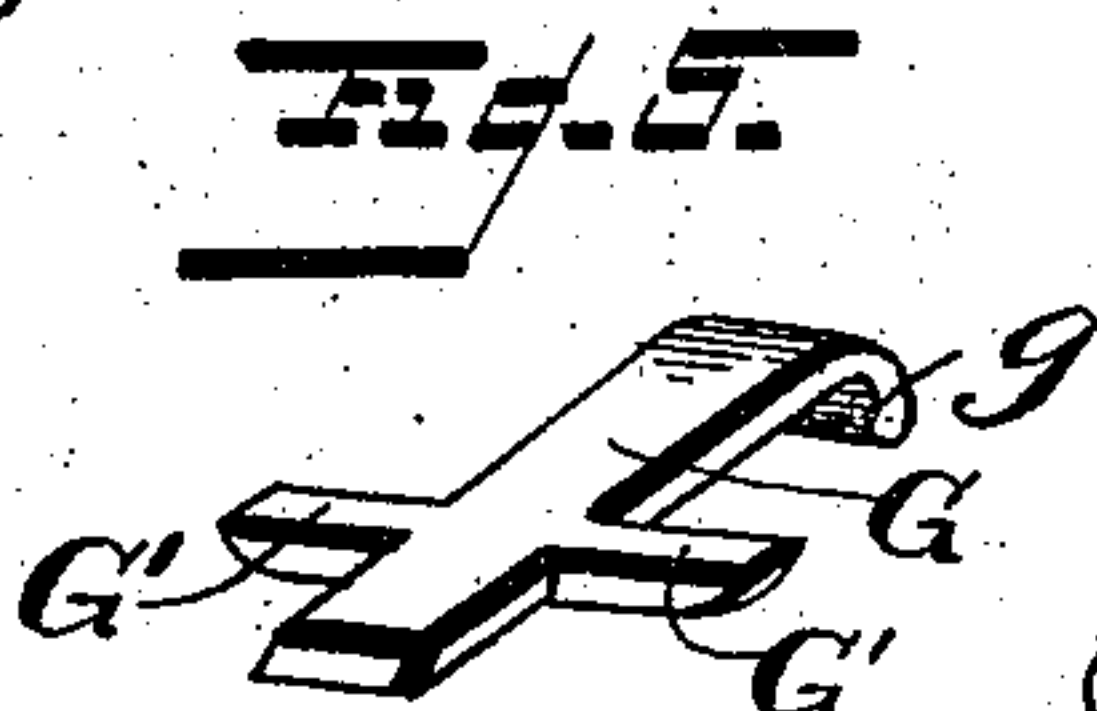
