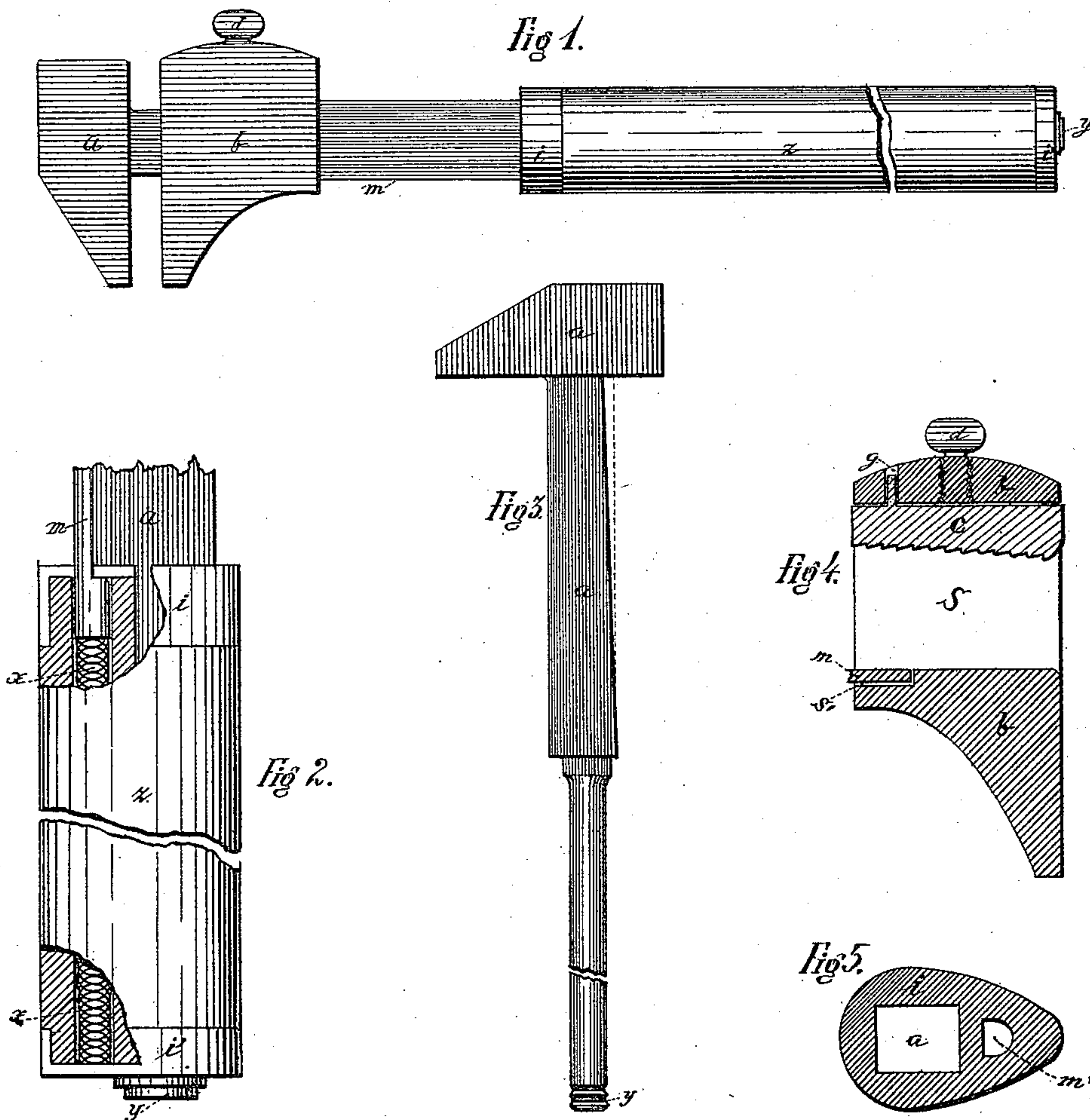


(No Model.)

WLADYSLAW T. KOSINSKI & WALTER T. KOSINSKI.
WRENCH.

No. 441,245.

Patented Nov. 25, 1890.



WITNESSES:

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WRENCH.

SPECIFICATION forming part of Letters Patent No. 441,245, dated November 25, 1890.

Application filed October 1, 1888. Serial No. 286,938. (No model.)

To all whom it may concern:

Be it known that we, WLADYSLAW THEODORE KOSINSKI and WALTER THEODORE KOSINSKI, citizens of the United States, both residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Wrenches; and we 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.

