

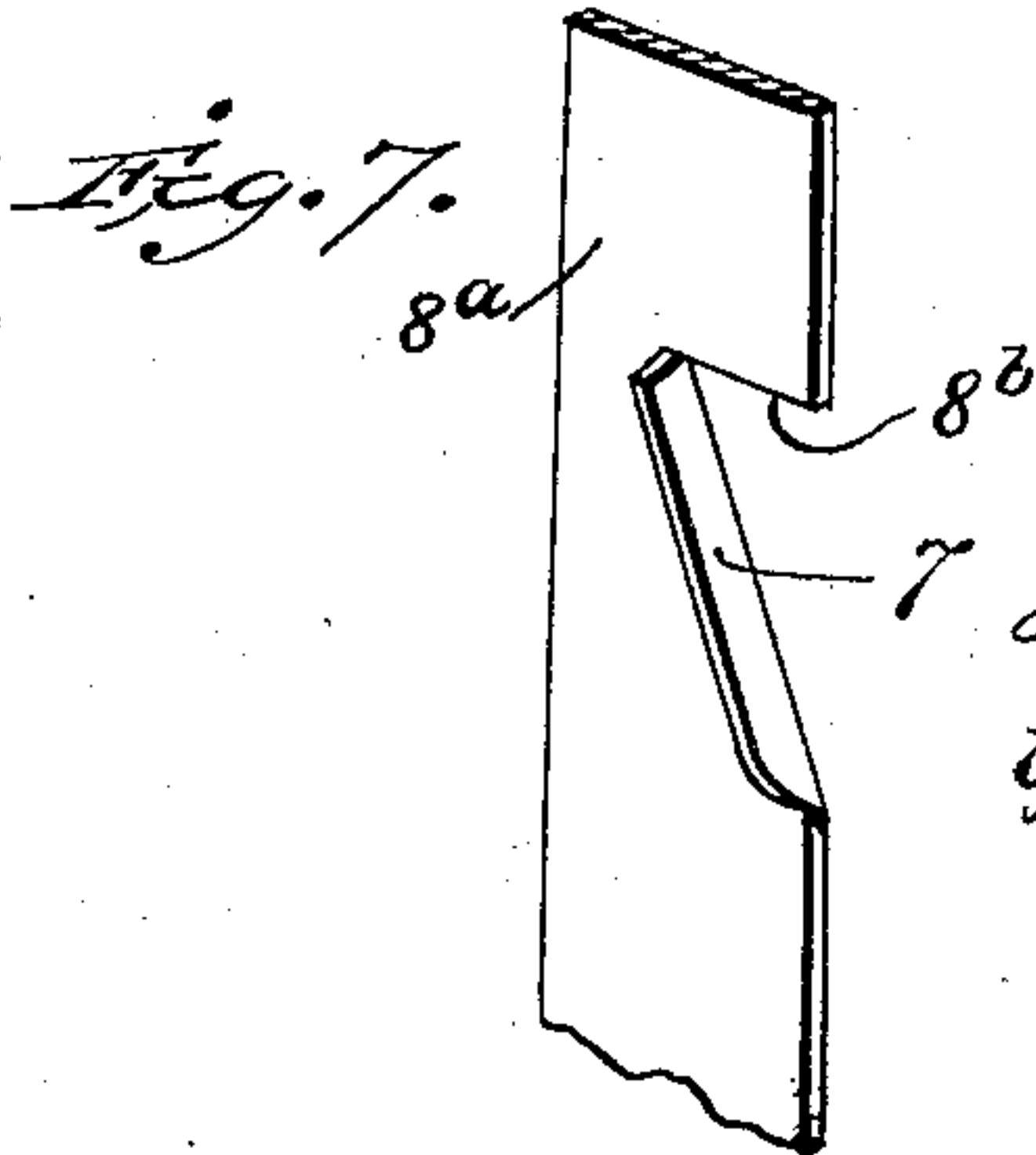
