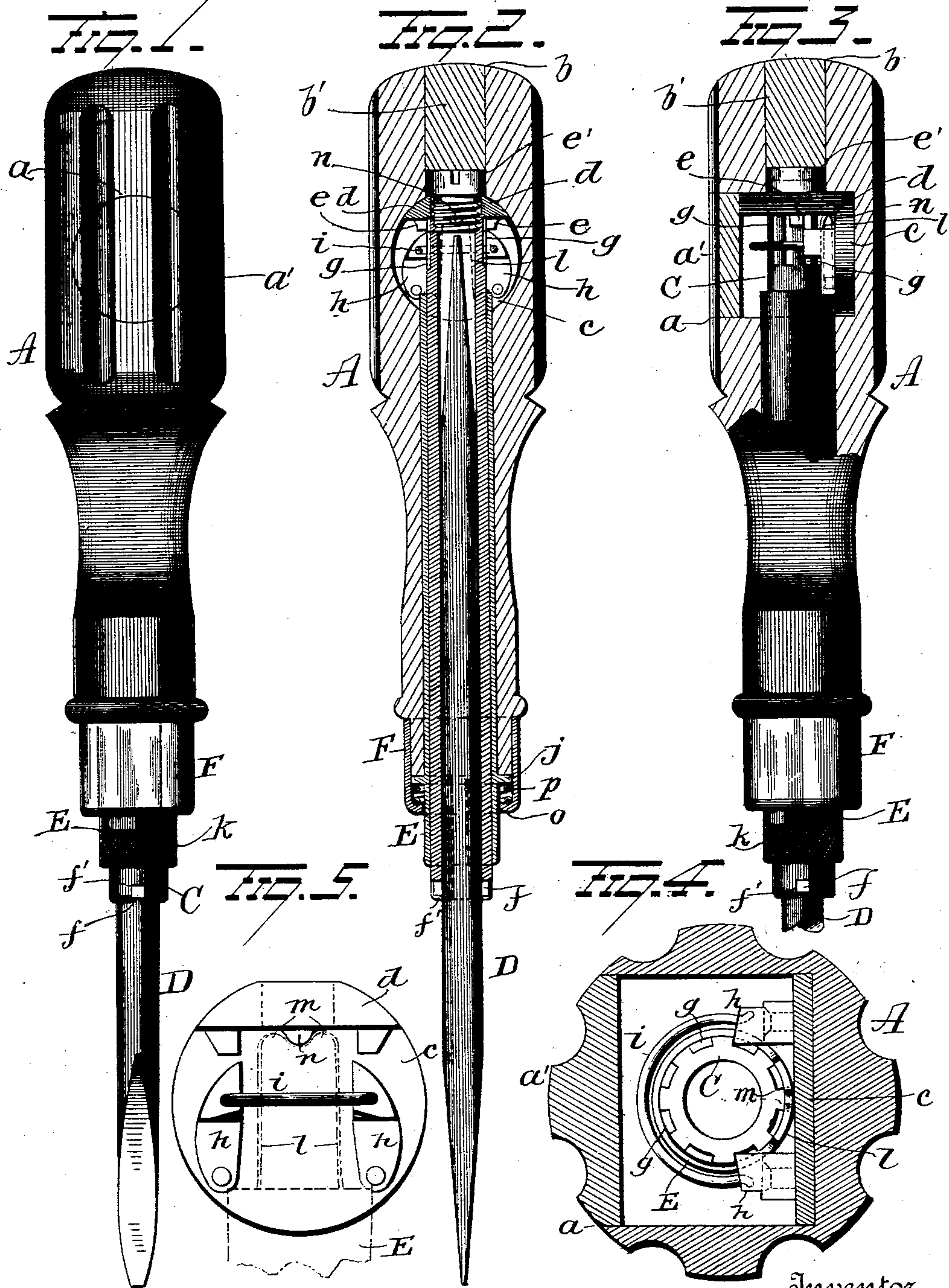


(No Model.)

W. B. SWAN.
TOOL HANDLE.

No. 541,130.

Patented June 18, 1895.



Witnesses
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UNITED STATES PATENT OFFICE.

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TOOL-HANDLE.

SPECIFICATION forming part of Letters Patent No. 541,130, dated June 18, 1895.

Application filed January 12, 1895. Serial No. 534,709. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM B. SWAN, a resident of Seymour, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Tool-Handles; 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 to an improvement in tool handles having ratchet devices for actuating the tool, which shall be simple in construction, comprise a small number of parts and be effectual, in all respects, in the performance of its functions.

A further object is to so construct the handle that it shall present a neat and solid appearance.

A further object is to produce simple and efficient means for shifting the dogs of the ratchet device.

With these objects in view the invention consists in certain novel features of construction and combinations and arrangements of parts, as hereinafter set forth, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view of my improved device. Fig. 2 is a sectional view. Figs. 3, 4, and 5 are detail views.

A represents a hollow handle suitably carved or decorated and made with an opening *a* through which the ratchet devices can be inserted, said handle being also made with a perforation *b* in its upper end for the reception of a screw by means of which to secure parts of the ratchet devices in place. When the parts shall have been placed in position the openings *a*, *b*, will be closed by means of plugs *a'*, *b'*, the exterior of which will be made to conform to the contour of the handle so as to give the latter a solid external appearance.

