E. M. WINFREY & T. W. LILINS.

SCREW DRIVER.

APPLICATION FILED JUNE 24, 1907. RENEWED AUG. 17, 1908.

908,369. Patented Dec. 29, 1908.

Fig. 1.

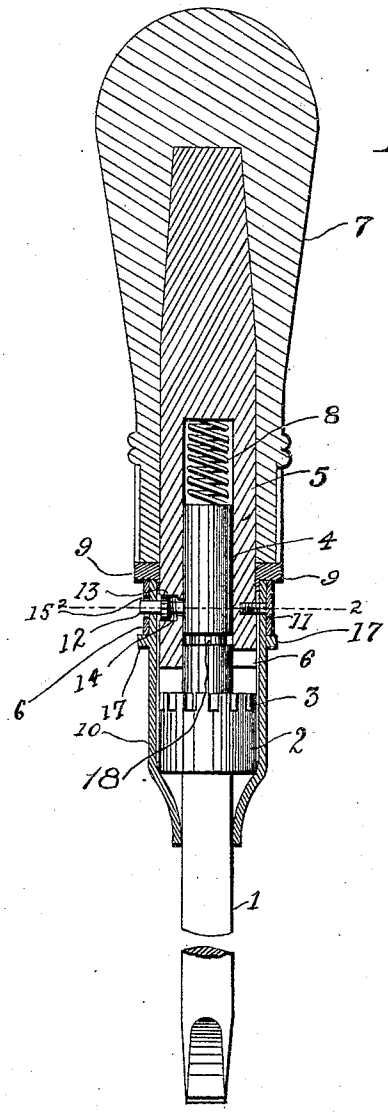
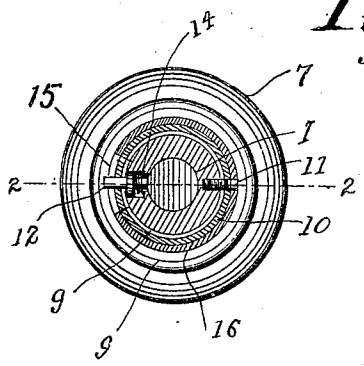


Fig. 2.



Witnesses
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UNITED STATES PATENT OFFICE.

EDGAR M. WINFREY, OF WICHITA FALLS, TEXAS, AND THOMAS W. LILINS, OF CARLSBAD, TERRITORY OF NEW MEXICO.

SCREW-DRIVER.

No. 908,369. Specification of Letters Patent. Patented Dec. 29, 1908.

Application filed June 24, 1907, Serial No. 380,507. Renewed August 17, 1908. Serial No. 448,956.

To all whom it may concern:

Be it known that we, EDGAR M. WINFREY, a citizen of the United States, residing at Wichita Falls, county of Wichita, Texas, and THOMAS W. LILINS, a citizen of the United States, residing at Carlsbad, in the county of Eddy and Territory of New Mexico, have invented certain new and useful Improvements in Screw-Drivers; and we do 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.

Our invention has relation to new and useful improvements in screw drivers, and has for its object the production of a simple and economical device of this character having means whereby the same may be used as a ratchet screw driver, or the bit locked or made stationary with the handle.

With this and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts, as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawings,—Figure 1 is a central longitudinal sectional view of a screw driver constructed in accordance with our invention; and Fig. 2 is a cross sectional view on the line 2—2 of Fig. 1.

Referring more particularly to the drawings, 1 indicates the bit of a screw driver formed at a suitable point intermediate of its ends with a circular enlargement or collar 2, having teeth 3 formed at its inner end. The inner end of said bit fits in a corresponding longitudinal socket 4, formed in the outer end of a longitudinal member 5, provided at its socket end with teeth 6, adapted for engagement with the teeth 3 of the bit, and having fixed to its opposite end a suitable handle 7, of wood or other suitable material.

In carrying out the invention, a resilient element, preferably in the form of a coil spring 8, is arranged in said socket 4 to normally maintain the teeth of the bit collar in disengagement from those of the longitudinal member. Said member 5 is also provided near its socket end with an outwardly extending flange or collar 9, and incasing the inner ends of said bit and said longitudinal member is a casing 10, the outer end of which is contracted or reduced to engage or grip the bit. Said casing may be secured in position in any suitable manner, as by a fastening screw 11.

The numeral 12 indicates a locking pin arranged to have its inner end fit or extend into a corresponding transverse opening 13, formed in the socket wall, said end being normally held out of engagement with the bit by a coil spring 14, also arranged in said opening 13 around the lower end of the locking pin. The upper end of said pin is preferably reduced, and extends through a slot 15 formed in the periphery of the locking ring 16, encircling the casing 10 between the flange or collar 9 of the longitudinal member and a rib or shoulder 17, formed on the outer surface of said casing.

