J. VAN BLARCOM.

WHIP SOCKET.

APPLICATION FILED JAN. 26, 1909.

930,577.

Patented Aug. 10, 1909.

2 SHEETS—SHEET 1.

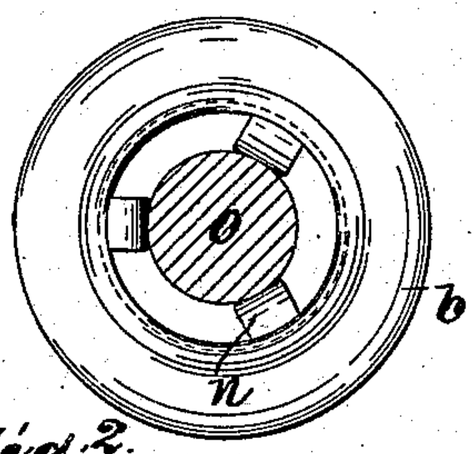

Fig. 2.

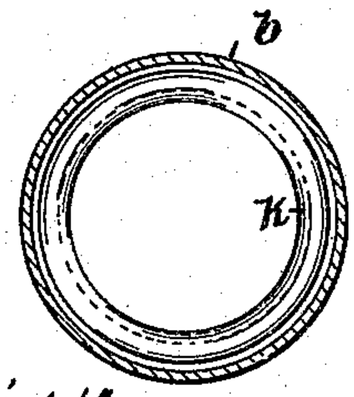

Fig. 4.

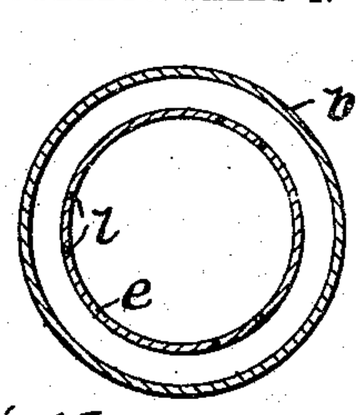

Fig. 5.

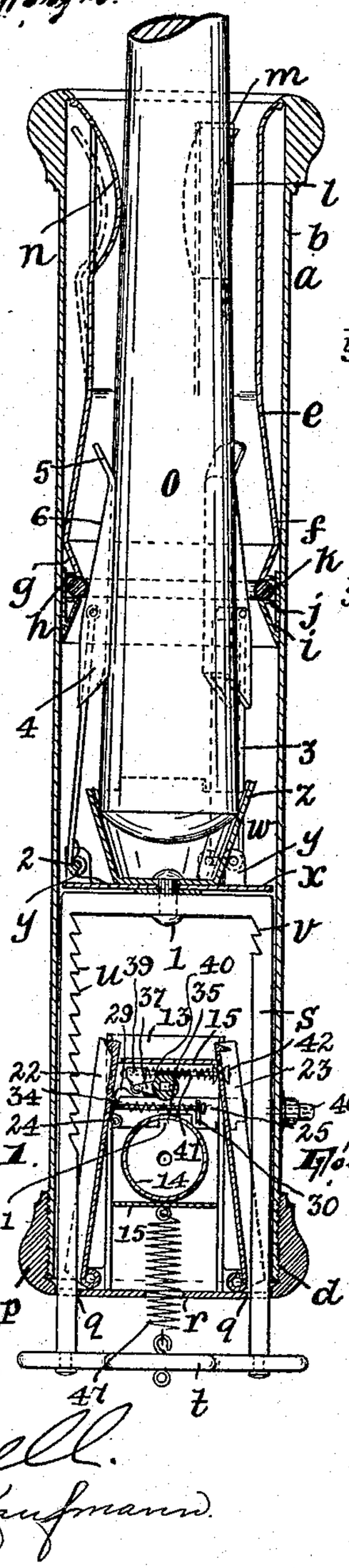

Fig. 1.

