

(No Model.)

T. G. LANEY.

PULL ROD BENDING APPARATUS.

Patented Oct. 20, 1896.

No. 569,927.

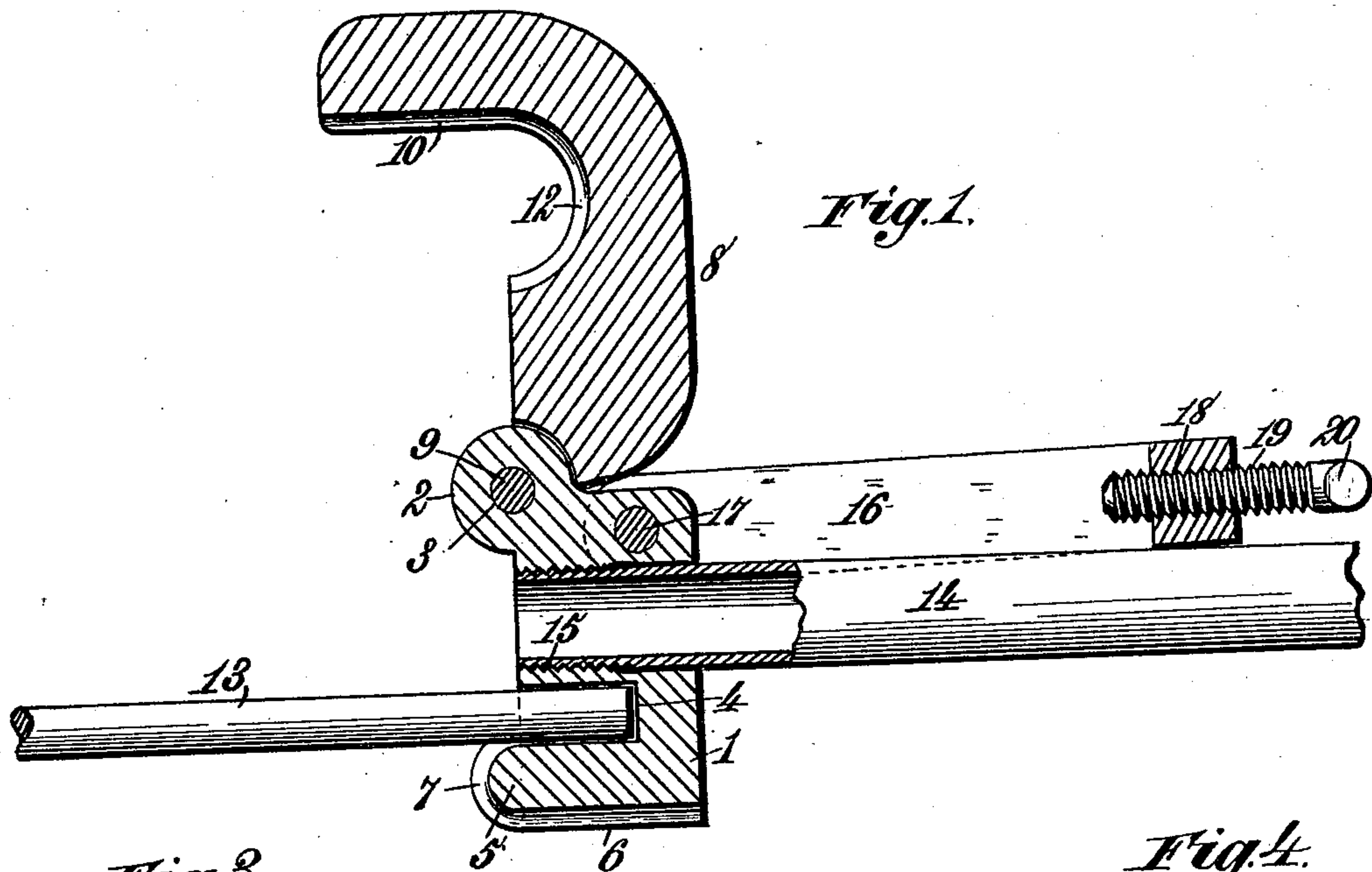


Fig. 3.

