

No. 889,244.

PATENTED JUNE 2, 1908.

M. E. LAYNE & S. N. HALL.

WRENCH.

APPLICATION FILED DEC. 3, 1907.

2 SHEETS—SHEET 1.

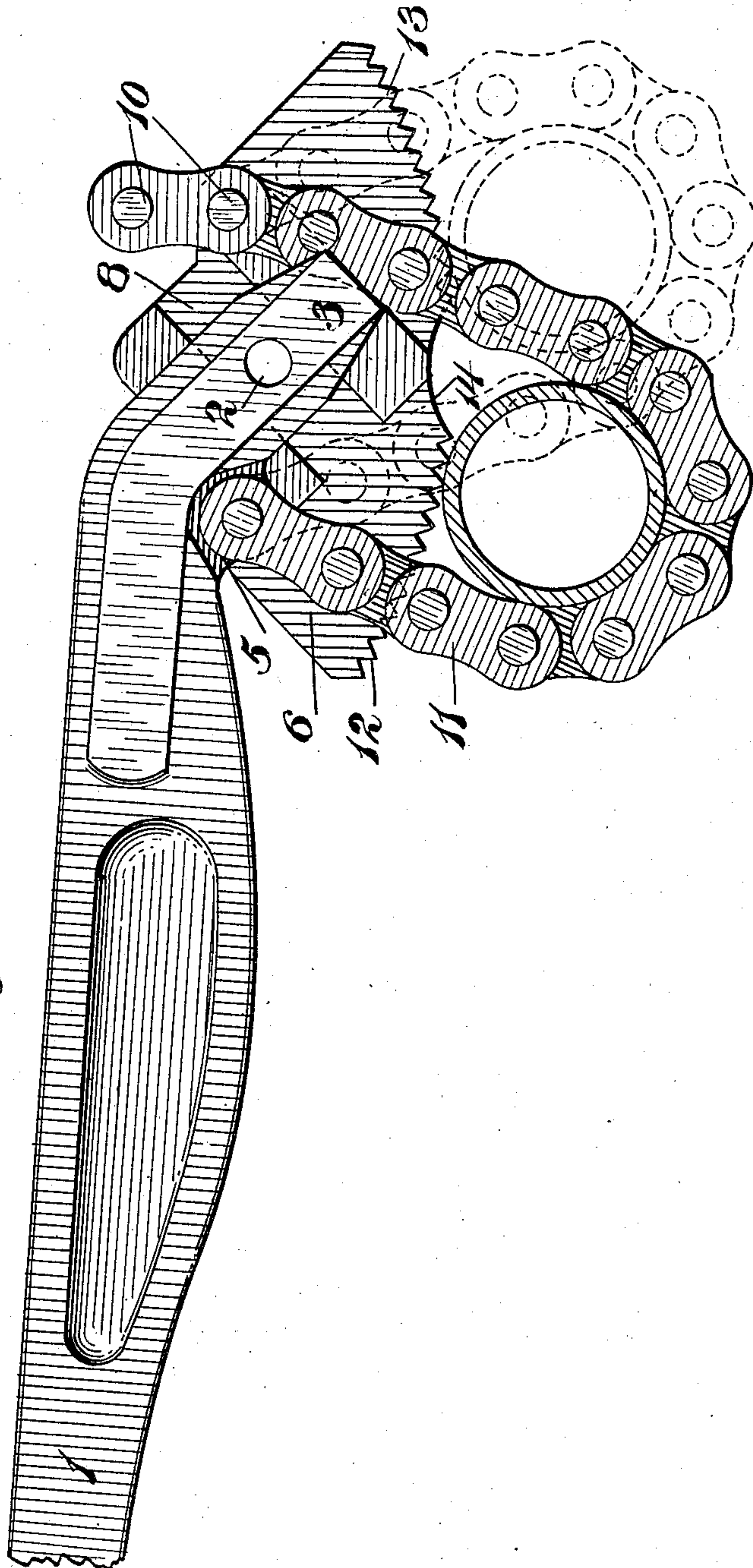


Fig. 1.

WITNESSES

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2 SHEETS—SHEET 2.

Fig. 2.