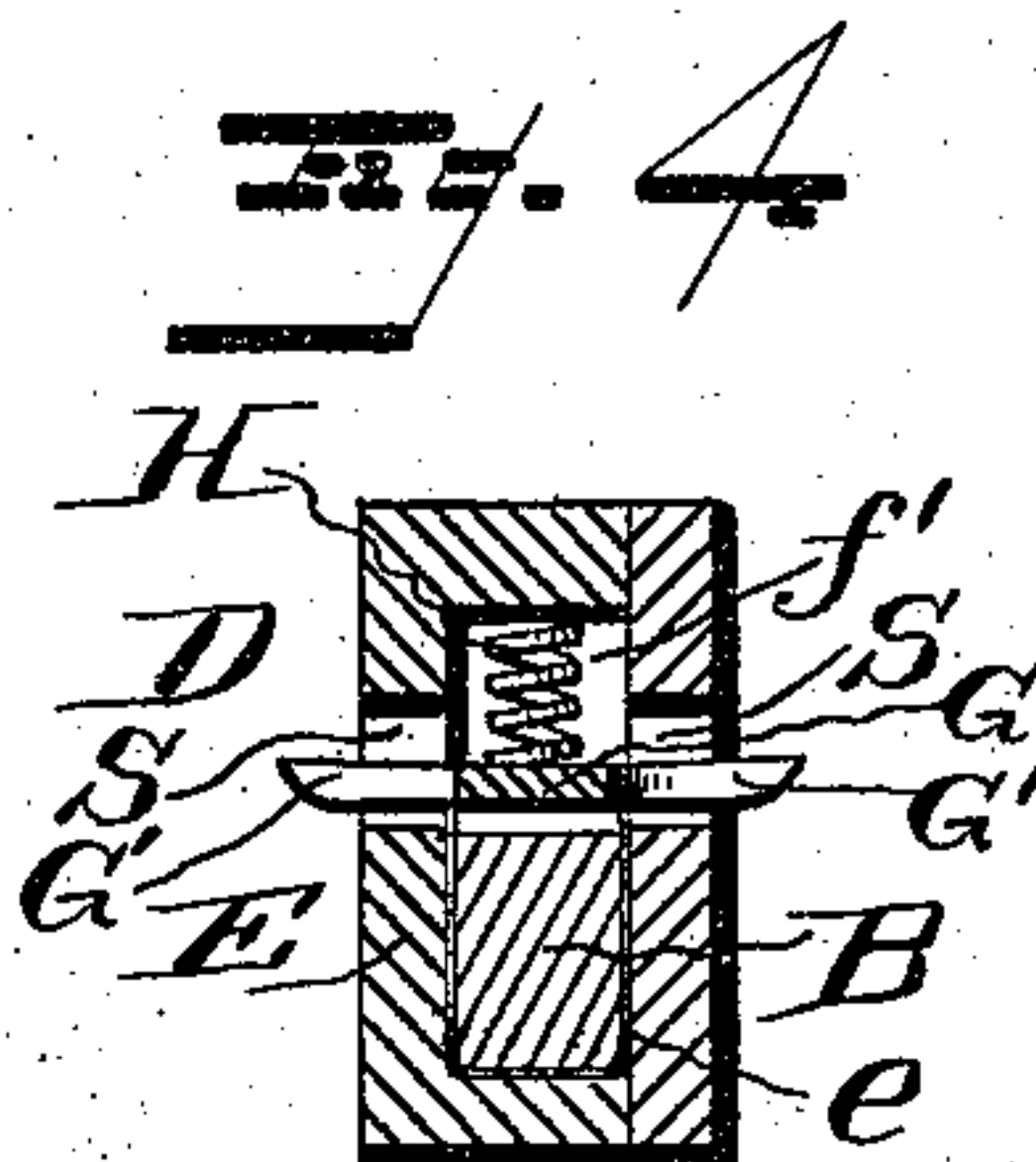
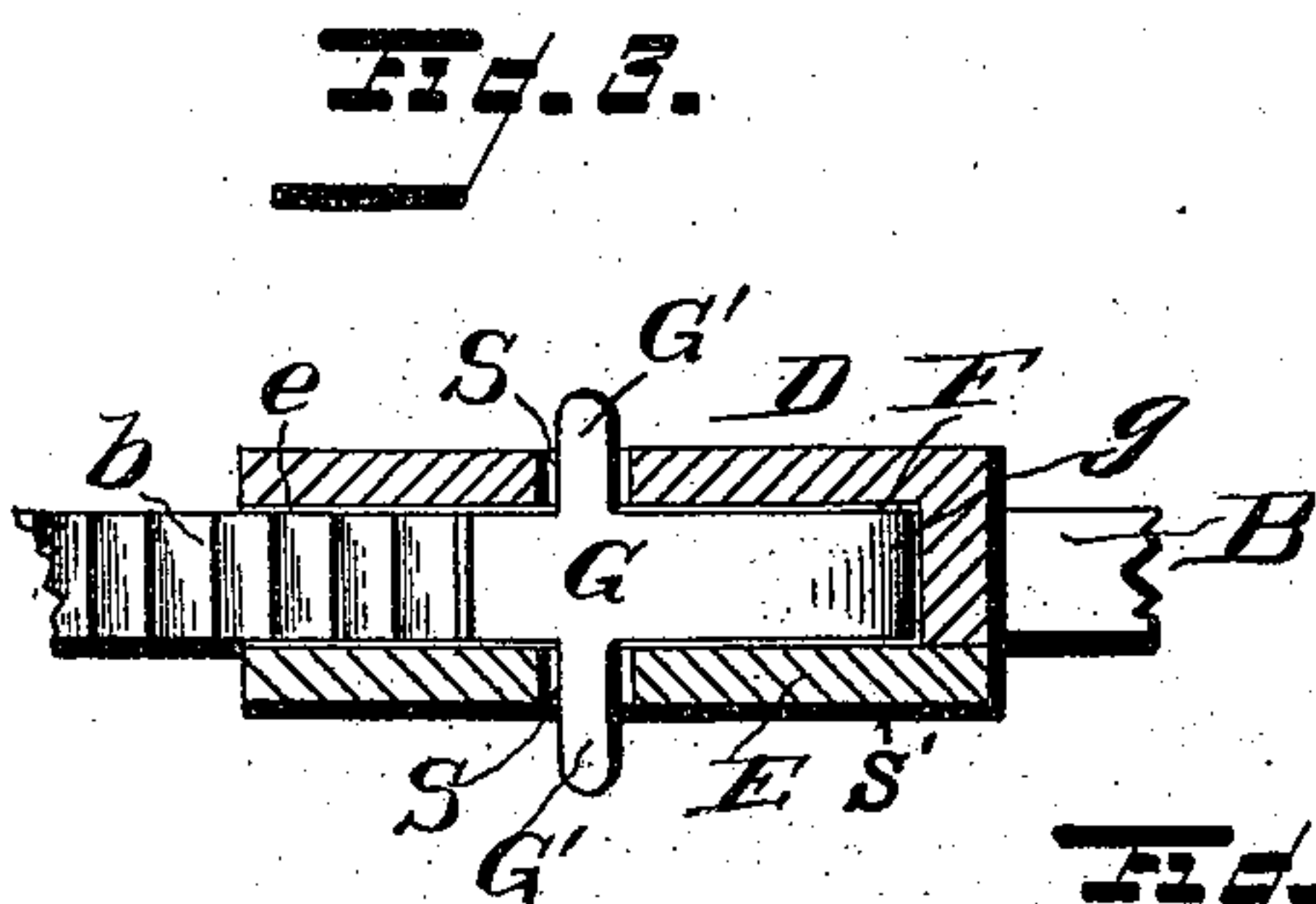
