

(No Model.)

L. B. MILLS.

DEVICE FOR LOWERING KEYS FROM WINDOWS.

No. 516,871.

Patented Mar. 20, 1894.

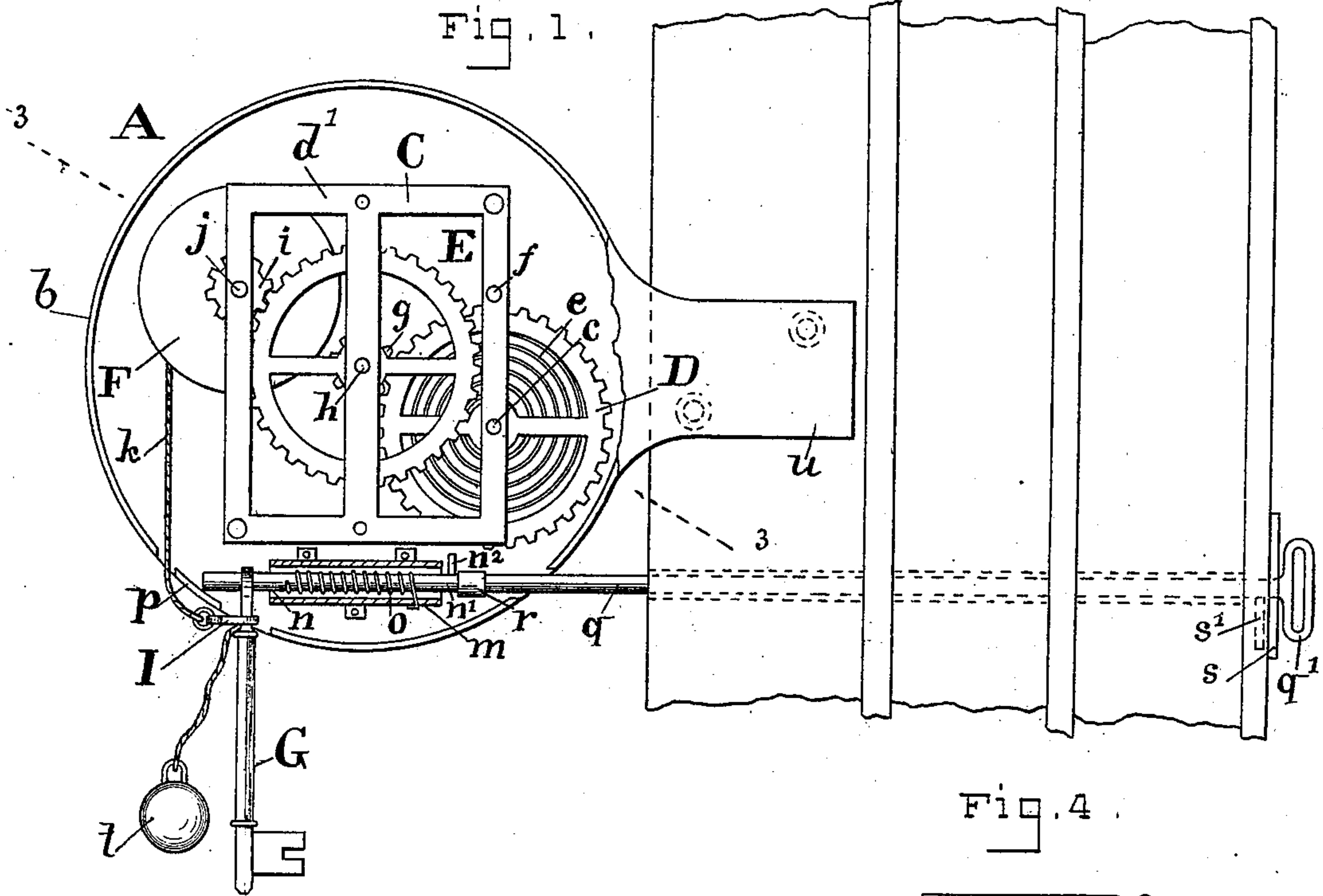


Fig. 2.