Located within the body portion of the handle A is a plate *c* disposed to one side of the bore of the handle and made integral with this plate and disposed at right angles thereto is a base plate *d*, against which the upper end of the tool holding tube C lightly bears, said tube being prevented from lateral movement by means of lugs *e*, projecting from said base plate. The tube C is preferably made

of steel and at its free end is split so as to give it a spring action and cause it to grasp the tool D inserted within it, said tool being provided with pins or projections *f* adapted to enter recesses *f'* in the free end of the tube C, whereby to prevent the tool from turning independently of the tube C. The respective ends of the tool may be differently shaped so that they can be utilized for different purposes. Tube C is prevented from endwise movement by a screw *e'* passing loosely through plate *c*.

The upper end of the tube C is made with a series of ratchet teeth *g*, adapted to be engaged by dogs *h*, *h*, (one dog at a time,) pivoted to the plate *c*. The dogs are so disposed relatively to the ratchet teeth *g* that one of said dogs will engage said teeth when the handle is turned in one direction and ride over them when the handle is turned in the reverse direction, the proper engagement of the dogs with the ratchet teeth being insured by a U-shaped spring *i* connected at its respective ends to the respective dogs.

A sleeve E is disposed within the hollow handle A and encircles the tool holding tube C, the lower end of said sleeve being made with a flange *j* disposed parallel with the end of the handle and with serrations *k* to be grasped by the operator to turn said sleeve. The upper end of the sleeve E is made with an arm or projection *l* having two small teeth or projections *m* at its free end adapted to ride over and be disposed at one or the other side of a tooth or projection *n*, located at the junction of the plates *c* and *d*. A ferrule F is placed on the end of the handle A and made with an inwardly projecting flange *o* between which and the flange *j* on the sleeve E a spring *p* is located and adapted to retain the upper end of the arm *l* to the side of the projection or tooth *n* at which it may be adjusted. From this construction and arrangement of parts it will be seen that when the sleeve E is turned the arm *l* will engage one or the other of the dogs *h* and move it away from the ratchet teeth *g*, permitting the other dog to engage said ratchet teeth and, when the handle is turned back and forth, cause the tool to rotate right-handedly. When it is desired that the tool rotate backwardly or left-handedly, the sleeve E will be turned in the opposite

direction so as to cause the idle dog to engage the ratchet teeth and the previously active dog to be moved away therefrom and become idle.

5 My improvements are exceedingly simple in construction and effectual, in every respect, in the performance of their functions.

Should it be at any time desired to operate the tool without using the ratchet devices, the sleeve E will be turned half way its throw so that the arm l will be disposed between the dogs h and permit both of them to engage the ratchet teeth, thus locking the tool holding tube C to the handle.

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

1. The combination with a hollow tool handle, of a tool holding tube adapted to grasp a tool, inserted in said handle, ratchet teeth on said tube, dogs to engage said ratchet teeth, a sleeve encircling said tube and having an arm adapted to engage one or the other of said dogs when the sleeve is turned, to move it away from the ratchet teeth, a tooth in the handle to retain said arm and sleeve in the position to which they are turned, a flange on said sleeve, a ferrule on the handle having a flange, and a spring interposed between said flanges, substantially as and for the purpose set forth.

2. The combination with a hollow tool handle, of a tool holding tube therein having ratchet teeth, a plate against which said tube bears, a plate disposed at right angles to the first-mentioned plate and dogs pivoted thereto adapted to engage the ratchet teeth on the said tube, a sleeve encircling the tube, and protruding beyond one end of the handle whereby it is manipulated an arm projecting from said sleeve and having teeth at its free end, a tooth on said plates to be engaged by the teeth on said arm, said sleeve being adapt-

ed to engage one or the other of said dogs to move it out of contact with the ratchet teeth, and a spring adapted to retain the sleeve in the position to which it is adjusted, substantially as set forth. 45

3. The combination with a hollow tool handle, of a plate therein having a perforation, a tool holding tube in the handle resting against said plate, a screw passing loosely through the perforation in the plate and adapted to screw into said tube, ratchet teeth on the tube, dogs to engage the ratchet teeth, a spring to insure such engagement, a sleeve protruding through one end of the handle whereby it is manipulated, said sleeve adapted to engage one or the other of said dogs when turned to move it out of contact with the ratchet teeth and a spring adapted to retain the sleeve in the position to which it is adjusted, substantially as set forth. 50 55 60

4. The combination with a handle having a hollow bore formed axially therein and extending from end to end thereof, and a transverse hole extending across this bore, of a pair of plates integral with each other and disposed at right angles to each other, one fitted to the inner end and the other to a side of the hole, a tube extending through one end of the bore, its inner end engaging one of the plates, a screw extending in at the other through the plates and screwed to the inner end of the tube whereby said parts are secured together and dogs pivotally connected with one of the plates and adapted to engage the tube, substantially as set forth. 65 70 75

In testimony whereof I have signed this specification in the presence of two subscribing witnesses. 80

WM. B. SWAN.

Witnesses:

SAML. P. CAMP,
GUSTAV J. FABER.