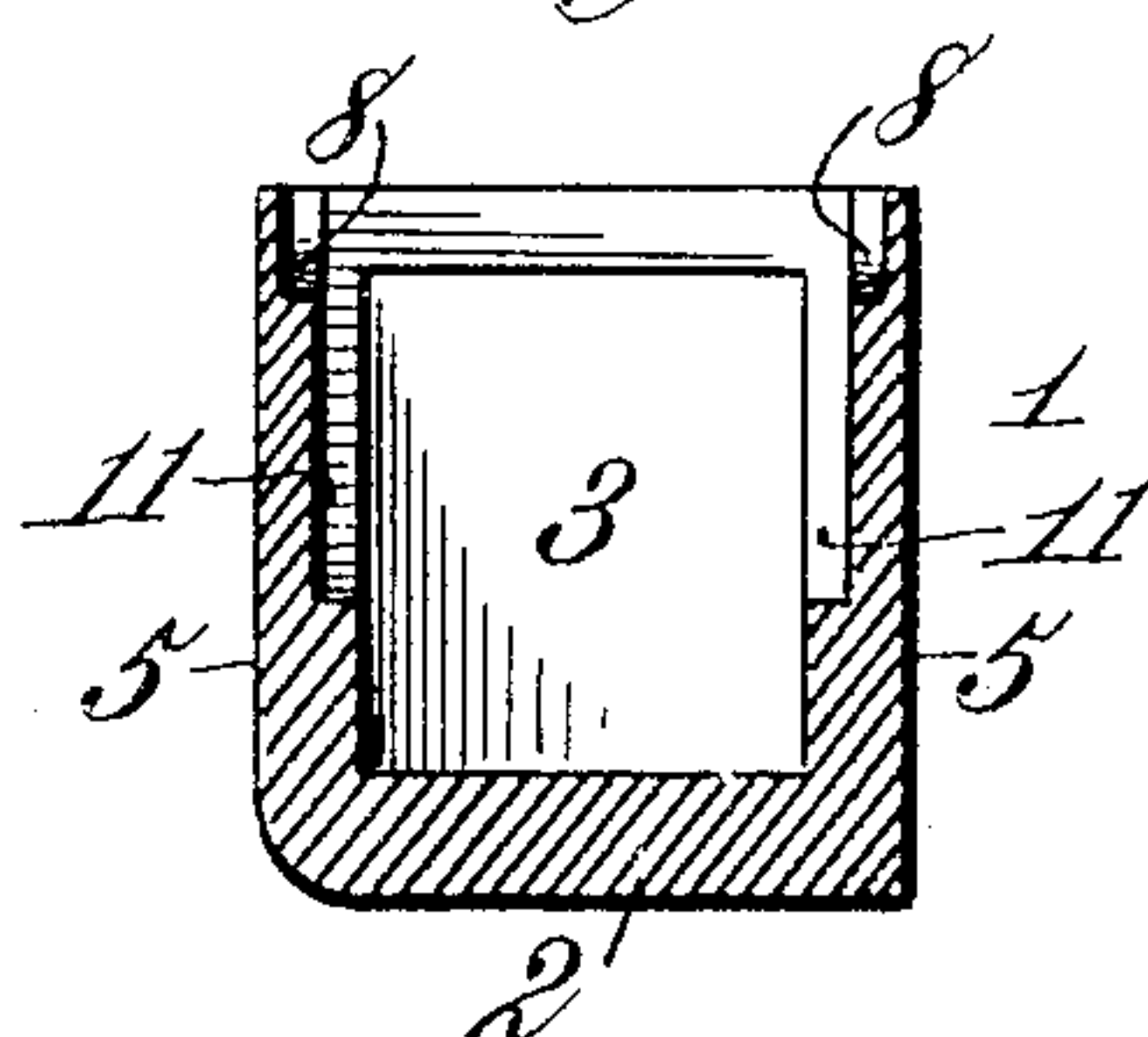
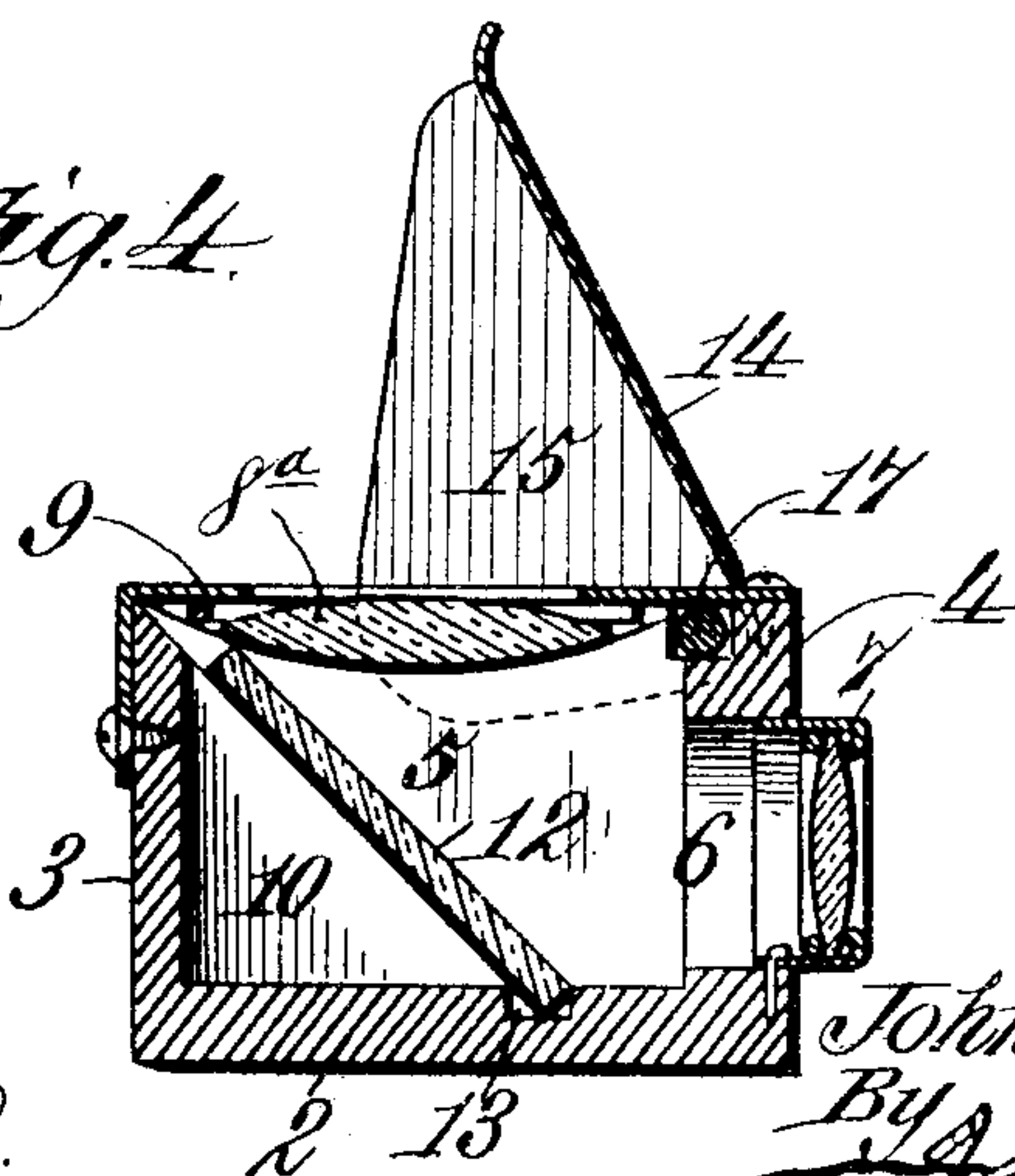