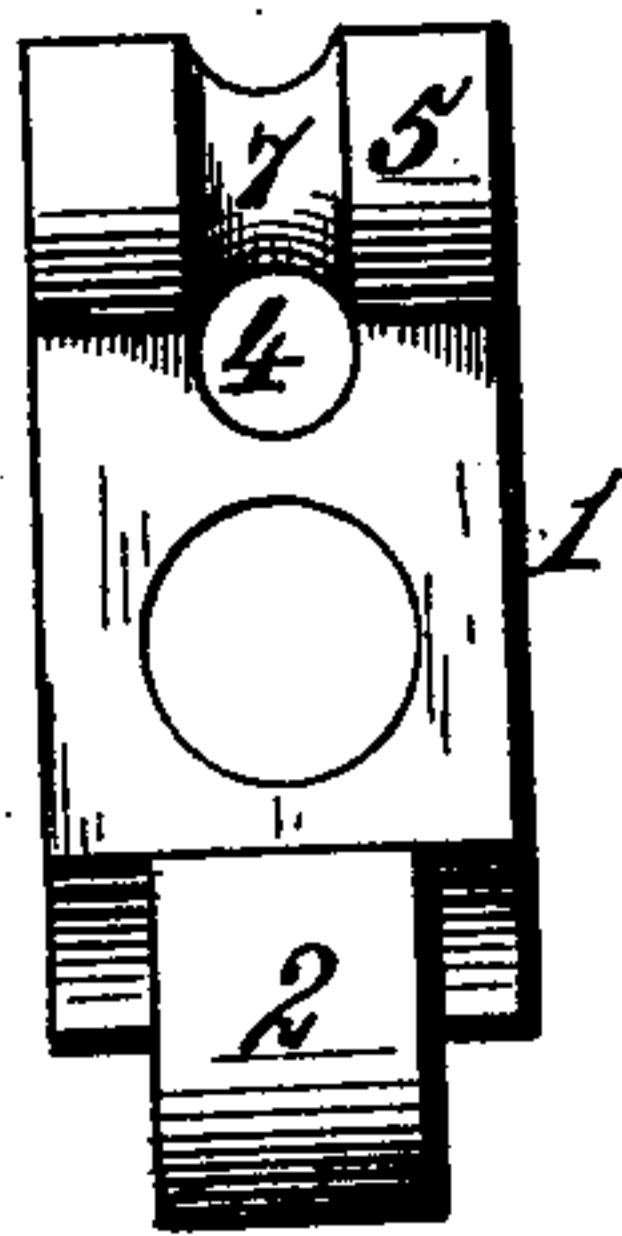


Fig. 2.