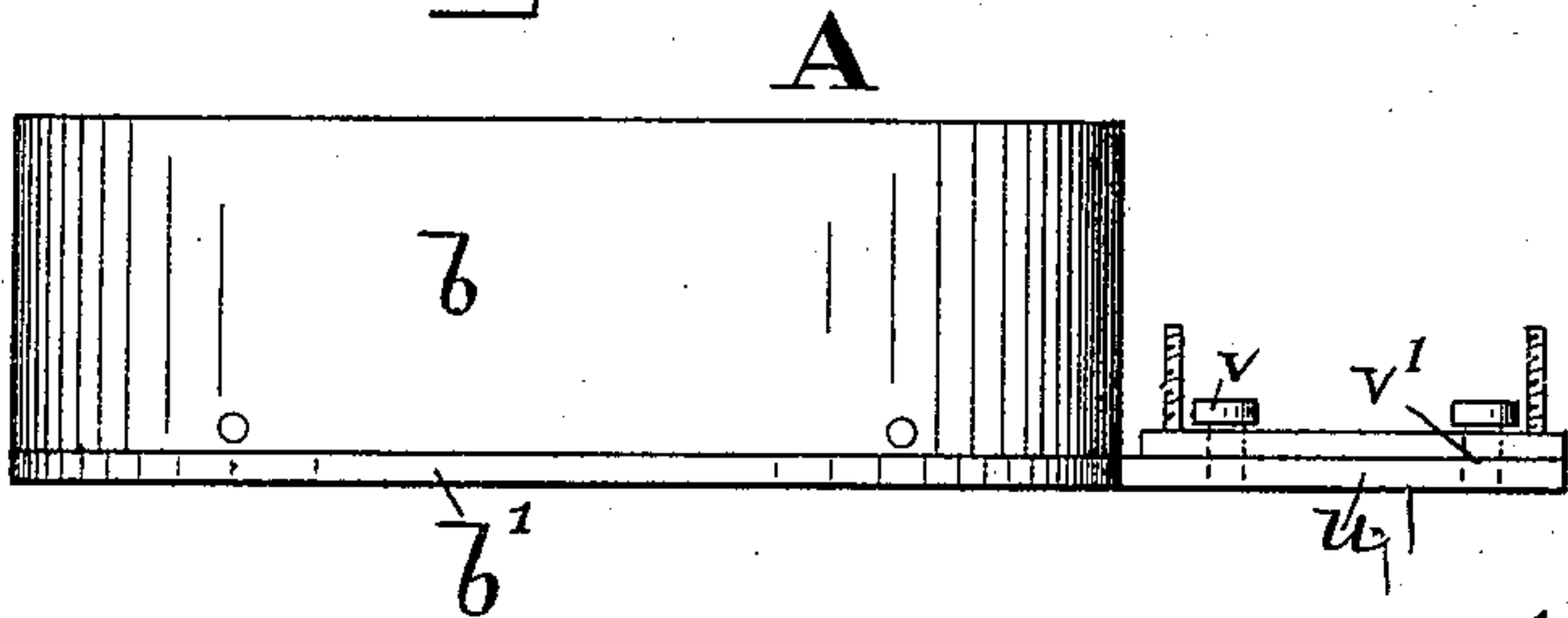


Fig. 3.