Fig. 4.



Witnesses:
Robert Gruett,
James L. Norris, Jr.

Inventor:
John H. Robertson,
By James L. Norris,
Atty.

UNITED STATES PATENT OFFICE.

JOHN A. ROBERTSON, OF ROCHESTER, NEW YORK, ASSIGNOR, BY MESNE ASSIGNMENTS, TO ROCHESTER OPTICAL COMPANY, OF ROCHESTER, NEW YORK, A CORPORATION OF NEW YORK.

PHOTOGRAPHIC VIEW-FINDER.

SPECIFICATION forming part of Letters Patent No. 754,893, dated March 15, 1904.

Application filed January 26, 1903. Serial No. 140,656. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. ROBERTSON, a citizen of the United States, residing at Rochester, in the county of Monroe and State of New York, have invented new and useful Improvements in Photographic View-Finders, of which the following is a specification.

This invention relates to finders for photographic cameras, and has primarily for its object to provide a novel finder box or casing which may be manufactured at a greatly-reduced price and at the same time possess superior advantages.

To these ends my invention consists in a finder box or casing molded in one integral piece of plastic material without joints or seams. Heretofore it has been a common practice to make such boxes or casings from wood, which has proven to be expensive. In constructing the wooden finder-casings it has been usual to make them from three separate pieces of wood, each of which has to be separately shaped and formed, and the parts are then assembled and fastened together. Owing to the small sizes of the different pieces of wood, the operation of shaping such pieces has been a delicate one, and there has been a large percentage of loss on account of the great liability of the wooden pieces splitting. After the pieces have been successfully shaped and fitted together it has been necessary to sand and smoothly finish the exterior thereof and apply at least one coat of filling and several coats of varnish to give the exterior of the casing the necessary finish. It has also been necessary to blacken the interior of the casing to prevent the rays of light entering the finder from being reflected by the sides of the finder. In many of the wooden finders now on the market the casing is composed of as many as five and six separate pieces of wood. The expense incident to the manufacture of wooden finder-casings has been sought to be reduced by making the casing out of a single sheet-metal blank, which was stamped up into shape and the sides, top, and bottom secured together by peculiar fastenings especially designed for the purpose. While this method

of making the casings has in some measure reduced the expense of manufacture, such reduction has been slight, owing to the fact that expensive machinery has had to be provided for stamping up the metal blanks and considerable expense has been involved in securing together the parts constituting the fastenings, such work necessarily having to be done by hand.

