UNITED STATES PATENT OFFICE.

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SCREW DRIVER AND HOLDER.

SPECIFICATION forming part of Letters Patent No. 637,990, dated November 28, 1899.

Application filed April 13, 1899. Serial No. 712,885. (No model.)

To all whom it may concern:

Be it known that I, GEORGE HOEPNER, a citizen of the United States, residing at Sandwich, county of De Kalb, State of Illinois, have invented an Improvement in Screw Holders and Drivers; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to a device for holding and driving screws.

It consists, essentially, of a clamp which is adapted to seize and hold the shank of the screw just below the head, a screw-driver, with means for adjusting it so that it engages with the slot in the screw-head, the screw being thus held until its point can be entered where it is to be driven, and means for afterward allowing the screw-driver to advance through the holder to sink the screw to its seat.

The invention also comprises details of construction, which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a view of my device. Fig. 2 is a view at right angles to Fig. 1. Figs. 3, 4, 5, and 6 are detail views of the different parts.

The object of my invention is to provide a device by which wood and other screws may be firmly held in position until the points have been entered where they are to be seated and to provide a means by which the screw can be finally seated, and it is especially useful for seating screws in places which are difficult of access.

A is the shank of a screw-driver, which is here shown as made cylindrical, having a handle B of any suitable or desired description at one end and having the opposite end constructed in the usual or any suitable manner, as shown at A′, to engage the head of a screw.

Surrounding the shank A of the driver is a loosely-slidable collar C, having lugs at opposite sides, within which are fulcrumed the levers D. The ends of the levers which are adjacent to the point of the screw-driver are bent toward each other and have slots or depressions made in their contiguous faces, as shown at *d*, so that these ends may grasp the shank of a screw just below the head. The opposite ends of the arms D diverge and, as here shown, are curved sharply outward at their extreme ends, as at D′.

Surrounding the shank A of the driver is a sleeve E, having a head E′, which is channeled upon opposite sides, so that the inner edges of the divergent portion of the arms D will lie in these grooves or channels. Fixed to the head E′ is a transverse bar or yoke F, which incloses the levers D and is adapted to contact with their outer edges, while, as before stated, their inner edges rest in the grooves or channels in the head E′. This sleeve E is normally forced away from the handle B by means of a spiral spring G, which surrounds that portion of the driver between the sleeve and the handle, and the tendency of this pressure, forcing the sleeve E between the divergent ends of the levers D, will be to cause the opposite ends, which carry the clamps *d*, to close together, and thus grasp a screw which may be placed between them.

The shank of the driver has a collar H surrounding it between the lever-fulcrum C and the point of the driver, and this collar is fixed by a set-screw I or equivalent device, so that when the driver is brought back so that the collar H contacts with the part C the point of the driver will stand in such relation with the screw-clamps D that when the latter are closed together the point of the driver will fit into the slot in the head of the screw.

The operation of the device will then be as follows: When a screw has to be taken hold of, the sleeve E is drawn back, and as the yoke F is carried by the head E′ of the sleeve it draws the rear ends of the levers D inwardly on account of their divergence from their fulcrum-points, and thus opens the opposite ends, so that the screw may be inserted. As soon as the sleeve E is released the spring G will force it back and the grooves in the head E′ will force that portion of the levers D apart, thus closing the opposite end to grasp the shank of the screw, and the driver having, as before described, been withdrawn until the collar H contacts with the fulcrum C of the levers its point will just enter the slot in the head of the screw. In this condition the point of the screw may be pressed into the part where it is to be seated, and this may be effected in narrow or sunken places or other places difficult of access, and after a turn or

two, so that the screw will have been started sufficiently to be steady, the sleeve E may be withdrawn, thus opening the jaws *d* and allowing the fulcrum-collar C and the levers D to be drawn back along the shank of the driver. This allows that portion of the driver-shank between the collar H and the point to project between the jaws *d*, and thus by turning the driver the screw may be fully seated. When this is complete, the driver can be again withdrawn between the lever-arms D and will be in readiness to operate upon another screw.

The collar H allows the point of the driver to be adjusted with relation to the screw-holding clamp to suit any different size of screws which may be used.

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

1. The combination with a shank of a screw-driver of a fulcrum-collar slidable thereon, levers pivoted to said collar to extend upon each side of the screw-driver shank, said levers having inwardly-facing jaws adjacent to the point of the screw-driver and diverging upon the opposite side of their fulcrum-points, and means including a sleeve mounted on and extending parallel with the driver and acting upon the inner sides of the levers whereby the jaws may be opened to receive a screw and closed upon the shank thereof to hold the head in line with the point of the driver.

2. The combination with the screw-driver of a collar slidable upon the shank, levers pivoted upon opposite sides of the collar and extending parallel with the shank of the driver having inwardly-facing jaws adjacent to its point adapted to receive and hold the shank of the screw while the point of the driver rests in the slot in the head, said arms diverging upon the opposite side of their pivot-points, a sleeve slidable upon the driver-shank between the diverging arms and a spring on the driver-shank and acting on the sleeve by which said sleeve is normally forced forward to separate the arms and close the jaws at the opposite end.

3. The combination with a screw-driver of a collar loosely slidable upon its shank, levers fulcrumed upon opposite sides of the collar having inwardly-facing jaws adapted to clamp the shank of a screw while the point of the screw-driver rests in the slot in the head thereof, the opposite ends of said arms diverging from their pivot-points toward the handle of the driver, a sleeve parallel with and slidable upon the shank of the driver having a head which lies between and engages the inner sides of the levers, and is provided with grooves upon opposite sides in which the inner edges of the diverging lever-arms rest, a yoke carried by said head slidable upon and pressing against the outer edges of the levers whereby the longitudinal movement of the sleeve acts upon the levers to close or open the jaws at the opposite ends.

4. The combination with a screw-driver of a collar slidable thereon, levers pivoted upon opposite sides extending parallel with the driver-shank having inwardly-facing jaws adapted to hold the shank of a screw, a spring-pressed sleeve slidable upon the driver-shank engaging the diverging arms of the lever so as to open or close the jaws, a collar adjustable upon the shank of the driver between the lever-fulcrum collar and the point of the driver whereby said point is so adjusted as to fit the head of a screw which is held within the jaws, said jaws being separable to allow the driver to advance between them after the screw has been started so as to finish the seating thereof.

In witness whereof I have hereunto set my hand.

GEORGE HOEPNER.

Witnesses:
GEO. H. STRONG,
S. H. NOURSE.