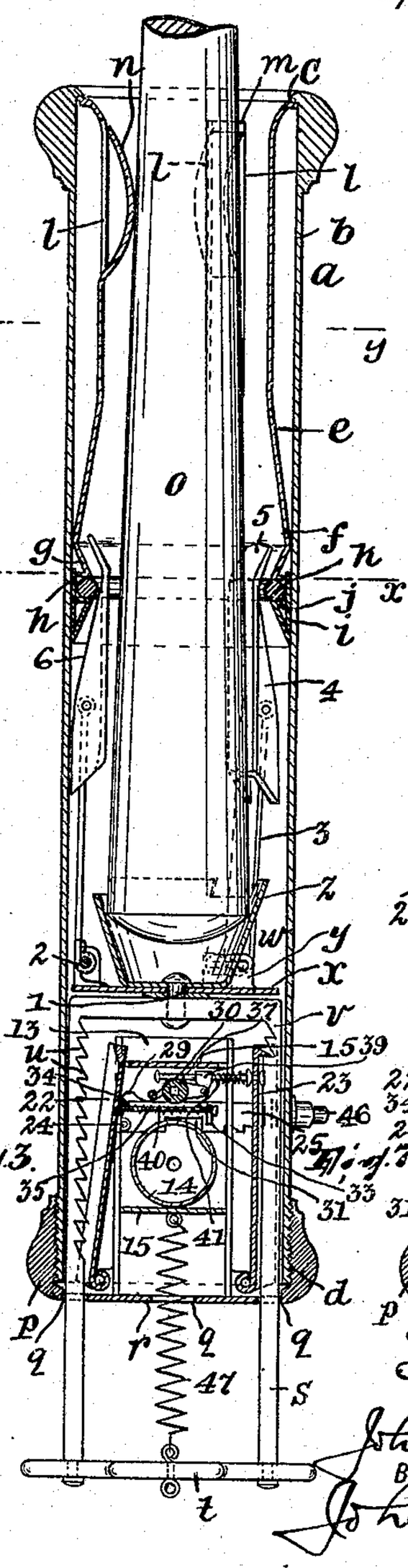

Fig. 3.

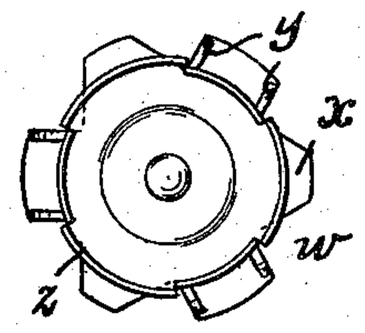

Fig. 6.

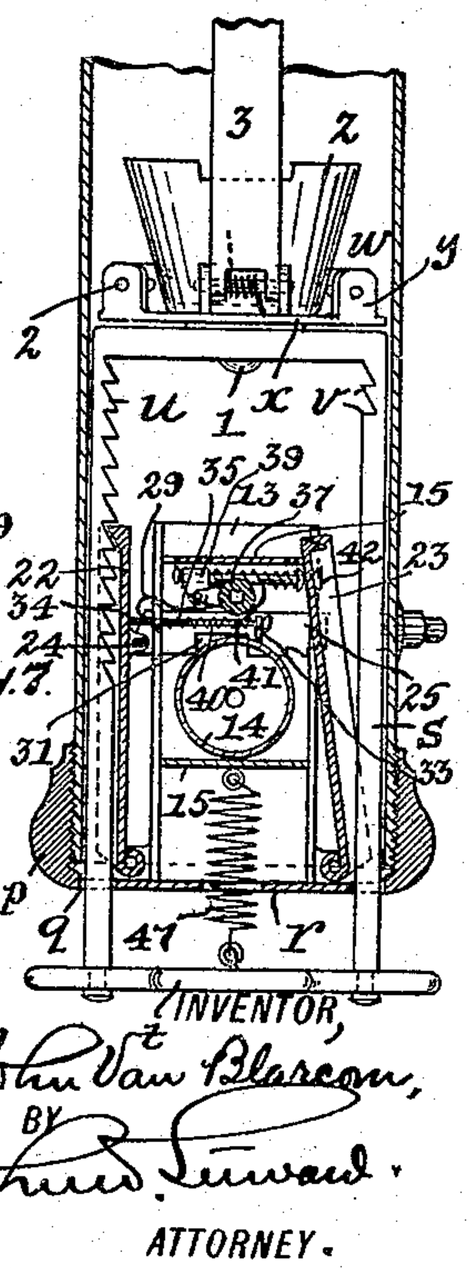

Fig. 7.

WITNESSES

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2 SHEETS—SHEET 2.

