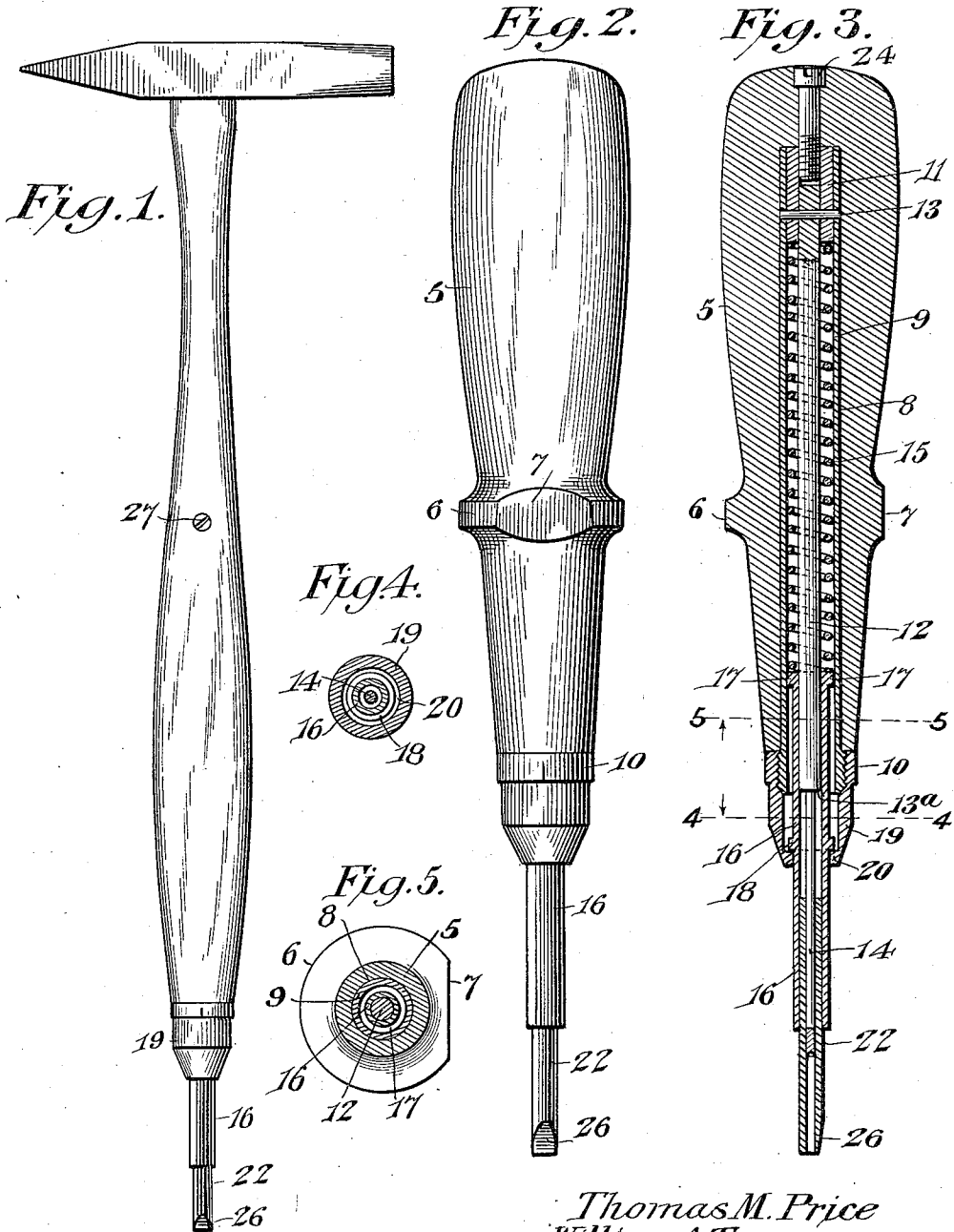


T. M. PRICE & W. A. TYNES.
 SETTING TOOL FOR BRADS, &c.
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UNITED STATES PATENT OFFICE.

