

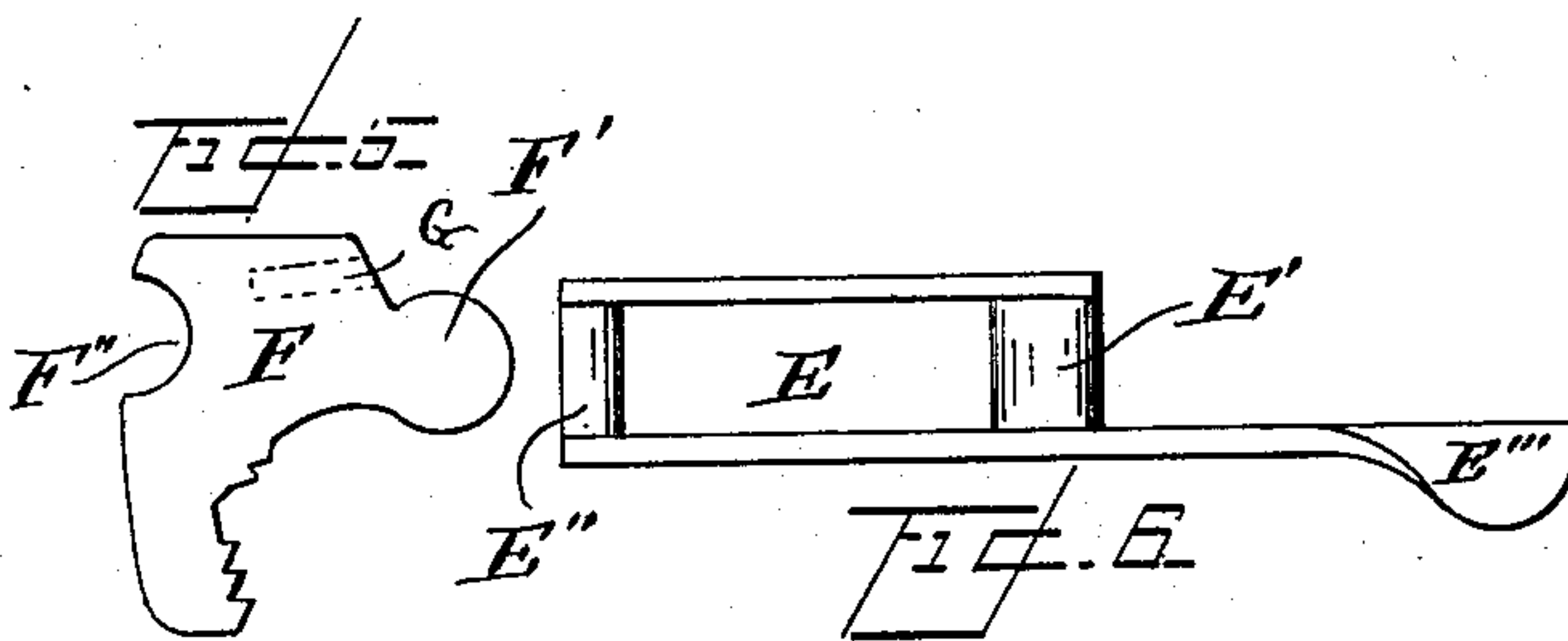
