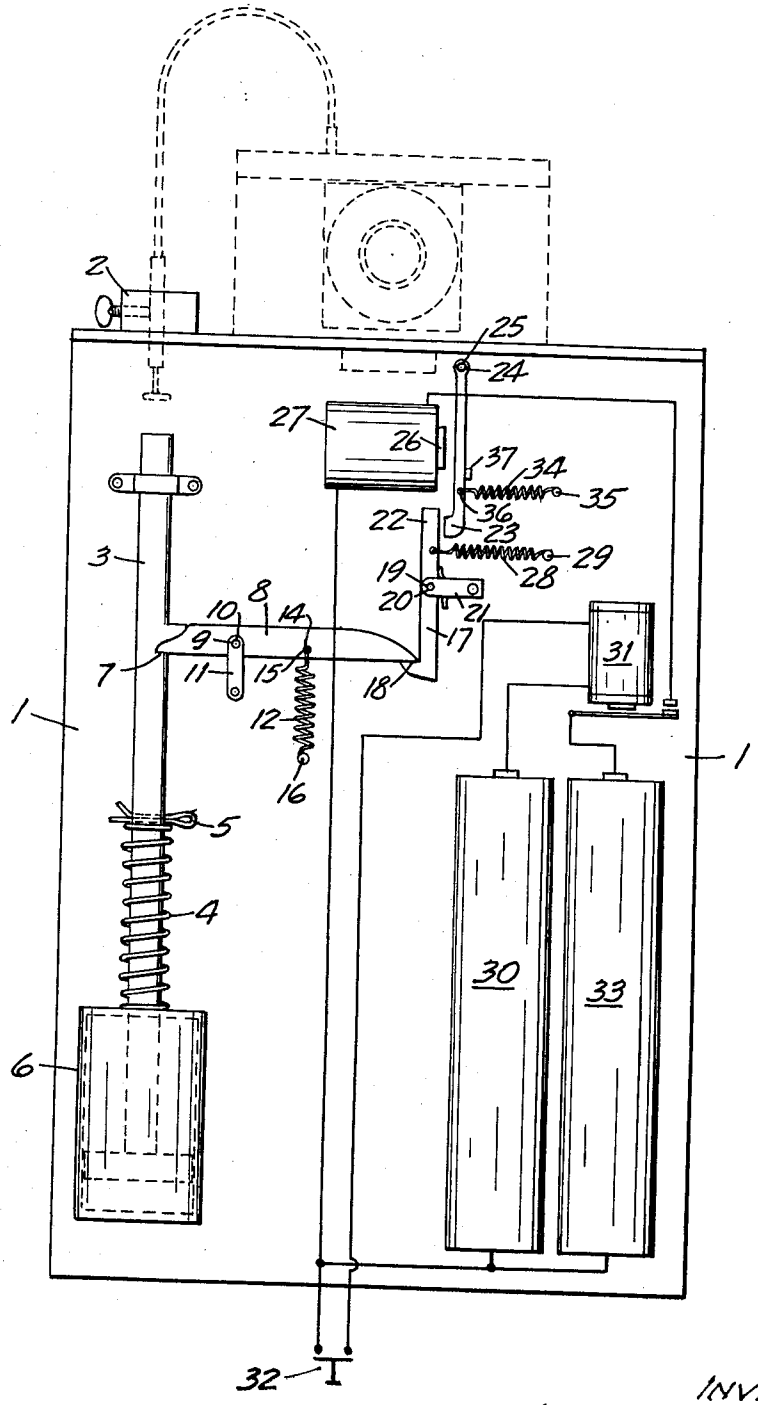
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REMOTE CONTROL DEVICE

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REMOTE CONTROL DEVICE

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1 Claim. (Cl. 95—53)

This invention relates to means for remotely triggering or controlling the movement of a camera shutter or the like.

It is a principal object of the invention to provide small, portable, self-contained, simple and economical means whereby the opening-closing cycle of a camera may be triggered by an operator at a distance remote from the camera.

It is a further object of the invention to provide means as above-described, which are virtually instantaneous and positive in action and easily cocked for firing.

Still other objects of the invention will become apparent from a reading of the following specification and an examination of the accompanying drawing.

In the present invention there is provided within a stabbilizing frame, which also serves as a cover, a plunger which is urged by a coil spring toward the plunger (not a part of this invention) of a cable-release lying in common axis and away from the plunger of the invention and a dash pot which is at the opposite end of and attached to the plunger of the invention. The force of the spring is restrained until it is desired to fire the mechanism, by a sear which at one side of its ends optionally engages a notch in the plunger and which is, in turn, triggered at its other end by a hooked lever which is, in turn, triggered by the extended, hammer-like end of an armature which attractively responds to the magnetic field of a solenoid wound about a permeable core. The energizing of the solenoid is accomplished by dry cells or other portable cells connected in series with the solenoid through the contact points of a relay, the winding of which is, in turn, energized by other, similar dry cells or the like, connected in series with the winding and a switch which is preferably a push-button.