THOMAS MARTIN PRICE AND WILLIAM AUBREY TYNES, OF COOPER, TEXAS.

SETTING-TOOL FOR BRADS, &c.

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To all whom it may concern:

Be it known that we, THOMAS M. PRICE and WILLIAM A. TYNES, citizens of the United States, residing at Cooper, in the county of Delta and State of Texas, have invented a new and useful Setting-Tool for Brads, &c., of which the following is a specification.

This invention relates to improvements in setting tools for brads, pins and the like, and has for its object to provide a simple, cheap and effective tool to be held in the hand which will serve to place a brad at exactly the desired point, and which may be operated by an unskilled person with ease and rapidity.

In the accompanying drawing:—Figure 1 is a side elevation of a hammer with the setting appliance mounted in the handle thereof. Fig. 2 is a side elevation of a hand tool embodying the preferred form of our invention. Fig. 3 is a longitudinal sectional view taken through Fig. 2. Figs. 4 and 5 are cross sections taken on the lines 4—4, 5—5 of Fig. 3.

Referring first to Figs. 2 and 3 of the drawing, which illustrate the preferred embodiment of the invention, 5 designates the handle, which is preferably made of wood and tapered from its inner to its outer end. The upper or inner end of the handle is rounded to make a convenient support for the palm of the hand, and intermediate its ends the handle is formed with an annular rib 6 which is furnished with concave sides merging into the sides of the handle. The rib serves as a rest for the ends of the fingers, and it is flattened at 7 to form a rest to prevent the tool from rolling off a table upon which it may be placed, and also to permit the tool to fit flat against an object while driving a brad. The handle is provided with a socket or bore 8, circular in cross section, which extends from its outer or lower end to a point near its upper end. Adapted to be removably mounted in the socket 8, but fitting closely therein, is a metal sleeve 9. The lower or outer end of the sleeve is slightly enlarged to form an exteriorly screw threaded collar 10, which projects beyond the lower or outer end of the handle. In the inner or upper end of the fixed sleeve 9 and closing the same is positioned a short tube 11, the upper or outer end of which is interiorly

threaded to receive a screw 24, which passes through a hole in the upper or inner end of the handle and has its head countersunk flush with the handle. In the other end of the tube is seated the inner end of a round plunger or rod 12, said rod being securely fastened in position by a rivet 13 which extends diametrically through the fixed sleeve 9, the tube 11 and the end of the plunger 12 thus locking them against relative movement. From its inner or upper end to a point about opposite the lower or outer end of the fixed sleeve the plunger is of uniform diameter, but at this point it is shouldered at 13^a and reduced in diameter to form a section 14 which continues to the outer or lower end. This reduced section of the plunger has a diameter slightly larger than the diameter of a brad and is provided at its extremity with a depression designed to receive the head of a brad or other fastener to be driven. Adapted to be removably inserted in the fixed sleeve 9 is a coiled spring 15, which fits closely therein, its inner or upper end resting against the lower or outer end of the tube 11. Slidably mounted on the plunger 12 is a movable sleeve 16, the inner or upper end of which is provided with an annular flange 17 against which the outer or lower end of the coiled spring 15 bears. The movable sleeve at a point intermediate its ends is provided with another annular flange 18, which, in the normal position of the parts, extends some distance beyond the lower or outer end of the fixed sleeve 9. The movable sleeve is held in position by a cap 19, which is interiorly screw threaded at its inner or upper end to screw onto the threaded collar 10 of the fixed sleeve. The interior diameter of the cap is slightly larger than that of the slidable sleeve 16, but at its outer or lower end it is formed with an inwardly extending annular flange 20, against the inner or upper side of which abuts the outer or lower face of the flange 18 of the slidable sleeve. The slidable sleeve has fixed in its outer or lower end a tubular guide 22 of less diameter, with a bore of sufficient size to slidably receive the reduced section 14 of the plunger, and said fixed guide extends up the movable sleeve and its inner or upper end forms an abutment for the shoulder 13^a of the plunger. Since the slidable sleeve 16 and the fixed guide 22 are

held against relative movement, they constitute in effect a single movable part. The extreme outer or lower end of the reduced part or guide 22 of the slidable sleeve 16 is provided with a beveled side 26, the purpose of which is to allow a workman to place and set a brad or other small driven fastener very close up to the edge of the work, as for instance when fastening brads in picture frames or fastening points in sash frames.

