(No Model.)

J. R. QUIMBY.

ATTACHMENT FOR SCREW DRIVERS.

No. 491,687. Patented Feb. 14, 1893.

Fig. 1.

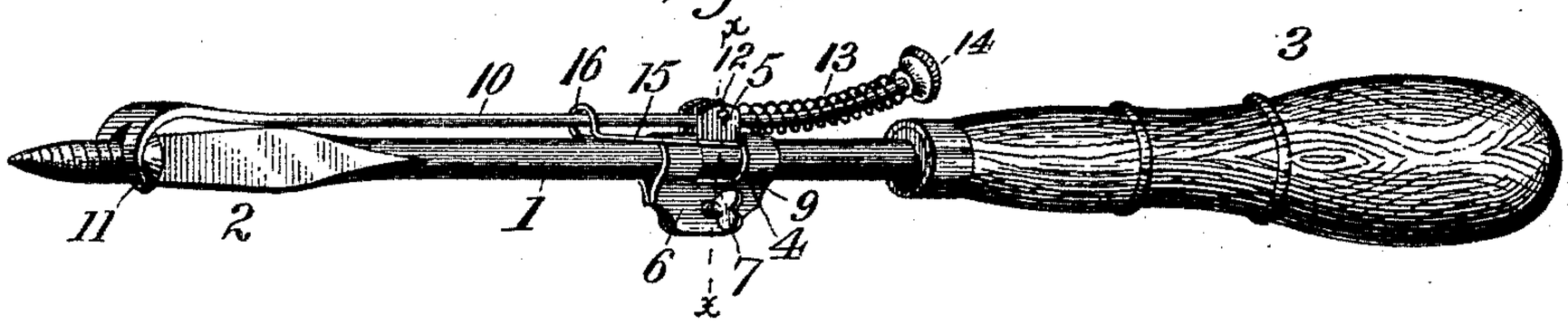


Fig. 2.

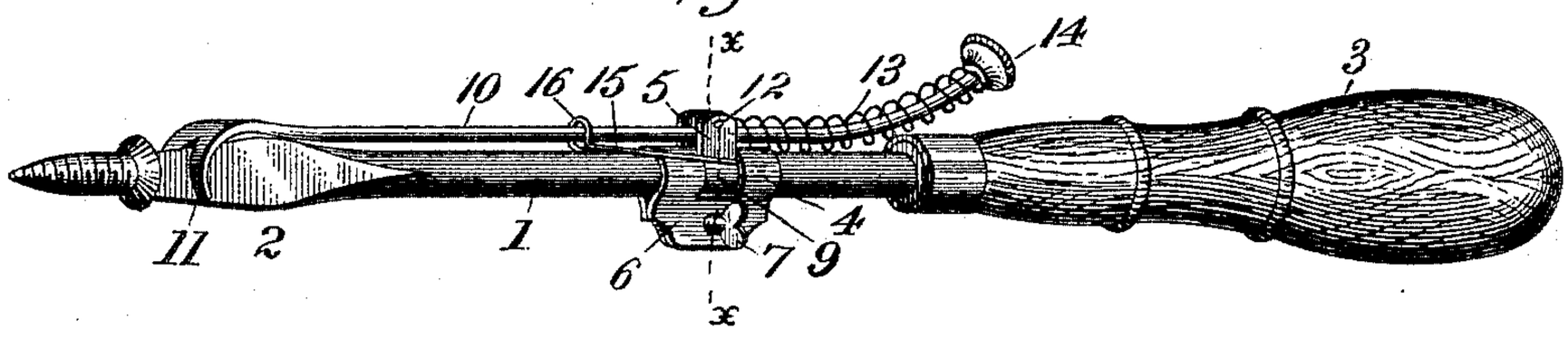
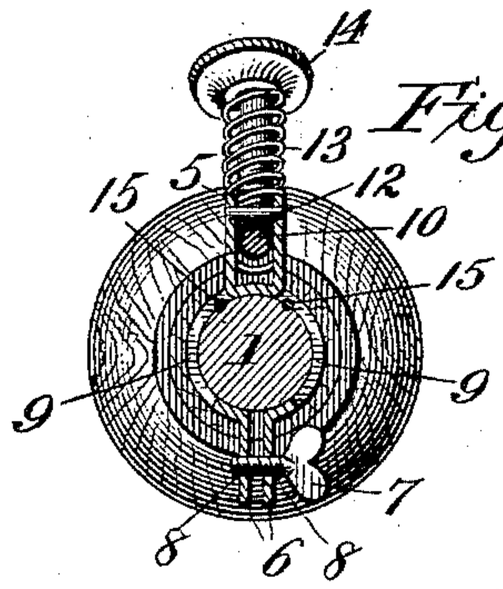


Fig. 3.



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UNITED STATES PATENT OFFICE.

JOHN R. QUIMBY, OF WILMINGTON, VERMONT, ASSIGNOR TO HOSEA MANN, JR., OF SAME PLACE.

ATTACHMENT FOR SCREW-DRIVERS.

