

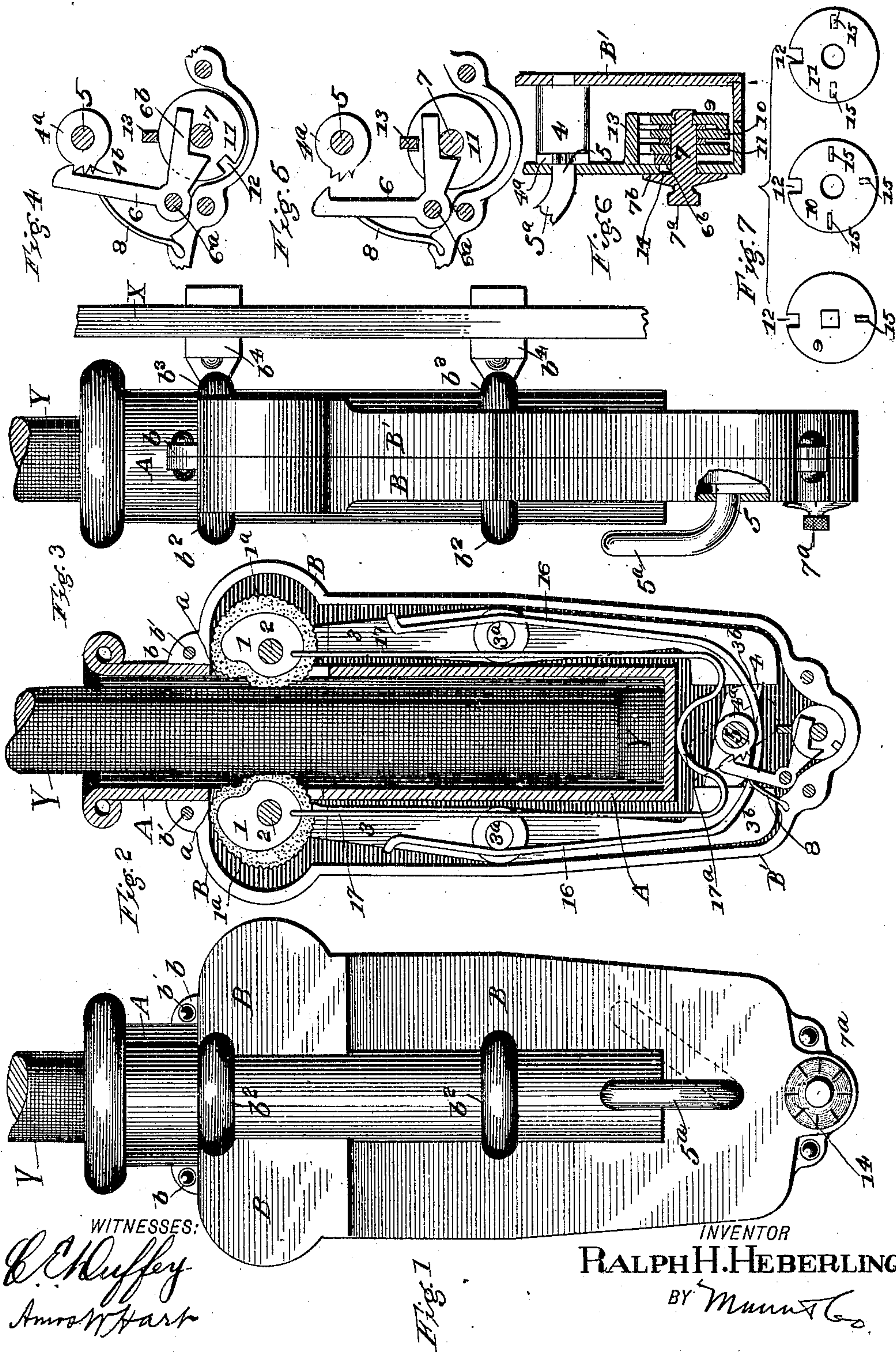
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R. H. HEBERLING.

WHIP SOCKET.

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WHIP-SOCKET.

No. 837,222.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, RALPH H. HEBERLING, a citizen of the United States, and a resident of Wilmerding, in the county of Allegheny and State of Pennsylvania, have invented an Improved Whip-Socket, of which the following is a specification.

My invention is an improvement in that class of whip-sockets which are provided with means for locking a whip to prevent its surreptitious removal. The construction, arrangement, and operation of parts composing the same are as hereinafter described, the novel features being indicated in the claims.

In the accompanying drawings, Figure 1 is a side view of my whip-socket. Fig. 2 is a central longitudinal section of the same. Fig. 3 is a side view, also showing the socket attached to a dasher. Fig. 4 is a sectional view illustrating the locking mechanism forming a part of my improved whip-socket. Fig. 5 is a section on the line 5 5 of Fig. 6, the same illustrating a different position of the parts than that shown in Fig. 4. Fig. 6 is a sectional view of the locking mechanism, taken at right angles to the views shown in Figs. 4 and 5. Fig. 7 is a face view of the three disks or tumblers forming part of the locking mechanism.