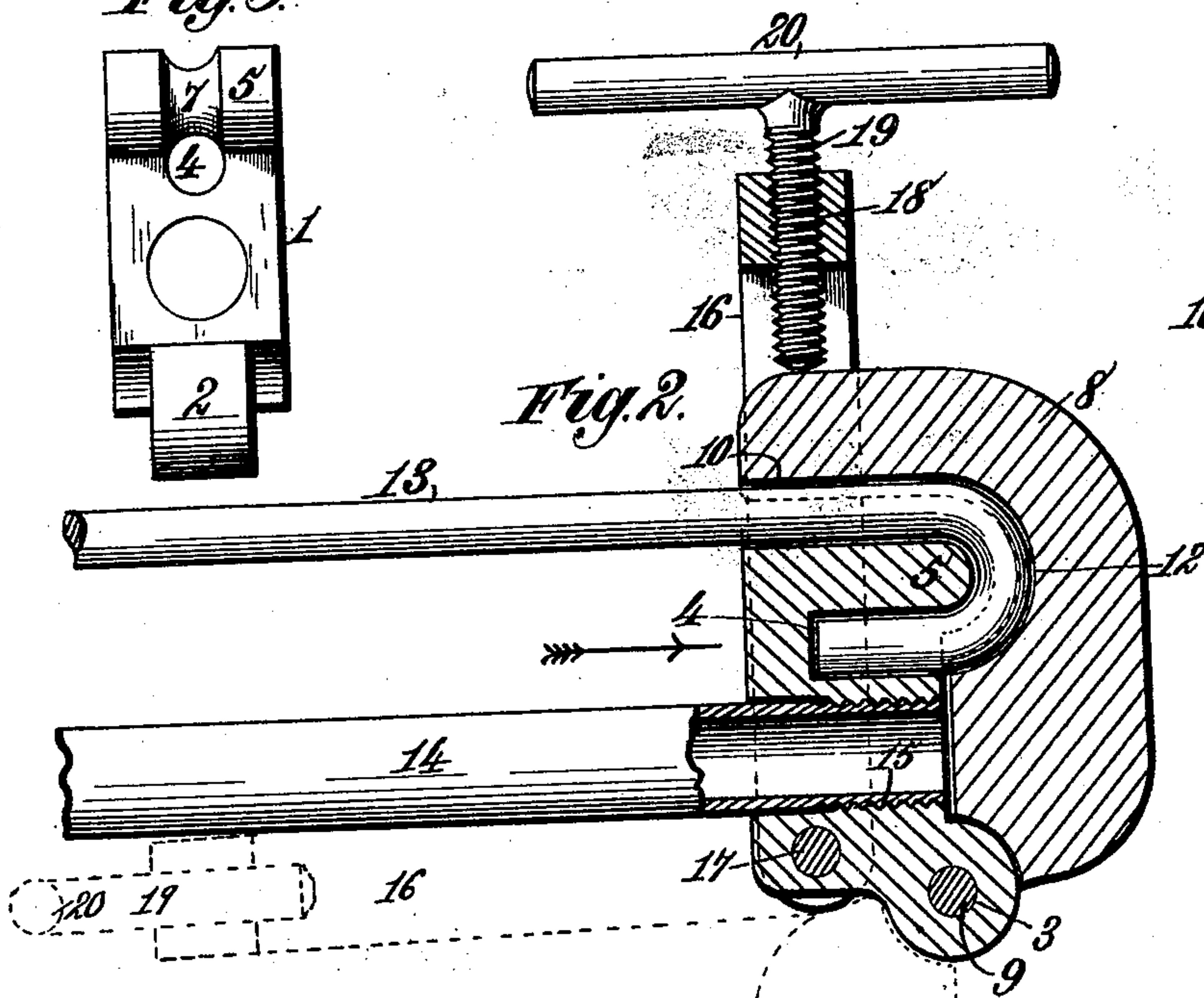
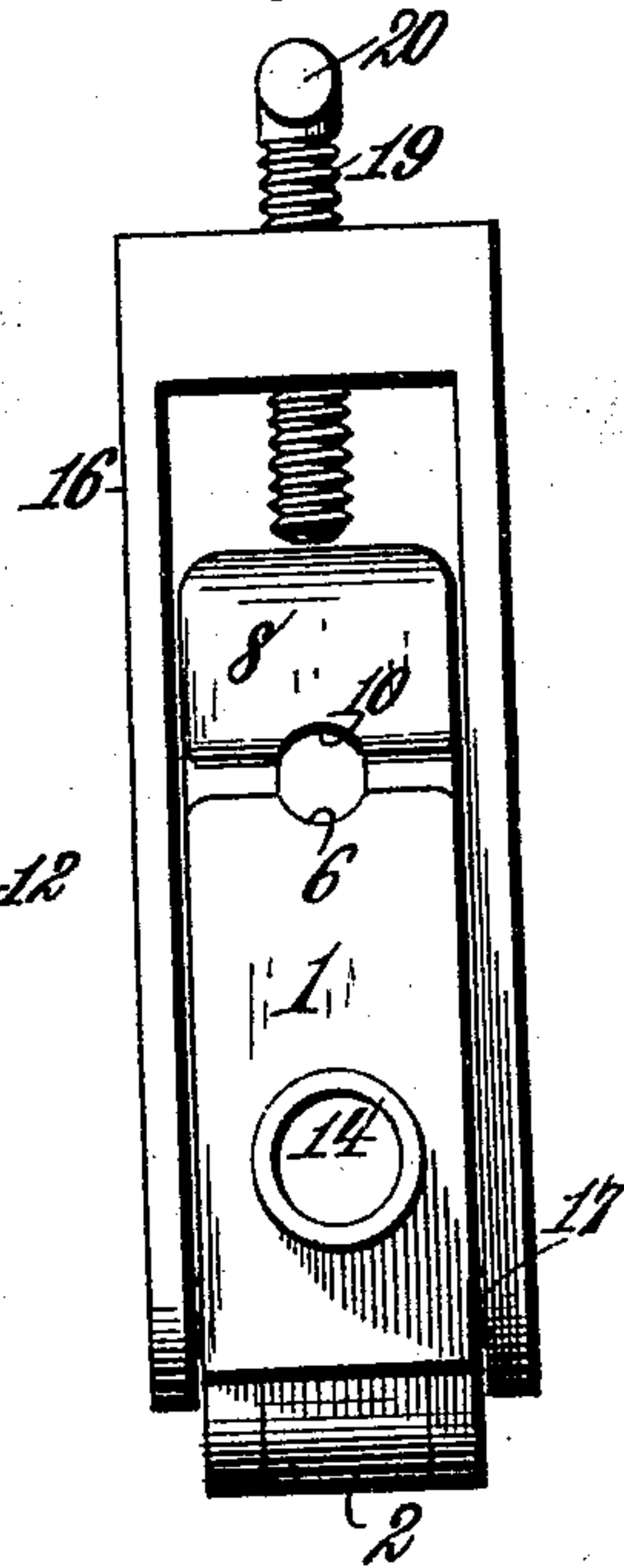