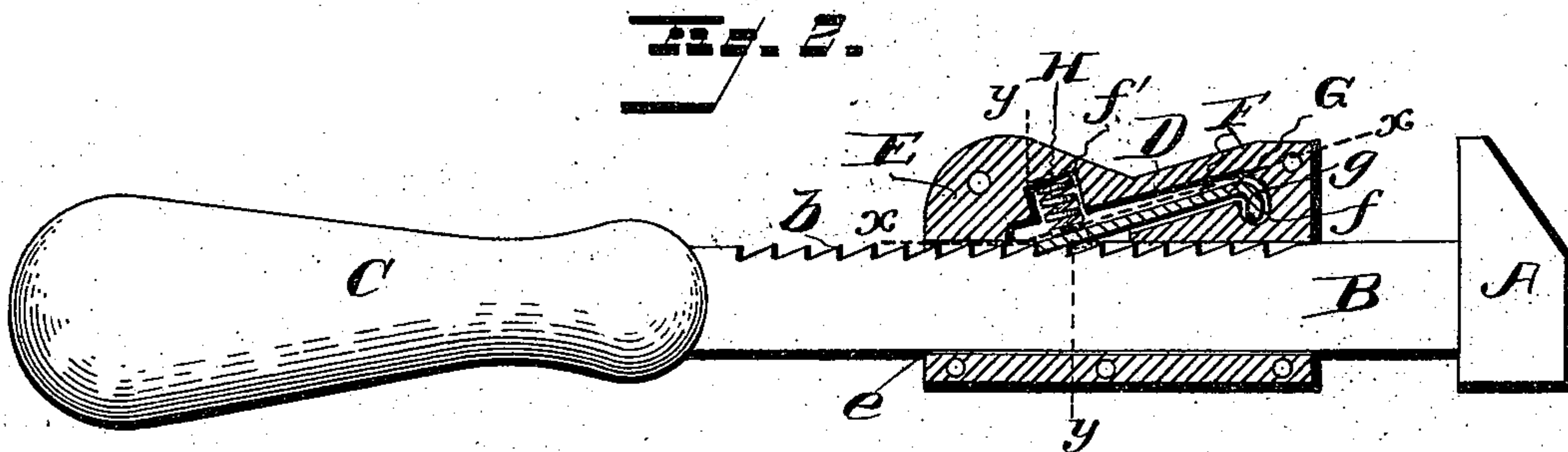