In the following description letters indicate fixed parts and numerals movable parts of the whip-socket.

In Figs. 1, 2, 3, A indicates a whip-socket proper of the common cylindrical type, and B B' two separable parts or castings composing a frame in which the socket proper, A, is arranged and secured. The parts B B' are provided with lugs *b*, that receive rivets *b'*, whereby they are permanently secured together. The said parts are also provided with circumferential notches *b² b³* and from the latter project clamps *b⁴*, (see Fig. 3,) by which the socket is held to the dasher X or other fixed portion of a vehicle. The means for clamping and locking the whip Y in the socket proper, A, will now be described.

As shown in Fig. 2, the socket proper, A, is provided in its upper end with side slots *a*, which are arranged diametrically opposite and through which project the edges of rotatable eccentrics I. The same are mounted fast on axes 2, that are suitably journaled in the upper ends of pivoted levers 3. The said eccentrics are surrounded by strips I^a of

elastic material, preferably rubber, which are corrugated or roughened, as shown. The strips I^a are firmly secured to the eccentrics I. The levers 3 are provided with trunnions 3^a, by which they are pivoted centrally in the casing or frame composed of the parts B B', and their lower ends 3^b project inward or toward each other, but are separated by considerable space in which is arranged a pivoted block 4, the same being keyed on a shaft 5, having its bearings in the parts B B' and one end of the same projecting from the part B and being turned upward to form a lever-handle 5^a, as indicated in Figs. 1 and 3. It is obvious that by oscillating the handle 5^a the block 4 will be similarly moved, and thus the latter may be placed in an approximately horizontal position, (shown in Fig. 2,) whereby the ends 3^b of the levers 3 are separated and their upper ends thrown inward correspondingly, so that the eccentrics or jaws I impinge upon the whiphandle Y with a corresponding force. On the other hand, by adjusting the block 4 in a vertical position, it is obvious the levers 3 will be released, so that the eccentrics I will be moved away from the whiphandle Y. For locking the block in the position shown in Fig. 2 I employ means which will now be described.

The hub 4^a of the block 4 is provided with teeth 4^b, (shown in Figs. 2, 4, 5,) with which an elbow-shape pawl 6 is adapted to engage. The said pawl is pivoted at its angle 6^a, and its lower arm 6^b projects laterally across the shaft 7, upon which a series of tumblers is arranged, as will be presently described. As shown in Figs. 2 and 4, the pawl 6 is engaged by the teeth of the hub 4^a, and thus the block 4 is locked in the horizontal position required to hold the eccentrics or grippers I in firm engagement with the whiphandle Y, while in Fig. 5 the pawl is shown thrown back and released from such engagement. A spring 8 serves to normally throw the pawl 6 into engagement with the teeth 4^b. The release of the pawl 6 is effected as follows: The tumblers, before referred to, comprise disks 9 10 11. (See Fig. 7.) The disk 9 is secured upon the polygonal end of the shaft 7, whose opposite or outer end is provided with a knob 7^a for convenience in rotating it. Adjacent to the knob is an enlarged head 7^b, which is inscribed as usual in combination - locks. The disks 10 and 11 rotate free on the cylin-

drical portion of the shaft 7. The horizontal arm 6^b of the disk 6 lies in front of the pawl 11, as shown in Fig. 6. Between the disks 9 10 11 are arranged washers which hold them 5 duly spaced apart, as shown in Fig. 6. Each of the disks is provided with a notch 12, and it is obvious that if these notches be brought into coincidence they will receive the fixed horizontal arm 13, (see Fig. 6,) forming an 10 integral part of the front portion B of the whip-socket. A slot 14 is provided in the part B, (see Fig. 6,) which enables the knob-shaft 7 to be raised when the disk-notches are in such coincidence with each other and 15 the projection 13. The disks 9 10 11 are further provided with lugs 15, arranged as shown in Fig. 7. These lugs are so arranged that they engage each other in the manner required to enable the operator to adjust the 20 tumbler-disks in the position necessary to bring their slots 12 into coincidence, as indicated in Fig. 6. It will be seen that when in such position upon moving the knob-shaft 7 upward, as permitted by the slot 14, the horizontal arm 6^b of the pawl 6 will be raised 25 also, as shown in Fig. 5, and thus the pawl proper will be released from engagement with the toothed hub of the block 4 and leave the latter free to be rotated to the vertical position, so that the levers 3 will be no longer 30 held in the locking position indicated in Fig. 2. On the other hand, when the knob-shaft 7 is moved downward in the slot 14 to the position indicated in Fig. 6 the disks are carried 35 down, so that the arm 6^b no longer engages the slot 12 thereof, and upon rotating the knob the tumblers are thrown out of registration and the pawl 6 is allowed to resume its locking position (indicated in Figs. 2 and 4) 40 and cannot be again unlocked except by one knowing the combination of the lock proper.