Fig. 4.



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# UNITED STATES PATENT OFFICE.

THOMAS G. LANEY, OF LIMA, OHIO.

## PULL-ROD-BENDING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 569,927, dated October 20, 1896.

Application filed June 15, 1896. Serial No. 595,642. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS G. LANEY, a subject of the Queen of Great Britain, residing at Lima, in the county of Allen and State of Ohio, have invented new and useful Improvements in Pull-Rod-Bending Apparatus, of which the following is a specification.

In my application for patent filed June 2, 1896, Serial No. 594,004, I describe and show devices for coupling together the hook-shaped ends of the sections of a pull-rod designed for transmitting motion from a motor to the pump-operating jack of an oil-well pumping mechanism. The hooks on the ends of the rod-sections are constructed to fit similarly-shaped grooves in two-part coupling-clamps, and the hooks should be substantially alike in form and dimensions. They are best made by bending the ends of the rod-sections into the form of ordinary hooks.

The present invention has for its object to provide a new and improved bending apparatus for shaping the ends of the rod-sections into the hooks which are to be coupled together by the two-part coupling-clamps, whereby the hooks will be formed exactly or substantially alike. They can be used indiscriminately with any of the clamps, and they can be rapidly and economically produced in a very simple and convenient manner.

To accomplish this object, my invention consists, essentially, in the combination of a main body or frame having a bend-forming abutment and a socket arranged in juxtaposition thereto and adapted to receive one end of a rod-section, a movable jaw mounted upon the main body or frame, and means for clamping this jaw after the hook has been partially bent into shape for the purpose of completing the same and securing exactness in the form or shape of all the hooks.

The invention also consists in certain other features of construction and in the combination or arrangement of parts hereinafter described and claimed, reference being made to the accompanying drawings, in which—

Figure 1 is a sectional view showing my improved bending apparatus applied to the end of a rod-section preparatory to bending the extremity of the latter into the form of a hook. Fig. 2 is a similar view showing the

position of the parts after the rod has been bent into the form of a hook and the movable jaw has been clamped in engagement with the hook-shaped end of the jaw, the dotted lines representing the jaw and the clamp prior to their being swung around into position to clamp the hook-shaped end of the rod. Fig. 3 is a detail plan view of the main body or frame of the apparatus to more clearly illustrate the groove leading from the socket in which the end of the rod-section is inserted; and Fig. 4 is a detail plan view of the body or frame and the jaw looking in the direction of the arrow, Fig. 2.

In order to enable those skilled in the art to make and use my invention, I will now describe the same in detail, referring to the drawings, wherein—

The numeral 1 indicates the main body or frame, which is preferably composed of an approximately rectangular block of metal having at one end a lug or hinge-knuckle 2 and a transverse pivot-hole 3 and at the opposite end a cylindrical socket 4 and a bend-forming abutment 5, constructed in its outer face with a groove 6, semicircular in cross-section and running substantially parallel with the socket 4. The groove 6 is continued around the abutment in the form of a groove 7, which registers with a part of the cylindrical socket 4.

The clamping-jaw 8 of the apparatus is approximately U-shaped, and at one end is articulated or pivoted to the lug or hinge-knuckle 2 through the medium of a transverse pivot-pin or pintle 9. The jaw 8 is formed in its acting face with a hook-shaped groove comprising a straight portion 10 and a curved portion 12, which portions, when the jaw 8 is closed in its clamping position, as in Fig. 2, lie parallel with the grooved portions 6 and 7, formed in the main body or frame 1.