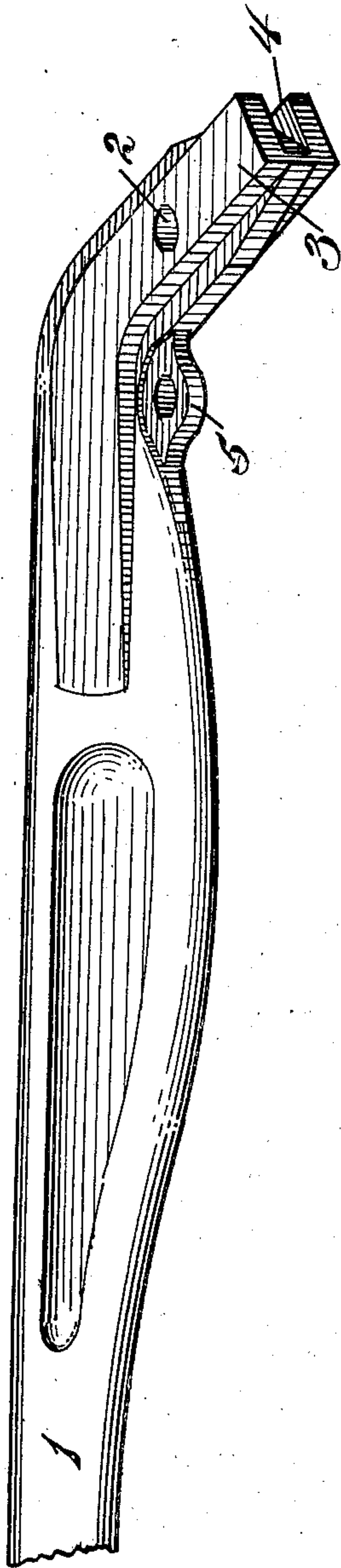


Fig. 4.

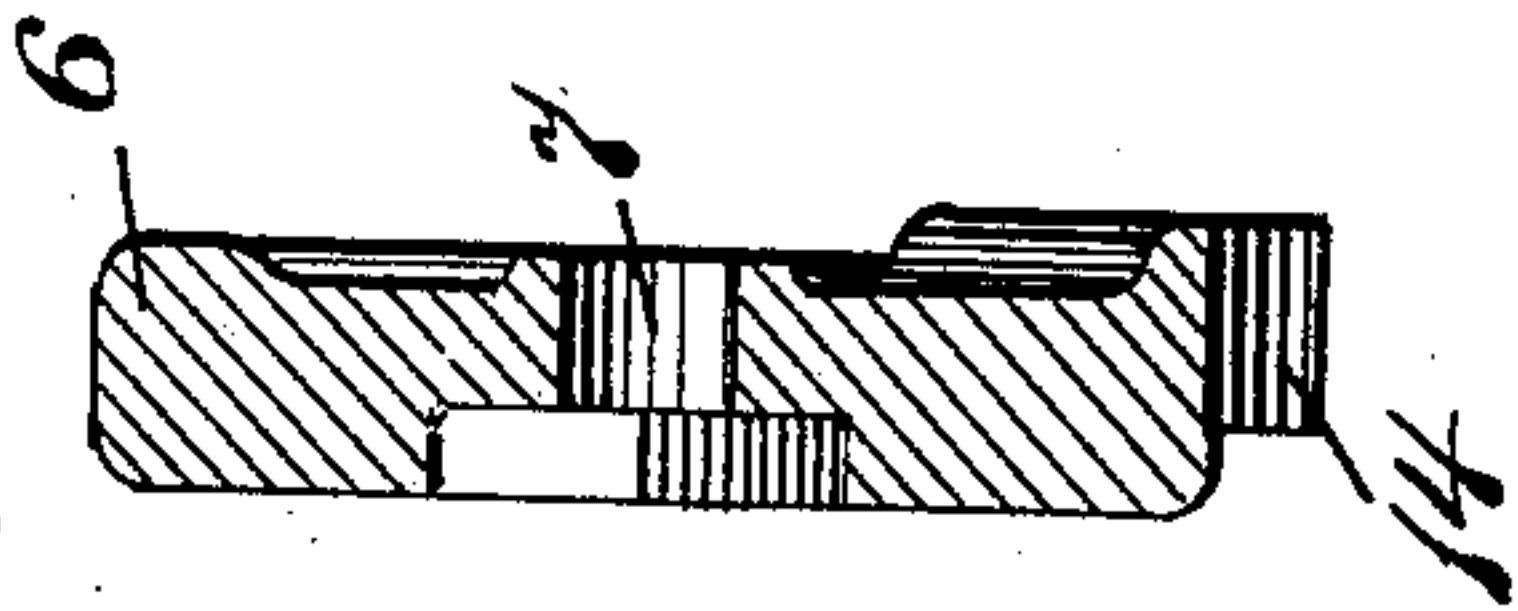
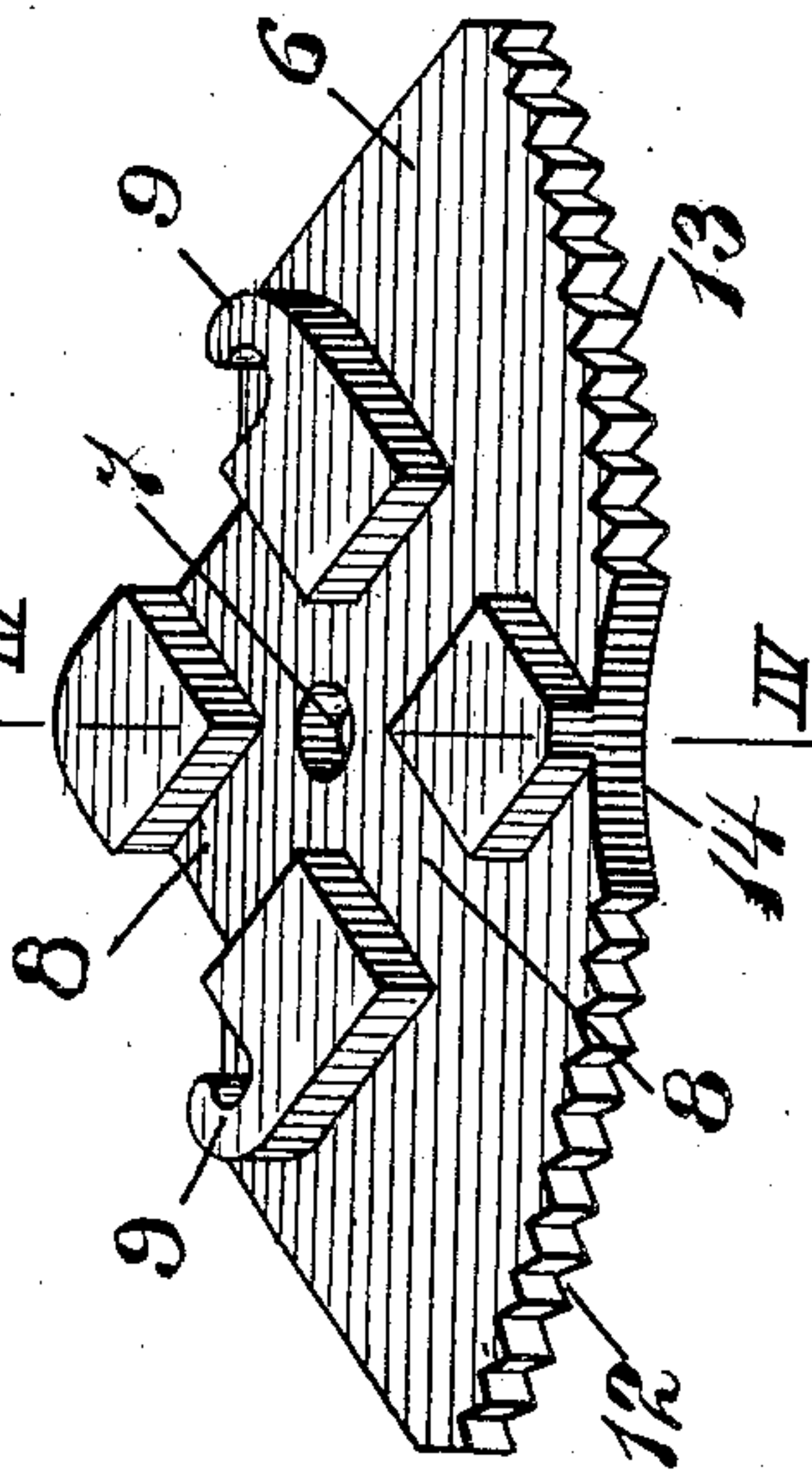


