

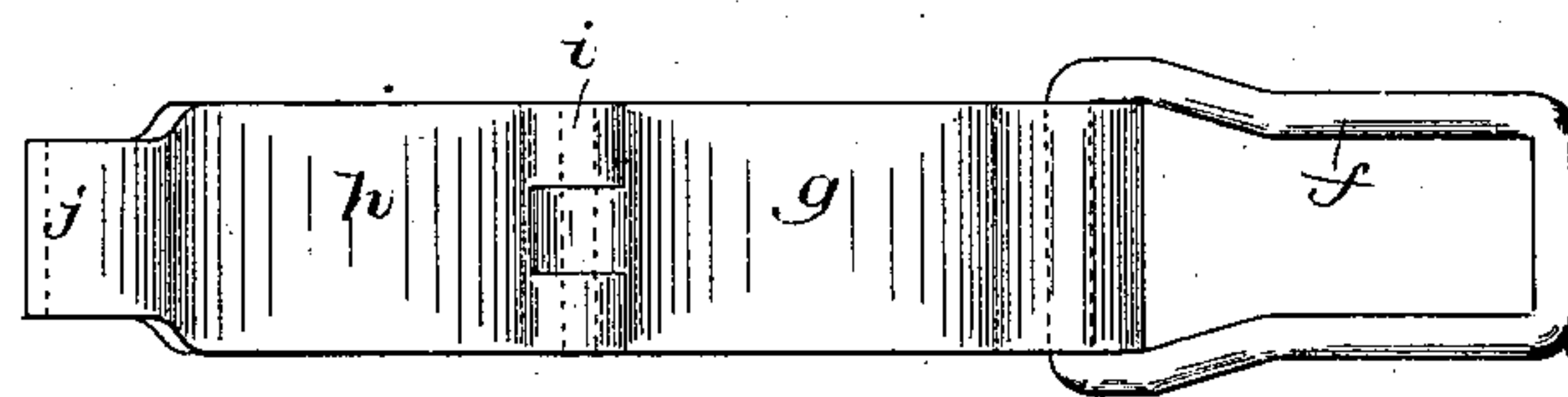
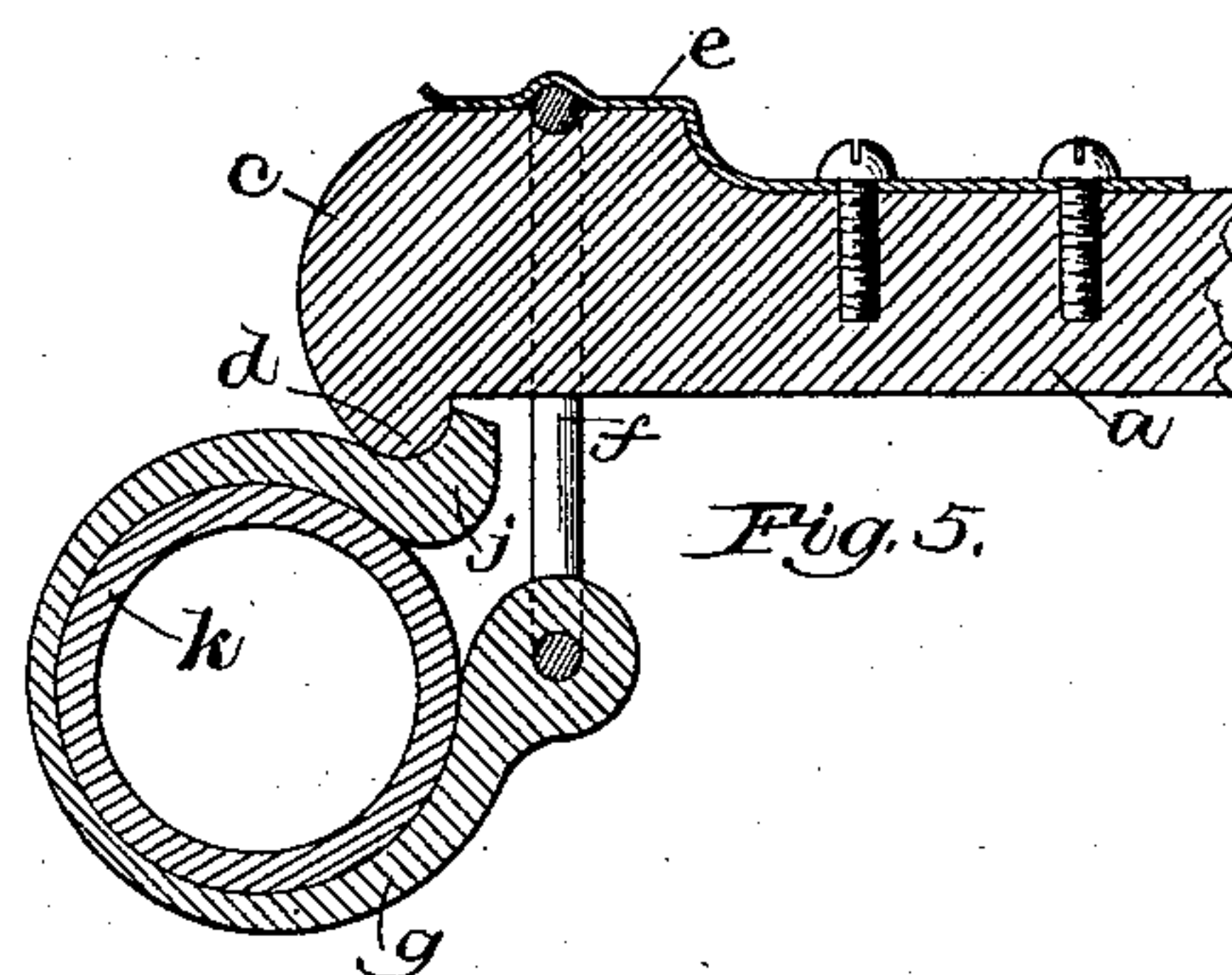