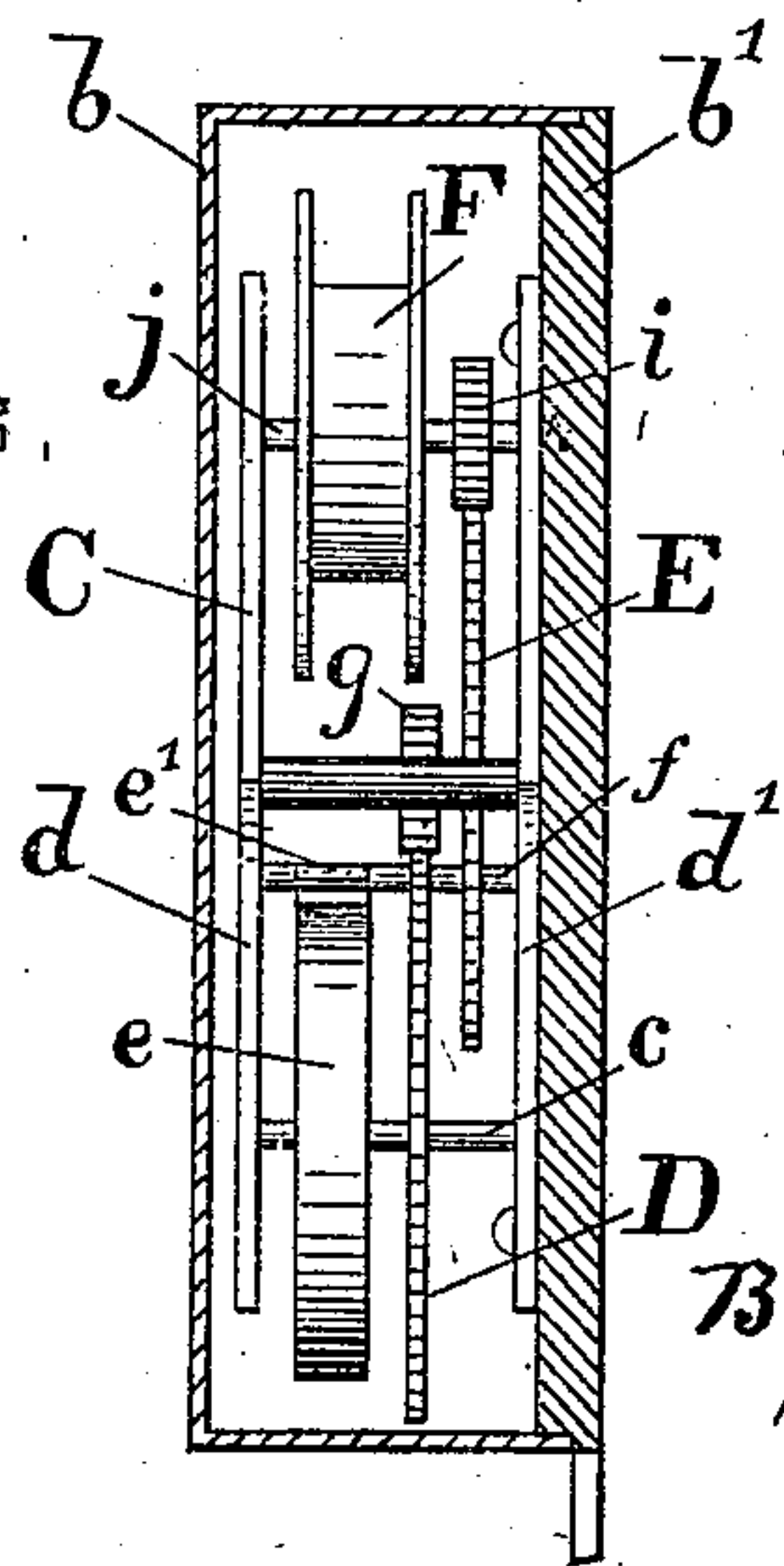


Fig. 4.

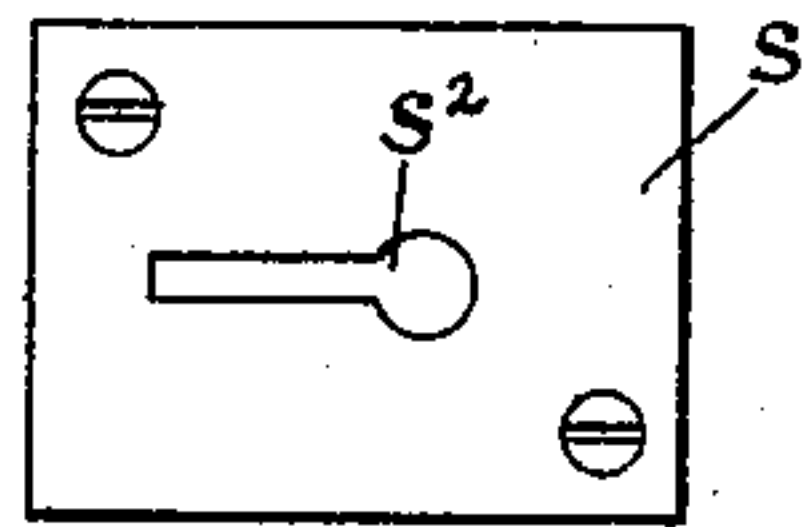
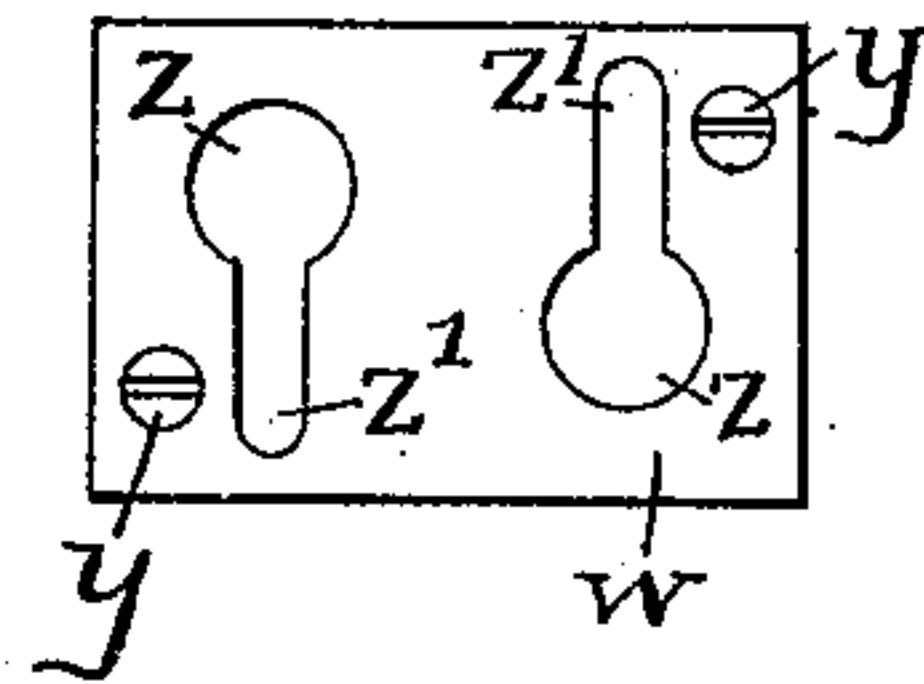