The socket 4 is usually made cylindrical, because pull-rod sections are ordinarily circular in cross-section, and for the same reason the grooved portions in the main body or frame and in the pivoted jaw are semicircular in cross-section. It will be obvious, however, that these particular cross-sectional shapes may be varied to suit the conditions required, according to the cross-sectional



shape of the rod which is to be bent at one end into the form of a hook. The grooved portion in the acting face of the pivoted jaw is exactly or substantially of the outline of the hook which is to be formed on one end of a pull-rod section 13.

The main body or frame 1 is provided with a handle 14, which is preferably composed of a tube having at one end a screw-threaded portion 15, which is screwed into a screw-threaded socket in the main body or frame. The handle, however, may be otherwise constructed and be connected with the body or frame in any suitable manner. I prefer, however, to screw the handle into position and to arrange the screw-socket between the lug or hinge-knuckle 2 and the socket 4, which is to receive one end of the rod to be bent into hook form.

The main body or frame is provided with a swinging yoke 16, having the extremities of its side arms pivotally connected with the body or frame through the medium of a transverse pivot-pin 17. The cross-bar which connects the side arms of the yoke is provided with a screw-threaded orifice 18 to receive a screw shaft 19, having a handle 20 of suitable form which will enable the screw-shaft to be rotated by the operator, so that the screw-shaft can be made to act upon one end of the pivoted jaw 8 for clamping it in position to complete the hook on the end of the rod, as will more fully hereinafter appear.

The pivoted jaw 8 and the yoke 16 are adapted to be swung around into the position indicated by dotted lines in Fig. 2, so that one end of the straight pull-rod section can be inserted into the socket 4, after which the handle 14 is grasped by the operator and turned or rotated to bend one end of the rod-section round and nearly parallel with the main body portion of the rod-section. After this has been accomplished, the jaw 8 and yoke 16 are swung over into the position shown in Fig. 2, and the handle 20 of the screw-shaft 19 is rotated in the direction necessary to cause the screw-shaft to press against one end of the jaw and cause it to clamp and shape the hooked end of the rod and thereby perfect the formation of the hook and place the main body portion of the rod-section exactly or nearly parallel with the extremity of the hook. It will be obvious, therefore, that with the apparatus described a large number of pull-rod sections can be formed with hook-shaped extremities, and that all of them will be exactly or substantially alike in form and dimensions. This is a desirable and important feature where pull-rod sections require to be formed with hook-shaped ends to fit hook-shaped grooves in

two-part clamp-couplings, as hereinbefore referred to.

I do not confine myself to the use of a screw-shaft 19 as a means for clamping the pivoted jaw upon the hook-shaped end of the rod-section, for, obviously, the yoke 16 may be provided with any other suitable device for accomplishing the same purpose.

Having thus described my invention, what I claim is—

1. The combination of a main body or frame having a bend-forming abutment and a socket located in juxtaposition to the latter to receive one end of a rod-section, a movable jaw having a hook-shaped groove, and a clamp for clamping the jaw upon the rod-section, substantially as described.

2. The combination of a main body or frame having a grooved bend-forming abutment and a socket arranged in juxtaposition thereto and adapted to receive one end of a rod-section, a pivoted clamping-jaw having a hook-shaped groove in its acting face, and a clamp for clamping the jaw upon the rod-section, substantially as described.

3. The combination of a main body or frame having a grooved bend-forming abutment and means for engaging one end of a rod-section, a jaw pivoted to the main body or frame and having a hook-shaped groove in its acting face, and a yoke provided with a clamping device for clamping the jaw upon the rod-section, substantially as described.

4. The combination of a main body or frame having a grooved bend-forming abutment, a handle and a socket for receiving one end of a rod-section, a clamping-jaw pivoted to the main body or frame and having a hook-shaped groove in its acting face, and a yoke pivoted to the main body or frame and provided with a clamping device for clamping the jaw upon the rod-section, substantially as described.

5. The combination of a main body or frame having a handle, a grooved bend-forming abutment and a socket for receiving one end of a rod-section, a clamping-jaw pivoted to the main body or frame and having a hook-shaped groove in its acting face, a yoke pivoted to the main body or frame, and a clamping-screw carried by the yoke for clamping the jaw upon the rod-section, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

THOMAS G. LANEY.

Witnesses:

M. J. SANFORD,  
JOHN H. STEWART.