(No Model.)

2 Sheets—Sheet 1.

E. R. HIGGINS.

CAMERA ATTACHMENT.

No. 266,035. Patented Oct. 17, 1882.

Fig. 1.

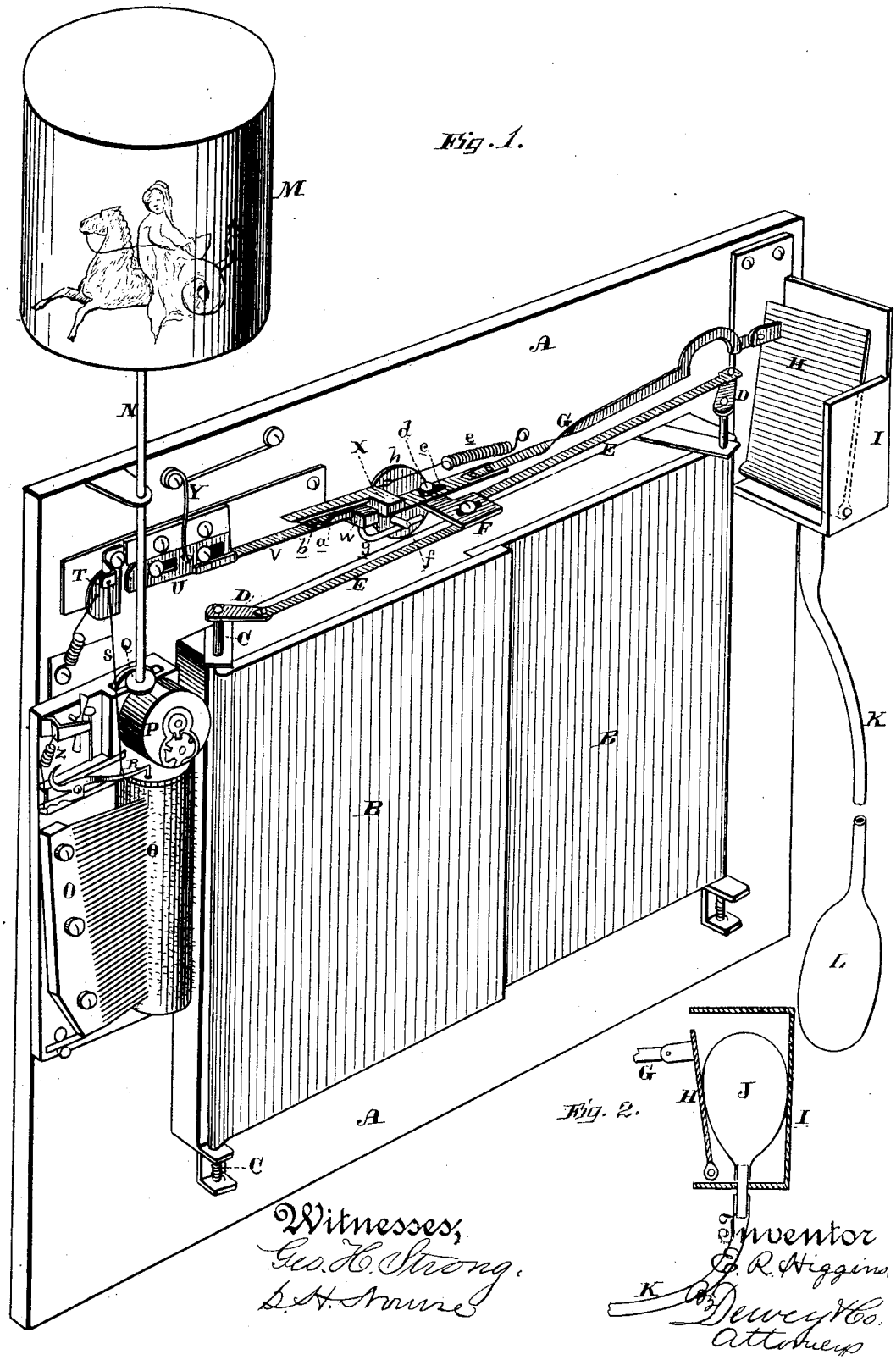

Fig. 2.

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 3.

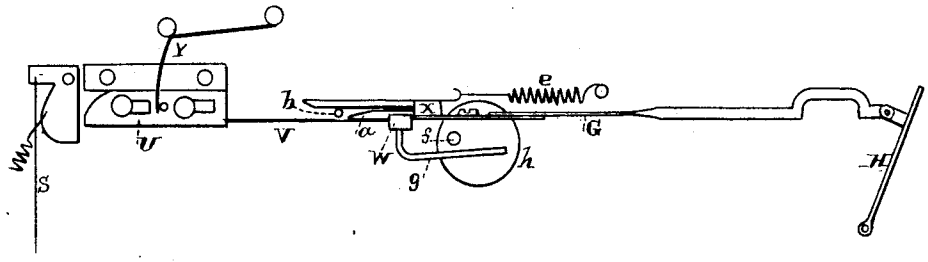
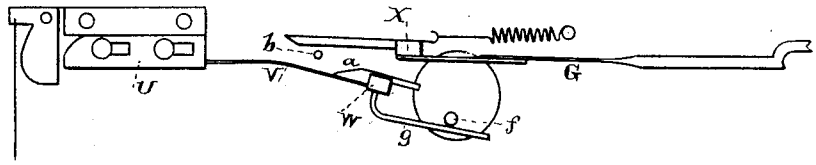


Fig. 4.



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UNITED STATES PATENT OFFICE.

