

No. 696,679.

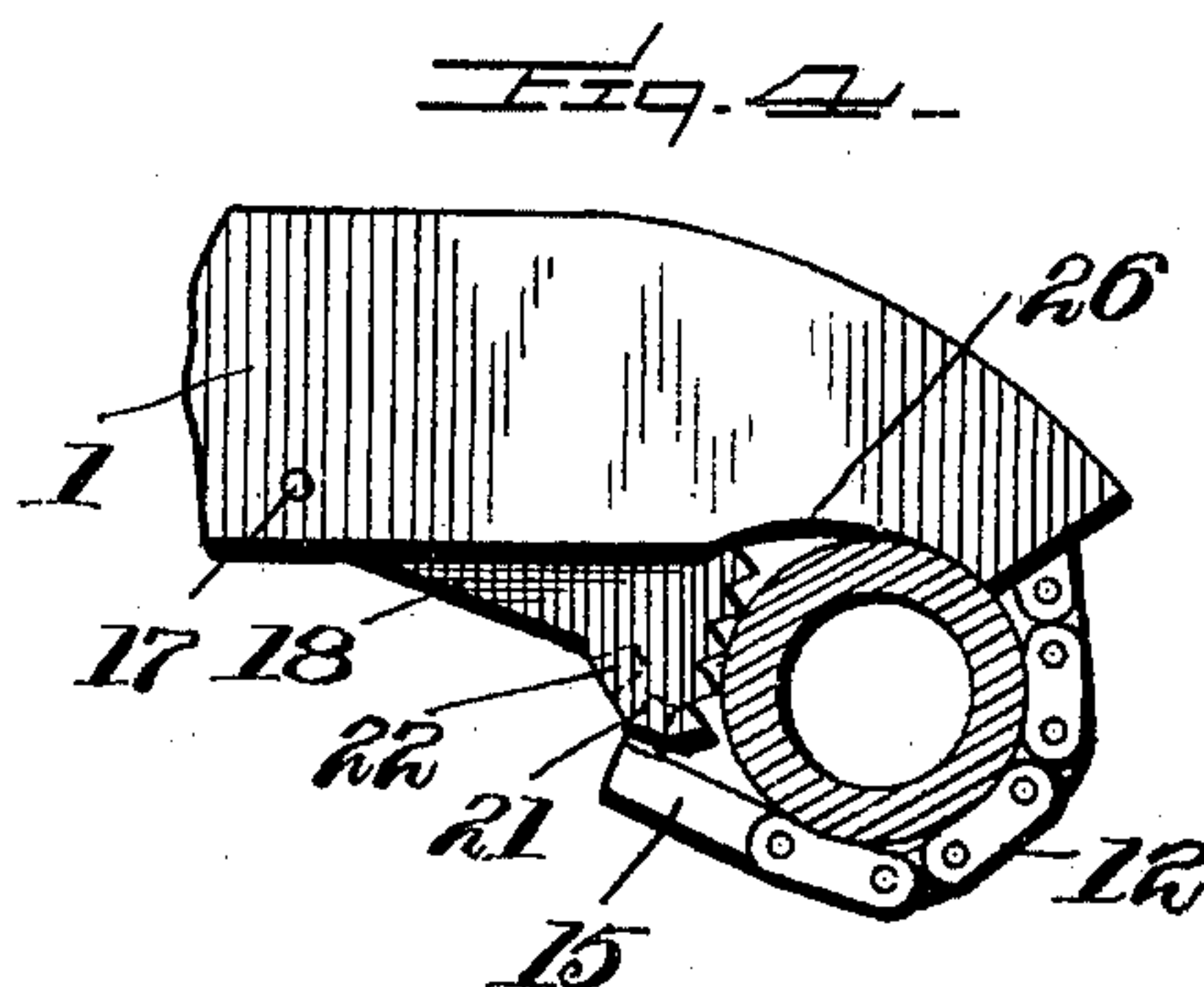