Fig. 3.



WITNESSES

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# UNITED STATES PATENT OFFICE.

MAHLON E. LAYNE AND SAMUEL N. HALL, OF HOUSTON, TEXAS.

## WRENCH.

No. 889,244.

Specification of Letters Patent.

Patented June 2, 1908.

Application filed December 3, 1907. Serial No. 404,934.

*To all whom it may concern:*

Be it known that we, MAHLON E. LAYNE and SAMUEL N. HALL, citizens of the United States, residing at Houston, in the county of Harris and State of Texas, have invented certain new and useful Improvements in Wrenches, of which the following is a specification.

The invention relates to wrenches, and particularly to pipe wrenches of the chain type. The invention has for its primary object; the provision of an improved and simplified form of double acting or reversible wrench wherein the jaws employed are interchangeable and reversible and wherein the number of different parts is reduced to a minimum. One form of the invention is illustrated in the accompanying drawings, wherein:—

Figure 1 is a side elevation of the operative parts of the wrench as applied to a pipe, the position of the parts when the turning is reversed being shown in dotted lines, and one jaw plate being removed,

Figure 2 is a perspective view of the end of the handle to which the jaw plates are to be secured,

Figure 3 is a perspective view of one of the jaw plates, and

Figure 4 is a transverse section through a jaw plate on the line 4—4 of Figure 3.

Certain of the general features of construction are shown in patent to Samuel N. Hall No. 818,371, and the pending application of Samuel N. Hall, Serial No. 328,497. The invention in this case relating to improvements in construction over these prior structures to which attention will be particularly directed.