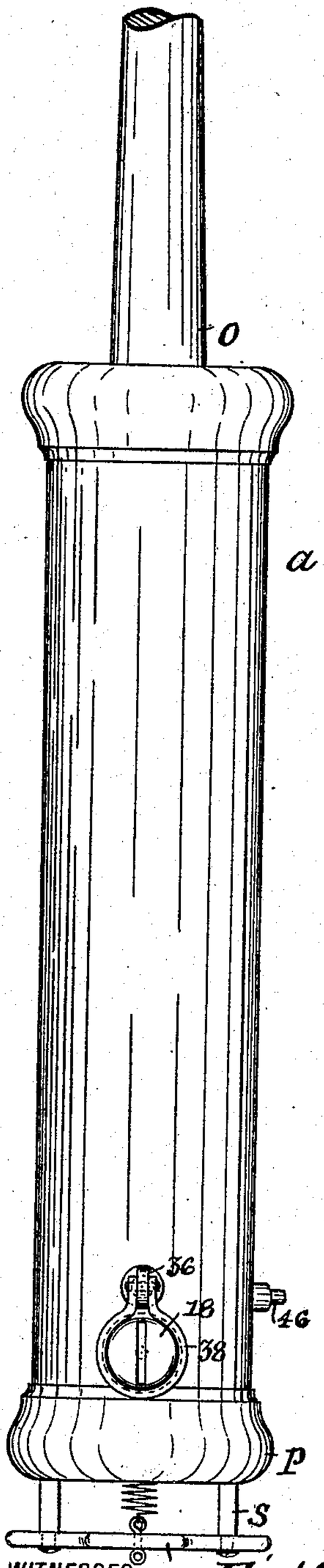

Fig. 8.

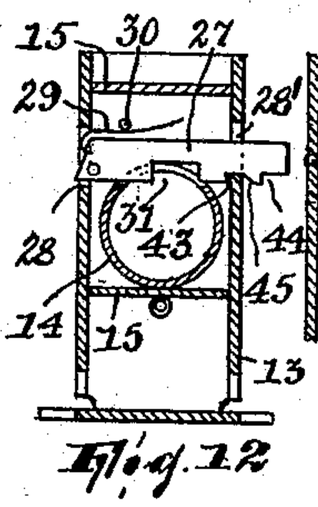

Fig. 12.

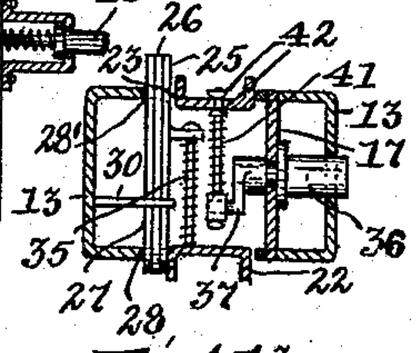

Fig. 13.

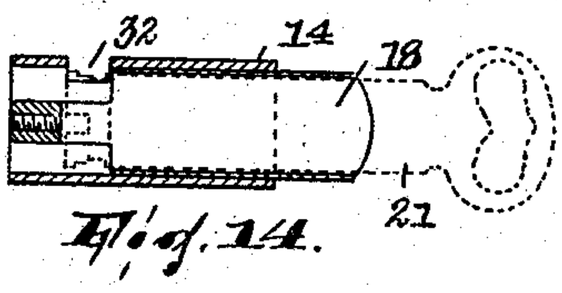

Fig. 14.

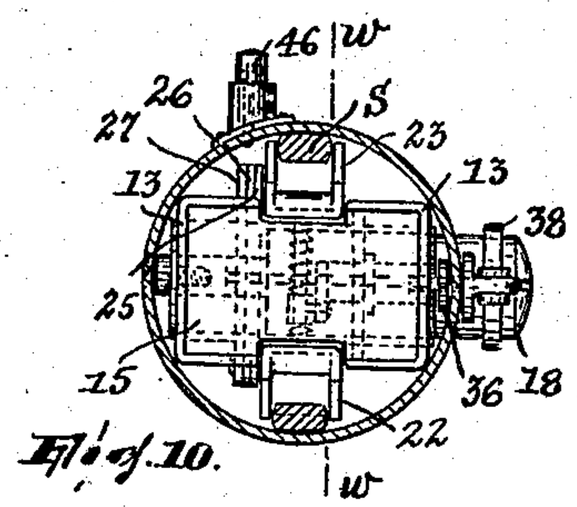

Fig. 10.