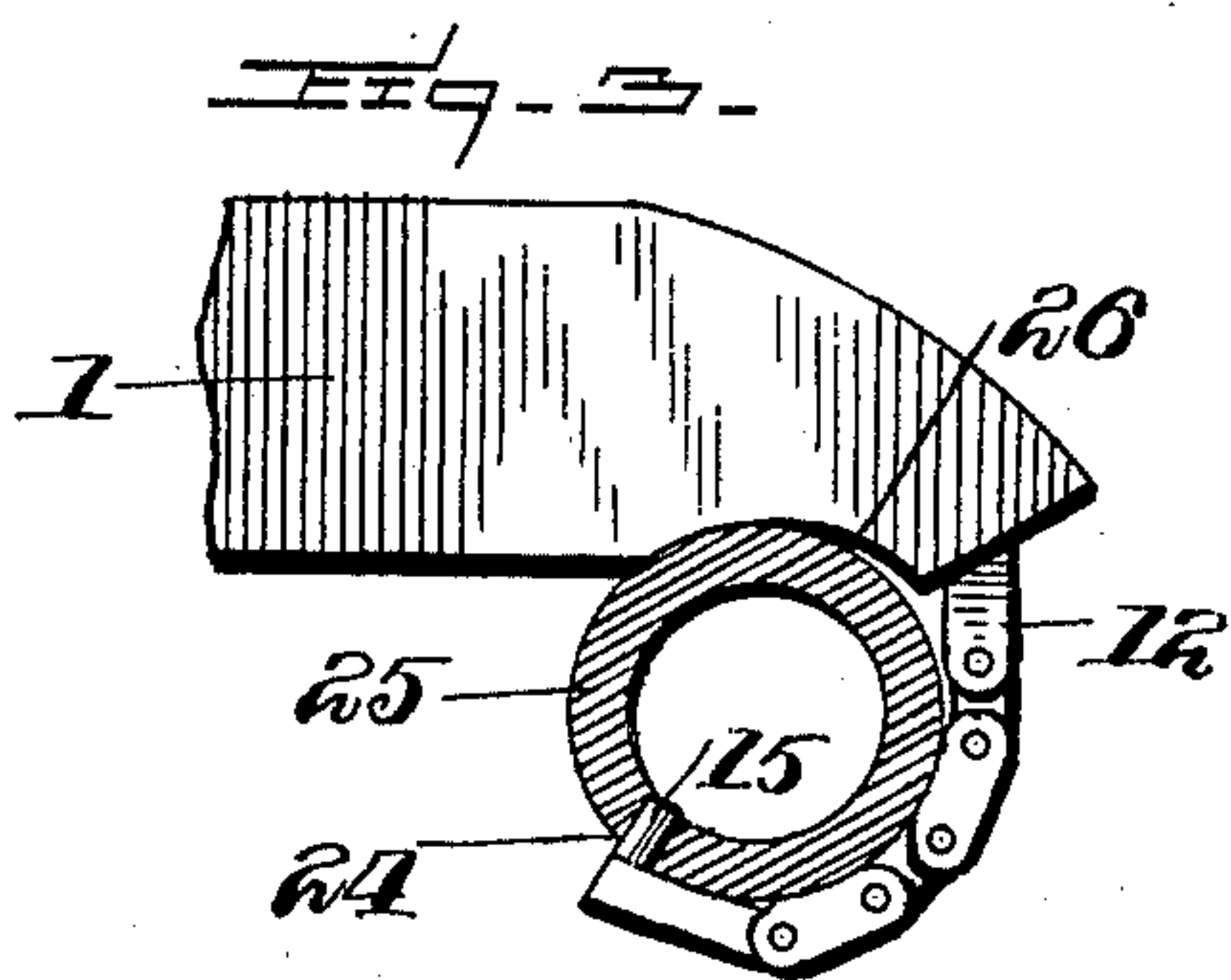
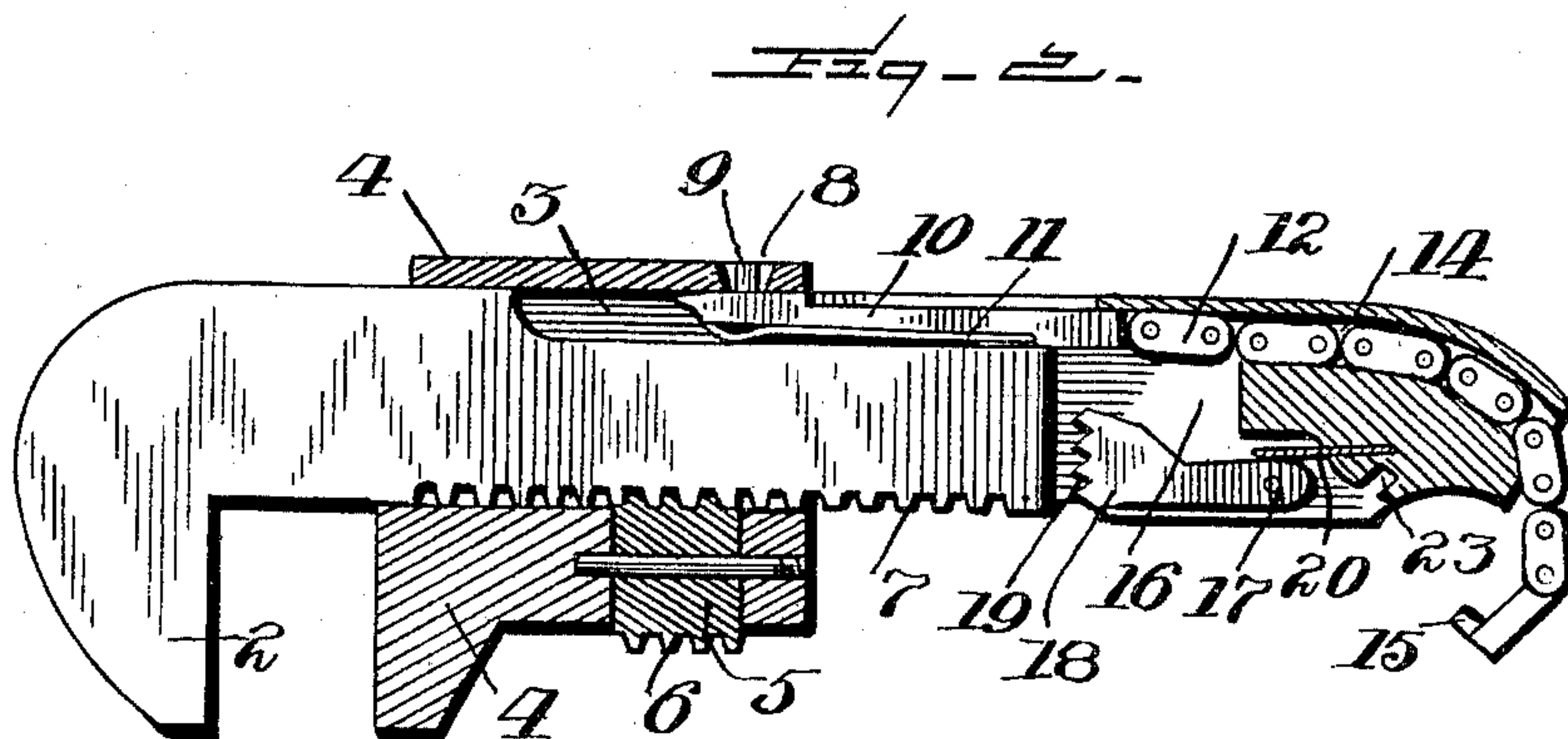