SPECIFICATION forming part of Letters Patent No. 491,687, dated February 14, 1893.

Application filed March 18, 1889. Renewed July 9, 1891. Serial No. 398,903. (No model.)

To all whom it may concern:

Be it known that I, JOHN R. QUIMBY, a citizen of the United States, residing at Wilmington, in the county of Windham and State of Vermont, have invented certain new and useful Improvements in Attachments for Screw-Drivers; 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.

My invention relates, generally, to combined screw drivers and holders, and more particularly to attachments for holding screws in engagement with and releasing them from the ends or points of screw-drivers; and it consists in the improved construction and arrangement or combination of parts hereinafter fully disclosed in the description, drawings and claims.

The objects of my invention are, first, to provide a novel attachment for holding screws to and releasing them from a screw-driver of any ordinary size, shape and construction; second, to provide said attachment with improved means for removably and adjustably securing the same to the blades or shanks of screw-drivers; third, to provide said attachment with novel devices for holding screws to and releasing them from the ends or points of screw-drivers; fourth, to provide novel means for easily and quickly disengaging the screw-holding device from the screws upon the ends or points of screw-drivers, and, fifth, to provide means for quickly and easily engaging and disengaging the screw-holding device with and from screws by the thumb of one hand, without removing the hand from the handle of the screw-driver. These objects I attain by the attachment illustrated in the accompanying drawings forming part of this specification, in which the same reference numerals indicate the same parts, and in which—

Figure 1 represents a perspective view of a screw-driver provided with my improved screw holding and releasing attachment, showing the screw-holding device engaging a screw and holding the same in position for partial insertion; Fig. 2, a perspective view of a screw-driver and the attachment, showing the screw-holding device disengaged from a screw, so as to admit of the latter being screwed up to its head, and Fig. 3, a transverse section of the screw-driver and attachment, the section being taken on the line *x x* of Figs. 1 and 2, or through the clamp which secures said attachment to the screw-driver.

In the drawings the numeral 1 indicates the blade or shank of the screw-driver, 2 the end or point of the same and 3 the handle. The screw-driver illustrated is provided with a round shank, but it may have a shank or blade of any shape; also the handle may be of any suitable or desired shape or construction. A clamp, 4, formed with two clamping jaws and having two flanges or lugs, 5, upon its upper closed side and two lugs, 6, upon its lower, open and adjustable side, is removably and adjustably secured upon the rear portion of the shank of the screw-driver by a thumb-screw, 7, which passes through screw-threaded openings, 8, formed in said lower lugs 6. This clamp can be attached to any ordinary screw-driver, and for this purpose is made with two jaws, as stated, which can be laterally adjusted by said thumb-screw so as to fit and be tightly held upon different sized blades or shanks. In the sides of this clamp are formed openings, 9, which are made by cutting out portions for forming the upper lugs 5 and bending the latter upward, or said lugs may be otherwise made a part of or attached to said clamp.

The screw holding and releasing device consists of a rod, 10, which is slightly upwardly curved along its rear end and provided at its front end with a slightly downwardly curved fork or claw, 11, which is adapted to be engaged with and disengaged from a screw bearing against the end or point of the screw-driver. This rod is adapted to be slid and confined between the upper lugs 5 by a rivet or pin, 12, which is secured near the top edges of said upper lugs. A coiled spring, 13, is placed around the rear portion of the rod 10 and confined between the lugs 5 and a removable button or thumb-piece 14, which is screwed upon the inner or rear end of said rod.

A doubled, horizontal spring, 15, having a bent end, 16, curved over the rod 10, is secured at its rear ends to the upper side of the clamp 4, these ends being preferably inserted

through the openings 9 and inside of the clamp, or, if desired, this spring may be secured at its rear ends to the under side of said clamp and have its front or bent end resting upon the top of said rod, so as to hold the front or claw end of the latter down upon the point of the screw-driver.

In practice, after the attachment has been secured to a screw-driver, the screw holding and releasing rod 10 is pushed forward, and, also, slightly upward at its front end by forward and slight downward pressure upon the thumb-piece 14, which compresses the spring 13 against the clamp 4; then, when the pressure is removed from said thumb-piece, said rod will be simultaneously moved backward, lengthwise, and downward, along its front portion by the action, respectively, of the springs 13 and 15, and thus cause the fork or claw 11 of said rod to engage the screw, the slot of which having been previously placed upon the end or point of the screw-driver. (See Fig. 1.) When the parts are in this position, the backward pressure of the spring 13 against the thumb-piece 14 will cause the fork or claw 11 to hold the screw against the point of the screw-driver and permit the latter to force said screw partly into the object to which it is to be applied. Then, when the screw has been inserted a suitable distance toward its head, the rod 10 is again pushed forward and, also, slightly upward at its front end, which releases its fork or claw 11 from the screw; then, on quickly removing the pressure from the thumb-piece 14 and spring 13, the rod will be forced backward and the spring 15 will simultaneously draw its forward portion downward, permitting its fork or claw to move into the position shown in Fig. 2, when the screw may be further turned and driven home.