In practice, the operator presses inward on the handle 7 with sufficient force to overcome the pressure of the coil spring 8, until the teeth 6 of member 5 are engaged with teeth 3 of the enlargement or collar of the bit 2, when the same may be turned in either direction. To retain a new grip on the handle of the screw driver, it is only necessary to release the pressure thereon, when the action on the coil spring 8 forces the teeth of the turning member and collar apart.

When it is desirous to lock the bit with the longitudinal turning member 5, the operator presses inwardly on the reduced portion of the locking pin 12 to engage the lower end thereof with a corresponding circumferential groove 18, formed in the body of the bit, when the locking band is turned until its solid portion is presented over the outer end of the locking pin to maintain the latter in locking position. To release this pin from engagement with the groove 18 of the bit, the locking band is again turned until the slot thereof is in position to receive the outer end of the locking pin, when the latter is sprung into its normal position by the spring 14.

From the foregoing description, taken in connection with the drawings, the construction and application of the invention will be understood without requiring a more extended explanation, as defined by the appended claims.

Having described our invention, we claim:—

1. A screw driver of the character described, embracing a bit having a circumferential groove near one end, a toothed collar fixed to the bit adjacent the groove thereof, a longitudinal member formed with a socket

for the reception of the grooved end of the bit and with teeth at its socket end for engaging the teeth of the collar, a locking pin extending through the wall of said socket, said pin being adapted for engagement with the groove of the bit to lock the latter against relative movement, resilient means for normally maintaining said pin in unlocking position, and locking means for holding the pin in locking position.

2. A screw driver of the character described, embracing a bit having a circumferential groove near one end, a collar formed with a series of teeth at one end fixed to the bit adjacent the groove thereof, a longitudinal member having a socket for the reception of the grooved end of the bit, teeth at its socket end for engaging the teeth of the collar, and a transverse opening leading from the wall of its socket, a resilient element arranged in said socket for normally maintaining the teeth of the collar and longitudinal member out of engagement, a locking pin arranged in the opening of the longitudinal member, the inner end of the pin being adapted for engagement with the groove of the bit, a coil spring arranged in said opening around the inner end of the locking pin for normally holding the latter in disengagement from the groove of the bit, and a locking ring having a longitudinal slot for the reception of the outer end of the locking pin mounted for rotation on the longitudinal member, said ring being adapted to maintain the locking pin in locking engagement with the bit groove.

3. A screw driver of the character described, embracing a bit having a circumferential groove formed near one end, a collar formed with a series of teeth at one end fixed to the bit adjacent the groove thereof, a longitudinal member having a socket for the reception of the grooved end of the bit, teeth at its socket end for engaging with the teeth of the collar, a transverse opening leading from the wall of the socket, and a flange extending outwardly from its body near its opening, a casing inclosing the grooved and socket ends of the bit and longitudinal member, respectively, said casing being formed with an opening to register with the opening of the longitudinal member, an outwardly extending flange near its opening, a locking ring mounted for rotation between the flanges of the casing and longitudinal member, a locking pin arranged in the openings of the casing and longitudinal member, the inner end of said pin being adapted for engagement with the groove of the bit, and the outer end thereof normally extending through the slot of the locking member, a spring arranged in the opening of the longitudinal member around the inner end of the locking pin for normally holding the inner end of the latter out of engagement with the groove of the bit, and a resilient element arranged between the inner ends of the socket and bit, for normally maintaining the teeth of the collar and longitudinal member out of engagement.

4. A screw driver of the character described, embracing a bit having a circumferential groove near one end, a collar formed with a series of teeth fixed to the bit adjacent the groove thereof, a longitudinal member having a longitudinal socket for the reception of the grooved end of the bit, teeth at its socket end for engaging the teeth of the collar, and an opening leading from the wall of its socket, a coil spring arranged between the inner ends of the bit and socket for normally maintaining the teeth of the collar out of engagement with the teeth of the longitudinal member, a locking pin arranged in the opening of the longitudinal member, the inner ends of said pin being adapted for engagement with the groove of the bit, a coil spring arranged around the lower end of the locking pin for normally maintaining the latter in disengagement from the groove of the bit, and a locking ring having a longitudinal slot for the reception of the outer end of the pin loosely mounted on the turning member and being adapted to maintain the locking pin in locking position.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

EDGAR M. WINFREY.
THOMAS W. LILINS.

Witnesses to the signature of E. M. Winfrey:
D. W. JAMES,
W. E. BROTHERS.

Witnesses to the signature of T. W. Lilins:
W. R. BROWN,
R. L. HUDSON.