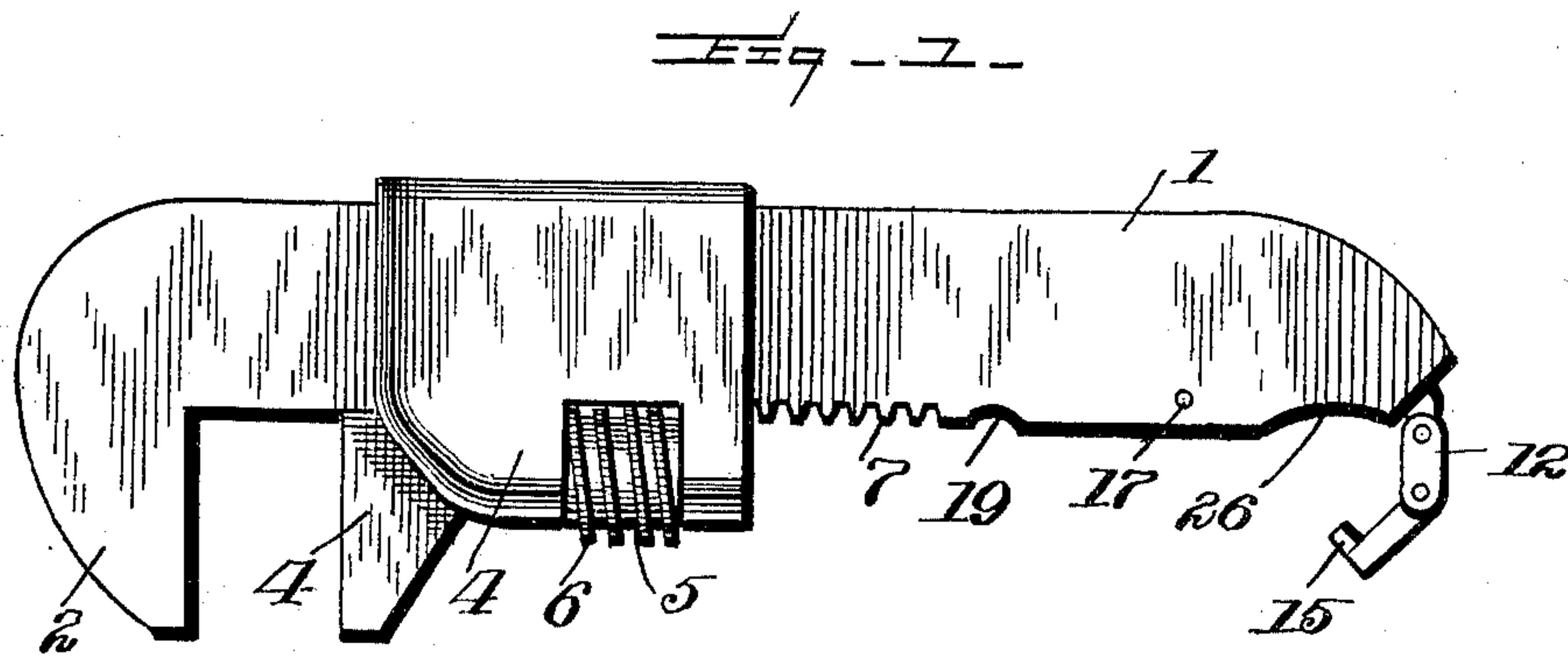
Patented Apr. 1, 1902.