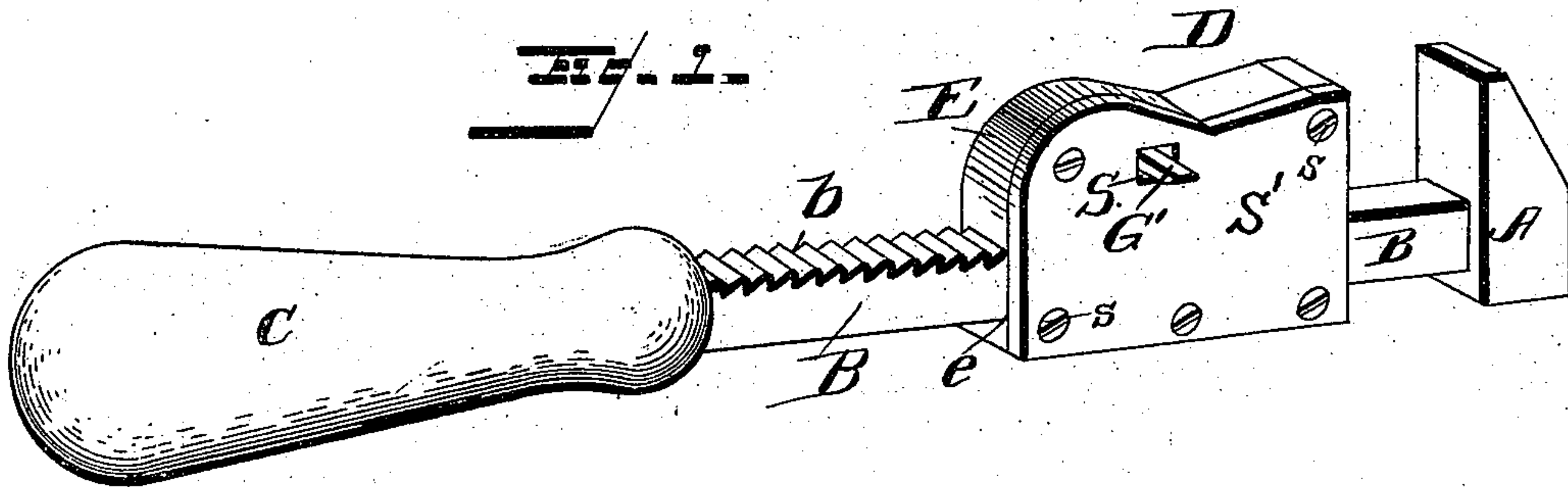