In Fig. 1 we have shown the setting appliance mounted in the handle of a hammer. This is accomplished without any change of structure over that shown in Figs. 2 and 3, except that instead of having the rivet 13 passing through the fixed sleeve 9, the tube 11 and the plunger 12, a screw 27 is used, which passes through the handle of the hammer as well as through the fixed sleeve 9, the tube 11 and the plunger. In this form the screw 24 is dispensed with.

From the foregoing it will be apparent that we have produced an exceedingly handy and useful tool with which a brad or like fastener can be accurately driven in places where it would be inconvenient to use a hammer.

It will be noted that the fixed sleeve 9 carries all the parts except the handle, and thus when the end screw 24 of the form shown in Figs. 2 and 3, or the side screw 27 of Fig. 1 is removed, the fixed sleeve 9 carrying all the parts can be withdrawn from the handle of the tool.

With the parts in the position shown in Fig. 3, a brad is placed in the bore of the reduced end portion or fixed guide 22 of the slidable sleeve 16, with its head abutting against the end of the reduced section 14 of the plunger 12. The end of the reduced portion 22 of the slidable sleeve is placed against the part into which the brad is to be driven, and by pressing down upon or against the end of the handle 5, the brad will be firmly set in position.

It will be noted that the travel of the movable sleeve within the fixed sleeve 9 is limited by the inner or upper end of the fixed guide 22 contacting with the shoulder 13^a, and when such contact takes place, the lower end or outer extremity of the reduced section 14 of the plunger is caused to project beyond the lower or outer end of the guide 22. The outward movement of the movable sleeve 16 is limited by its flange 18 coming in contact with the flange 20 of the cap 19.

It will be understood that various changes in the form, proportion, size and minor details of construction, within the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

What is claimed is:—

1. In a tool of the class described, a han-

dle provided with a socket, a fixed sleeve secured in said socket, a plunger rigidly secured in said sleeve and extending beyond the same, a movable sleeve slidably mounted on said plunger and normally projecting beyond said plunger, a spring confined in said fixed sleeve and bearing against the inner end of said movable sleeve, and a cap secured to the outer end of said fixed sleeve to retain said movable sleeve in said fixed sleeve.

2. In a tool of the class described, a handle provided with a socket closed at its inner end, a fixed sleeve secured in said socket and having a length greater than the socket so as to project beyond the outer end of the handle, a screw connecting the inner end of the sleeve to the handle, a cap mounted on the outer end of the fixed sleeve, a plunger rigid with the fixed sleeve, and a spring-actuated movable sleeve mounted to slide upon the plunger, said cap serving to hold the movable sleeve in place.

3. In a tool of the class described, a handle provided with a socket closed at its inner end, a fixed sleeve secured in said socket, a plunger secured to said sleeve, a spring-actuated movable sleeve slidable upon the plunger, and a screw for connecting the fixed sleeve to the handle, whereby upon the removal of the screw, the fixed sleeve, the plunger and the spring actuated movable sleeve may be withdrawn from the socket of the handle.

4. In a tool of the class described, a handle provided with a socket, a fixed sleeve secured in said socket, a plunger rigidly secured to said sleeve, said plunger having a reduced section which projects beyond the fixed sleeve, a coiled spring encircling the plunger within the fixed sleeve, a movable sleeve slidably mounted upon the plunger and bearing against the spring, and means to limit the outward movement of the movable sleeve with relation to the fixed sleeve and the handle, said movable sleeve in its normal position covering the reduced section of the plunger and projecting beyond the same.