The grippers or eccentrics I are held normally thrown inward, and thus in engagement with the whip Y, by means of a bow or 45 U-shaped spring 16, (see Fig. 2,) the free ends of which engage the levers 3 at a point above their pivots 3^a, the lower end of said spring passing under the shaft 5 of the locking-block 4. Also for the purpose of holding the eccentrics I in a certain normal position I employ another spring 17, preferably consisting 50 of wire, the ends of which are connected with the respective eccentrics and the lower end thereof being above the shaft 5 of the block 4 and also curved upward by such shaft against 55 the lower end of the whip-socket proper, A. By such contact with the whip-socket the spring exerts downward and elastic tension on the eccentrics I, and thereby holds them 60 in such position that the side having the least thickness or radius is directly opposite the whip Y. When the eccentrics are thus held, it is obvious that the whip is gripped with minimum force, yet when the whip is introduced its frictional contact with the corru-

gated elastic rims of the eccentrics causes the eccentrics to rotate on their pivots 2, so that as the whip descends the eccentricity of the portion in contact with it increases, and thus the gripping action becomes stronger and 70 stronger. This rotation of the eccentrics is permitted by the bend 17^a of the spring 17.

What I claim is—

1. The combination, with the whip-socket proper, and an inclosing frame, of rotatable 75 eccentrics for gripping a whip, levers pivoted in the frame and carrying the said eccentrics at their upper ends, a spring which normally holds the eccentrics pressed inward toward each other, and another spring which nor- 80 mally holds the eccentrics in such position that the sides having least radius are directly opposite each other, and means for locking the said levers, substantially as described.

2. In a whip-socket of the class indicated, 85 the combination, with the socket proper and a frame in which the same is duly secured, of grippers comprising rotatable eccentrics, levers pivoted within the frame, and carrying the said eccentrics at their upper ends and a 90 rotatable locking-block arranged between the lower ends of said levers and below the whip-socket proper, an exterior device for rotating said block, teeth formed on the hub of the block, a locking spring-pawl arranged for en- 95 gagement with said teeth, and combination-lock mechanism for releasing said pawl, substantially as described.

3. In a whip-socket of the class indicated, the combination, with a whip-socket and a 100 frame containing the same, of levers pivoted in the frame on opposite sides of the socket proper, eccentrics journaled in the upper ends of said levers and adapted for contact with a whip when introduced in the socket, 105 and a spring connected with the rotatable eccentrics and serving to hold them normally in such position that their narrower sides are opposite each other, and means for locking the said levers, substantially as set forth. 110

4. In a whip-socket of the class indicated, the combination, with the whip-socket proper and a frame containing the same, of levers pivoted on opposite sides of the socket proper, rotatable eccentrics which are jour- 115 naled in the upper ends of said levers, a wire spring whose ends are connected with the eccentrics and whose lower end is provided with an upward bend that rests in contact with a fixed piece whereby the spring exerts 120 downward tension and normally holds the eccentrics in such position that their narrower sides are normally opposite each other while the spring is adapted to yield upwardly as required when the eccentrics are rotated, and 125 means for locking the levers, substantially as described.

5. In a whip-socket of the class indicated, the combination, with a whip-socket proper and a frame in which the same is secured, of 130

levers pivoted on opposite sides of the socket, eccentrics carried on the upper ends of the levers, a spring for holding the upper ends of the levers normally pressed inward, a rotatable locking-block arranged between the lower ends of the levers, and means for locking said block in the position required to hold the adjacent ends of the levers normally spaced apart, and means for releasing the block, substantially as described.

6. In a whip-socket of the class indicated, the combination, with the whip-socket proper and the frame in which the same is held, of pivoted levers having grippers for engaging a whip, a rotatable block arranged between the lower ends of said levers and having its shaft extended on the front side of the frame and curved as shown whereby it is adapted for use in adjusting the said block for locking and unlocking the levers, a device for automatically engaging the block in such manner as to hold it in locking position, and means controlled by the operator, whereby the locking device may be released at will, substantially as described.

7. In a whip-socket of the class indicated, the combination, with a whip-socket, a frame containing it, pivoted levers arranged in such frame and having grippers for engaging a whip, of a device for separating the lower ends of the levers as required for locking, a pivoted locking-pawl which engages

such device, and means for shifting said pawl out of the engagement, the same comprising combination-lock mechanism with which one arm of the pawl is adapted to coöperate, substantially as described.

8. In a whip-socket of the class indicated, the combination, with a whip-socket and a frame containing the same, of levers pivoted in the frame and having grippers for engaging a whip, a rotatable block arranged between the lower ends of the levers and adapted to force them apart as required for locking a whip, a locking elbow-pawl which engages said block, the lower arm of said pawl projecting laterally, a rotatable shaft arranged directly beneath such arm and in bearings which permit it to be moved bodily upward, a series of tumblers mounted on said shaft, certain ones being free to rotate and one being fixed on the shaft, the said disks being provided with lugs adapted to engage each other and notches which may be brought into coincidence, and a rigid arm on the frame which is adapted to enter the said notches when in coincidence and when the aforesaid shaft is raised vertically, whereby the pawl is adjusted to the releasing position, substantially as described.

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Witnesses:

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