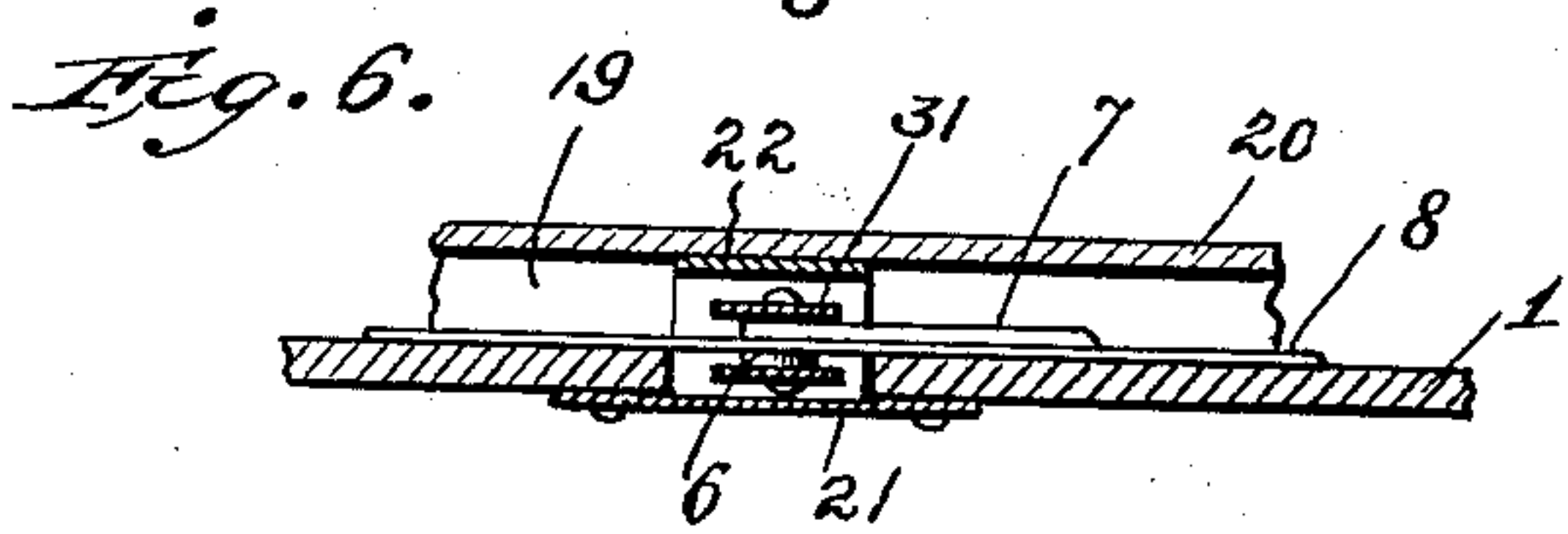
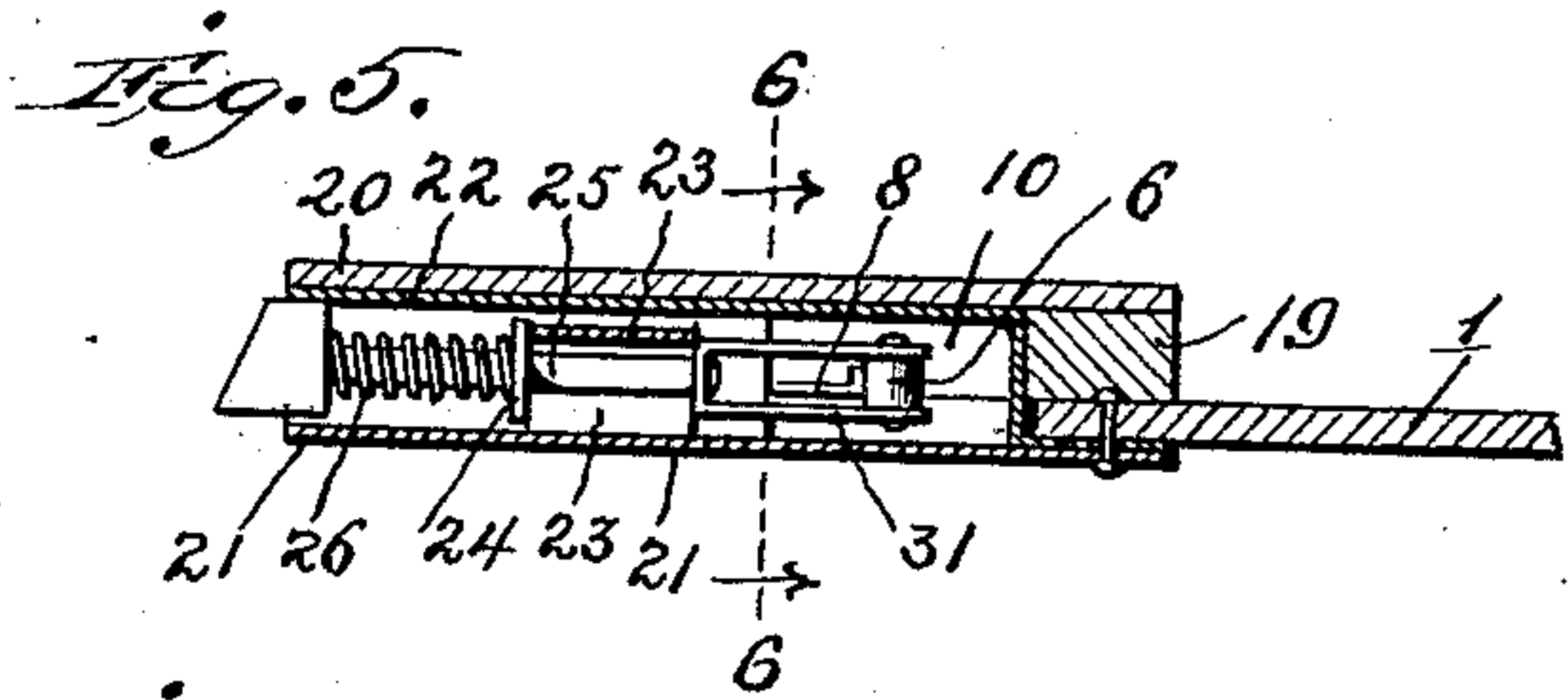
