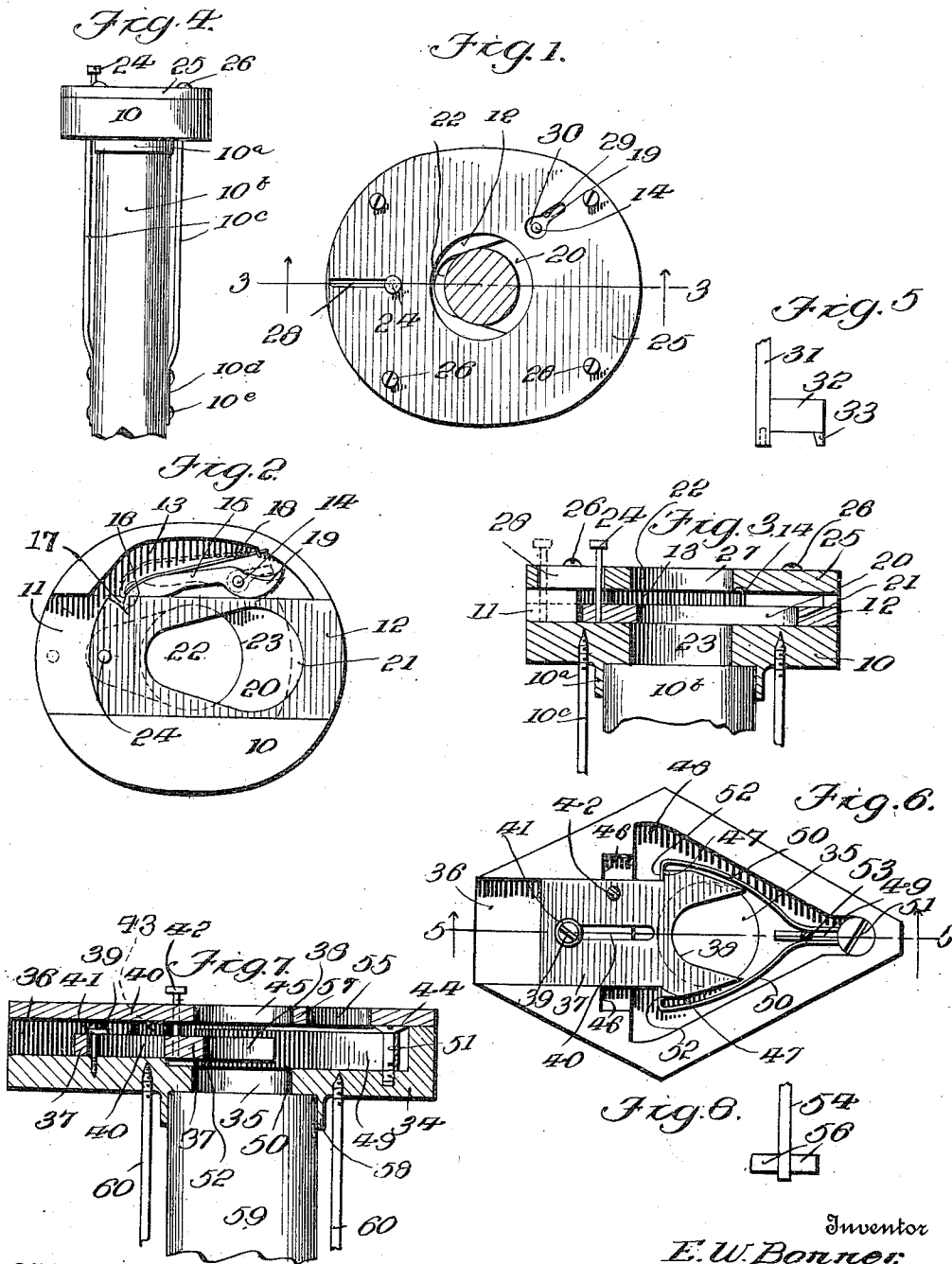


E. W. BONNER.
WHIP LOCK.
APPLICATION FILED APR. 9, 1910.

985,653.

Patented Feb. 28, 1911.



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WHIP-LOCK.

985,653.

Specification of Letters Patent.

Patented Feb. 28, 1911.

Application filed April 9, 1910. Serial No. 554,566.

To all whom it may concern:

Be it known that I, EARL W. BONNER, citizen of the United States, residing at Bonnerton, in the county of Beaufort and State of North Carolina, have invented certain new and useful Improvements in Whip-Locks, of which the following is a specification.

This invention relates to whip locks, and has for an object to provide a lock which encircles the whip and positively holds the same within the socket.