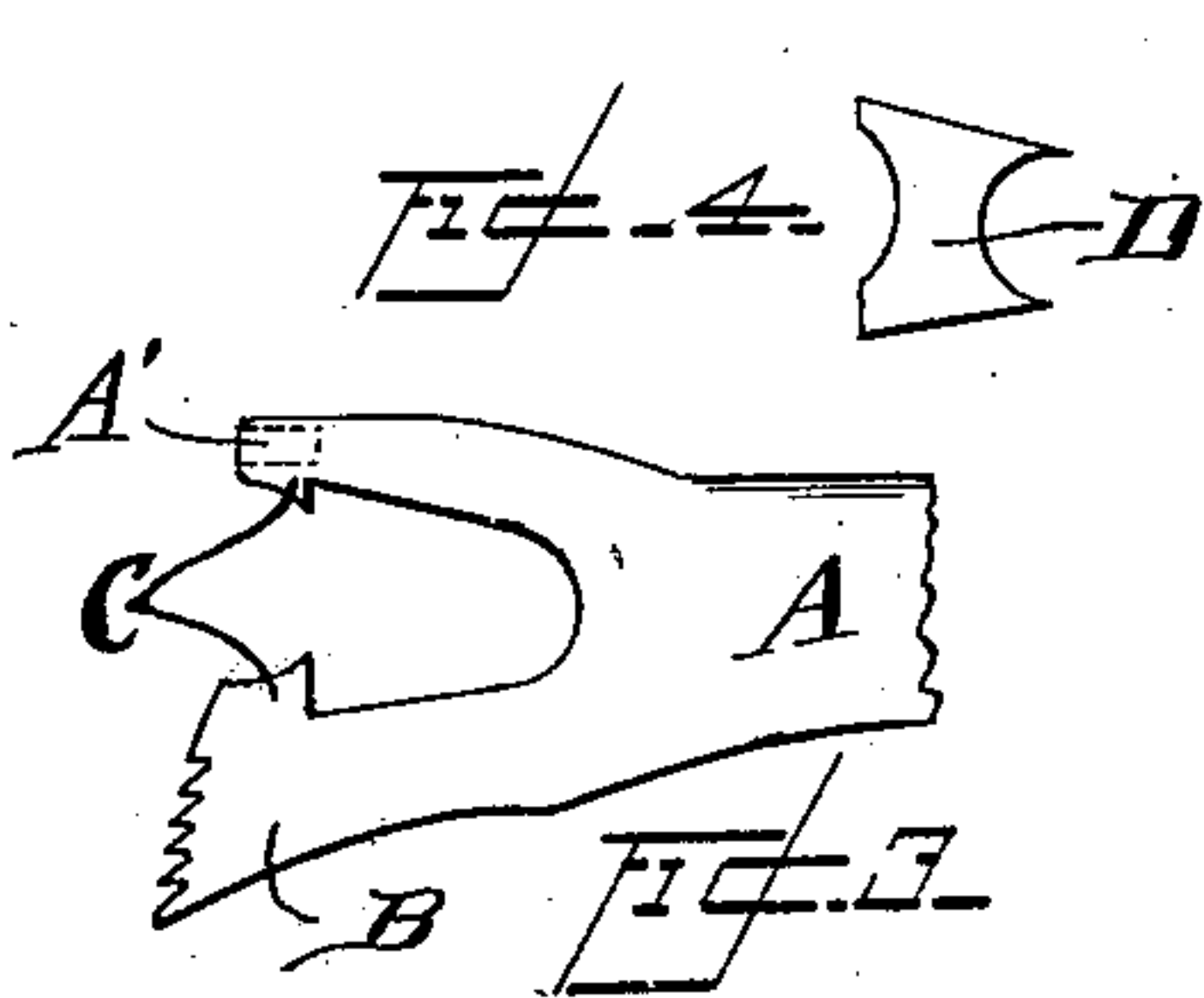
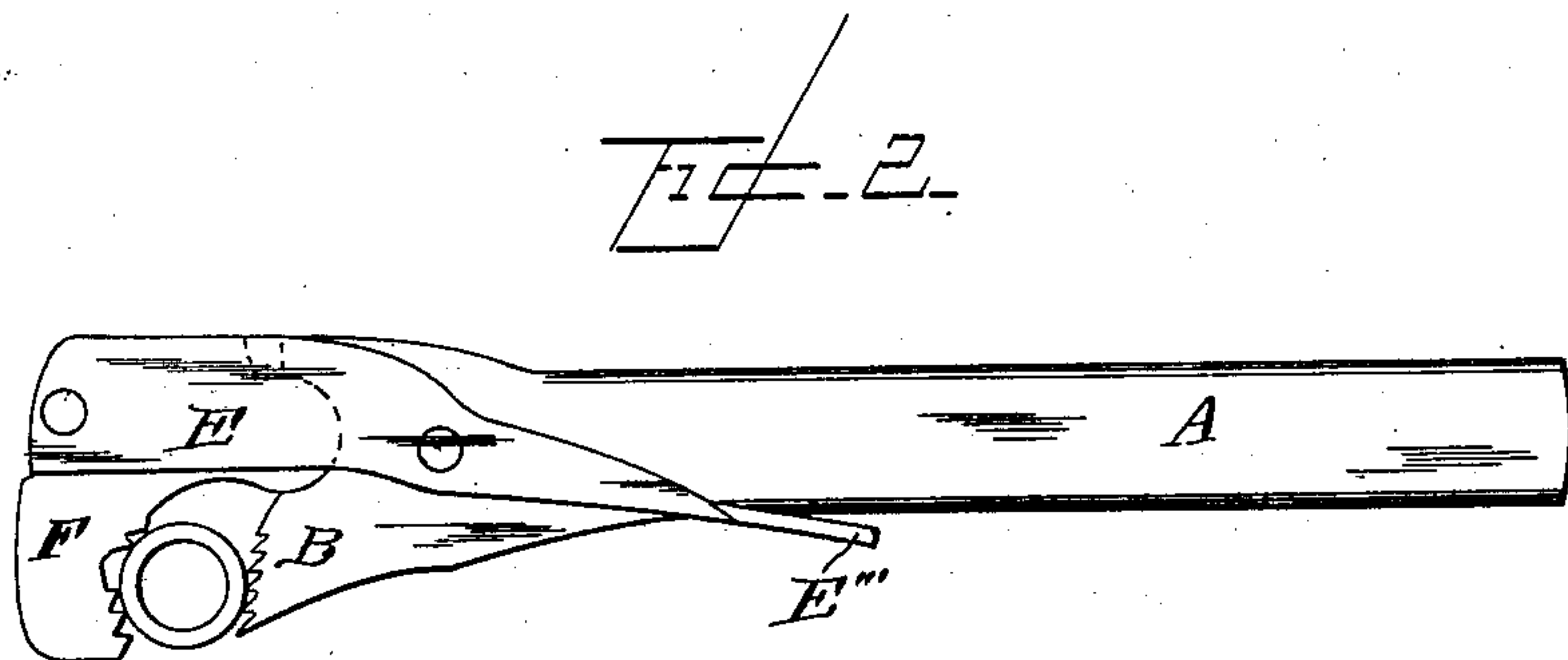