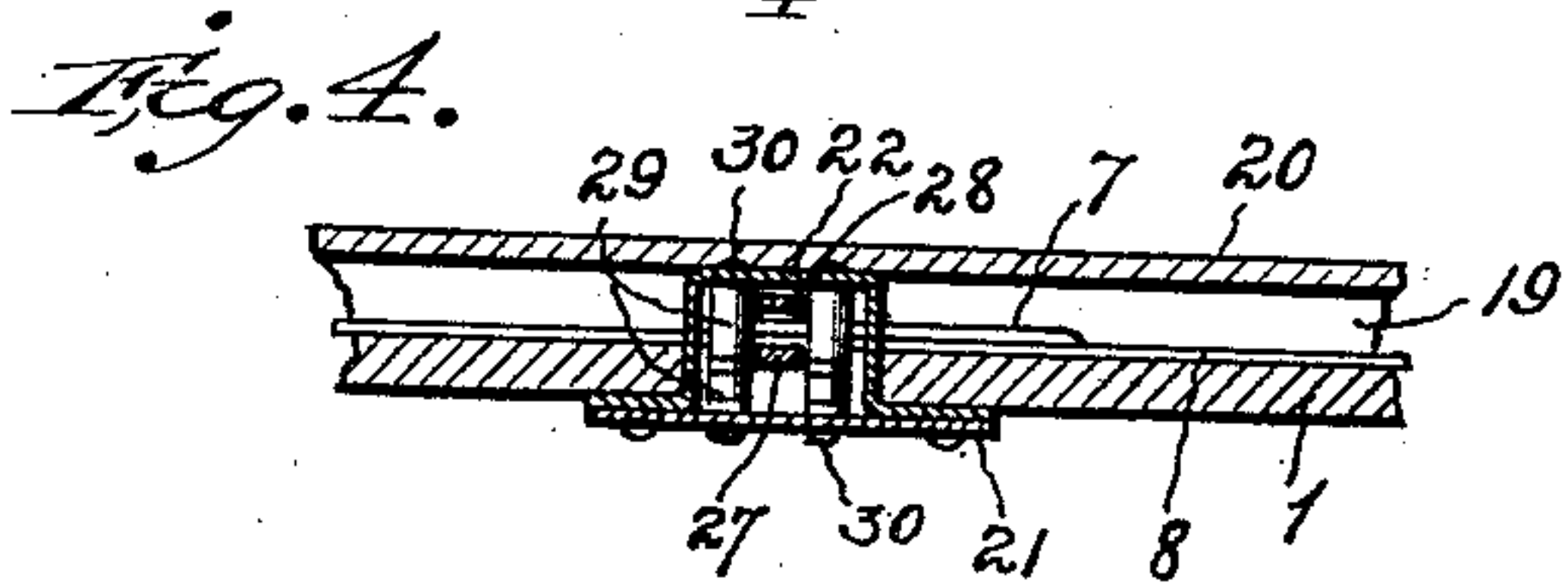