The invention has for another object to form a whip securing device which can be operated only by a key of peculiar form, and which is automatically locked upon the sliding of a clamping plate against the whip through the medium of a thumb-lever which is attached thereto.

The invention has for a further object to provide a whip lock possessing the above advantages and which is composed of comparatively few parts which are so arranged that the lock can be readily assembled, and wherein the parts cannot easily get out of order.

For a full understanding of the invention reference is to be had to the following description and accompanying drawing, in which:

Figure 1 is a top plan view of the improved lock showing in section a whip handle secured therethrough. Fig. 2 is a similar view having the cover removed therefrom. Fig. 3 is a longitudinal central section through the improved lock on the line 3—3 of Fig. 1. Fig. 4 is a side elevation of the improved lock applied to the upper end of a whip socket. Fig. 5 is a detail view of the key employed in connection with the same. Fig. 6 is a top plan view of a modified form of the lock having the cover removed therefrom. Fig. 7 is a longitudinal central section through the modified form as applied to a whip socket and having the cover in position thereon. Fig. 8 is a detail view of the key employed in connection with the modified form.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawing by the same reference characters.

Referring to the drawing the numeral 10 designates a plate which forms the body of the improved lock and which is of substantially elliptical form. The plate 10 is pro-

vided across its upper face with a longitudinal channel 11 into which is slidably positioned a clamping plate 12. One side of the plate 10 is provided with a pocket 13 formed by the provision of an arcuate recess in one of the walls of the channel 11 and at one side of the clamping plate 12. A vertical pin 14 is carried by the plate 10 and extends upwardly therefrom within one end of the pocket 13 to pivotally support a pawl 15. The outer end of the pawl is arranged longitudinally through the pocket 13 and carries a finger 16 projecting into the channel 11 for engagement against the edge of the clamping plate 12. The edge of the clamping plate is provided with a notch 17 adjacent its outer end into which the finger 16 engages when the clamping plate is in a retracted or locked position.

A leaf spring 18 is secured at its inner end within the wall of the pocket 13 adjacent to the pin 14 and rests against the back of the pawl 15 at its outer end. The leaf-spring 18 is adapted to retain the pawl 15 yieldably against the edge of the clamping plate 12. The pawl 15 is projected backwardly beyond its pivotal point to form a shoulder 19 for raising the pawl from engagement with the plate 12. The clamping plate is provided centrally and longitudinally with a tapering slot or opening 20 having rounded ends 21 and 22 to register with a circular opening 23 formed centrally through the plate 10. The plate 12 is further provided with a thumb-lever 24 extending upwardly therefrom to a point above the plate, and this lever is employed for reciprocating the plate when released by the pawl 15. The thumb-lever 24 is formed of a threaded bolt which is detachably engaged in the plate 12 adjacent its outer end. The body of the lock is provided with a cover 25 which is formed of a comparatively thin plate corresponding in shape to that of the plate 10, and which is suitably secured to the body by means of rivets 26, or the like. The cover 25 is provided with a circular opening 27 corresponding to the opening 23 through the body of the lock. A longitudinal slot 28 is formed in the outer end of the cover 25 to receive the thumb-lever 24 therethrough. The cover 25 is further provided with a key-slot 29 terminating at its inner end in an eye 30 for the reception of a key, the eye 30 receiving the upper end of the pin 14, while the slot 29 is disposed im-

mediately over the outer edge of the shoulder 19.

The key which is employed in connection with this lock is formed of a hollow stem or barrel 31 having a web 32 provided at its outer edge with a depending lug 33. The stem 31 receives therein the pin 14 when passed through the eye 30 and the web 32 engages against the upper face of the shoulder 19 to dispose the lug 33 against the outer edge of the shoulder. A slight rotation of the key forces the lug 33 against the shoulder 19 to raise the pawl 15 from engagement with the notch 17 when the clamping plate 12 is drawn forwardly through the medium of the thumb-lever 24. The lock is now in an open position and is disclosed in such position in dotted lines in Figs. 2 and 3.