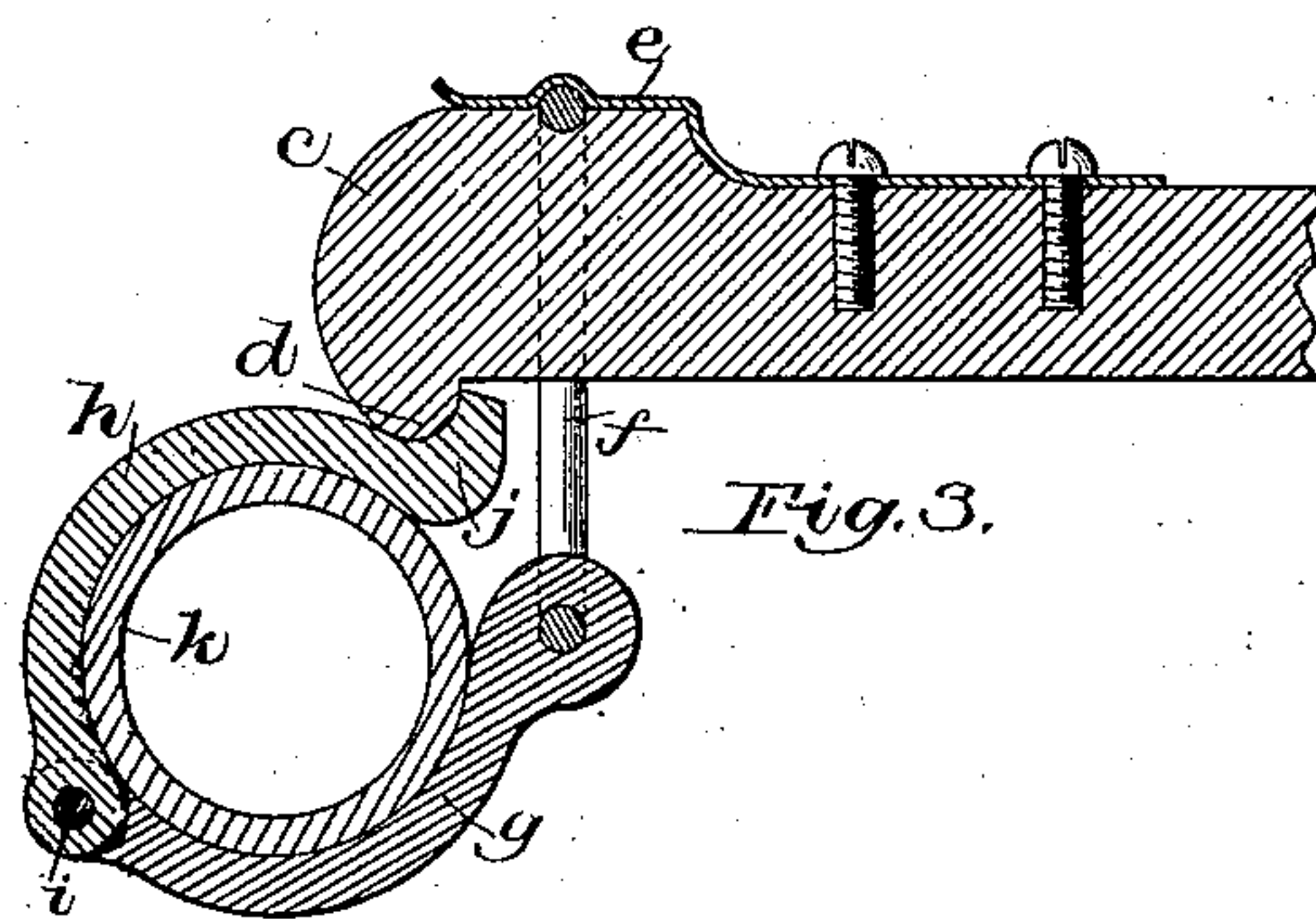
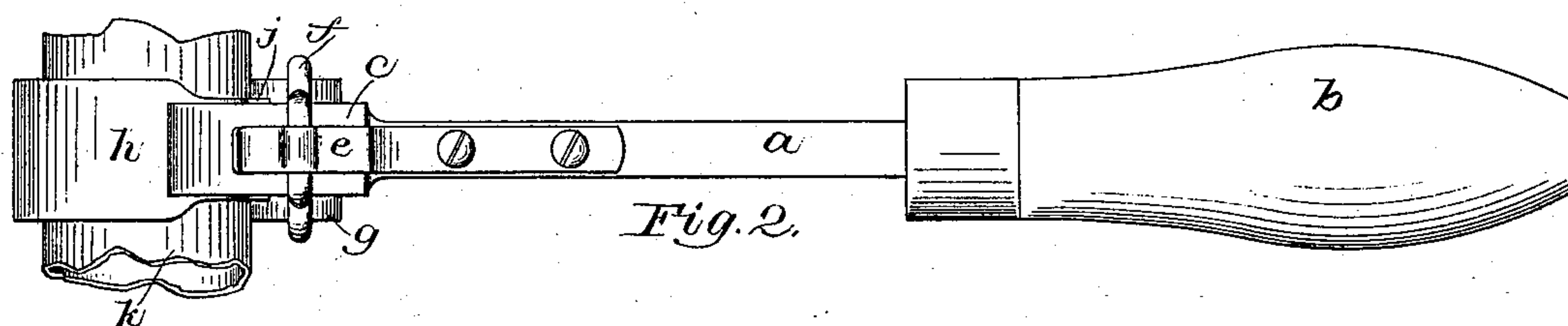