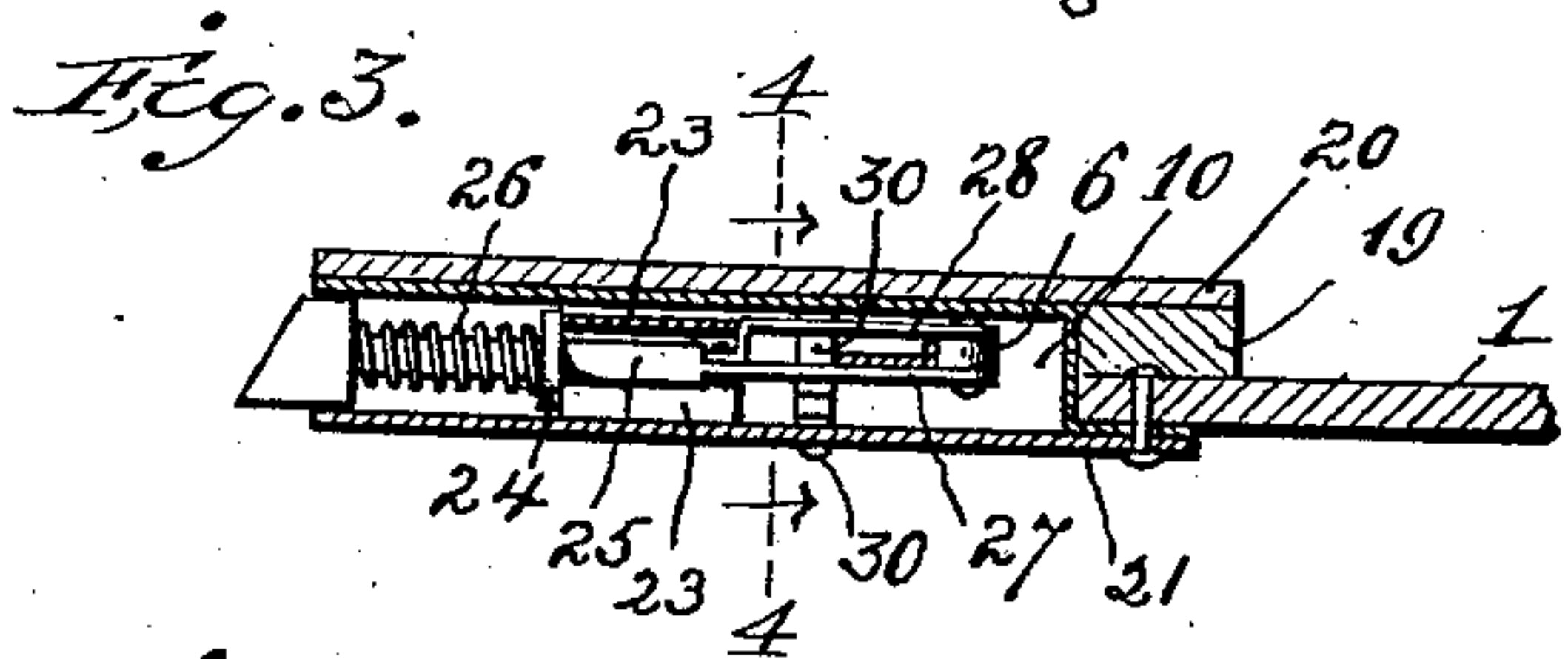
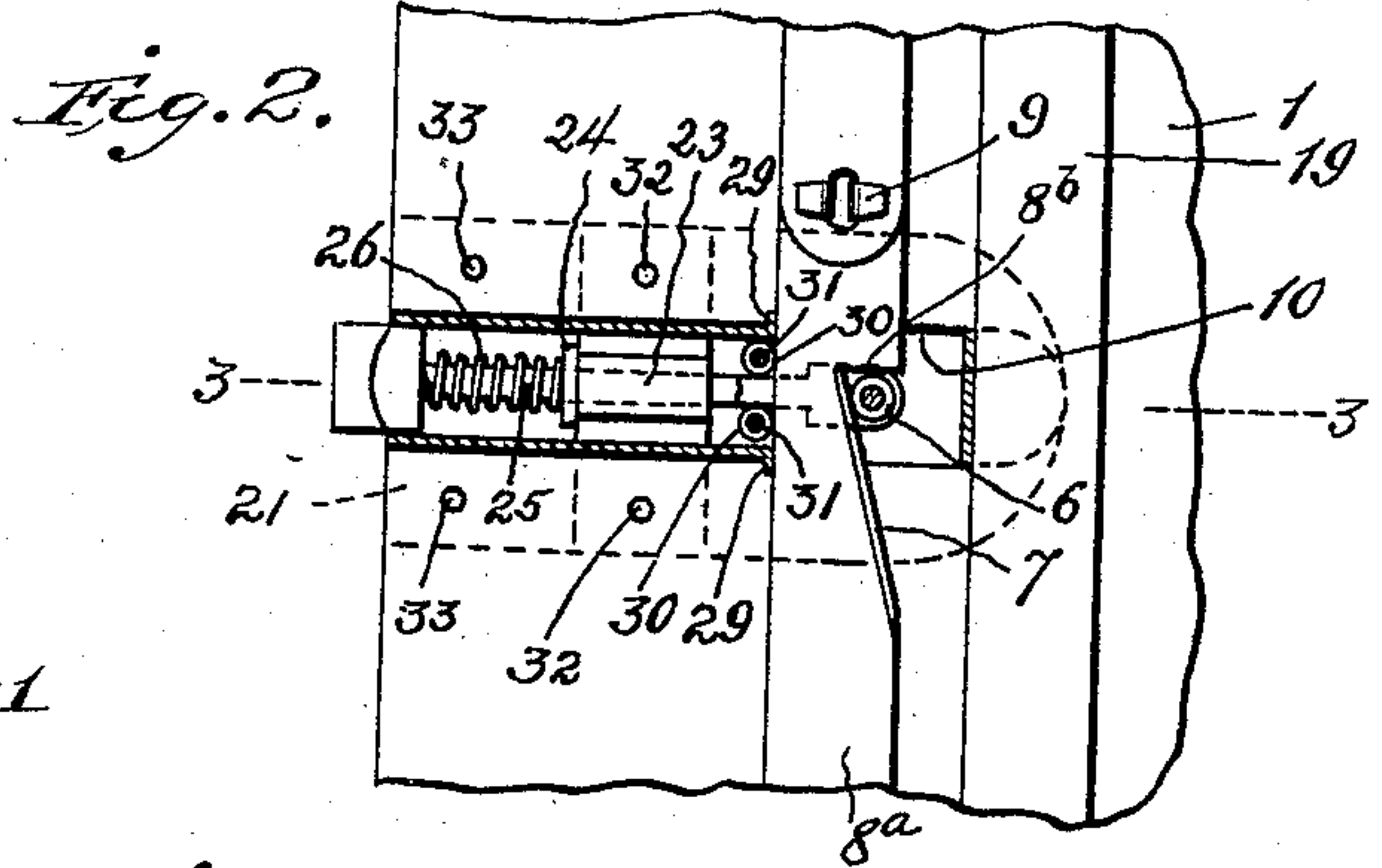