It will be obvious from the foregoing that my attachment can be applied to and used in connection with any of the usual or ordinary forms of screw-drivers; that it can be applied or secured with greater ease and more quickly than those devices which employ several parts for attaching them to screw-drivers, since, in my attachment there is only one element employed—the adjustable clamp 4—for attaching and securing the same to a screw-driver; that the fork or claw on the rod can be engaged with and disengaged from screws by the thumb of one hand; that the parts of my attachment are few and not be liable to get out of order or defective in operation, and that this attachment and screw-driver, singly or combined, are more simple in construction or less complicated, and therefore less expensive, than that class of devices in which the screw-holding and releasing mechanisms are permanently attached to screw-drivers. This attachment is also adapted to operate upon screws of varying sizes, as the forks or claws diverge toward their points, which permits larger screws to be held between their outer portions and smaller screws between their inner portions.

Having thus fully described the construction and arrangement or combination of the several parts of my invention, its operation and advantages, what I claim as new is:—

1. In an attachment for screw-drivers, the combination, with the shank of a screw-driver, of a two-part clamp, means for laterally adjusting the same upon said shank, and a rod which is connected to said clamp, adapted to slide loosely therethrough and provided with a downwardly-curved fork or claw at its front end, substantially as and for the purpose described.

2. In an attachment for screw-drivers, the combination, with the shank of a screw-driver, of a two-part and laterally-adjustable clamp, and a spring-pressed rod which is connected to said clamp, adapted to slide loosely therethrough and provided with a downwardly-curved fork or claw at its front end, substantially as and for the purpose described.

3. In an attachment for screw-drivers, the combination, with a clamp open upon its under side and having lugs upon its upper and under sides and a thumb-screw passing through said under lugs, of a screw holding and releasing rod arranged between said upper lugs, substantially as described.

4. In an attachment for screw-drivers, the combination, with a clamp open upon its under side and having lugs upon its upper and under sides and a thumb-screw passing through said under lugs, a screw holding and releasing rod arranged between said upper lugs and having a fork or claw at its front end, and means for moving said rod and its fork or claw toward said clamp, substantially as described.

5. In an attachment for screw-drivers, the combination, with a clamp open upon its under side and having lugs upon its upper and under sides and a thumb-screw passing through said under lugs, of a screw holding and releasing rod arranged between said upper lugs and having a fork or claw at its front end, a thumb-piece on the rear end of said rod, a coiled spring surrounding said rod and arranged between said thumb-piece and clamp, and a doubled, horizontal spring attached to said clamp and provided with a bend at its front end fitting over said rod, substantially as described.

6. The combination, with a screw-driver, of a rod secured and adapted to be moved thereover and provided with a downwardly-curved fork or claw at its front end, and devices for moving said fork or claw downward and toward the rear of said screw-driver, substantially as described.

7. The combination, with a screw-driver, of a clamp provided with lugs, a rod sliding between said lugs and having a slight upward curve along its rear portion, a thumb-piece and a downwardly curved fork or claw at its front end, a spring for moving said rod rearward and a spring for forcing its forward or forked end downward or against the front

end of said screw-driver, substantially as described.

8. The combination, with a screw-driver, of a clamp provided with lugs, a rod sliding between said lugs and having a slight upward curve along its rear portion, a thumb-piece and a downwardly curved fork or claw at its front end, a spring coiled around said rod between said clamp and thumb-piece, and a two-part, horizontal spring secured to said clamp and having a bend at its front end fitting over said rod, substantially as described.

9. The combination, with a screw-driver, of a clamp having two lugs upon its upper side, a pin or rivet connecting them, two lugs upon its lower side, a thumb-screw passing through them, a rod secured between said upper lugs and flexible rivet and provided with a fork or claw at its front end and with a thumb-piece at its rear end, a coiled spring arranged upon said rod between the upper lugs of said clamp and said thumb-piece, and a doubled, horizontal spring secured to said clamp and provided with a bend at its front end which fits over said rod, substantially as described.

10. The combination, with a screw-driver, of a clamp having openings in its sides, two lugs upon its upper side, a pin or rivet, two lugs upon its lower side, a thumb screw passed through the latter lugs, a rod secured between said upper lugs and provided with a fork or claw at its front end, a coiled spring arranged upon the rear portion of said rod, and a doubled spring having its rear ends inserted into the openings in said clamp and its front end bent and fitting over said rod, substantially as described.

11. The combination, with a screw-driver, of the clamp 4 having the lugs 5 and 6, the openings 9, the rivet 12 and the thumb screw 7, the rod 10, reversely curved at its opposite ends and provided with the fork or claw 11 and the thumb-piece 14, the coiled spring 13 upon the rear portion of said rod, and the doubled spring 15 provided with the bend 16 fitting over said rod, substantially as described.

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

JOHN R. QUIMBY.

Witnesses:
C. C. BARLOW,
HOSEA MANN, Jr.