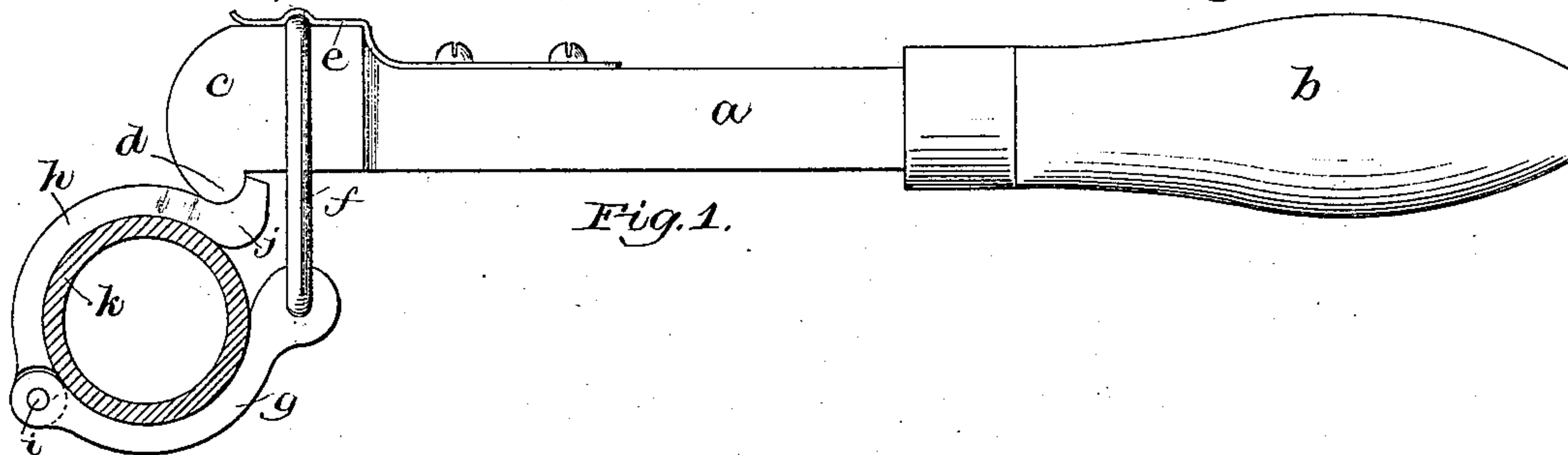
(No Model.)