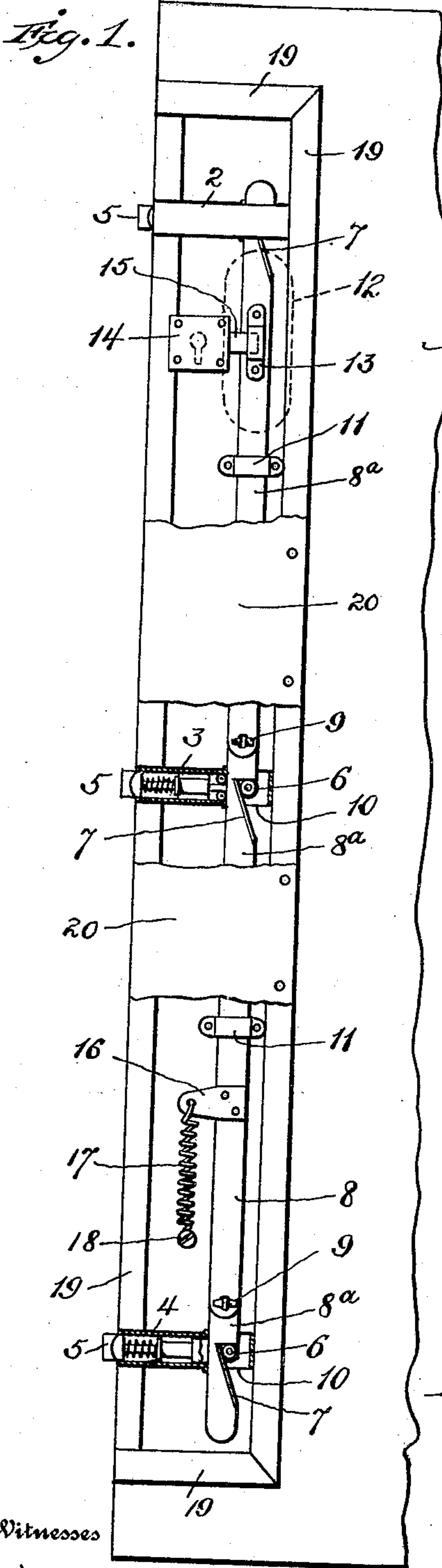
H. W. COTTRELL.