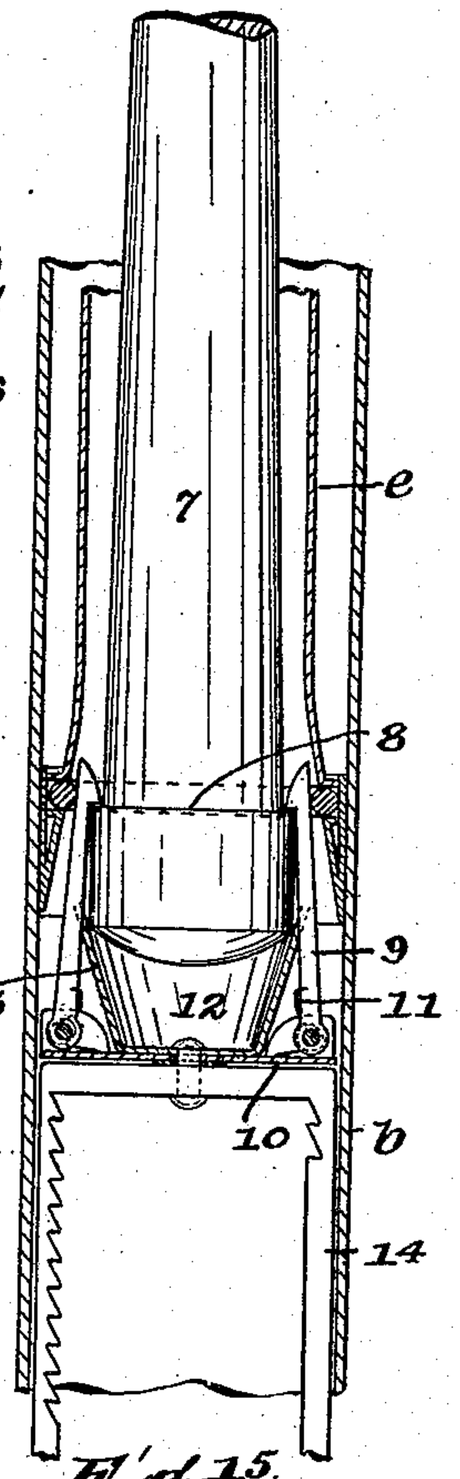

Fig. 15.

Fig. 8.

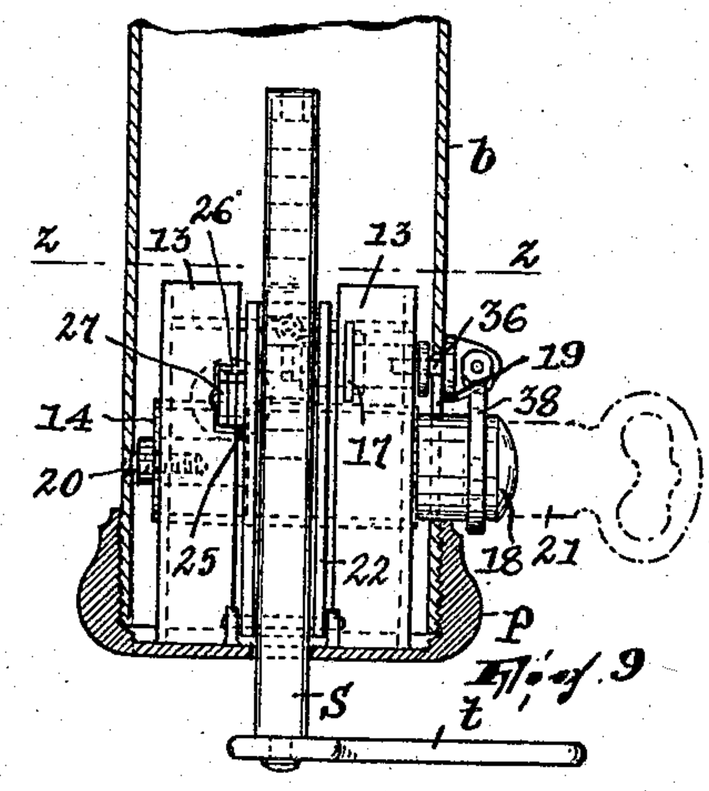

Fig. 9.