In operation, the device is cocked by simply manually depressing the plunger so that its notch is engaged by the sear. As this occurs, the hook of the lever comes into position so as to catch and restrain the knife-edge end of the sear. Triggering then occurs, powerfully and positively, when the operator closes the primary circuit of the relay, thereby indirectly closing the circuit that energizes the solenoid, causing the armature to give a hammer blow to the lever, with release of the sear from its notch in the plunger, which then positively and instantaneously responds to the forward urging or thrust of the compressed coil spring which is fixedly anchored at its rearward end to the frame and fixedly attached at its other or forward end to the plunger.

Of course, it is possible to eliminate both the relay and the lever, in which case, the solenoid is connected in series with its energy source and the switch, and the hammer-end of the armature, when attracted by the field of the solenoid, moves to disengage the sear which restrains the plunger from its forward motion. The relay is, of course, employed simply to provide optimum electrical contact and resulting certainty of action in closing the circuit of the solenoid.

The sear, whether (as in some cases is possible) being used without a lever, or in combination with a lever, may engage the slot in the plunger by either a side-wise or axial movement, and may effect release of the plunger by the opposite motion.

Referring now to the drawing, in which the figure is a schematic view of a preferred form of the invention, in which a camera in conjunction with which the device is intended to be used is shown in broken lines, and in which like numerals designate like parts, **1** is a fixed frame or enclosure, **2** is a receptacle in which may be firmly held the outer collar or protective sheath of a cable-release device of a camera, **3** is a plunger having an axis common with that of the plunger of said cable-release, **4** is a spring urging **3** toward forward movement along its axis, **5** is a cotter pin extending through and outward beyond **3** so as to restrain the spring **4**, **6** is a dash-pot into which the end of the plunger opposite the cable-release is inserted and which limits or damps the stroke of **3**, **8** is a sear constructed and arranged with the fixed pivot **9** extending through the holes **10** and beyond through the arms **11** which are fixedly attached to the frame **1**, **12** is a coil spring urging the sear **8** to rotate about pivot **9** so as to drive the plunger forward toward the plunger of the cable-release and maintain engagement of the end of the sear **8** with the notch **7** in the plunger **3**. **12** is fastened to **8** by a screw **14** which is threaded into a hole **15** in **8** and fastened at its other end to the frame **1** by the screw **16**. **17** is a lever having a hook **18** which engages the knife-edge of **8** and is suspended by a pivot extending through the hole **19** in the shaft of **17** and holes **20** in the arms of the bracket **21**, which is rigidly attached to the frame **1**. **22** is the opposite end of **17** and lies opposite the hammer-like end of **23**, an armature which is suspended by a screw-pivot **24** extending through the hole **25** at its end and into the frame **1**, **23** being juxtaposed but not touching the core **26** of the solenoid **27** and urged away from contact with the said core by the coil spring **28**, which is attached at its one end to the shaft of **17** and at its other end by the screw **29** with the frame **1**. **30** is a first battery of dry cells connected in series by means of wire with the winding of the relay **31** and a single-pole push button-type switch **32**. **33** is a second battery of dry cells connected in series with the contact points of the relay **31** and the winding of the solenoid **27**. **34** is a coil spring urging **23** away from contact with **22**, **34** being anchored at its one end by the screw **36** in **23** and at its opposite end by the screw **35** in the frame **1**. **37** is a stopper made integral with the frame **1** to limit the distance **23** may move in response to the urging of **34**.

Many variations of the invention are possible, including inter alia inversion and/or reshaping of some of the parts, so that, for example, the hammer-blow of the armature may be delivered in any direction, all without departing from the spirit of the invention.

I claim:

A camera triggering device comprising a frame means for securing to the frame the hollow, protective sheath which surrounds and is coaxial with the axially movable cable of the cable release, a plunger positioned endwise of and coaxial with the cable-release and urged toward the cable-release by a coil spring but restrained from axial motion by a sear, one end of which engages a notch in

the plunger, said sear being pivotally suspended from the frame and being engageable at its other end by a notched lever which is pivotally suspended from the frame, an armature pivotally suspended from the frame in juxtaposition with but separated from the core of a solenoid, said armature having extending at its swinging end a hammer-like projection which, when the armature is attracted to the said core, engages the lever so as to rotate the lever about its pivot and thereby disengage the sear.

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