TRUNK LOCK.

APPLICATION FILED MAY 21, 1909.

928,905.

Patented July 20, 1909.



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TRUNK-LOCK.

Patented July 20, 1909.

No. 928,905.

Specification of Letters Patent.

Application filed May 21, 1909. Serial No. 497,460.

To all whom it may concern:

Be it known that I, HENRY W. COTTRELL, a citizen of the United States of America, residing at Richmond, Virginia, United States of America, have invented certain new and useful Improvements in Trunk-Locks; and I do hereby 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 figures of reference marked thereon, which form a part of this specification.

My invention relates to locking mechanism or latches for the doors or followers of trunks, especially for that class of trunks known as wardrobe trunks.

The invention has for its object to provide a simple, efficient and compact mechanism including a plurality of latches and means to simultaneously actuate the bolts of said latches against the action of their projecting springs by means of a single rod or a rod composed of a plurality of connected sections having cam members for engaging and actuating the bolts, together with details of construction hereinafter more particularly described in the specification and pointed out in the claims.

Referring to the drawings, in which like parts are similarly designated, Figure 1 is an elevation of a portion of a trunk door or follower with parts broken away and parts in section to clearly show the assembled mechanism. Fig. 2 is an enlarged detail view partly in section of one of the bolts and its actuating cam. Fig. 3 is a longitudinal section on the line 3—3 of Fig. 2 and Fig. 4 is a transverse section on the line 4—4 of Fig. 3. Fig. 5 is a longitudinal section of a modification. Fig. 6 is a section on the line 6—6 of Fig. 5 and Fig. 7 is a perspective view of a portion of the actuating rod showing the manner in which the cam is formed.

A portion of a trunk door or follower is indicated at 1 and secured thereto are a number of latches 2, 3 and 4, each including a latch case in which is operatively mounted a spring urged bolt 5 projected beyond the edge of the door or follower. To the inner end of each bolt is secured or formed thereon

an abutment, herein shown as an anti-friction roller 6. Mounted in slidable relation to said abutments or anti-friction rollers are cams 7 on and preferably integral with a sheet metal rod or strip 8, which rod is preferably, but not necessarily, made in sections 8^a connected together end to end by split rivets 9 or otherwise, so that these sections can be readily separated when it is necessary to remove a latch for repairs or for other purposes. The cam 7 is formed by making a cut at right angles to the rod, turning the metal at an angle to the edge of the strip and at right angles to the face of the strip and then trimming off the turned-up portion so as to be of substantially uniform height. The transverse cut forms a shoulder 8^b which in its normal position rests on the anti-friction rollers and acts as a limit or stop for the rod. The rod 8 preferably passes through lateral openings 10 in the latch cases and is guided between the edges of said opening and the friction roller 6, but in addition thereto I provide guide strips 11 secured to the door or follower in any suitable manner to insure rectilinear movement of the rod under all conditions. The rod consequently moves in a right line and is provided with a handle comprising a plate 12 covering a slot, said plate having an opening ring secured thereto by means of rivets that project through the slot and are fastened in the rod and more particularly in the manner shown and described in my co-pending application filed March 23, 1909, Serial No. 485,211.

Riveted to the rod is a loop 13 and secured to the door or follower in proximity to said loop is a lock 14 whose 15 is capable of entering the loop when the actuating rod 8 may be locked in unauthorized operation.