The handle 1 of the wrench is bent at its front end as indicated in Figures 1 and 2, and is provided with a bolt-hole 2 for receiving the clamping-bolt. This end is provided on either side with the upstanding tongue 3, and the upper edge is cut away at 4 for the passage of the chain when the parts are in the position shown in Figure 1. A lug 5 is provided at the bend in the handle for the permanent attachment of one end of the chain. 6 are the jaw-plates, two of which are provided, one on either side of the handle, and these plates are held rigidly in the position indicated in Figure 1 by means of a bolt passing through the holes 7 in the plates and the hole 2 in the handle, and also by means of the engagement of the grooves 8 with the tongue portions 3 of the handle. Each side of each

of the jaw-plates is also provided with a hook member 9 as indicated in Figure 3, the purpose of which hook is to engage with the ends of the pintle pins 10 of the chain 11, which pintle-pins project out past the side plates in the manner common to this type of grip chains. It will be understood that when the parts are in the position of Figure 1, one end of the pintle 10 engages one of the hooks 9 on one of the jaw-plates, while the other end of such pintle engages the hook 9 on the opposing jaw-plate. The jaw-plates are provided with the opposing sets of teeth 12 and 13 in order to permit of the double action of the device, and there is a central recess portion 14 to permit of the movement of the pipe from one set of teeth to the other set without unhooking the chain from the hooks 9, and to permit of the slackening of the chain when it is desired to remove the pintle 10 from the hooks 9. It will be noted that the jaw-plate 8 is symmetrical on both sides of the center line 4—4, and that there are two grooves 8—8, which construction permits of the transposition of the jaw-plates from one side of the handle to the other. In other words, the jaw-plates on opposite sides of the handle are exactly alike, and the number of different parts necessary to complete the wrench are thereby reduced, it being possible to forge all of the jaw-plates from one set of dies. It will be seen that this feature of reversibility is made possible by the fact that the end of the chain which is permanently fastened is secured to the handle instead of to the jaw as has been the practice in the prior device heretofore referred to. It is obvious that if the permanent attachment were made to the jaw-plates it would be impossible to reverse such plates from one side of the device to the other. The end of the handle to which the jaw-plate is secured is of such a thickness that the jaw-plates are spaced apart a distance sufficient to receive the grip-chain 11, and permit of the free passage of its extended pintles 10.

Having thus described our invention and illustrated its use, what we claim as new and desire to secure by Letters Patent is the following:—

1. In combination in a wrench, a pair of similar and interchangeable jaw-plates secured to opposite sides of the end of the handle and each provided with two sets of oppositely acting teeth on the same side of the jaw plate and having chain engaging means,



and a chain anchored to the handle adjacent the jaw-plates and adapted to be engaged by the chain engaging means of the jaw-plates.

2. In combination in a wrench, a pair of  
5 similar and interchangeable jaw-plates secured to opposite sides of the end of the handle and each provided with two sets of oppositely acting teeth on the same side of the jaw plate and having chain engaging means,  
10 and a chain permanently secured at one end to the handle adjacent the jaw-plates and adapted to be engaged by the chain engaging means of the jaw-plates.

3. In combination in a wrench, a pair of  
15 similar and interchangeable jaw-plates each having two sets of teeth and a pair of intersecting slots on its inner face to fit the handle and permit of a change from one side thereof to the other, means for detachably  
20 clamping the jaw-plates in position on opposite sides of the handle and a chain grip for cooperating with the jaw-plates.

4. In combination in a wrench, a pair of  
25 similar and interchangeable jaw-plates each having two sets of teeth and a pair of intersecting slots on its inner face to fit the handle and permit of a change from one side thereof to the other, means for detachably clamping the jaw-plates in position on oppo-

site sides of the handle and a grip chain se- 30  
cured at one end to the handle and adapted to form a loop and be detachably hooked to either side of the jaw-plates.

5. In a double acting pipe wrench, the combination with a handle and grip chain, of 35  
a jaw plate comprising a segmental plate provided with a pair of intersecting grooves on its inner face, a pair of hooks on opposite sides of the plate and two sets of teeth, the arrangement of grooves, teeth, and hooks be- 40  
ing symmetrical on opposite sides of the center line of the plate whereby it is capable of reversal.

6. The combination with a wrench handle having its end bent at an angle and provided 45  
with a perforated strengthening lug at the concave portion of the bend, of a pair of jaw plates on opposite sides of the bent end, and a grip chain secured to the said perforated lug.

In testimony whereof we have hereunto 50  
signed our names in the presence of the two subscribed witnesses.

MAHLON E. LAYNE.  
SAMUEL N. HALL.

Witnesses:

W. H. REEVES,  
R. E. GARRETT.