

No. 665,599.

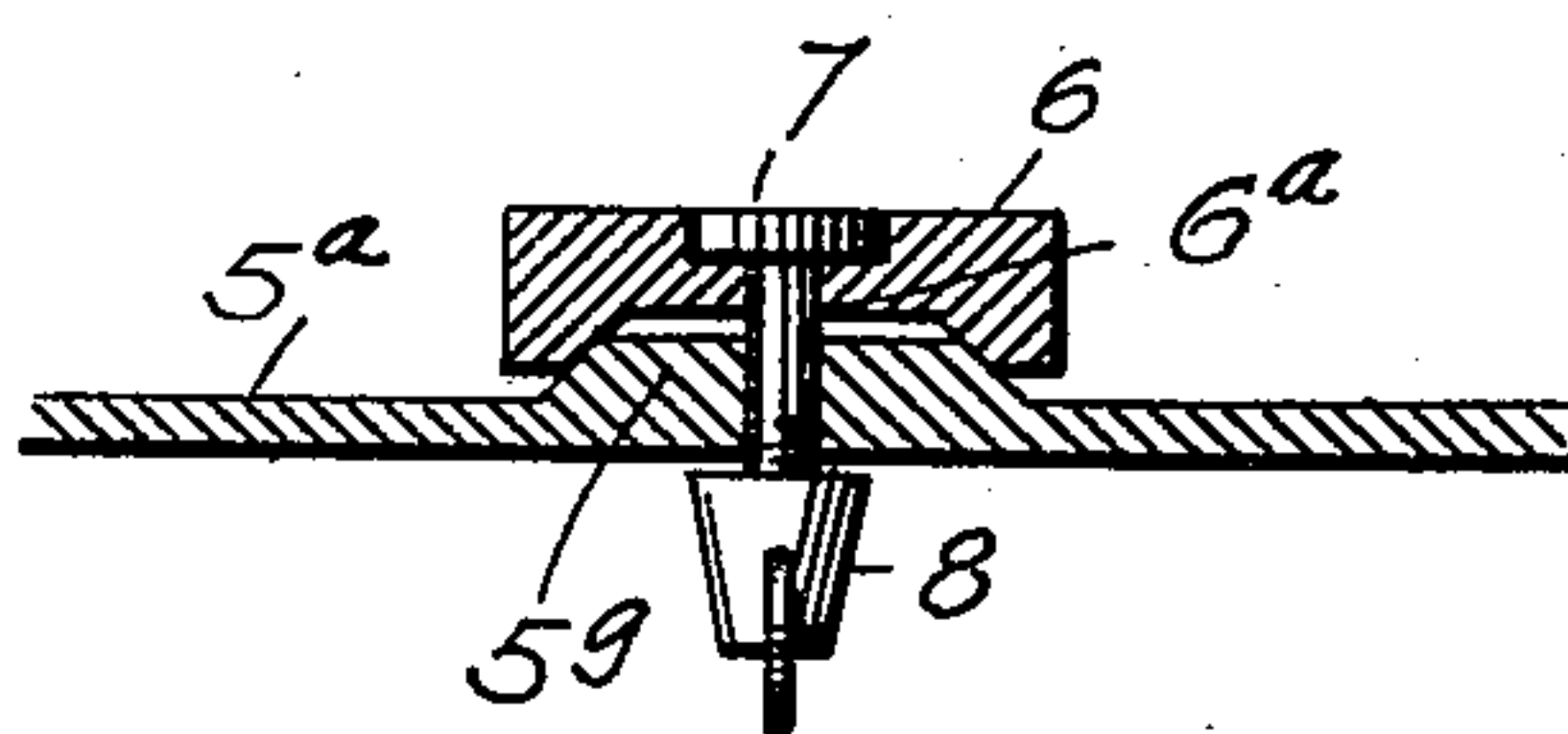
