

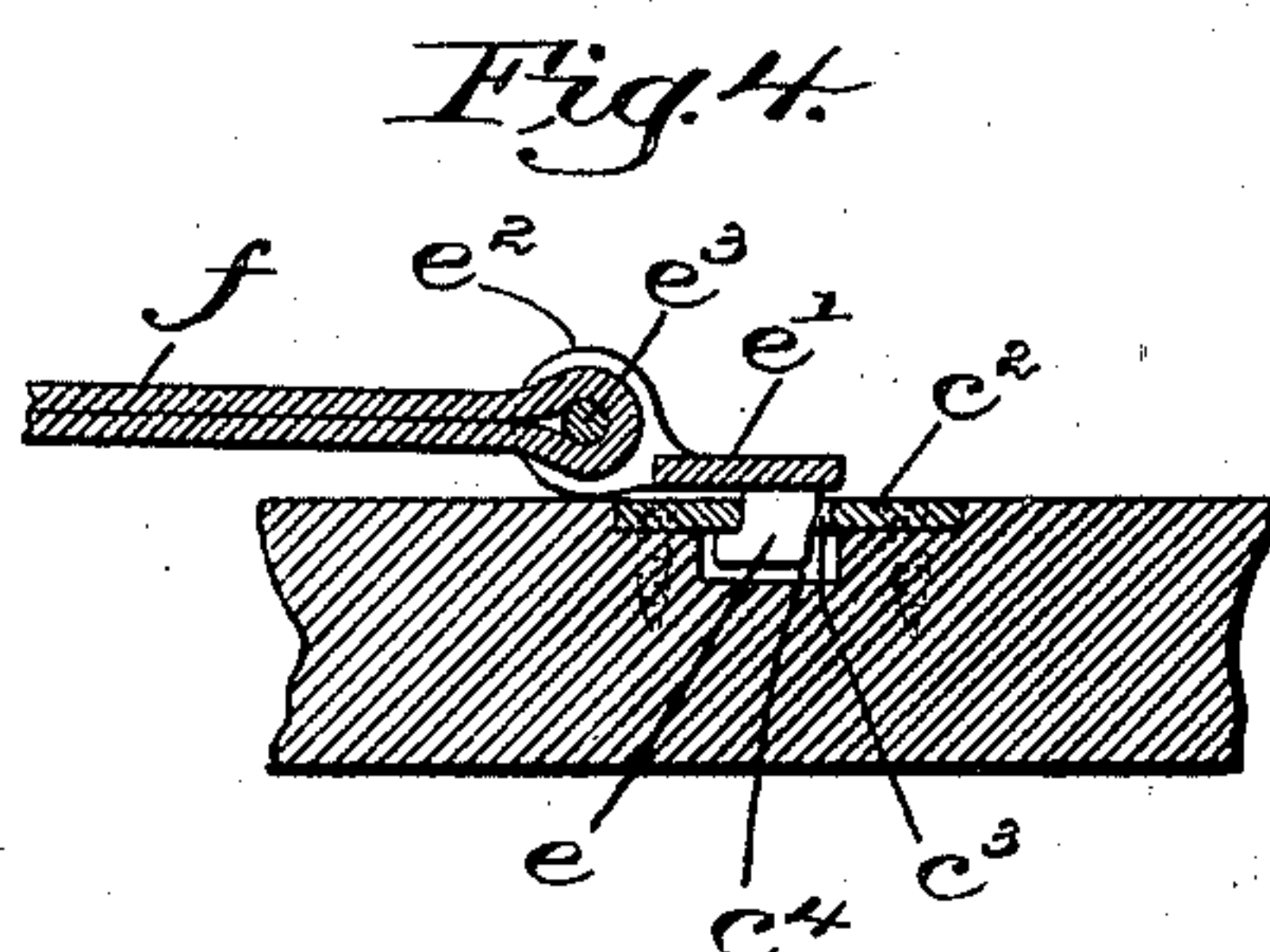