(No Model.)

W. G. JOHNSON.
WRENCH.

No. 512,709.

Patented Jan. 16, 1894.



Witnesses

Wm. H. Hunt.
John C. Cromwell.

Inventor
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UNITED STATES PATENT OFFICE.

WILLIAM G. JOHNSON, OF KINGFISHER, OKLAHOMA TERRITORY.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 512,709, dated January 16, 1894.

Application filed April 21, 1893. Serial No. 471,278. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM G. JOHNSON, a citizen of the United States, residing at Kingfisher, in the county of Kingfisher and Territory of Oklahoma, have invented a new and useful Wrench, of which the following is a specification.

This invention relates to wrenches of that class embodying a rigid jaw, a stem projecting therefrom and provided with ratchet-teeth, and a movable jaw sliding on the stem and provided with a spring-held pawl adapted to engage the ratchet-teeth.

The object of the invention is to provide a simple and improved wrench of this character which will possess advantages in point of inexpensiveness and durability in construction, ease of operation and general efficiency.

In the drawings—Figure 1 is a perspective view of a wrench embodying my invention. Fig. 2 is a longitudinal sectional view thereof. Fig. 3 is a detail sectional view on the line $x-x$, Fig. 2. Fig. 4 is a similar view on the line $y-y$, Fig. 2. Fig. 5 is a detail perspective view of the pawl.

Corresponding parts in all the figures are denoted by the same letters of reference.

Referring to the drawings, A designates the rigid jaw, from which projects a stem, B, carrying a handle, C, at its outer end. The stem B is preferably rectangular in cross-section, and is provided at its side adjacent the rigid jaw proper with a series of ratchet-teeth, b , facing toward the rigid jaw.

D designates the movable jaw, which is formed by a casing, E, the latter being provided to one side its longitudinal center with a channel, e , corresponding to and receiving the stem B. At the side of the casing E adjacent the movable jaw proper, said casing is provided with a chamber, F, communicating with the channel e at one end, and extending outwardly toward the jaw D. The chamber F is formed at its outer end with an inwardly-extending offset, f , and at its inner end with an outwardly-extending offset, f' , the purpose of which will hereinafter appear.

Within the chamber F is disposed a pawl, G, the latter having its inner free end projected into the channel e and adapted to engage the ratchet-teeth upon the stem B. The outer end of the pawl is turned inwardly to

form a bearing, g , seated and working within the offset f . Near its inner end, the pawl is provided at each side with a laterally-projecting operating finger, G' , said fingers projecting through slots, S S, in the sides of the casing. For effecting positive engagement of the free end of the pawl with the ratchet-teeth b , a coil spring, H, is provided, said spring being disposed in the offset f' of the chamber F and exerting its tension against the outer face of the pawl to urge the latter toward the teeth b .

The casing E is provided with a cap-plate, S' , at its open side, said plate being secured to the casing by screws, s , or in any other suitable manner.

The operation and advantages of my invention will be readily understood by those skilled in the art to which it appertains. To adjust the movable jaw toward the rigid jaw, it is only necessary to shove the movable jaw from the handle, the pawl playing over the ratchet-teeth. When it is desired to reverse the movement of the movable jaw, the handle of the wrench is held in one hand of the operator, and by outward and downward pressure of the thumb and forefinger of the free hand upon the finger-pieces G' , the pawl is released from the ratchet-teeth, and the movable jaw is caused to readily slide upon the stem B toward the handle.

I claim as my invention—

1. As an improvement in wrenches, the combination, with a rigid jaw having a stem projecting therefrom and provided with ratchet-teeth, of a movable jaw comprising a casing working on said stem and provided with a chamber adjacent said ratchet-teeth, said chamber having at one end an inwardly-extending offset, and at the opposite end an outwardly-extending offset, a pawl disposed in said chamber and provided with an inward bearing working in the first mentioned offset, a coil spring disposed in the second offset, and means for operating said pawl; substantially as set forth.

2. As an improvement in wrenches, the combination, with a rigid jaw having a stem projecting therefrom and provided with ratchet-teeth, of a movable jaw comprising a casing provided with a longitudinal channel, e , corresponding to and receiving said stem, and a

chamber, F, communicating with the channel
e at one end and extending outwardly toward
the rigid jaw, said channel having at its outer
end an inwardly-extending offset, *f*, and at its
5 inner end an outwardly-extending offset, *f'*,
a pawl, G, disposed in the chamber F and pro-
vided at its outer end with an intumed bear-
ing, *g*, working in the offset *f*, and near its in-
ner end with oppositely-projecting operating

fingers, G', working in slots, S, in the casing, 10
and a coil spring, H, disposed in the offset *f'*;
substantially as and for the purpose set forth.

In testimony whereof I affix my signature in
presence of two witnesses.

WILLIAM G. JOHNSON.

Witnesses:

W. B. JOHNSTON,

C. M. GRABLE.