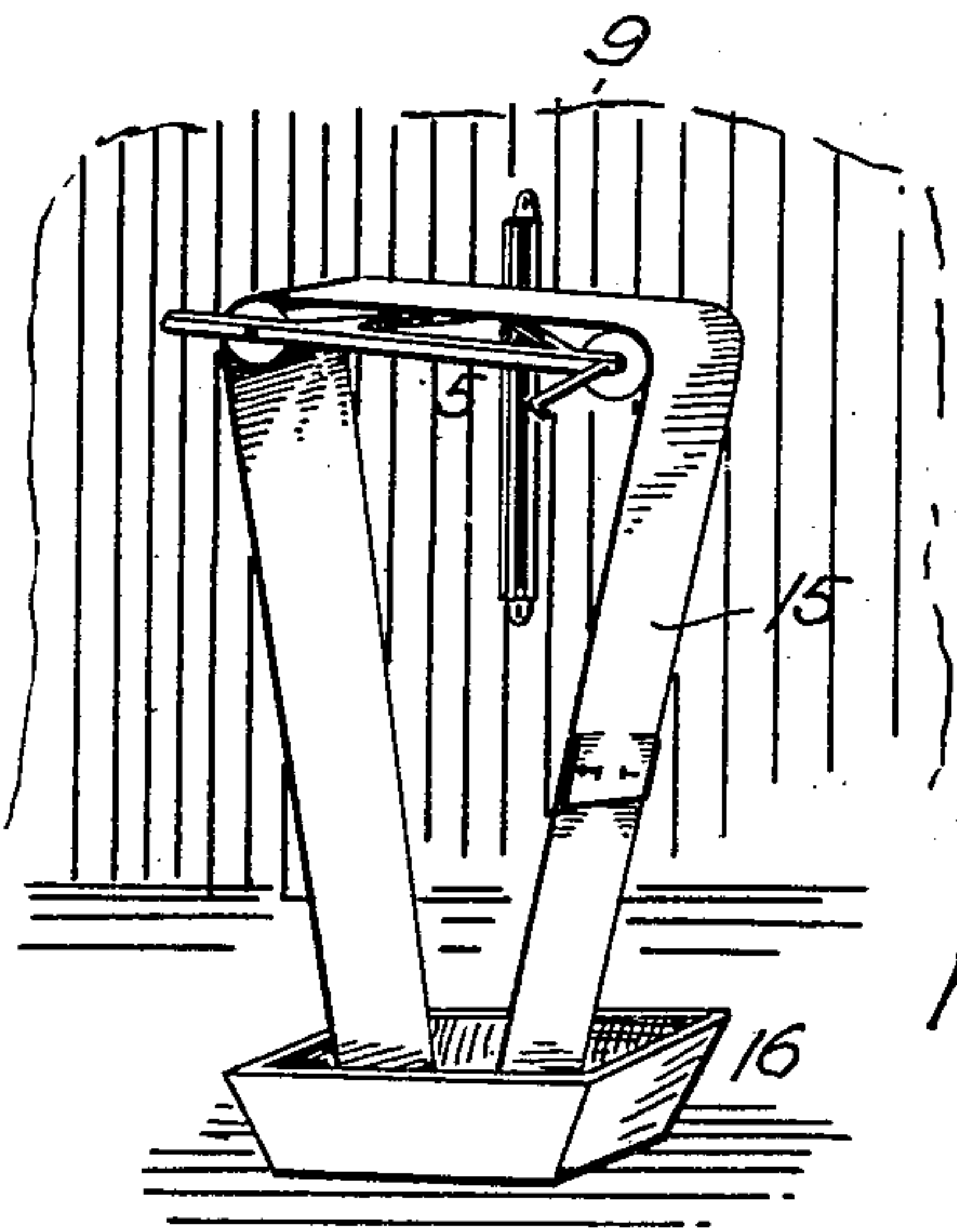