5. In a tool of the class described, a handle provided with a socket closed at its inner end, a fixed sleeve secured in said socket, a tube mounted in the inner end of said sleeve, a screw mounted in a hole of the handle and engaging with one end of said tube, a plunger fitted in the other end of said tube, means for retaining the plunger, tube and fixed sleeve in fixed relation to each other, said plunger projecting beyond the fixed sleeve at its outer end, a movable sleeve slidable upon the plunger, a coiled spring contained within the fixed sleeve and encircling the plunger and bearing against the movable sleeve, and means connected with the fixed sleeve to limit the outward movement of the movable sleeve with relation to the fixed

sleeve and to the handle, said movable sleeve in its normal projected position covering the outer end of the plunger.

6. In a tool of the class described, a handle 5 provided with a socket, a fixed sleeve secured in said socket, means for retaining the fixed sleeve within the socket of the handle, a plunger rigidly mounted with relation to the fixed sleeve, a coiled spring mounted in 10 the fixed sleeve and encircling the plunger, a movable sleeve slidable upon the plunger and bearing against the spring, the outer end of the plunger projecting beyond the fixed sleeve and the handle and having a 15 portion thereof of reduced diameter, said movable sleeve also projecting beyond the fixed sleeve and the handle and having its outer end formed with a guide to receive the reduced section of the plunger, said movable 20 sleeve in its normal projecting relation covering the reduced section of the plunger, and means for holding the movable sleeve in such relation by limiting its outward movement.

7. In a tool of the class described, a handle 25 provided with a socket, a fixed sleeve secured in said socket, a plunger rigidly secured in said sleeve and extending beyond the same at its outer end, the projecting 30 outer end of the plunger having a reduced diameter, a spring coiled about the plunger within the fixed sleeve, a slidable sleeve movable over the plunger against the tension of the spring, an external flange provided 35 on the movable sleeve at an intermediate point of its length, a cap connected with the outer end of the fixed sleeve and engaging said flange, and a rigid guide provided on the movable sleeve for the passage of the 40 reduced section of the plunger.

8. In a tool of the class described, a handle provided with a socket, a fixed sleeve secured in said socket, a plunger rigidly secured in said sleeve and extending beyond 45 the same, that portion of the plunger projecting beyond the sleeve having a reduced diameter, a spring coiled about the plunger

and mounted within the fixed sleeve, a movable sleeve mounted upon the plunger and bearing against the spring, a guide for the 50 reduced section of the plunger, said guide consisting of a tube mounted within the movable sleeve and projecting beyond the same and moving in unison therewith, and means for maintaining the movable sleeve 55 with its guide in projecting relation to the fixed sleeve and the reduced section of the plunger, said reduced section being covered by the guide in the normally projected position of the movable sleeve, and said guide 60 forming a stop to limit the inward movement of the movable sleeve.

9. In a tool of the class described, a handle provided with a socket, a fixed sleeve secured in said socket, a plunger rigidly secured in said sleeve and projecting beyond 65 the same, the projecting portion of the plunger being of reduced diameter and providing a shoulder at an intermediate point of the length of the plunger, a coiled spring encircling the plunger and contained within 70 the fixed sleeve, a movable sleeve mounted upon the plunger and bearing against the spring, said movable sleeve being provided with a flange at an intermediate point of its 75 length, means connected with the fixed sleeve and adapted to engage the flange to retain the movable sleeve in place and limit its outward movement, and a guide formed of a tube of reduced diameter fitting within 80 the outer end of the movable sleeve and having a portion projecting therefrom, said guide moving upon the reduced section of the plunger and adapted to contact with the shoulder thereof to limit the inward move- 85 ment of the movable sleeve.

In testimony, that we claim the foregoing as our own, we have hereto affixed our signatures in the presence of two witnesses.

THOMAS MARTIN PRICE.

WILLIAM AUBREY TYNES.

Witnesses:

C. A. WARREN,

C. M. HIX.