Ordinarily the springs on the latch will be sufficient in conjunction with the weight of the rod to return said rod to normal position, but in order to insure positive operation of the rod under conditions of use, I provide on the rod 16 to which is connected at one end a follower at 17 and whose other end is secured to the door or follower at 18 by a screw or other means surrounding the locking mechanism.

will pass through all three thicknesses of metal while the rivets 33 pass through only two thicknesses of metal.

I claim:—

1. The comb:

I claim:—

1. The combination with a trunk door or 70
follower and a plurality of latches secured
thereto and having spring urged bolts pro-
jecting beyond the edge thereof; of an abut-
ment on each bolt shank and a longitudi-
nally reciprocable rod having cams thereon, 75
said rod being mounted in operative rela-
tion to said abutments with the cams con-
tacting therewith.

In both forms of latch shown in Figs. 2 to 6, the casing is composed of sheet metal and consists of two parts one a flat plate 21 and the other a channel shaped plate 22, the depth of the channel being somewhat greater than the thickness of the door or follower 1 as clearly shown in Figs. 3 to 6. The bolt is held to the flat plate 21 by means of a sheet metal cap screw 23 against which about

20 3 to 6. The bolt is held to the flat base plate 21 by means of a sheet metal strap 23 against which abuts a plate 24 loose on the shank 25 of the bolt and between the head of the bolt and this plate 24 is its actuating spring 26 surrounding the shank 25. The channel shaped portion of the cap is provided with lateral openings 10 in order to

25 of the bolt and this plate 24 is its actuating
spring 26 surrounding the shank 25. The
channel shaped portion of the case is pro-
vided with lateral openings as indicated at
10 in order that the actuating rod may be
free to pass through the same. In these re-
0 spects the two forms of latches are identical
but the form of latch shown in
4 comprises the form of latch shown in
tail of the latch shown in

4 comprises the following features. The tail of the bolt shank that passes through the strap 23 is flattened at 27, Fig. 3, has riveted thereto a member 28, the two together forming a fork, and between the ends of the flattened portion 27 and of the member 28 is included the abutment or anti-friction roller 6. The rod or rod section passes through the slot formed between the flattened portion of shank 27 and the member 28 with the up-turned inclined cam 7 engaging against the roller 6, the back edge of rod lying against the outwardly turned edges 29, Fig. 2, at the left hand side of opening 10. The sides of the

rod lying against the roller 6, the back edge of
ges 29, Fig. 2, at the left hand side of
opening 10. The sides of the flattened
ion of the bolt shank and of the member
re guided between anti-friction rollers
ounted on rivets 31 passing through
the upper and lower case members 21
2. These rollers are also in proximity
edge of the opening 10 so that the rod
ave bearing on them as it is recipro-
In the second form of bolt, shown in
and 6, the shank 25 of the bolt passes
a U-shaped metal strip 31
riveted thereto.

In the second form of bolt, shown in and 6, the shank 25 of the bolt passes a U-shaped metal strip 31 and is up-riveted thereto thereby forming a band and between the ends of this mounted the abutment or anti-friction 6. The flanges of the channel 21 and the retaining strap 23 for placed between them so that when otherwise securing the latch to r follower the rivets 32, Fig. 2,

ing plate having lateral openings, one edge of said openings forming a guide for the back edge of the cam rod, and anti-friction rollers mounted in the casing on each side of the bolt shank and in proximity to the edges of said openings to contact with the back of said rod.

8. The combination with a door or follower, and a plurality of spring-urged latches, each having a yoke connected to its shank; of an actuating rod passing through the yokes of the latches and cams on the rod to engage the yokes, and means connected to the rod and passing a slot in the door to actuate the rod, whereby said means and rod may be given simultaneous rectilinear movement to actuate the latter.

9. The combination with a plurality of spring-urged latches each having an abutment thereon; of a sectional actuating rod, the sections of which are detachably connected end for end, a cam formed on each section and a shoulder adjacent each cam

capable of striking the abutment on the latch. 25

10. The combination with a plurality of spring-urged latches each having an abutment thereon; of a sectional actuating rod, the sections of which are detachably connected end for end, and a cam formed on each section capable of striking the abutment on the latch. 30

11. The combination with a plurality of spring-urged latches each having an abutment thereon; of a sheet metal actuating rod comprising detachable sections, a cam on each section to engage the latch abutments, and a spring to urge the rod downward. 35

In testimony that I claim the foregoing as my invention, I have signed my name in presence of two subscribing witnesses. 40

HENRY W. COTTRELL.

Witnesses:

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T. F. QUIGLEY.