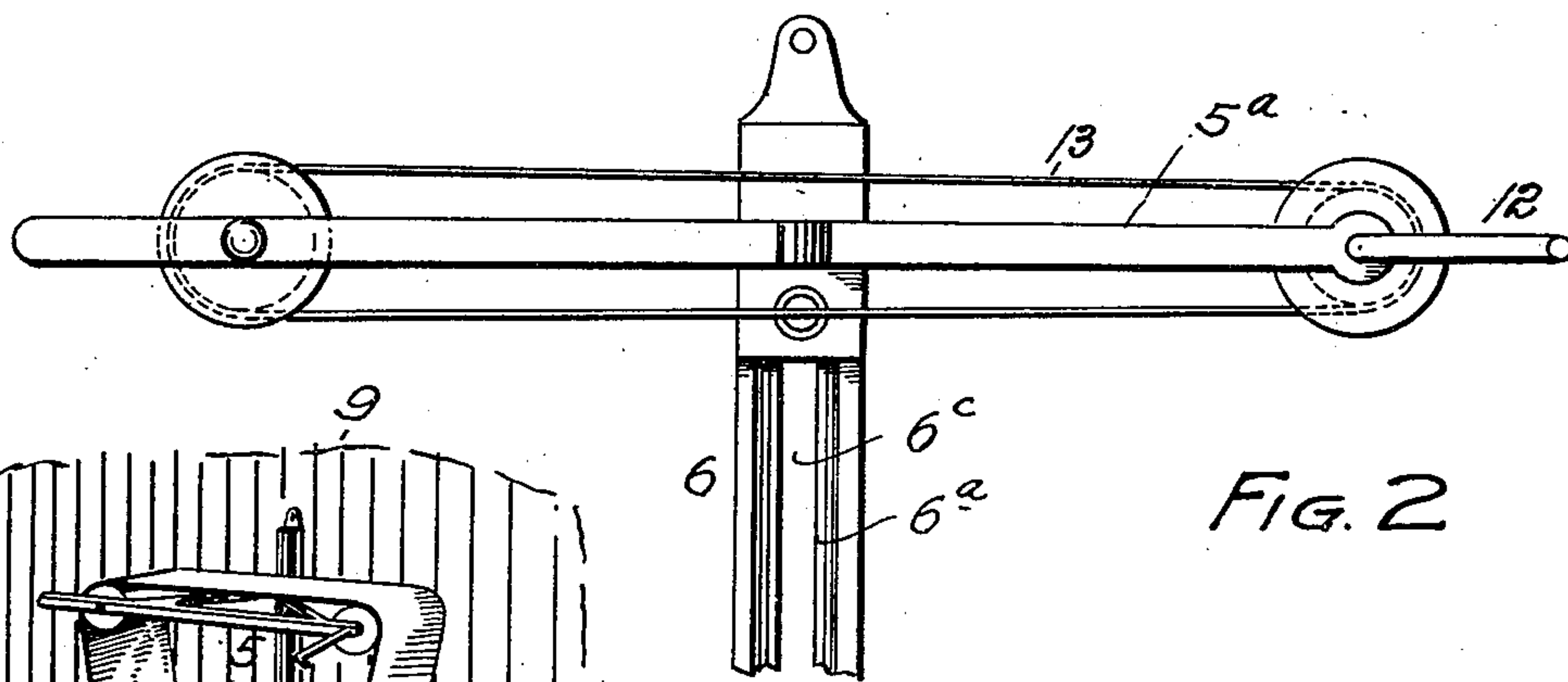