J. T. HAYDEN.

PIPE WRENCH.

No. 324,378.

Patented Aug. 18, 1885.



Witnesses
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UNITED STATES PATENT OFFICE.

JAMES T. HAYDEN, OF BOSTON, MASSACHUSETTS.

PIPE-WRENCH.

SPECIFICATION forming part of Letters Patent No. 324,378, dated August 18, 1885.

Application filed January 16, 1885. (No model.)

To all whom it may concern:

Be it known that I, JAMES T. HAYDEN, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Pipe-Wrenches, which will, in connection with the accompanying drawings, be hereinafter fully described, and specifically defined in the appended claims.

This invention has for its object the production of a pipe-wrench which can be applied with any desired degree of force to brass or any other pipe which has been plated or highly finished without scarring, crushing, or in any manner injuring or defacing the same; and it will, in connection with the accompanying drawings, be hereinafter fully described and claimed.

In said drawings, Figure 1 is a side elevation of a wrench embodying my invention. Fig. 2 is a top or plan view of the same. Fig. 3 is a section taken as centrally and vertically through Fig. 2, but with a part of the shank and the handle broken away. Fig. 4 is a plan view of the clamp and the stirrup or link by which it is connected with the shank, the clamp being shown as extended and viewed upon its interior face. Fig. 5 is a view similar to Fig. 3, but showing the clamp as formed of one piece, instead of two pieces hinged together.

In said views, *a* represents the shank, upon which is secured the usual handle, *b*. The outer end of said shank terminates in head *c*, formed with knuckle *d* and a transverse groove, to serve as a retaining-seat for link *f*, the same being removably held therein by spring *e*, secured to said shank, said link having a free swinging movement in the lineal direction of said shank. In the lower end of said link is pivoted part *g* of the pipe-engaging clamp, and to said part *g* is pivoted, at *i*, the outer half, *h*, of the clamp, and upon this half is formed the curved knuckle *j*, which is en-

gaged by said knuckle *d* of head *c* when the wrench is operative.

The use and operation of my wrench will be fully understood from an inspection of said drawings; but it may be proper to state that by employing the inclosing-clamp *g h* as the means of contact with pipe *k*, when applying force torsionally thereto, there is no tendency to mar, disfigure, or crush the same, and hence great force may be applied to very thin pipe, or that which is highly finished, without injury thereto. In addition to this the clamp may be placed around pipe located close to walls or other surfaces without resulting injury; and as the wrench moves readily in a rearward direction, while it instantly seizes upon the pipe when moved forward, therefore the pipe may be rotated as desired, when but the slightest extent of vibratory movement of the wrench-handle is possible.

By reversing the position of the wrench upon the pipe the latter may be rotated in either a right or left hand direction. Where the clamp can be applied to the pipe by passing it over the end of the latter, it may be formed of one entire piece, as shown in Fig. 5, it being of sufficient strength when formed so thin as to readily bend to clamp the pipe.

By reason of the facility for instant removal of link *f* and the clamp from head *c*, clamps adapted to a variety of sizes of pipe may be employed with the same shank and handle.

I claim as my invention—

The combination, with clamp *h*, link *f*, and shank *a*, the latter being formed with a groove or seat for said link, of spring *e*, attached to said shank and arranged to secure the link in place thereon, substantially as specified.

JAMES T. HAYDEN.

Witnesses:

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