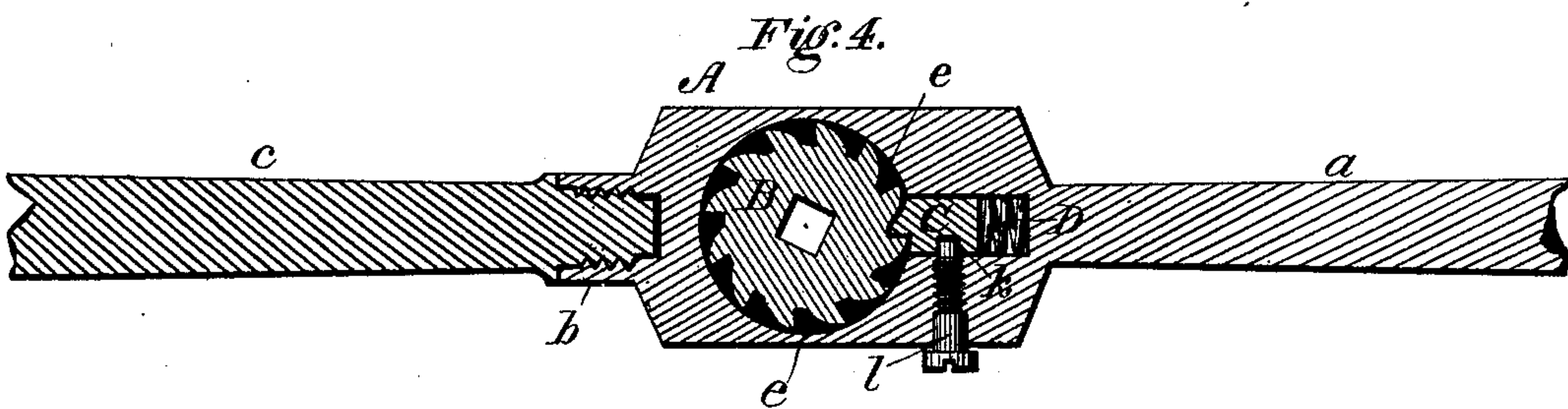
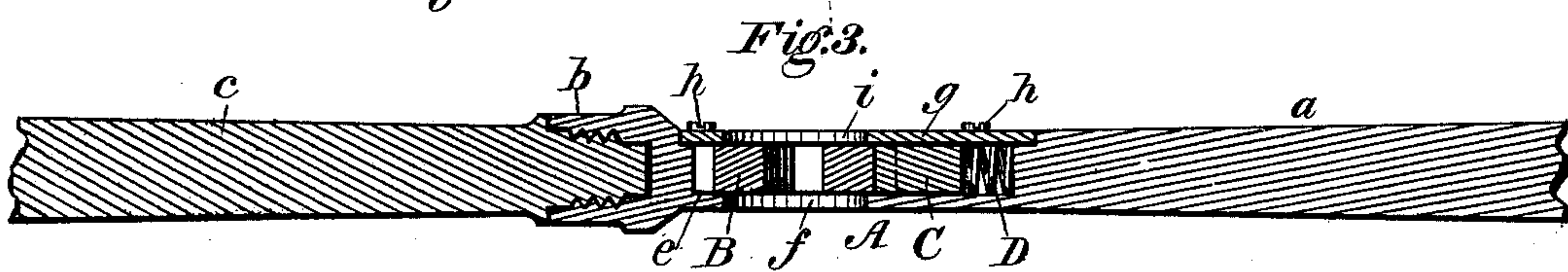
