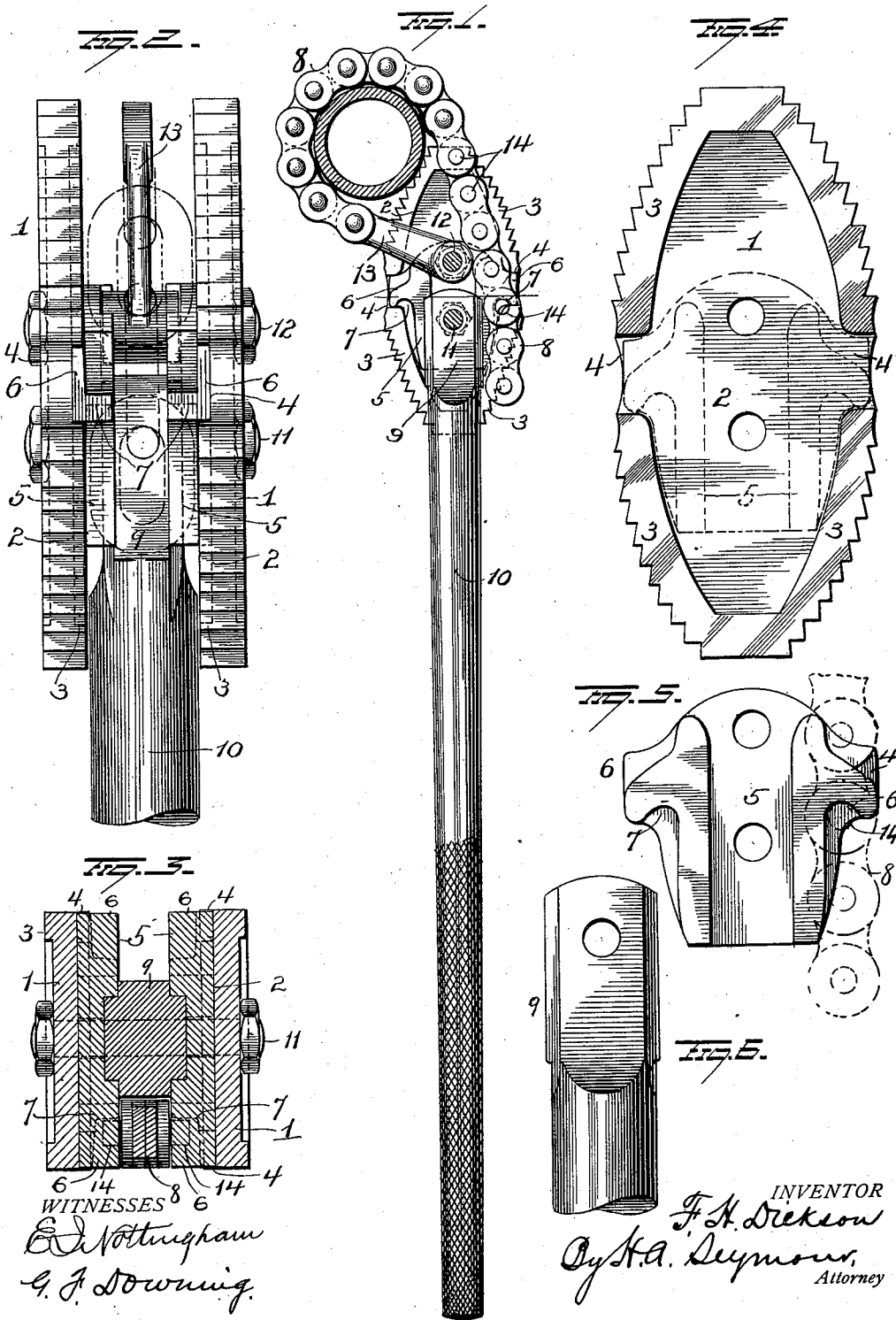


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CHAIN WRENCH.
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CHAIN WRENCH.

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To all whom it may concern:

Be it known that I, FRANK H. DICKSON, a citizen of the United States, residing at Oswego, in the county of Oswego and State of New York, have invented certain new and useful Improvements in Chain Wrenches; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in chain wrenches.

Heretofore chain wrenches comprising a handle, jaws secured to the handle, and a link chain connected to the handle, have been provided with lugs or hooks, either on the jaws or on the handle in such position as to engage the links of the chain, or pintles connecting the links, after the chain has been passed around the pipe or other article to be turned, to secure the chain in position to effect the proper working of the wrench. Such constructions are objectionable for the reason that if the chain holding lug or hook through which all the pulling strains are transmitted, should break, the tool will be inoperative until the jaw or handle, which are the most expensive parts of the tool, has been replaced.

The object of my invention is to so construct and connect the parts that all strains on the jaws are transmitted directly to the handle, the screws connecting the jaws to the handle operating merely to hold the said parts together.