G. B. HOWARD & J. LANGHART, JR.

WRENCH.

(Application filed Jan. 21, 1902.)

(No Model.)



Witnesses:
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UNITED STATES PATENT OFFICE.

GEORGE B. HOWARD AND JACOB LANGHART, JR., OF McKEESPORT,
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WRENCH.

SPECIFICATION forming part of Letters Patent No. 696,679, dated April 1, 1902.

Application filed January 21, 1902. Serial No. 90,633. (No model.)

To all whom it may concern:

Be it known that we, GEORGE B. HOWARD and JACOB LANGHART, Jr., citizens of the United States of America, residing at McKeesport, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Wrenches, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in spanner-wrenches, and relates more particularly to combination-wrenches wherein a sliding-jaw wrench and spanner-wrench are combined.

Although the present invention is shown and described as coöperating with a sliding-jaw wrench, the principal features of the invention solely relate to the spanner-wrench, and the sliding-jaw wrench may be dispensed with, if desired.

The object of the present invention is to provide novel means whereby the adjustment of the spanner-wrench is obtained which will permit the wrench to grasp all sizes of tubing, bolts, and nuts.

Our invention further aims to provide a chain that will be partially inclosed in a handle or may be adjusted to an extent to grasp all sizes of couplings and the like; furthermore, to provide an arm that when adjusted to its proper position will form a further fulcrum-point of the wrench.

Our invention still further contemplates to provide a screw-driver attachment that may be conveniently used in connection with a wrench when desired.

Another object of the present invention is to provide a wrench that may be extremely simple in construction, strong, durable, comparatively inexpensive to manufacture, and highly efficient in its use.

With the above and other objects in view the invention consists in the novel combination and arrangement of parts to be hereinafter more fully described, and specifically pointed out in the claims.

In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, and where-

in like numerals of reference indicate like parts throughout the several views, in which—

Figure 1 is a side elevation of our improved wrench. Fig. 2 is a longitudinal sectional view thereof. Fig. 3 is a side elevation of the wrench when in use. Fig. 4 is a similar view showing the adjustment of the fulcrum-arm as it appears when applied in position.