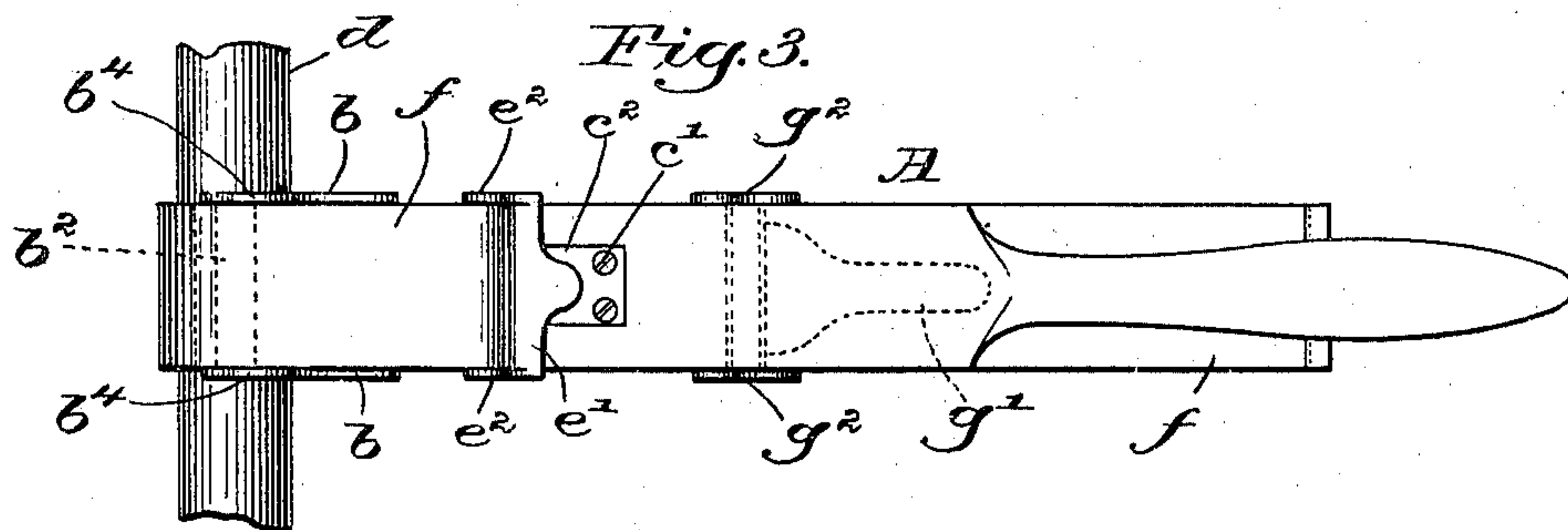
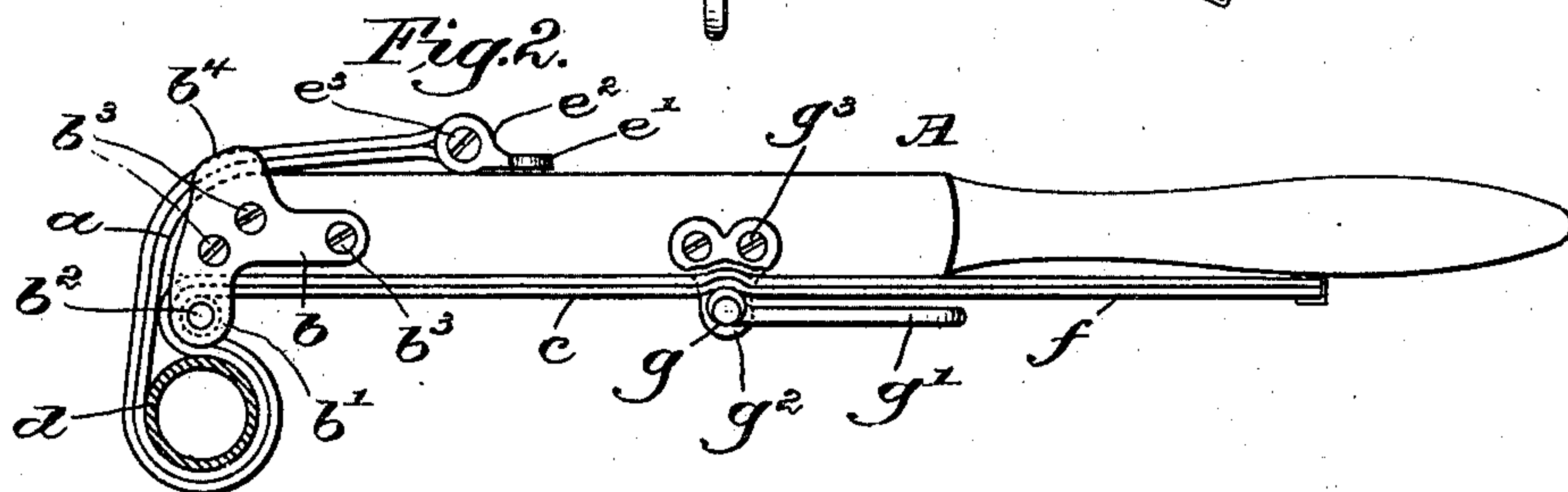