In the modification disclosed in Figs. 6 and 7 the body of the lock comprises a plate 34 which is of substantially diamond form and provided with a central opening 35 to receive a whip handle therethrough. The outer end of the plate 34 is provided with a longitudinal channel 36 to slidably receive a clamping plate 37. The plate 37 extends over the opening 35 at its inner end and is provided with a semicircular recess or opening 38 to engage against the side of the whip handle when positioned through the body 34. The plate 37 is held in position by a screw 39 which is carried by the body 34 and extends upwardly through a longitudinal slot 40 formed in the outer end of the plate. A screw 39 carries a washer 41 beneath its head which rests upon the upper face of the plate 37. The screw 39 limits the inward movement of the plate 37. At one side of the plate 37 a thumb-lever 42 is positioned which projects upwardly through a slot 43 formed in the cover 44. The cover 44 is provided centrally with a circular opening 45 corresponding to the opening 35 to receive the whip handle. The inner end of the channel 36 is enlarged to form shoulders 46 to receive thereagainst the shoulders 47 which are formed upon the opposite sides of the slidable plate 37 adjacent its inner end. The central portion of the body 34 is further enlarged to provide pockets 48 at the opposite sides of the opening 35, which pockets merge into one another at the reduced inner end of the body. Within the inner recessed end of the body 34 a leaf-spring 49 is positioned which is bent into U-form to provide a pair of pawls 50 which are longitudinally arranged in the pockets 48. The turned over portion of the leaf-spring 49 is held in position by the passage of a screw 51 downwardly between the ears of the same. The screw 51 is carried by the plate 34. The outer ends of the pawls 50 are provided with inturned fingers 52 which register with the shoulder 47 of the clamping plate 37, when the clamping plate is moved into a locked

or inward position. Between the arms of the U-shaped spring 49 and at the point of divergence of the pawls 50 a pin 53 is positioned which is rigidly carried by the plate 34.

Fig. 8 discloses the form of key which is employed in connection with this modified form, and it essentially comprises a hollow stem or barrel 54 to engage through an eye 55 formed in the cover 44, and over the pin 53, and which carries oppositely extending webs 56 which are received through the slots 57 in the cover. When the key is thus positioned the webs 56 engage between the arms of the spring 49 and a slight rotation of the stem 54 engages the web against one of the arms of the spring, while the opposite web 56 strikes the opposite arm of the spring 49. This movement causes the diverging of the pawls 50 to raise the fingers 52 from the shoulders 47. The thumb-lever 42 is now moved outwardly through the slot 43 to carry the clamping plate 37 therewith to release the whip handle.

In the operation of the device the clamping plate is released from the pawl and moved outwardly when the passage through the body of the lock is uninterrupted and the handle of the whip is then positioned loosely through the body. The thumb-lever is drawn inwardly to move the clamping plate against the whip, whereby the plate is engaged with the pawl and prevented from outward movement. When the whip handle is inserted the enlarged end thereof is below the body and the tapering walls of the handle bind against the edges of the body of the lock and of the binding plate which contacts therewith. The lock is adapted for engagement over a whip socket, or the like, and may be secured to the same in any convenient and adaptable manner.

In the preferred form the body 10 is provided with a depending annular flange 10^a concentrically disposed about the opening 23 and adapted for snug engagement over a whip socket 10^b. A pair of arms 10^c are disposed in threaded relation within the under side of the body 10, and depend therefrom against the opposite sides of the socket 10^b. The lower ends of the arms 10^c are preferably flattened and curved inwardly as at 10^d to receive screws or rivets 10^e which are secured in the sides of the sockets 10^b. In this manner the improved lock is supported upon the upper end of a whip socket.

From Fig. 7 it will be noted that the modified form is provided with an annular flange 58 depending from the plate 34 concentric to the opening 35. The flange 58 engages over the upper end of a whip socket 59 and is held in such position by retaining arms 60 which are secured against the sides of the socket 59 in a manner similar to that disclosed in the preferred form in Fig. 4.

Having thus described the invention what is claimed as new is:—

1. A whip lock including a body for attachment over the upper end of a whip socket and having a registering opening therethrough, the body also having a longitudinal channel and a lateral pocket communicating with the channel, a clamping plate slidably engaging in the channel and having a central tapering opening for registration with the opening in the body, and a notch formed in one side and adjacent one end thereof, a pin carried by the body in one end of the pocket, a pawl hinged upon the pin and extending longitudinally within the pocket, said pawl having an inturned finger upon its outer end for engagement in the notch in the plate and a shoulder upon its inner end to release the pawl from the plate, and a spring carried by the body within the pocket and engaging with the pawl for normally holding the same against the plate.

2. A whip lock including an apertured body for engagement over the upper end of a whip socket and having a depending annular flange to seat against the outer face of the socket, a locking plate mounted in the body and having a registering opening to receive the whip handle therethrough, means carried by the body for locking the plate against the whip handle, detachable arms depending from the body against the sides of the whip socket and having flattened and inturned lower ends to seat snugly against the socket, and fastening devices engaging through the lower ends of the arms and into the socket for holding the body permanently in position.

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

EARL W. BONNER. [L. s.]

Witnesses:

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