In the drawings the reference-numeral 1 indicates the handle carrying the stationary jaw 2, and 3 represents a recess formed in the upper face of the handle.

The sliding jaw 4 is of the ordinary construction, in which is secured the collar 5, carrying a worm-screw 6, said worm-screw 6 operating in a worm-rack 7, formed on the lower face of the handle. Through the upper face of the sliding jaw 4 is formed an aperture 8, through which extends the lug 9, carried by the screw-driver 10, the latter being engaged on its under face by the flat spring 11, which serves to normally press the lug 9 into the opening 8. At the other end of the screw-driver 10 is secured a chain composed of a number of links 12, which are pivotally secured together, said chain extending through the recess 14, formed in the end of the handle. This chain 12 carries on its free end a lug 15. A recess 16 is also formed in the handle 1, in said recess being pivotally secured at 17 a spring-pressed fulcrum-arm 18, carrying teeth 19 and retained in position by means of a spring 20, secured in the body portion of the handle. In the said fulcrum-arm 18 are formed recesses 21 and 22, which are adapted to receive the lug 15 of the chain when the fulcrum-arm is used; but when the fulcrum-arm is not in use the lug 15 may be secured in the recess 23, formed in the body portion of the handle, or the lug 15 may engage the opening 24, formed in the sleeve 25. The lower end of the handle, near the end thereof, is curved, as shown at 26, to receive the sleeve, nut, or other object to which the wrench is applied.

The operation of our improved wrench is as follows: When it is desired to lengthen or shorten the chain to grasp an object, the sleeve 6 is operated, thereby imparting the usual movement to the sliding jaw to which

the chain is attached, and by operating the jaw toward the stationary jaw the chain will be shortened, and the reverse movement will serve to lengthen the chain extending through the end of the handle. In case it is desired to span a smaller radius the lug 15 will be secured in the opening 23 or may be secured in the opening 24, as shown in Fig. 3 of the drawings. When it is desired to span a larger radius, the fulcrum-arm is operated to the position as shown in Fig. 4, and the lug 15 may then be placed either in the recess 21 or 22. When it is desired to use the screw-driver, the lug 9 is pressed downwardly until the upper face of the lug is in alinement with the underside of the sliding jaw. Then by operating the jaw the screw-driver attachment is released and the same may be extended to the upright position through the opening formed in the handle. The jaw is then tightened until the lower end of the screw-driver is engaged and firmly held in the desired position.

The many advantages obtained by the use of our improved device will be readily apparent from the foregoing description, taken in connection with the accompanying drawings.

It will be noted that various changes may be made in the details of construction without departing from the general spirit of our invention.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. A chain spanner attached to the movable jaw of a wrench and operating in a groove on the upper face of the handle thereof with overlapping flanges carried by the handle for securing said chain in position, substantially as described.

2. An adjustable chain spanner comprising

a chain carrying a hook secured to the movable jaw of a wrench, the handle of said wrench on its rear end being arc-shaped with the upper face of the handle having a groove and overlapping flanges for securing said chain in position, substantially as described.

3. An adjustable chain spanner comprising a chain carrying a hook secured to the movable jaw of a wrench, the handle of said wrench on its rear end being arc-shaped with the upper face of the handle having a groove and overlapping flanges for securing said chain in position, and a fulcrum-arm secured in the handle, substantially as described.

4. An adjustable chain spanner comprising a chain carrying a hook secured to the movable jaw of a wrench, the handle of said wrench on its rear end being arc-shaped with the upper face of the handle having a groove and overlapping flanges for securing said chain in position, and a spring-pressed fulcrum-arm secured in the handle, substantially as described.

5. An adjustable chain spanner comprising a chain carrying a hook secured to the movable jaw of a wrench, the handle of said wrench on its rear end being arc-shaped with the upper face of the handle having a groove and overlapping flanges for securing said chain in position, and a spring-pressed fulcrum-arm secured in the handle and having openings formed therein to receive the end of the said chain, substantially as described.

In testimony whereof we affix our signatures in the presence of two witnesses.

GEORGE B. HOWARD.
JACOB LANGHART, JR.

Witnesses:

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