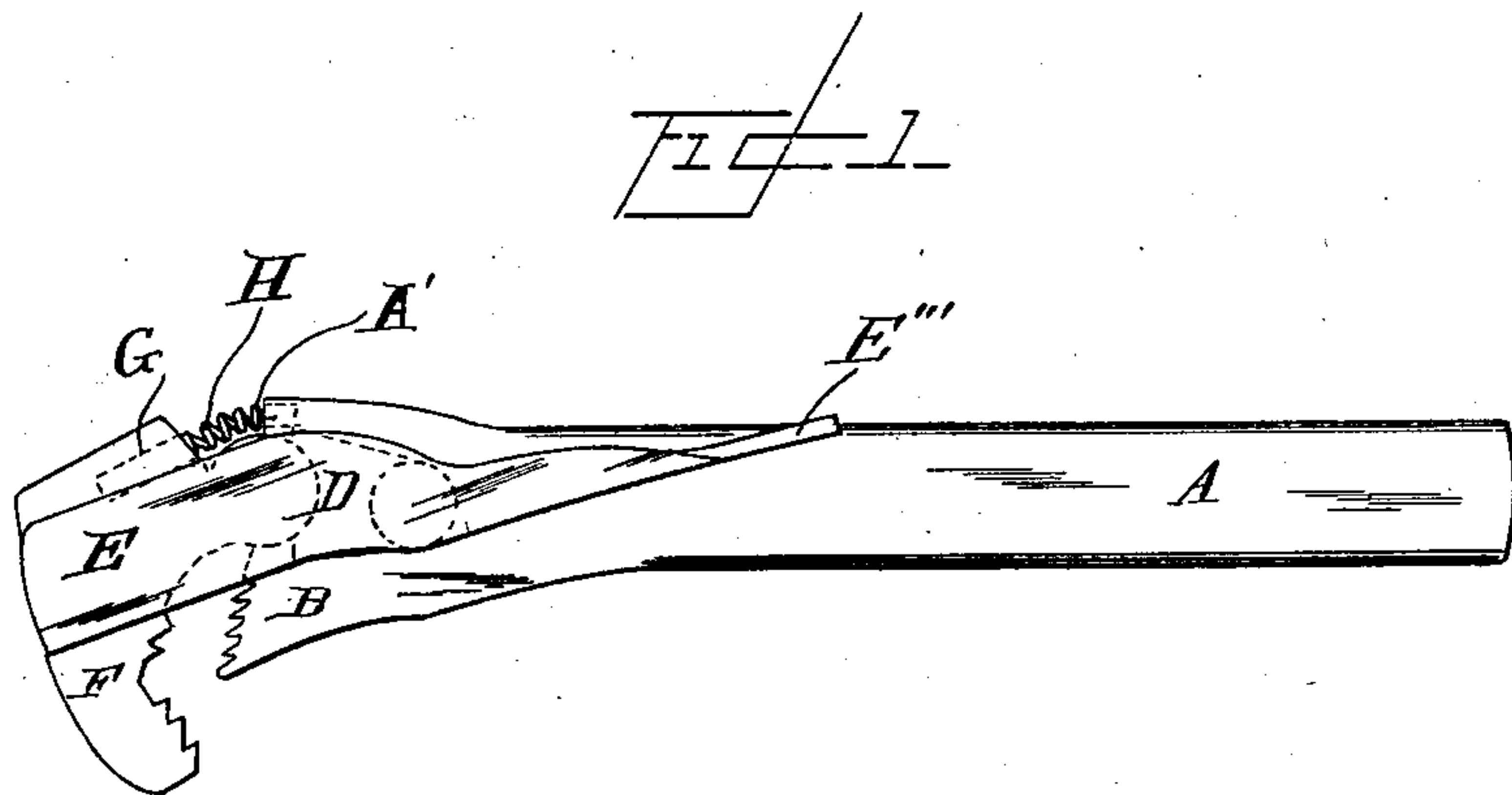
No. 747,504.