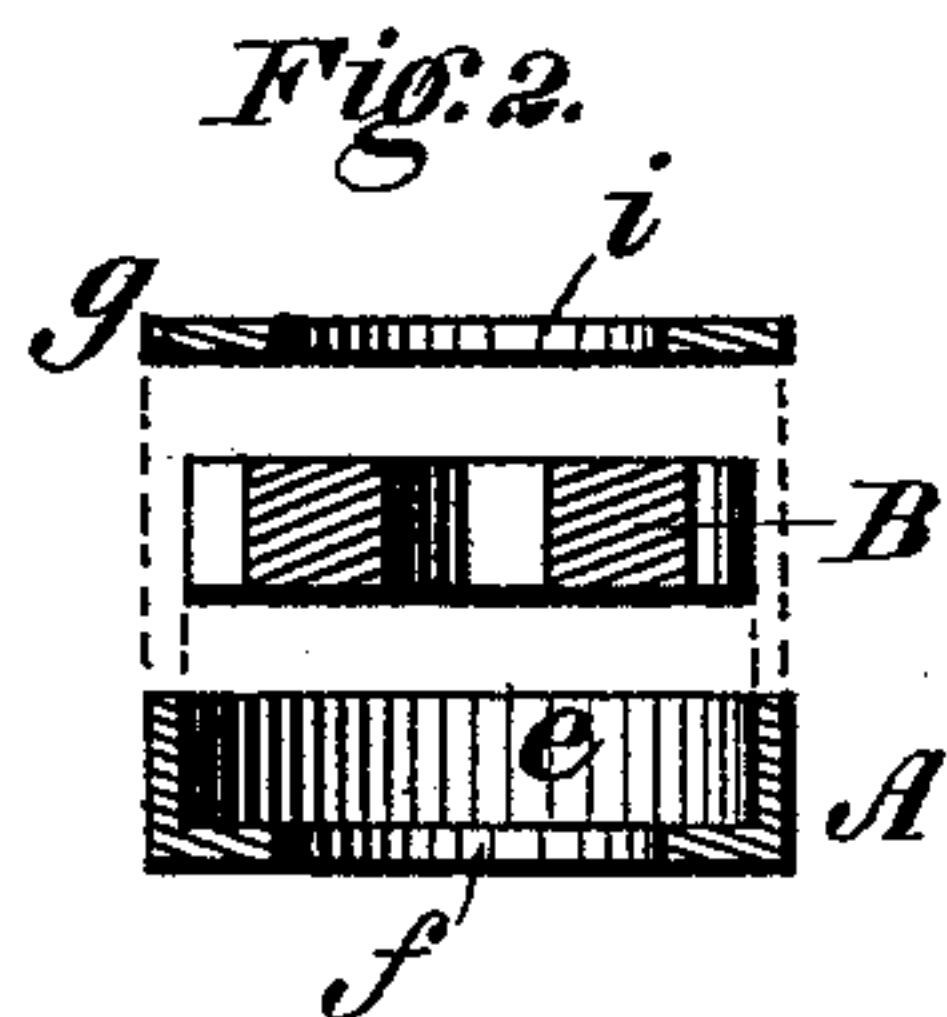
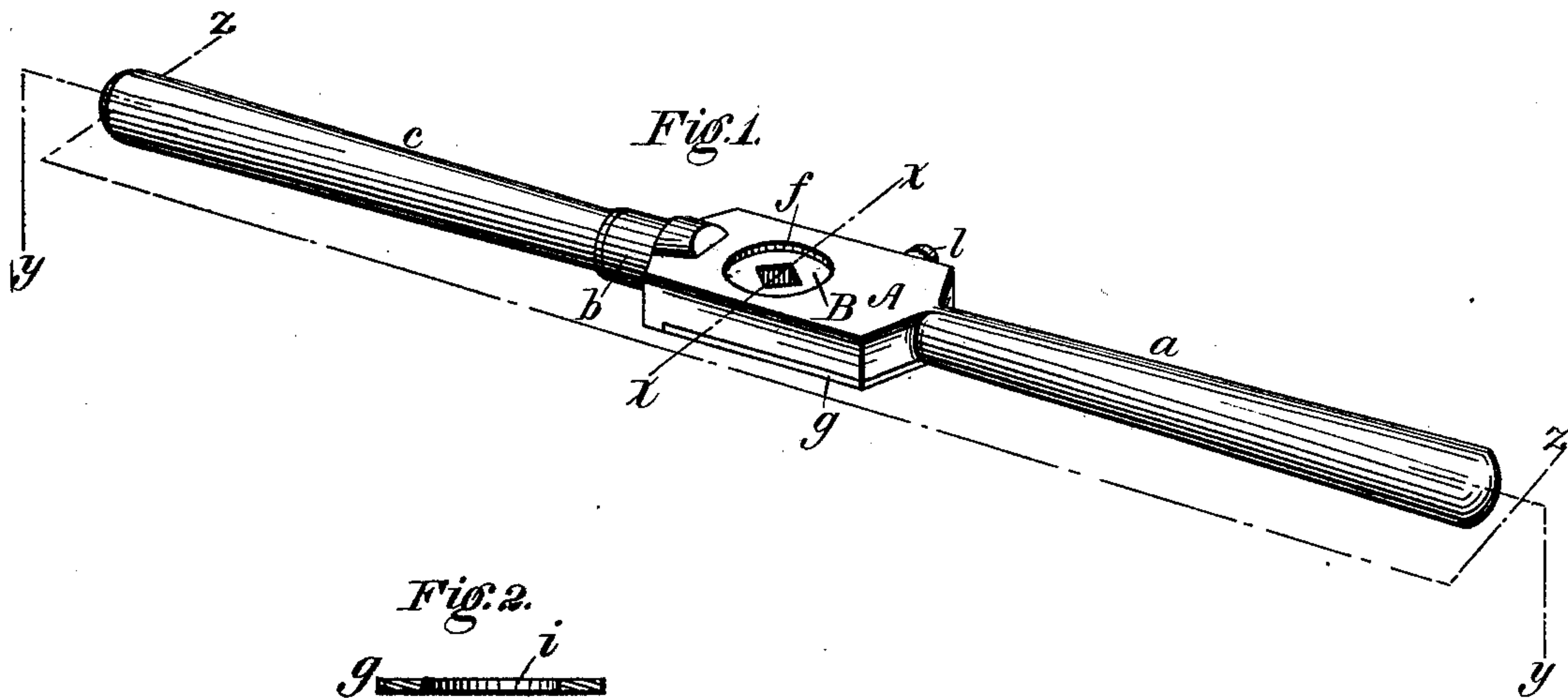