EGERTON R. HIGGINS, OF SAN FRANCISCO, CALIFORNIA.

CAMERA ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 266,035, dated October 17, 1882.

Application filed July 3, 1882. (No model.)

To all whom it may concern:

Be it known that I, EGERTON R. HIGGINS, of San Francisco, county of San Francisco, State of California, have invented an Improved Camera Attachment; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to certain improvements in photographic apparatus; and it consists in the employment of a musical or other audible attachment and a movable eye-rest, with means for setting them in motion, and, in connection with these, of a shutter which may be subsequently opened by a pneumatic or another device, which also operates the eye-piece and the musical attachment, as will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a perspective view of my apparatus as placed in the camera. Fig. 2 is a section of the box I, showing the method of moving the mechanism. Fig. 3 is a front view of the mechanism. Fig. 4 shows the manner of disconnecting the musical instrument.

A is a plate or frame of such a size as to be fitted within the box of the camera, and provided with doors or shutters B, which stand behind and in line with the tube containing the object-lens. These shutters are fixed to spring-hinge shafts C, upon which they turn to open or close. The uppper ends of these shafts have crank-arms D fixed to them, and connecting-rods E extend from these arms to a movable plate, F, just above the center of the doors. From this plate an arm, G, extends to one side, and is connected with a hinged plate, H, which forms one side of a box, I. Within this box is a small rubber or other elastic bulb, J, which has a flexible tube, K, connected with it and extending to any desired distance where the operator may wish to be. An elastic air-bulb, L, is attached to this end of the tube, and by compressing it in the hand the bulb J within the box I will be expanded, and thus force the side plate, H, outward, so as to operate the arms and open the shutters.

In taking children's pictures and in some other cases it is necessary to attract the attention of the subject before the shutters are opened. This I do by means of a movable eye-rest, M, which is mounted upon a shaft or stem, N, projecting up through the top of the camera-box, and a musical box, O, or other audible device, which is concealed within the camera. In the present case both are driven by a spring within the barrel P through the gear-wheels Q, this being a part of the musical-box mechanism. In order to start this before the shutters are opened, an independent device may be employed, or the same one which opens the shutters, as in the present case. A spring-actuated pawl, R, is hinged or pivoted so that its point drops into a recess in the cylinder of the musical box and prevents its rotation until lifted out. A wire, S, leads from it up to a lever-arm, T, to which it is secured. This arm is moved so as to disengage the pawl by means of a slide, U, which is forced against it by an arm or rod, V. This arm has a lug or block, W, fixed to its opposite end, and a lug, X, is fixed to the contiguous end of the arm G, before described, so that when the arm G is forced forward by the expansion of the air-bulb J the lug X will strike the lug W and force it and the slide U to move along and into contact with the arm T, so as to move it and trip the pawl R, as before described. As soon as this is done it is necessary to release the slide U, so that the spring Y may force it back, and thus leave the arm T free to move, so that the spring Z may cause the pawl R to drop into the recess and stop the cylinder of the musical box. This is done by an inclined or wedge-shaped plate, *a*, which is fixed to the lug W or its elastic arm V, so that when forced forward to a certain point the incline moves on a pin, *b*, until the lug W is disengaged from the lug X, and it and the arm V are thus allowed to be forced back by the spring Y.

In order to allow the arm G to move the arm V and its connections, so as to start the musical box before the arm acts upon the plate F to open the shutters, the arm G is slotted, as shown at *r*, and a pin or screw, *d*, passes loosely through the slot into the plate F. This allows the arm G sufficient independent movement for the purpose mentioned. The arm G is retracted and the plate H made to compress the bulb when released from pressure by the spring *e*.

When it is desired to open the shutters without starting the music-box or the eye-piece the spring-arm V and the lug W are thrown down

out of contact with the lug X by means of a pin, *f*, upon a disk, *h*, which engages with an arm, *g*, attached to the lug W.

It will be manifest that an electrical apparatus might be used in place of the pneumatic one, to operate the mechanism above described, with the same result.

I do not desire to confine myself to the particular devices or mechanism by which the parts are operated, as it will be manifest that various modifications may be made to produce the same results, the object being to combine with the camera a means for setting in motion a device or devices for attracting and arresting the attention, and then opening the shutters by a further action of the same mechanism.

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

1. In a photographic apparatus, the musical box O, fixed within the camera, and the shaft N, projecting out of the camera, in combination with the movable eye-rest M and a means for setting the musical box and eye-rest in motion, substantially as herein described.

2. In a photographic apparatus, the shutters B, with their hinge-shafts, crank-arms, and connecting-rods, as shown, in combination with the hinged plate H, box I, bulb J, tube K, and bulb L, substantially as herein described.

3. The arm G, connected with the actuating-plate H, and having the lug X fixed to it, in combination with the arm V, having the lug W, the inclined plate *a*, and the tripping-pin *b*, substantially as and for the purpose herein described.

4. The arm G, with the lug X, adapted to engage the lug W, as shown, and the plate W, connected with the shutters, so as to operate them when moved, said arm G being slotted and loosely connected with the plate F.

5. The arm G, with its lug X, and the elastic arm V, with its lug W, engaging and operating as shown, in combination with the disk *h*, pin *f*, and arm *g* for disengaging the lugs, substantially as herein described.

6. In a photographic apparatus, the movable eye-piece and the musical box, in combination with a camera having shutters B, and a means for first setting the eye-piece and musical box in motion and afterward opening the shutters, substantially as herein described.

In witness whereof I have hereunto set my hand.

EGERTON R. HIGGINS.

Witnesses:
S. H. NOURSE,
G. W. EMERSON.