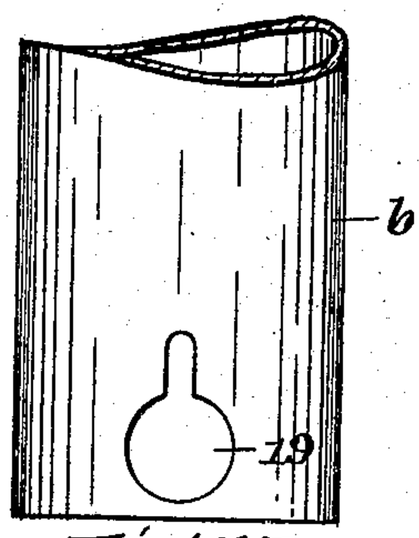

Fig. 11.

WITNESSES

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UNITED STATES PATENT OFFICE.

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WHIP-SOCKET.

No. 930,577. Specification of Letters Patent. Patented Aug. 10, 1909.

Application filed January 26, 1909. Serial No. 474,205.

To all whom it may concern:

Be it known that I, JOHN VAN BLARCOM, a citizen of the United States, residing in Paterson, Passaic county, New Jersey, have invented a certain new and useful Improvement in Whip-Sockets; 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 characters of reference marked thereon, which form a part of this specification.

This invention relates to whip-sockets, and it has for its principal object to provide a whip-socket which may be so set as either to prevent the removal of the whip without the use of a key, or to permit the removal of the whip only after a certain part has been actuated to effect its release, but without the use of a key, or to permit its perfectly free removal at any time.

The essential feature of the invention resides in providing a gripping member or members which are vertically movable in the casing or shell member of the device, such gripping member or members and the casing member having the one a cam surface adapted to be impinged by the other and to limit the upward movement of the gripping member or members, which latter normally stand elevated in the casing member.

In addition to the foregoing the invention consists in means whereby the parts may be locked in the position where the gripping members grip and hold the whip against removal or in the position where they leave the whip free for removal.

The invention will be found fully illustrated in the accompanying drawings, wherein,

Figure 1 is a vertical sectional view of the improved whip-socket on line *w*—*w* of Fig. 10 and looking toward the left in said figure, showing a whip in place therein, the parts being in such position that the gripping members are free to be drawn downwardly and thus release the whip; Fig. 2 is a plan view of the whip-socket as seen in Fig. 1, the whip appearing in section; Fig. 3 is a view similar to Fig. 1 excepting that the gripping members are shown in their depressed position, in which position the whip is free to be withdrawn from the socket; Figs. 4 and 5 are sectional views on the lines *x*—*x* and *y*—*y*, respectively, of Fig. 3; Fig. 6 is a plan view of the member in which the whip seats and in which, in the adaptation shown, the gripping members are pivoted; Fig. 7 shows the lower part of the whip-socket as it appears in Fig. 1, showing how the gripping members are locked in their elevated position; Fig. 8 is a view in elevation of the improved whip-socket, with the whip in position therein; Fig. 9 is a vertical central sectional view of the lower part of the whip-socket, taken in a plane at right angles to that of the sectional views Figs. 1, 3 and 7, that is, coincident with the axis of a certain key barrel, certain parts appearing in elevation; Fig. 10 is a sectional view on the line *z*—*z* of Fig. 9; Fig. 11 shows a fragment of the casing in elevation; Fig. 12 is a vertical sectional view taken between two of the tumblers in Fig. 10 and looking toward the left in said figure; Fig. 13 is a plan view of the interior mechanism shown in Figs. 9 and 10 with a certain top-wall removed; Fig. 14 shows the key barrel and the sleeve in which it rotates in section; and, Fig. 15 is a fragmentary vertical central sectional view of a modified form of the invention.

In the drawings, *a* designates the shell or casing member. This comprises a cylinder *b* having an internal shoulder *c* at its upper end and an external threading *d* at its lower end; a sleeve *e* introduced into the cylinder and having its upper end flaring and abutting against the shoulder *c* and its lower end-portion expanded at *f* so as to afford circumferential contact with the cylinder *b*, then contracted at *g* and having its edge turned outwardly at *h* to form a shoulder; an annulus *i* having an internal shoulder *j*; and a freely rotating anti-friction ring *k* disposed between the shoulders *h* and *j*. The parts *e* and *i* are forced into the cylinder and are held therein by frictional action. The upper end-portion of the sleeve is formed with a plurality of pairs of vertical slits *l* connected at their upper ends by horizontal slits *m* leaving in each instance a tongue of metal *n* which is bowed inwardly to form a spring clip, such spring clips coöperating to center the whip *o* when introduced into the socket. The shell or casing member also comprises a cap *p* which is screwed into the threaded lower end of cylinder *b*.