Fig. 5.



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DEVICE FOR LOWERING KEYS FROM WINDOWS.

SPECIFICATION forming part of Letters Patent No. 516,871, dated March 20, 1894.

Application filed October 20, 1893. Serial No. 488,685. (No model.)

To all whom it may concern:

Be it known that I, LIZZIE B. MILLS, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Devices for Lowering Keys from Windows, of which the following is a specification.

This invention relates to a device for lowering keys from windows, and has for its object to provide means whereby a door-key suspended at an upper window of a house may be lowered to the street.

It is common for domestic servants employed in dwelling houses to lodge and sleep at their own homes, and to repair early in the morning of each day to the house of their employment for admission to commence the work and service of the day. Many housekeepers object to allowing servants, under such circumstances, to carry away with them at night the door-key in order that they may gain entrance early in the morning. They also object to rising from bed early in the winter mornings before the fires have been started, and, clad only in their night-robes, going down to the street door to let the servant in. It is also objectionable to drop a door-key from an upper window to the street, as the key is liable to be lost, bent or broken, besides the draft of cold air which will enter a window opened even momentarily, is very disagreeable if not dangerous to a delicate person. To provide a convenient device which will meet these objections is the object of this invention.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is an elevation showing my device and the mechanism involved; one side of the case is removed to expose the mechanism to view. Fig. 2 is a top view of the case. Fig. 3 is a section of the case on the diagonal line 3—3. Fig. 4 shows a view of a locking-plate by which the operating rod is locked to prevent it from being operated from the exterior of the house. Fig. 5 shows a view of the plate by which the case is attached to the window-frame.

The case, A, in the present instance, is cylindrical in shape, and has a removable cup-shaped side or cover, b, and a flat side b';

this case incloses a frame, C, which is stationary and contains the operating mechanism. A shaft, c, has bearings in the sides, d, d', of the frame; a coil-spring, e, is in the frame and one end is secured to the shaft, c, and the other end, e', to a cross-bar, f, of the frame. The shaft, c, has mounted on it a large gear wheel, D, meshing with a pinion, g, on a shaft, h, which latter carries a large wheel, E; this last named wheel meshes with a pinion, i, on a reel-shaft, j. The reel, F, on this shaft carries or has wound on it a cord, k, provided at its end with a snap-hook, l. The lower part of the case has a tube, m, in which a bolt, n, moves; this bolt has one end, n', provided with screw-threads (not shown), and a projecting lug, n², for a purpose to be hereinafter described; a spiral spring, o, in the tube acts on the bolt to keep its end normally pressed in, at the left in Fig. 1; the outward movement of the bolt is limited by a stop, p, on the wall of the case, A. A rod, q, has its outer end provided with a coupling-nut, r, which screws onto the threaded end of the bolt, n. This rod passes through the window-frame and its end, q', is inside of the house; this end is in form of a key-bow or head and has a lateral arm, s', (indicated by broken lines in Fig. 1,) which takes into a horizontal key-hole-shaped slot, s², in a locking-plate, s, secured on the window-frame; by this arrangement the rod may be turned so as to bring the arm, s', to the position shown in Fig. 1, crosswise of the horizontal slot, s², and thereby the rod keeps the bolt, n, projected to its full outward position, so that the key, G, may hang on its end. The arm, s', and slotted plate, s, prevent the rod or bolt from being operated upon from the street by any one who may endeavor to improperly obtain the key. The rod, q, may be detached from the bolt, n, by turning the rod so as to unscrew the coupling, r, from the bolt, and the latter is prevented from turning during this operation by the lug, n², bearing against the side of the case, A.