PATENTED DEC. 22, 1903.

L. TARBELL.  
PIPE WRENCH.

APPLICATION FILED SEPT. 21, 1903.

NO MODEL.



Witnesses  
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# UNITED STATES PATENT OFFICE.

LAFAYETTE TARBELL, OF LOS ANGELES, CALIFORNIA.

## PIPE-WRENCH.

SPECIFICATION forming part of Letters Patent No. 747,504, dated December 22, 1903.

Application filed September 21, 1903. Serial No. 174,094. (No model.)

*To all whom it may concern:*

Be it known that I, LAFAYETTE TARBELL, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented new and useful Improvements in Pipe-Wrenches, of which the following is a specification.

The objects of my improvement are to provide a self-adjusting wrench of cheap and simple construction made up of separable interchangeable parts which can be put together without the use of a tool and which will have great gripping power upon the pipe on which it is used without injury thereto and which can be worked in a very limited space. I accomplish these objects by the wrench described herein and illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of my wrench ready for use. Fig. 2 is a like elevation of a modified form of construction of my wrench, showing it upon a piece of pipe. Figs. 3, 4, 5, and 6 show details of construction of the parts.

In the drawings, A represents the handle of the wrench, the upper end of which is bifurcated, and one of the branches terminates in serrated jaw B, which forms the lower jaw of my wrench. Near the upper end of these branches are the oppositely-disposed catches C, which hold the key D securely in place in the furcations when the parts are assembled together for use. The lower end of this key is provided with a semicircular recess which registers with a like semicircular recess in the furcations of the handle and form a circular hole for the reception of the circular end piece E' of the link E. The upper end of this key is also provided with a semicircular depression which registers with the circular edges of the furcations of the handle and forms a bearing-socket for the circular lower end F' of the upper jaw F. In the top of the upper jaw is a circular depression F'', which receives the semicircular end E'' of the link E when the parts are assembled together. In the back part of the upper jaw is a socket G (shown in dotted lines) for the reception of a spring H, the other end of which passes into a socket A' in the rear branch of the handle, said socket being shown in dotted lines, which normally holds the front end of the jaws in

their closed position, as shown in Fig. 1, and holds the jaws in contact with the pipe when being used thereon, as shown in Fig. 2. One side of the link is provided with a downwardly-projecting operating-handle E'', upon which the thumb may be placed to open the jaws when putting the wrench upon or taking it off a piece of pipe. This handle may be omitted, as the wrench may be put on or taken off the pipe without its use; but I prefer its use, as a pressure in addition to the spring-pressure may be put thereon to cause the jaws to grip the pipe.