An inverted U-shaped frame *s* having a foot-piece *t* connecting its lower ends is guided in two of three openings *q* of a wall *r* of cap *p*, one leg of said frame having on the inside a series of ratchet teeth *u* and the other having at its upper end one or two teeth *v*. To this frame is swiveled a member *w* comprising a disk *x* having pairs of lugs *y*, and a cup *z*, the swivel being afforded by a rivet 1. In the lugs *y* on pins 2 are pivoted arms 3 at the free ends of which are pivoted jaws 4 having their upper ends 5 flaring and formed with the inclined surfaces or cam-faces 6.

In view of the foregoing, and assuming that the frame *s* is normally drawn upwardly in the position shown in Fig. 1 (as will be explained later), in which position the jaws stand contracted, upon introducing the whip *o* its butt-end will first impinge against the upper flaring ends of the jaws 4; the jaws being contracted, the butt of the whip cannot enter until the jaws have been displaced downwardly sufficiently so that their cam-faces 6 allow them to open, whereupon it will freely enter the jaws, which will then immediately rise and be again contracted by their cam-faces wiping against the ring *k*. The gripping members thus afforded by the arms 3 and jaws 4, automatically coöperate with the ring *k* to grip and hold the whip against withdrawal until the gripping members have been again depressed sufficiently to allow their expansion. By swiveling the member *w* on the frame *s* and providing the anti-friction ring *k* the whip may be turned freely in the socket however tightly it may be gripped by the jaws 4. Since, under the condition now referred to, the gripping members are normally pressed upwardly, it will be observed that the whip cannot be released by pushing it down against the cup *z*, in which it seats, for any attempt thereupon to raise the whip is directly opposed by the rise of the gripping members into their gripping position.

The whip *o* in Figs. 1, 3 and 8 is one having a tapering butt; the whip 7 in Fig. 15 has a shoulder 8, and for this type of whip the gripping members are in the form of hook-shaped jaws 9 pivoted in a disk 10 and having their upper ends normally forced toward their expanded position by springs 11, the member 12 comprising disk 10 and the cup 13 for the whip-butt being swiveled to the frame 14 corresponding to frame *s* in the same manner as cup *w* is swiveled to frame *s*.

It will be understood that it is not essential to the automatic gripping of the whip in the socket that its butt be tapering, as in Figs. 1, 3 and 8, or formed with a shoulder, as in Fig. 12, so long as the engagement between the whip and the jaws is such, whether by frictional or positive contact, that the whip tends to displace the gripping members upwardly once the latter are wedged between the whip and some part corresponding to the ring *k*.

Channeled uprights 13, having the channeled portions facing each other, are attached to the cap *p*, being rigidly connected by a sleeve 14 and horizontal walls 15 above and below the sleeve; above the sleeve the two sides of one of the uprights are connected by a vertical wall 17. After the wall *r*, with the uprights attached thereto, has been placed in position, a key barrel 18 is introduced through an opening 19 in the cylinder *b* into the sleeve 14, the key-barrel acting to hold the parts against removal and being itself held from longitudinal displacement by a screw 20 passed through the cylinder *b*.

21 designates the key adapted to be introduced into the barrel 18.

In the uprights 13 are pivoted upwardly extending pawls 22 and 23, the former being adapted to engage the teeth *u* and the latter the teeth *v*. On a pivot 24 of the pawl 22 are pivoted three tumblers 25, 26 and 27, the same being movable in openings 28, 28′ in the sides of the left hand upright in Fig. 10. Springs 29 are attached to the tumblers 26 and engage a stud 30 projecting from the upright last referred to, thereby pressing said tumblers downwardly. The several tumblers have suitable cuts 31 to suit the wards of the key 21, the tumblers being adapted to penetrate a cross-cut 32 in the sleeve 14 so as to be engaged by the key. The tumbler 25 has a projection 33 which is penetrated by a headed stud 34 projecting from the pawl 32 and between such projection and the pawl is a compression spring 35 coiled about the stud. Now when the tumblers are forced to the left in Figs. 3 or 7 by the key the tumbler 25 acts through the spring 35 to hold the pawl 22 in yielding contact with the teeth *u*. Thus, if it is desired to lock the gripping members in their contracted position, the key is employed to press the pawl 22 in engagement with the leg of frame *s* having the teeth *u*; the pawl will then prevent the frame from being depressed by means of the foot-piece *t*.