A further object is to provide parts independent of the jaws and handle, with lugs or hooks adapted to engage pins projecting from the chains, for locking the chain around a pipe or other object, so that in the event of the breakage of a lug or hook, it can be replaced quickly and at a comparatively small cost.

With these and other objects in view my invention consists in the parts and combinations of parts and in the details of construction as will be more fully described and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in elevation partly in section of my improved wrench. Fig. 2 is a view in plan of same. Fig. 3 is a view in transverse section taken through the center of the jaws in rear of the bolt on which the chain is carried. Fig. 4 is a view of one of the

jaws. Fig. 5 is a similar view of one block and Fig. 6 is a view of the handle.

1 represents the jaws, each of which is oval in shape, and provided with teeth or serrations at both ends so that the wrench may be used either side up and the jaws may be reversed, end for end. Each jaw is provided on its inner face with a recess 2, of approximately the shape of the jaw, and each flange or wall 3 bordering the recess, is cut away centrally at both edges of the jaw, as at 4.

5 are blocks, one for each jaw, provided adjacent their front ends with angular projections 6, one projecting upwardly and the other downwardly and resting respectively in the recesses 4 of the flanges 3 on the inner faces of the jaws. The portion of the blocks in rear of the angular projections 6 are shaped to conform to the recesses in the jaws so that when the parts are assembled, the jaws are held in place by the walls of the recesses in the jaws bearing against the blocks and not by the bolts, the latter serving merely to hold the parts in position.

The rear face of each angular projection on the block is shaped to form a hook 7, with which the projecting pintles on chain 8 engage as will be hereinafter explained, and each block is provided on its inner face with an angular recess extending throughout the length of the block to receive the angular end 9 of the handle 10. The angular end of the handle rests between the two blocks, and within the angular recesses in said blocks, and the blocks rest within recesses in the jaws, hence it will be seen that all strains or stresses imparted to the jaws is transmitted directly to the handle through the blocks, and not through the bolts.

The jaws, blocks and handle are secured together by two bolts 11 and 12, one of which, 11, passes through both jaws and blocks and through the handle, and the other 12, through both jaws and blocks in advance of the front end of the handle and in advance of the centers of the jaws. Both bolts are preferably threaded on both ends and secured in place by nuts.

Mounted on the bolt 12, is the link 13 to which the chain 8 is secured. The chain may be composed of flat links connected by pintles 14 which latter project at both sides of the chain so as to engage the hooks 7, which as before explained, are formed in the rear faces of the angular projections 6

of the blocks 5, or they may be composed of ordinary looped links as shown in Fig.

2. When the latter form of chain is used the rounded end of a link will engage the
5 two hooks and lock the chain in place.

The inner or adjacent faces of the blocks are separated sufficiently for the reception of the links of the chain but not for the
10 pintles 14, the hooks 7 being of a size and shape to enter between the two pintles of a link or between two links of an ordinary looped link chain and engage the rear
15 pintle or end of the next link thus locking the chain against the possibility of accidental displacement after it has been placed around a pipe or other object and put under tension.

In the use of the wrench, the chain is passed around the pipe or other object to be
20 turned, and secured as previously described to the hooks 7. The chain therefore holds the pipe or other object against the serrated faces of the jaws, in such position that when the lever or handle is actuated, the teeth
25 or serrations in the jaws will grip the pipe and turn the same in the well known manner.

It is evident that many slight changes might be resorted to in the relative arrangement of parts shown and described without
30 departing from the spirit and scope of my invention. Hence I would have it understood that I do not wish to confine myself to the exact construction and arrangement of parts shown and described, but
35 of parts shown and described, but

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

40 1. In a chain pipe wrench, the combination of a handle, two blocks each recessed to receive one end of the handle and each

provided with two hooks, two jaws each recessed on its inner face to form seats for the blocks, two bolts, one passing through both jaws and blocks and the handle and
45 the other through both jaws and blocks in advance of the handle, and a chain mounted on said last mentioned bolt and adapted to engage the hooks on the blocks.

2. In a chain pipe wrench, the combination of a handle, two blocks each recessed to receive the handle between them, and each
50 block provided with a projection shaped to form a hook, two jaws each recessed on its inner face to receive one block and the projection from the latter, two bolts one of
55 which passes through both jaws and blocks, and the handle, and the other through both jaws and blocks, and a chain mounted on said last mentioned bolt and adapted to engage the hooks on the blocks.
60

3. In a chain pipe wrench, the combination of a handle, two blocks, each recessed on its inner face to receive the handle between them, and each provided with two
35 projections each of the latter shaped to form a hook, two double reversible jaws each recessed on its inner face to receive a block, two bolts, one passing through both jaws, blocks and handle, and the other through
70 both jaws and blocks in advance of the handle, and a chain mounted on said last mentioned bolt and provided with projecting pintles adapted to engage two oppositely disposed hooks on the blocks.
75

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

FRANK H. DICKSON.

Witnesses:

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S. C. HILL.