In the construction of my wrench the several parts are preferably made by drop-forging the same out of steel, and in assembling them together the circular end of the link is placed in the furcations of the handle and the free end is turned downwardly and backwardly until the key can be inserted under the catches to hold the link in place. The top end of the upper jaw is then inserted in the end of the link, and the upper jaw is then turned so that its lower end passes into the socket formed by the upper end of the key and the curved edges of the furcations of the handle. The spring is then placed in the sockets, when the wrench is ready for use. A curved flat spring might be attached to the upper jaw or to the handle with the other end resting either upon the handle or the upper jaw to throw the upper jaw forward and to hold it in contact with the pipe when in use thereon; but I prefer the spiral spring and the sockets.

It will be observed that the parts are assembled without the use of tools and that should at any time any parts of the wrench become broken or worn out a new part can be readily inserted in place of the defective one. It will also be observed that by the curved shape of the tooth-section of the upper jaw and the position it occupies in relation to the lower jaw my wrench is adapted for use upon several different-sized pipes and that it automatically adjusts itself to such use thereon. It will also be observed that by reason of the positions of the jaws when operating upon the pipe the wrench has great gripping power by reason of the leverage afforded by the handle and link. It will also be observed that it is adapted to contact with the pipe at three dif-



ferent points, and that therefore the strain on the pipe is on a line at an angle to the diameter of the pipe, and that there is less danger of crushing a pipe than if the strain came directly upon the diameter thereof.

If desired, the sides of the link might be secured together by separable bolts or rivets, which could pass through holes in the upper end of the handle and in the upper end of the upper jaw, as shown in Fig. 2; but in such case it would be necessary to unrevet the link in order to replace the worn out parts.

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

1. A pipe-wrench comprising a handle having a jaw on the upper end thereof; a bearing-recess in said upper end at the back of said jaw; an upper jaw having a shank at its lower end adapted to work in said bearing-recess; a link pivotally connected to the upper end of said handle and to the upper end of said upper jaw, at the rear portions thereof.

2. A pipe-wrench comprising a handle having a jaw on the upper front portion thereof; a bearing-recess in said upper end at the back of said jaw; an upwardly-opening socket at the rear of said recess; an upper jaw having a shank at its lower end adapted to work in said bearing-recess; a downwardly-opening socket in said jaw back of said shank; a link pivotally connected to the upper end of said handle and to the upper end of said upper jaw at the rear portion thereof; a spring in the said sockets.

3. A pipe-wrench comprising a handle having a jaw on the upper front portion thereof; a bearing-recess in said upper end at the back of said jaw; an upwardly-opening socket at the rear of said recess; an upper jaw having a shank at its lower end adapted to work in

said bearing-recess; a downwardly-opening socket in said jaw back of said shank; a link pivotally connected to the upper end of said handle and to the upper end of said upper jaw at the rear portions thereof, said link having one of the sides thereof extending below the pivot and adapted to form an operating-handle whereby the upper jaw may be moved independently of the lower jaw; a spring in the said sockets.

4. A pipe-wrench comprising a handle the upper end of which is bifurcated, said furcations having oppositely-disposed catches near their upper ends, and the front branch terminating in a serrated jaw and the back branch having an upwardly-opening socket therein; a key having circular depressions in its upper and lower faces adapted to fit in the furcations of the handle below the catches thereof and to form with the handle a round hole below the key and with the edge of the upper ends of the furcations a semicircular bearing-socket; a curved upper jaw having a circular shank at its lower end and a circular depression in its upper face near the back thereof; a link having a circular end adapted to pass into the furcations of the upper end of the handle and be held in place therein by said key and a semicircular end adapted to pass into the depression of the upper face of the upper jaw; a downwardly-opening socket in the back portion of said upper jaw; a spring in the sockets in the upper jaw and back branch of the handle.

In witness that I claim the foregoing I have hereunto subscribed my name this 15th day of September, 1903.

LAFAYETTE TARBELL.

Witnesses:

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LIZZIE HARTNELL.