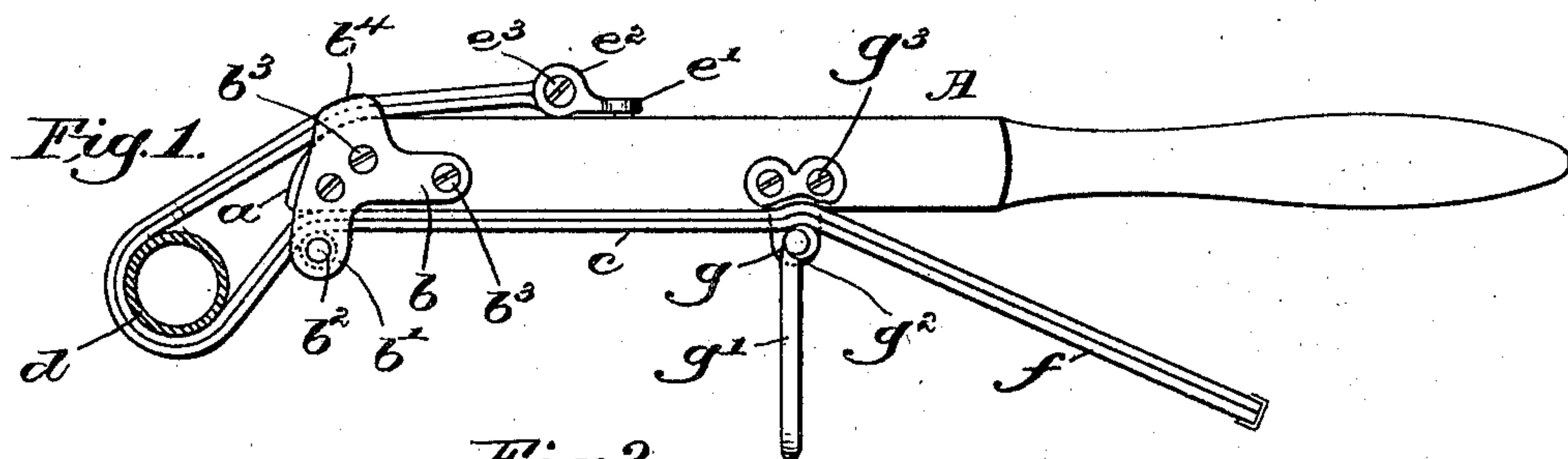
**No. 628,749.**