In the vertical wall 17 and in the channeled upright 13 carrying said wall is journaled an arbor 36 carrying at its inner end a crank 37 and at its outer end having swiveled thereto a ring 38 which is adapted to slip over the protruding end of the key-barrel and thus hold the arbor against rotation. To the crank 37 is pivotally connected a slide 39 arranged on a headed stem 40 around which is coiled a compression spring 41 interposed between the slide and one of two lugs 42 on the stem 40. The stem penetrates the pawl 23, the lugs holding the stem against longitudinal movement in the pawl.

Upon raising the ring 38 out of engagement with the key barrel, said ring may be employed as a handle to turn the crank 37, the effect of which will be either to move pawl 23 into yielding contact with the leg of frame *s* having the teeth *v* (as in Fig. 3) or out of engagement therewith (as in Fig. 7). Thus, if it is desired to lock the gripping members in the open position, the ring 38 is turned until it causes the pawl 23 to bear against the leg of the frame *s* having the teeth *v;* when the frame is now depressed to its lowest limit the pawl 23 will engage one of the teeth *v* and hold it down, in which position the gripping members will be expanded. The pawl and the parts controlling it are maintained in this position by the ring 38 being again allowed to embrace the key barrel.

The tumblers 25, 26 and 27 have the notches 43 and 44, the former having an inclined surface 45. When the pawl 22 is retracted, the notches 43 of the tumblers receive the lower edge of the opening 28′ of the left-hand upright 13 in Fig. 10. When the key throws the tumblers to the left their inclined surfaces 45 allow them to ride over said edge, so that they ultimately fall, their notches 44 now receiving said edge and holding them against returning. To release the tumblers, the key is turned in the direction reverse to that for locking, so that it raises the tumblers and disengages their notches 44 from the lower edge of the opening 28′.

In order to make unnecessary the use of a key in locking the gripping members, a spring-actuated button 46 may be arranged in the cylinder *b* opposite the ends of the tumblers. When this button is pushed in the tumblers are moved to the left in Fig. 3 the same as they are moved by the key; they cannot be now returned without the use of a key.

The means operating normally to raise the frame *s* may be a spring 47 connecting the foot-piece with the lower wall 15.

It will be understood that the improved whip-socket is attached to the dash-board of a vehicle in the same manner as the ordinary whip-socket.

According to convenience or other circumstances the gripping members will normally be either free to be depressed by applying the foot on the foot-piece *t* or be locked in their open position by means of the pawl 23, the driver only securing the gripping members locked in their gripping relation at such times as the whip is not to be frequently used.

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

1. The combination of a casing member and a gripping member vertically movable therein, the casing member having a part thereof overlying a part of the gripping member and one of said parts having a cam face engageable by the other part, and means, comprising a spring, acting normally to elevate the gripping member, substantially as described.

2. The combination of a casing member and a vertically movable mechanism arranged therein and comprising a gripping member, the casing member having a part thereof overlying a part of the gripping member and one of said parts having a cam face engageable by the other part, means, comprising a spring, acting normally to elevate the gripping member, and means for locking said mechanism against downward movement, substantially as described.

3. The combination of a casing member and a vertically movable mechanism arranged therein and comprising a gripping member, the casing member having a part thereof overlying a part of the gripping member and one of said parts having a cam face engageable by the other part, means, comprising a spring, acting normally to elevate the gripping member, and means for locking said mechanism at an elevation lower than its upward limit of movement, substantially as described.

4. The combination of a casing member, a vertically movable mechanism arranged therein, and means, having a part thereof swiveled to said mechanism on a vertical axis and coöperative with the casing member, for gripping a whip introduced into the casing member, substantially as described.

5. The combination of a casing member, a ring freely rotatable therein on a vertical axis, and means, coöperative and rotatable with and surrounded by said ring, for gripping a whip introduced into the casing member, substantially as described.

In testimony, that I claim the foregoing, I have hereunto set my hand this 23 day of January, 1909.

JOHN VAN BLARCOM.

Witnesses:
JOHN W. STEWARD,
GEORGE VAN BLARCOM.