In operation the cord, k, is first wound up on the reel, F, and in this condition the coil-spring, e, is unwound or relaxed. The door-key, G, preferably has a small weight, t, attached to it. Now when the house is closed at night, the key is to be put in position on the nor-

mally-projecting end of the bolt, *n*, as shown in Fig. 1, but must first be attached to the cord, *k*, by means of the snap-hook, *I*; everything is now in readiness. In the morning
 5 when the servant calls at the house, she first rings the street door-bell and then takes position where she can be seen from the house-window, and the person in the room where the rod end, *q'*, is, has only to turn the rod so as
 10 to bring the arm, *s'*, into coincidence with the slot, *s*², whereupon the spring, *o*, will move the bolt and rod and release the key; the weight, *t*, and key now suspended from the cord, *k*, will unwind said cord from the reel,
 15 *F*, and the key will thus be lowered to the street. As the key and weight descend, the reel, *F*, revolves, the cord, *k*, unwinds, and the train of gearing turns the shaft, *c*, and winds up the coil-spring, *e*. As soon as the key and
 20 weight are detached from the cord by the servant, the wound-up spring will reverse the train of gearing and thereby cause the reel to wind up the cord again, thus bringing the snap-hook, *I*, to the original position ready for
 25 the key.

In order to have the device removable readily, I provide the case with an arm, *u*, which has two knobs, *v*, with shanks, *v'*, which are to be received in slots, *z*, *z'*, in a plate, *w*.
 30 This plate, *w*, is secured to the window-frame by screws, *y*, and has two slots, *z*, *z'*, which are large and circular at one end, *z*, and have a straight portion, *z'*, at the other end. They are in reversed position with respect to each
 35 other. It will be readily understood that when the case is secured in position, it may be detached by tilting the arm, *u*, and then pulling the knobs from the slots in the plate, *w*. It is necessary, however, to first discon-
 40 nect the rod, *q*, at its coupling, *r*, from the bolt, *n*.

The rod, *q*, and bolt, *n*, are here shown constructed in two pieces and connected by a coupling nut, but it is obvious that they may
 45 be integral or made in one piece, if desired.

Having thus described my invention, what

I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the case; a cord; a reel in the case for winding the cord; a coil-
 50 spring on a shaft; a train of gearing connecting the reel and coil-spring shaft; and means to normally suspend a key which is attached to the reel-cord, said means being capable of movement to disengage such key when de-
 55 sired.

2. The combination of the case; a cord; a reel in the case for winding the cord; a coil-
 spring on a shaft; a train of gearing connect-
 60 ing the reel and coil-spring shaft; a bolt on the end of which a key may be suspended,—said key being attached to the reel-cord; a spring to act on the bolt; and means for retracting the bolt against the pressure of the
 65 spring.

3. The combination of the case; a cord; a reel in the case for winding the cord to carry
 a key; a coil-spring on a shaft; a train of
 gearing connecting the reel and coil-spring
 shaft; a rod passing from the case to the in-
 70 side of a house and controlling the key; a bolt connected with the rod and having an end on which the key is suspended; and means for locking the said rod to prevent the release of the key.
 75

4. The combination of the case; a cord; a reel in the case for winding the cord to carry
 the key; a coil-spring on a shaft; a train of
 gearing connecting the reel and coil-spring
 shaft; a locking plate on the interior of the
 80 window-frame and having a key-hole shaped slot; a rod passing from the case to the window-frame and having a lateral arm which takes into the said slot in the locking-plate; and a bolt connected with the rod and hav-
 85 ing an end on which the key is suspended.

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

LIZZIE B. MILLS.

Witnesses:

CHAS. B. MANN,

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