(No Model.)

C. A. STRASSER.

SCREW DRIVER.

No. 398,986. Patented Mar. 5, 1889.

Fig. 1.

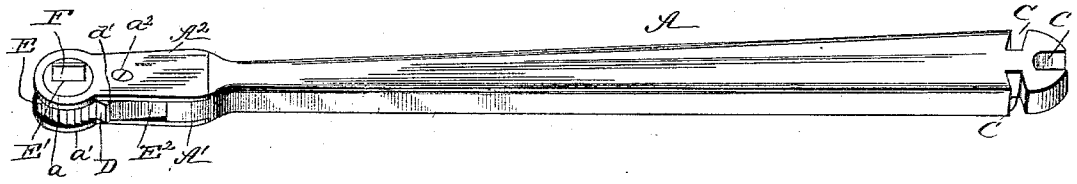


Fig. 2.

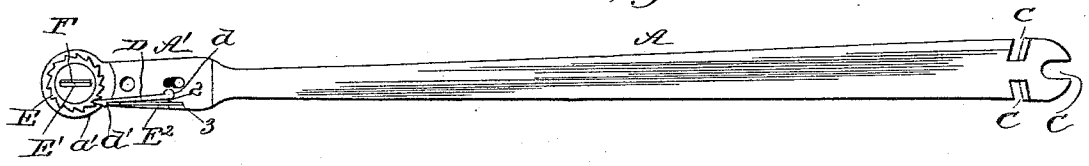


Fig. 3.

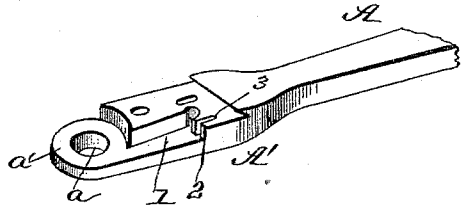


Fig. 5.

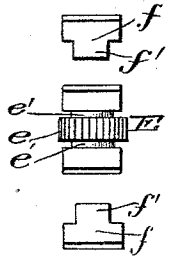


Fig. 6.

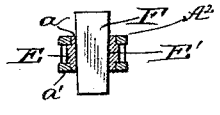
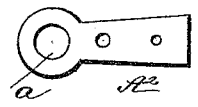


Fig. 4.



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UNITED STATES PATENT OFFICE.

CARL A. STRASSER, OF BALTIMORE, MARYLAND, ASSIGNOR, BY MESNE ASSIGNMENTS, OF ONE-HALF TO CHRISTINA SCHROEDER, OF SAME PLACE.

SCREW-DRIVER.

SPECIFICATION forming part of Letters Patent No. 398,986, dated March 5, 1889.

Application filed August 30, 1888. Serial No. 284,214. (No model.)

To all whom it may concern:

Be it known that I, CARL A. STRASSER, of Baltimore city, in the State of Maryland, have invented a new and useful Improvement in Screw-Drivers, of which the following is a specification.

My invention is an improved screw-driver intended for use by piano makers and repairers, organ-builders, show-case manufacturers, cabinet-makers, carpenters, and others, and is designed for use in turning screws in corners or other obstructed positions where it is difficult or impossible to manipulate the ordinary screw-drivers.

In piano making and repairing there are quite a number of screws difficult of access, and to turn which it is usually necessary to have a large number of screw-drivers with the points or bits arranged at various angles to the staff or handle, so that one may be used to give a partial turning of the screw and another or others be used to complete such turning. My improvement seeks to provide in a single implement or tool one that will serve the purposes of the numerous different-angled screw-drivers, as described.

The invention also seeks to provide a compound tool having a handle-bar provided at one end with notches or slots fitted to receive pins or wires, so that the latter may be straightened when bent, and having the screw-driver at its other end.

The invention consists in the novel constructions and combinations of parts, as will be hereinafter described and claimed.

In the drawings, Figure 1 is a perspective view of my device. Fig. 2 is a top plan view thereof with the top plate removed. Fig. 3 is a perspective view of the end of the body portion of the screw-driver. Fig. 4 is a view of the top plate. Fig. 5 is a detail view of the ratchet-head in connection with the sectional blade; and Fig. 6 shows the ratchet-head with the blade formed in a single piece, all of which will be described.

The handle A is provided at one end with bearings *a* for the ratchet-head B and at its opposite end with notches C, formed one in the extreme end and the others in the opposite sides near such extreme end, said notches being formed to receive pins—such as the key-guiding pins of a piano—or wires, which it may be desired to straighten. At its screw-driver end the handle is preferably formed with what may be termed "main" or "body portion" A′ and plate A^2, the bearings *a* being provided in such parts, and the plate A^2 being conveniently detachable to facilitate the application and removal of the ratchet-head, pawl, and spring, as may be desired.

The portion A′ is made with the side mortise or recess, 1, for the pawl D, the wall 2 having a nick or slot, 3, in which to secure one end of the spring E^2, the opposite end of which bears against and actuates the pawl. At its end the portion A′ is made with a plate, *a′*, providing a bearing for one end of the ratchet-head. The plate A^2 fits at its rear end against an undercut bearing on the main portion A′, and is secured, usually by screw a^2, aided by pin or stud and indentation, as shown, to said main portion.

The pawl D has at its rear end a projecting portion, *d*, which fits in a corresponding recess in the portion A′, such construction serving to prevent longitudinal movement of the pawl.

Near its free end, and on its outer side, the pawl has a rearwardly-facing shoulder, *d′*, back of which the spring bears, such shoulder aiding in preventing the displacement of the spring. I make the ratchet-head with the ratchet-ring *e*, engaged by the pawl, and the end portions, *e′*, which turn in bearings *a*. In operation it will be seen that by the reciprocation of the handle the pawl will by one movement turn the ratchet-head, and will by the opposite movement slip back from tooth to tooth of such ratchet.

Through the head in the direction of its axis I form a slot, E′, for the screw-driver blade F, which is fitted longitudinally in the slots E′ and projects beyond both ends of the ratchet-head, so that the device can be used to turn screws in or out, as may be desired.

To enable the use of the device with a large screw, it may in some instances be desirable to form the blade in sections, as shown in Fig. 5, having wide points *f* and smaller shanks, *f′*, so the blade, if desirable, may be made

wider than the diameter of the portions e' of the ratchet-head.

Having thus described my invention, what I claim as new is—

1. The improvement in screw-drivers, consisting of the ratchet-head having a slot formed in the direction of its axis, the screw-driving blade fitted in said slot, the handle having bearings for the ratchet-head, the pawl engaged at one end with the ratchet-ring and having on its outer side, near such end, a rearwardly-facing shoulder, and the spring bearing at one end against the pawl back of such shoulder and having its opposite end held in the handle, substantially as set forth.

2. An improved screw-driver consisting of the handle having a portion, A′, recessed at 1 and having the rear wall of such recess provided with a nick or slot, 3, the pawl fitted in said recess and having at its rear end a projecting portion, d, fitting a corresponding recess in the portion A′, whereby to prevent longitudinal movement of the pawl, such pawl having a rearwardly-facing shoulder, d', on its outer side near its rear end, the spring held at one end in slot 3 and bearing at its opposite end against the pawl in rear of the shoulder d', the ratchet-head, and the plate A^2, all substantially as and for the purposes specified.

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