S. W. MARTIN.  
Ratchet-Wrench.

No. 213,916.

Patented April 1, 1879.



*Witnesses:*  
Dunn P. Twitchell.  
Will W. Dodge.

*Inventor:*  
S. W. Martin  
By his atty  
Dodge & Son



# UNITED STATES PATENT OFFICE.

SAMUEL W. MARTIN, OF SPRINGFIELD, OHIO, ASSIGNOR OF ONE-HALF HIS RIGHT TO PHINEAS P. MAST, OF SAME PLACE.

## IMPROVEMENT IN RATCHET-WRENCHES.

Specification forming part of Letters Patent No. **213,916**, dated April 1, 1879; application filed October 26, 1878.

*To all whom it may concern:*

Be it known that I, SAMUEL WEBB MARTIN, of Springfield, in the county of Clarke and State of Ohio, have invented certain Improvements in Ratchet-Wrenches, of which the following is a specification:

My invention relates to that class of wrenches which are used to operate taps, drills, &c.; and consists in certain improvements in the construction, hereinafter detailed.

Figure 1 represents a perspective view of my wrench; Fig. 2, a cross-section on the line *xx*, with the parts separated from each other; Fig. 3, a cross-section on the line *yy*; Fig. 4, a section on the line *zz*.

In constructing my wrench, I first provide a body, A, consisting of a single flat block of metal, having on one end a handle, *a*, and on the other a stud, *b*, in which latter I tap a hole to receive a second handle, *c*. The second handle, being screwed into place, may be detached at will when the wrench is to be used in corners or other limited spaces which prevent the use of both handles.

In practice it is found highly advantageous to employ the detachable handle, as it frequently happens on the one hand that the wrench cannot be operated with both hands thereon, while on the other hand it is very desirable to have both handles when circumstances will permit.

Into one side of the body A, I sink with a milling tool, drill, or drop a cavity or recess, *e*, extending nearly through the metal, as shown, to serve as a seat for the ratchet wheel or nut, and through the remaining portion of the metal I drill a smaller hole, *f*, to admit the tool which is to be actuated.

The ratchet-wheel B is made of such size as to fit snugly within the recess or seat and fill the same flush with the side of the body, and is secured in place by means of a flat covering-plate, *g*, which is attached to the body by means of screws *h*, and provided with a central hole, *i*, to admit the tool. In the body,

opposite the seat of the ratchet-wheel, I form a straight slot to receive a sliding pawl or dog, C, and a spiral spring, D, the two being confined in place by the side plate, as shown.

In one side of the sliding pawl I form a hole, *k*, and into one side of the body insert a screw, *l*, which may be set into the hole in the pawl, in order to fasten the same into the wheel when the latter is to be locked fast, so that the wrench may be used in the same manner as the ordinary rigid wrench.

When the screw is turned back the sliding pawl advances the wheel when the body or stock is turned in one direction, but not when it is turned in the other. A right or left hand rotation may be secured by simply turning the body over.

I am aware that ratchet-wrenches have been made in many forms, and that means have been provided for locking the ratchet-wheel fast within the stock or body; but by the peculiar construction described above I produce a wrench which is both cheaper and stronger than those now in use and more durable under heavy strains, and by the use of the detachable handle I adapt the wrench for use with advantage in all positions.

I am aware that ratchet-wrenches have been provided with special independent devices in addition to the pawl, as a means of locking the wheel; that tap-wrenches have been provided with a loose handle, screwed therein, as a means of actuating the die, the handle being a necessary part, without which the device could not be used, and being therefore incapable of detachment.

Having described my invention, what I claim is—

The combination of the stock or body A, recessed in one side, the sliding pawl C, spring D, and screw *l*, as shown.

SAMUEL WEBB MARTIN.

Witnesses:

J. B. CHRISTIE,  
P. P. MAST.