This invention has reference to wrenches in which a sliding adjustable jaw is made to coact with a rigid stationary jaw formed integrally with the stem, forming a part of the handle. The said sliding adjustable jaw is secured or held at any point upon the integral jaw, stem, or shaft by means of a set-screw, which passes through the heel of said movable jaw and, playing upon the rear face of the stem or shaft, entering the handle and possessing the integral rigid jaw. Connected to the movable jaw and entering the handle is a sliding spindle or stem, which is formed of a round or half round or flat rod, which bears against the end of a spiral or helical spring housed in the handle. The movable jaw is secured and held at any point upon the stem having the rigid or stationary jaw by means of a screw operating upon a serrated or notched key placed within the slotted portion of the movable jaw, and the said key plays upon the rear face of the stem or shank having the stationary jaw. The stem is wedge-shaped, and the same ends at the integral jaw. The key is provided with a screw in order to allow the same to play upon the wedge-shaped jaw without displacement.

In the accompanying drawings, Figure 1 is a side view of our improved wrench. Fig. 2 is a view, partly sectional, of the handle. Fig. 3 is a detached view of the wedge-shaped stem or shank *a* with its integral jaw *a'*. Fig. 4 is a sectional view of the movable jaw. Fig. 5 is a top view of the cap-piece *i* of the handle of the wrench.

The object of our invention is to form the gib or key so that they may be adjustable by

means of the spiral or helical spring, as required, thereby securing the exact stay-grip for whatever size the jaws are required to be separated.

In the drawings, *a* represents the stem or shank with its stationary jaw *a'*.

b refers to the movable, sliding, or adjustable jaw. The heel of the stem having its integral jaw *a'* enters the handle *z* and is screw-threaded at *y'* in order to receive the nut *y*. Metallic cap-pieces *i* and *i'* upon each end of the handle *z* serve to hold the various parts thereof in proper position.

The movable or sliding jaw *b* is provided with a serrated or notched key *c*, housed in the slotted part *s*, the notched part of the key *c* playing directly upon the rear face of the stem *a*, and the said key is forced tightly against the rear face of said stem *a* by means of the set-screw *d* in the crown of the movable jaw *b*. The guide-pin *g*, secured in the notched wedge or key *c*, plays freely in a suitably-sized hole in the crown of the movable jaw *b* and serves to keep the wedge always in proper position to bind the solid stem or shank *a*. The spiral or helical spring *x* abuts at its rear end against the cap-plate *i'* in the handle *z*. The top plate *i* receives and secures the shoulder of the sliding bar *m* through the guide-hole *m'*, upon which the spiral spring *x* presses, thereby connecting with the movable jaw *b*, the sliding bar *m* being housed in the opening *s'*. The movable jaw *b* by this means is forced normally toward the stationary jaw, so as to move automatically to an object to be grasped between two jaws, when the screw *d* is released from the key *c*.

The handle *z* is oval-shaped in order to secure a better housing for the spiral spring *x* and also to give the operator a better grip.

In order to operate our improved wrench, it is simply necessary to open the adjustable jaw up to such a point that the object to be gripped is held between it and the stationary jaw *a'* and apply the set-screw *d* firmly to the rear face of the wedge-shaped block *c*, and when it is desirable to secure a different sized hold the liberating of the said set-screw will

cause the movable jaw by means of the spiral spring to move farther upon the shank α .

Having thus described our invention, we claim as new and desire to secure by Letters Patent, to wit:

1. The combination, in a wrench, of the stem having a fixed jaw, a sliding jaw arranged to move on said stem, a sliding bar connected with said sliding jaw located in a longitudinal recess in the wrench-handle, and a spiral spring, also located in said recess and adapted to bear against one end of the bar to press the sliding jaw normally toward the stationary jaw, substantially as specified.

2. The combination, in a wrench, of the stem having a stationary jaw, the sliding jaw arranged to move thereon, the wedge-shaped

serrated key located within the sliding jaw, the set-screw by means of which the key is operated to hold the sliding jaw, the sliding bar having one end set in a recess in the movable jaw and the other extending backward into a longitudinal recess in the handle of the wrench, and the spiral spring for automatically moving the sliding jaw in one direction, substantially as specified.

In testimony whereof we affix our signatures in presence of two witnesses.

WLADYSLAW THEODORE KOSINSKI.
WALTER THEODORE KOSINSKI.

Witnesses:
LEWIS F. BOONS,
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