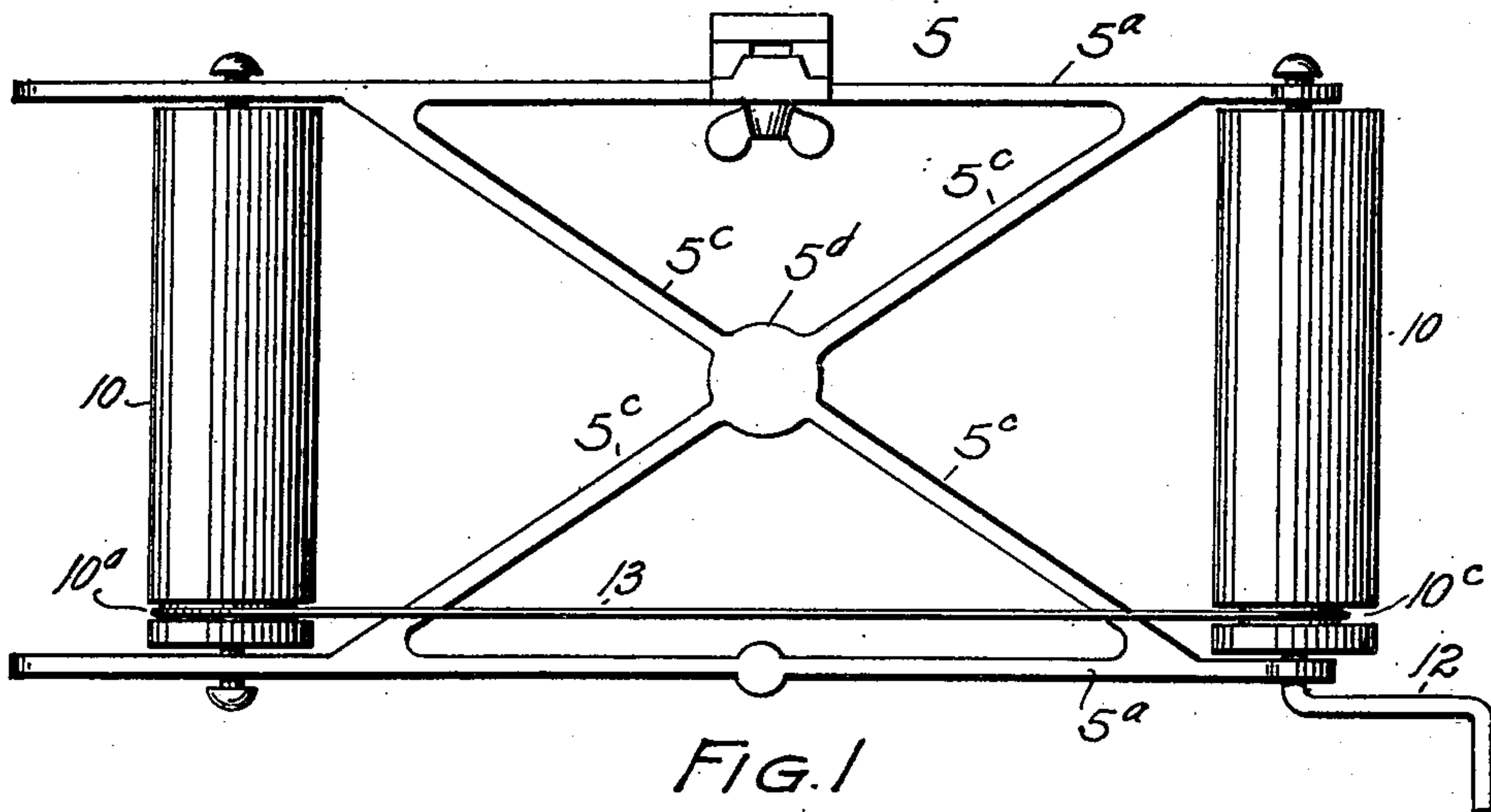
Patented Jan. 8, 1901.

