A. WOLLENSAK.

PHOTOGRAPHIC SHUTTER.

APPLICATION FILED MAY 4, 1915.

1,170,208. Patented Feb. 1, 1916.

Fig. 1.

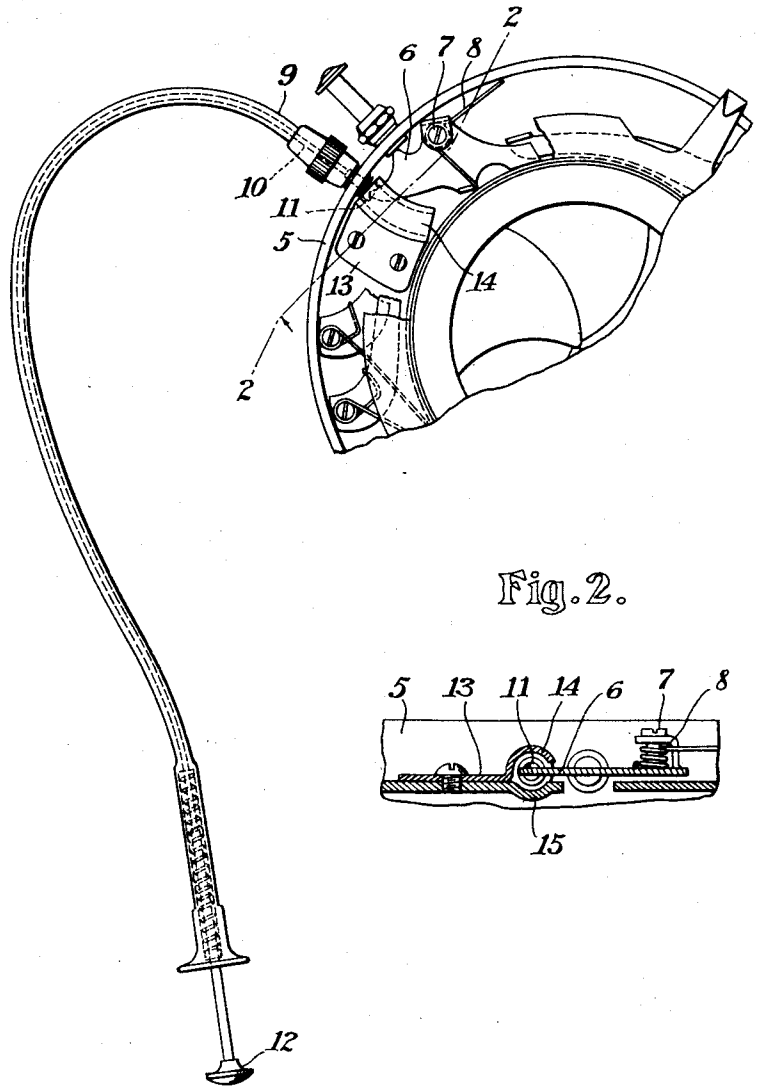

Fig. 2.

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PHOTOGRAPHIC SHUTTER.

1,170,208. Specification of Letters Patent. Patented Feb. 1, 1916.

Original application filed August 3, 1914, Serial No. 854,887. Divided and this application filed May 4, 1915. Serial No. 25,848.

To all whom it may concern:

Be it known that I, ANDREW WOLLENSAK, a citizen of the United States, and resident of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Photographic Shutters, of which the following is a specification.

This invention relates to shutters of the kind in which the operative movements are produced by the movement of an actuating-lever, and in which this lever is controlled by means of a manually-operable device commonly described as a "wire-release."

In shutters of the kind in question it is common to employ a wire-release having a cup-shaped member on the inner end of the flexible wire, which is seated upon the extremity of the actuating-lever. In such a construction when the release-wire is drawn back by its spring, after an operative movement, reliance is placed, for the maintenance of operative engagement between the cup-shaped member and the lever, upon the force-closure due to the spring-controlled return of the lever. In practice this arrangement has been found not wholly reliable, owing particularly to the fact that in the performance of what is commonly termed a "time exposure," in which two successive operative movements of the actuating-lever are made to complete the exposure, the lever does not return fully to normal position after the first operative movement, whereas the return-spring of the wire-release causes the cup-shaped member to return at this time to its normal position.

The object of the present invention is to avoid the disadvantage above set forth, and to this end the invention resides in the provision of a guideway within the shutter-casing, in which the release-wire and the actuating-lever move, and by which they are always maintained in or guided to proper operative engagement.

This application is a division from my application filed August 3, 1914, Serial No. 854,887.

In the accompanying drawings:—Figure 1 is a partial front-elevation of a shutter embodying the present invention; and Fig. 2 is a section on the line 2—2 in Fig. 1.

The drawings illustrate the invention as embodied in a shutter of a general form and construction which are well known, and only so much of the shutter is illustrated as is necessary for an understanding of the invention. The shutter as illustrated has the usual cylindrical casing 5, within which an actuating-lever 6 is mounted upon a pivot 7. The idle return movement of this lever is produced by a spring 8.

The operative movements of the actuating-lever 6 are produced by a wire-release of ordinary form. This device has the usual flexible sheath 9, which is screwed into the casing 5 of the shutter, and which incloses a flexible push-wire 10 provided, at its inner end, with a cup-shaped head 11. The push-wire is provided, at its outer end, with a push-button 12 by which it may be actuated.

The actuating-lever 6 has a pointed extremity which, as shown in Fig. 1, is seated in the recess in the head 11, and the invention resides particularly in the means employed to maintain or insure this engagement. For this purpose the head 11 and the extremity of the lever are arranged to move in a curved guideway which is approximately circular in cross-section. To form this guideway a guide-plate 13 is screwed to the base-plate of the shutter, and is formed with a channeled portion 14. As shown in Fig. 2, the guideway is completed by the formation of a channel 15 in the base-plate, and in this manner a passage is formed which conforms approximately to the circular shape of the head 11, and which is also curved longitudinally in an arc concentric with the pivotal axis of the actuating-lever 6. The guideway is provided with an open side or slot, as shown in Fig. 2, through which the lever may move freely, and owing to the longitudinal curvature of the guideway, as above described, the extremity of the lever moves always in the central line of the guideway, so as always to be concentric with the head 11. Accordingly, even though the head and the lever be moved out of engagement in the operation of the shutter, they will inevitably be directed back into proper engagement with each other when moved in such a direction as to co-operate.

I claim:—

1. In a shutter, the combination, with an actuating-lever and a release-wire having an extremity normally engaging the actuating-lever, of a guideway, in which said extremity

moves, extending in the path of movement of the lever so as to restrict said extremity to said path and insure coöperation between the release-wire and the actuating-lever.

2. In a shutter, the combination, with an actuating-lever and a release-wire having an extremity normally engaging an arm of the actuating-lever, of a guideway in which said extremity moves, slotted at one side to receive said arm of the actuating-lever, and curved longitudinally substantially concentrically with the pivotal point of the lever.

ANDREW WOLLENSAK.