It is the object of the present invention to avoid the expense incurred in manufacturing the boxes or casings of the finders, and this is accomplished by molding the box or casing from a single integral piece of plastic material—such as rubber, for example—in the manner hereinafter described.

In the drawings, Figure 1 is a perspective view of a finder box or casing constructed in accordance with my invention. Fig. 2 is a longitudinal sectional view thereof. Fig. 3 is a transverse sectional view of the same. Fig. 4 is a perspective view of the complete finder.

Referring to the drawings, the numeral 1 indicates my improved box or casing comprising a bottom 2, a rear end 3, a front 4, and sides 5, the top of the box or casing being open, as shown.

Formed in the front wall 4 of the box is a circular aperture 6 for the reception of the lens-tube 7, which may be secured therein in any suitable manner, and formed on the upper inner edges of the sides 5 are two rabbets 8, adapted to receive and form a support for the magnifying-lens 8^a. In practice a substantially U-shaped spring 9 is disposed between the bottoms of said rabbets and the under side of the lens 8^a to hold the lens firmly in place and prevent it from rattling.

Formed on the inner vertical face of each of the sides 5 of the box or casing is a triangular enlargement 10, the inclined side 11 of which is disposed relatively to the bottom 2 at an angle of approximately forty-five degrees, and said inclined edges of the enlargement form cleats or shoulders, which constitute supports for the inclined mirror 12.

Formed in the bottom 2 of the box or casing and immediately in front of the lower

ends of the inclined cleats or shoulders is a transverse groove 13, in which the lower edge of the reflector or mirror rests and by means of which said reflector is held accurately to its seat on the inclined cleats or shoulders.

Arranged to cover the open top of the box or casing is a cap or hood comprising a flat lid 14, having two approximately triangular depending sides 15, which are adapted to embrace the outer sides of the box or casing.

Formed transversely in the upper front portion of the box or casing is a transverse groove 16, and fixed transversely in the upper front corners of the pendent sides of the hood is a pivot-pin 17, which has a bearing in said transverse groove and forms a hinge for the pivot to turn on.

Fixed to the upper side of the box or casing beneath the lid of the hood is a metallic frame or cover, which may be conveniently secured to the casing by means of screws screwing through the forward portion of said frame into the upper edge of the front of the finder-casing, and said frame is preferably provided with a depending rear portion through which and the rear of the finder-casing is passed a screw to further aid in securing the frame in place. Said frame is centrally apertured, as shown, to give an unobstructed view through the magnifying-lens 8^a.

The box or casing, comprising the bottom 2, the rear end 3, the front 4, and the sides 5, the interior of the box being provided with the rabbets, shoulders, and grooves, is molded from a plastic mass of rubber or other suitable plastic material in one single integral piece, having no joints, seams, or closures whatsoever. Instead of rubber being employed for the purpose the casing may be molded from celluloid or other suitable material which may be rendered suitably plastic to be readily molded into shape and which afterward becomes itself sufficiently hard or may be rendered sufficiently hard—as, for example,

by vulcanizing—to suit the purpose in hand. Owing to the adaptability of rubber for the purpose, however, and owing to the fact that practice has proven that it forms a stronger, more durable, and better casing in every way than any material heretofore employed for the purpose, the finder is preferably molded from rubber which is afterward vulcanized to give it the requisite degree of hardness and toughness. Furthermore, a casing constructed of rubber after having been molded into

shape and vulcanized naturally presents on its interior a dead, dull, black appearance, which is unable to refract or reflect the rays of light entering the finder, and thus avoids the expense of applying an artificial black composition to the interior thereof. A finder-casing molded into shape in the manner described without seams or joints is absolutely dust-proof, whereby dust is prevented from accumulating upon the inner face of the objective and the magnifying-lens and is also prevented from settling on the reflector or mirror, one of the disadvantages that has heretofore been experienced in the metal finders formed from blanks and bent up into shape, the joints between the meeting parts of said blanks of the finders referred to forming a ready means for the entrance of dust and moisture. Furthermore, the molded casing described is much lighter than those heretofore constructed of wood or metal and is even more durable.

While I prefer to mold my improved casing of rubber, it will be evident that other plastic materials may be employed for the purpose; but as has been heretofore explained and for the reasons stated I prefer to employ rubber for the purpose.

Having thus described my invention, what I claim is—

As a new article of manufacture, a finder-box for cameras molded in a single integral piece from rubber without seams or joints and comprising a rectangular casing open upon its upper side and having formed in its front end a circular aperture, a lens-tube fitted in said aperture, laterally and inwardly projecting angular flanges formed upon the interior of said casing, a reflector seated on said flanges, flanges formed on the opposite interior faces of the casing, the upper edges of which are concaved, a magnifying-lens seated on such concaved flanges, the forward edge of the casing being transversely grooved, a pivot-pin rotatably arranged in said groove, and a hood comprising a flat lid having two approximately triangular depending sides which are mounted on the ends of said pin, substantially as and for the purpose specified.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOHN A. ROBERTSON.

Witnesses:

R. L. ENNIS,
B. L. DENNY.