M. B. FETSCHER.

APPARATUS FOR DEVELOPING PHOTOGRAPHIC FILMS.

(Application filed Nov. 21, 1899.)

(No Model.)



WITNESSES:
P. J. Hollandet,
Grace Mytinger

INVENTOR.
Martin B. Fetscher
BY *A. J. [Signature]*
ATTORNEY.

UNITED STATES PATENT OFFICE.

MARTIN B. FETSCHER, OF DENVER, COLORADO.

APPARATUS FOR DEVELOPING PHOTOGRAPHIC FILMS.

SPECIFICATION forming part of Letters Patent No. 665,599, dated January 8, 1901.

Application filed November 21, 1899. Serial No. 737,729. (No model.)

To all whom it may concern:

Be it known that I, MARTIN B. FETSCHER, a citizen of the United States of America, residing at Denver, in the county of Arapahoe and State of Colorado, have invented certain new and useful Improvements in Apparatus for Developing Photographic Films; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to an improved apparatus for use in developing photographic films. These films when taken from the kodak or other instrument form a continuous strip containing a series of undeveloped pictures. The usual procedure is to cut the film up into as many parts as it contains pictures; but as this must be done in the dark room it often happens that a mistake is made, resulting in cutting and spoiling a picture. Furthermore, the successful development of these separated films is a tedious and difficult operation, requiring the attention of an expert or skilled person. Amateur photography has become now so general that a simple apparatus capable of use by the unskilled whereby kodak-films may be successfully and very easily developed without the aid of special skill has become a desideratum, and I have accordingly devised the apparatus hereinafter described, an embodiment of which is illustrated in the accompanying drawings, to which reference is hereby made.

In the drawings, Figure 1 is a top or plan view of my improved apparatus. Fig. 2 is a side elevation of the same, the supporting guide-bar being partly broken away. Fig. 3 is a fragmentary horizontal section taken through the frame and guide-bar, the parts being shown on a larger scale. Fig. 4 is perspective view of the apparatus as it appears when in use, the parts being shown on a smaller scale.

Similar reference characters indicating corresponding parts in the views, let the numeral 5 designate a frame composed of two side bars 5^a, connected by webs 5^c, which project from

a central lug or boss 5^d. On the outer surface of one of these side bars 5^a is formed a lug or projection 5^e, adapted to engage a groove 6^a, formed in a supporting guide-bar 6, which is provided with a vertical longitudinal slot 6^c. The side bar 5^a is provided with an opening passing through the lug 5^e and adapted to receive a bolt 7, which also passes through the slot of the bar and is fastened by screwing a thumb-nut 8 upon its inner threaded extremity. The bar 6 is secured to the wall 9 or other suitable support by passing suitable fastening devices through its apertured extremities. The surface of the bar 6 adjacent the wall is grooved on opposite sides of the slot to receive the head of the bolt 7, whereby the latter is allowed to slide freely in the slot of the bar when the thumb-nut is loosened. It is evident that this construction will permit a vertical adjustment of the frame on the bar, the range of movement being limited only by the length of the slot. If a greater vertical adjustment is required, the bar 6 may be raised or lowered bodily.

In the respective extremities of the two side bars 5^a are journaled two rollers 10. The journal of one of these rollers is provided with a hand-crank 12. The two rollers are connected by an endless cord 13, engaging circumferential grooves 10^a and 10^c formed in the respective rollers. The groove 10^c in the roller to which the crank is attached is deeper than the groove 10 in the other roller to cause the one roller to travel slightly faster than the other in order to prevent the film 15 from sagging downward between the two rollers. By virtue of the grooves in the rollers the cord is located in a lower plane than the upper section of the film when traveling between the rollers, whereby the film is prevented from touching the cord.

In using my improved apparatus the extremities of the film are pinned together, after which the film is placed upon the rollers in the manner shown in Fig. 4. The tray or receptacle 16, containing the developing fluid or wash-water, as the case may be, is placed upon the floor or other suitable support and the frame 5 adjusted to bring the lowest portion of the endless film in position for immersion in the liquid in the said receptacle. The crank 12 is then turned, causing the film to

travel through the liquid until the desired object is accomplished.

It will thus be seen that my improved apparatus is very simple in construction, and also that no special skill is required in its proper manipulation.

Having thus described my invention, what I claim is—

1. The combination with a frame mounted on a suitable support, of separated rollers journaled in said frame, a receptacle adapted to hold developing fluid, located below the roller-frame, means for propelling the rollers whereby the endless film is made to pass through the fluid in the receptacle, and means for adjusting the roller-frame vertically on its support whereby the distance between it and the fluid-receptacle may be regulated at pleasure according to the length of the film under treatment.

2. The combination with a suitable support, of a frame mounted thereon, a roller journaled in each extremity of the frame, said rollers being provided with circumferential grooves, an endless propelling-cord engaging said grooves, and operating means connected with one of the rollers.

3. The combination with a suitable support, of a frame mounted thereon, a roller journaled in each extremity of the frame, said rollers being provided with circumferential grooves, one of which is deeper than the other, and a hand-crank connected with one of the rollers.

In testimony whereof I affix my signature in presence of two witnesses.

MARTIN B. FETSCHER.

Witnesses:

GRACE MYTINGER,
A. J. O'BRIEN.