**Patented July 11, 1899.**

**W. A. BRADFORD.**  
**PIPE WRENCH.**

(Application filed Apr. 20, 1899.)

No Model.)



Witnesses.  
Thomas J. Drummond.  
E. J. Finckel.

Inventor:  
William A. Bradford.  
by Marby Gregory Attys.



# UNITED STATES PATENT OFFICE.

WILLIAM A. BRADFORD, OF QUINCY, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO NATHAN AMES, OF SAME PLACE.

## PIPE-WRENCH.

SPECIFICATION forming part of Letters Patent No. 628,749, dated July 11, 1899.

Application filed April 20, 1899. Serial No. 713,697. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM A. BRADFORD, of Quincy, county of Norfolk, State of Massachusetts, have invented an Improvement in Pipe-Wrenches, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention relates to a novel pipe-wrench adapted more especially for grasping and handling brass pipe or pipe which is easily scratched and marred.

My wrench contains a strong woven strap, preferably of double thickness, the loop made at the doubled end being entered by a strong screw or pin carried by a plate having a hook to engage an eyepiece attached to the handle of the wrench. The end of the handle is shaped to support the belt at one side of the pipe embraced by the belt, the belt being sustained at its outer side near the end of the handle by a supporting stud or roller, the free end of the belt being under the control of a clamp.

Figure 1 shows my wrench as it is being applied to a pipe. Fig. 2 shows the wrench engaging a pipe. Fig. 3 is a top view of Fig. 1, and Fig. 4 is a detail of the connection between the strap and the handle.

The handle or handpiece A of the wrench may be made of any usual or suitable material, preferably wood, and its end *a* will be preferably curved to form a seat for one side of the belt *f*. The inner end of the handle has applied to it at opposite sides like brackets *b*, each having a depending ear, as *b'*, in which is mounted a roller or other stud *b<sup>2</sup>*, said stud occupying a position distant from the lower side of the handle substantially equal to the thickness of the belt *c* to be described, the brackets being firmly confined to the handle by suitable screws *b<sup>3</sup>*, each bracket having preferably a projection *b<sup>4</sup>* to extend above the handle to act as edge guides for the belt embracing the pipe *d*. The upper side of the handle has attached to it by screws *c'* an eyeplate *c<sup>2</sup>*, said eyeplate (see Fig. 4) having an opening *c<sup>3</sup>*, said eyeplate covering a hole or recess *c<sup>4</sup>* made in the top of the handle. The hole in the eyeplate *c<sup>2</sup>* is

entered by a hook or projection *e*, connected with a belt-holder *e'*, having suitable ears *e<sup>2</sup>*, which receive a detachable screw or rod *e<sup>3</sup>*, which is passed through the eye formed by doubling the belt *f*, preferably of woven material, on itself. The belt is stitched or otherwise united one layer with the other and is passed between the end of the handle A and the stud or roll *b<sup>2</sup>*, and thence under a clamp *g*, composed of a rod having a cam or eccentric and a handle *g'*, said rod having its ends mounted in ears *g<sup>2</sup>*, united to said handle by suitable screws *g<sup>3</sup>*.

In applying the wrench to a pipe in position the hook may be disengaged from the eyepiece and the strap be passed about the pipe and the hook be again engaged with the eyepiece, the handle at such time being somewhat elevated, and the loop in the belt at the end of the handle and embracing the pipe will be of a length sufficient to enable the pipe when acted upon by turning the handle to come into a position substantially parallel with and below the bearing-roll *b<sup>2</sup>*, as shown in Fig. 2, where it will be seen that the pipe is wholly embraced by the belt, the latter grasping the pipe with sufficient firmness to turn said pipe.

This invention is not limited to the exact shape shown for the eyepiece and the hook, and instead I may employ any equivalent device which may be readily engaged and disengaged when desired, nor is this invention limited to the exact form of clamp illustrated.

By making the screw or bolt *e<sup>3</sup>* detachable it is possible to easily remove the strap and completely detach it from the handle.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A pipe-wrench consisting of a handle, an eyepiece on the handle, a belt having a connected hook to detachably engage said eyepiece, a heavy stud to support said belt near the end of the handle, and a movable clamp for engaging said belt beyond said stud.

2. A pipe-wrench consisting of a handle, a woven strap folded on itself, a belt-holder adapted to be hooked or detachably connected with the said handle, a rod carried by said

holder and entering a folded bight of the strap, ears applied to the end of the handle and supporting a rod to sustain the strap, and a lever pivoted on the handle and having a  
5 cam to engage the strap at desired times to clamp the same to said handle.

3. A pipe-wrench consisting of a handle having a pair of brackets at one end provided with depending ears and also with projec-  
10 tions, said projections constituting edge guides, a bearing-stud supported between said ears, a belt connected at one end with said handle and supported by said bearing-stud and guided by said projections, and a clamp-  
15 ing device for the belt.

4. A pipe-wrench composed of a handle having a belt-supporting stud located near one end thereof, a woven strap detachably connected with said handle at one end and sustained at the end of said handle by said bearing-stud, and a movable clamp to engage and  
20 hold said belt to said handle.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM A. BRADFORD.

Witnesses:

GEO. W. GREGORY,  
EMMA J. BENNETT.