No. 881,216. PATENTED MAR. 10, 1908.

G. AMBORN.

CHAIN PIPE WRENCH.

APPLICATION FILED MAY 6, 1907.

FIG. 1.

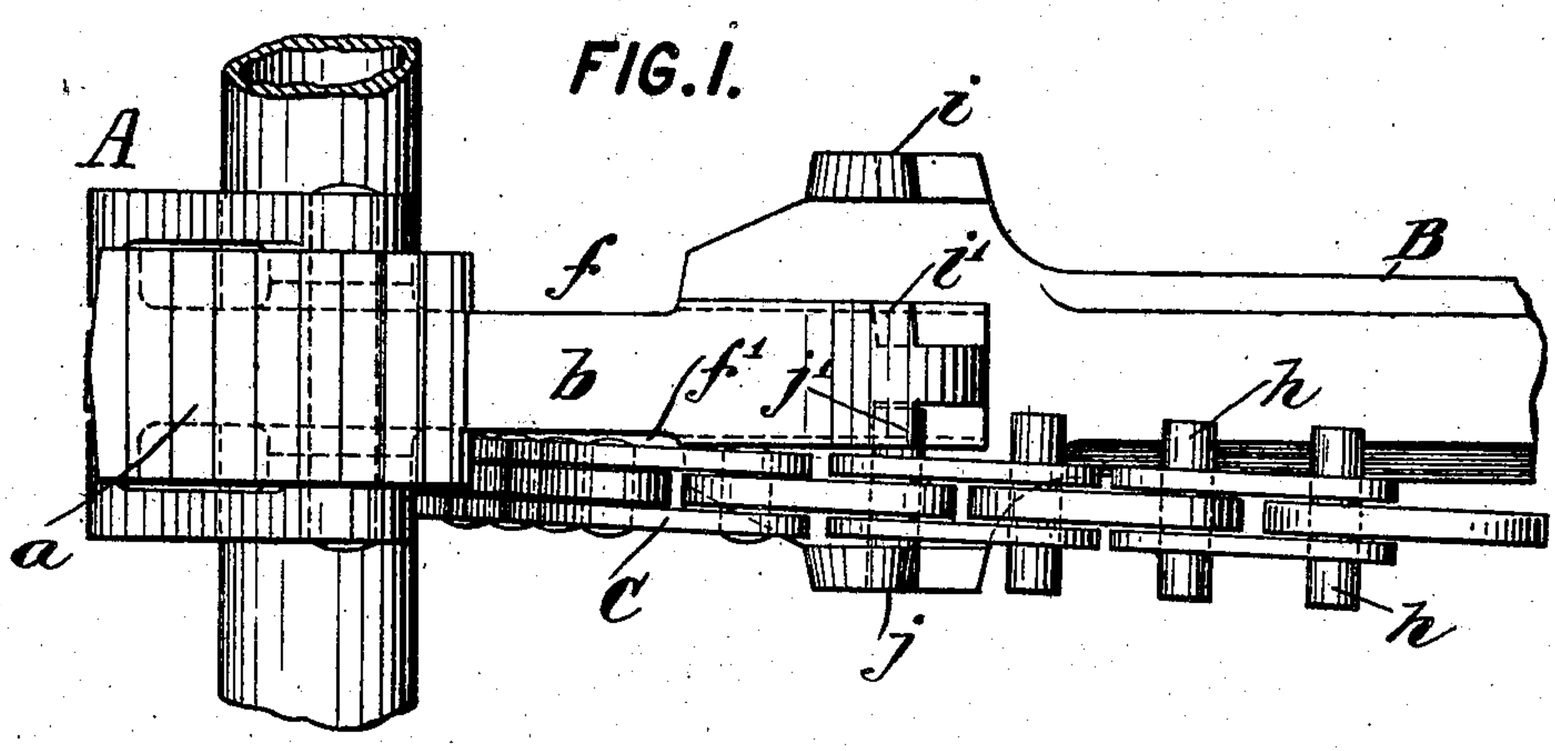

FIG. 2.

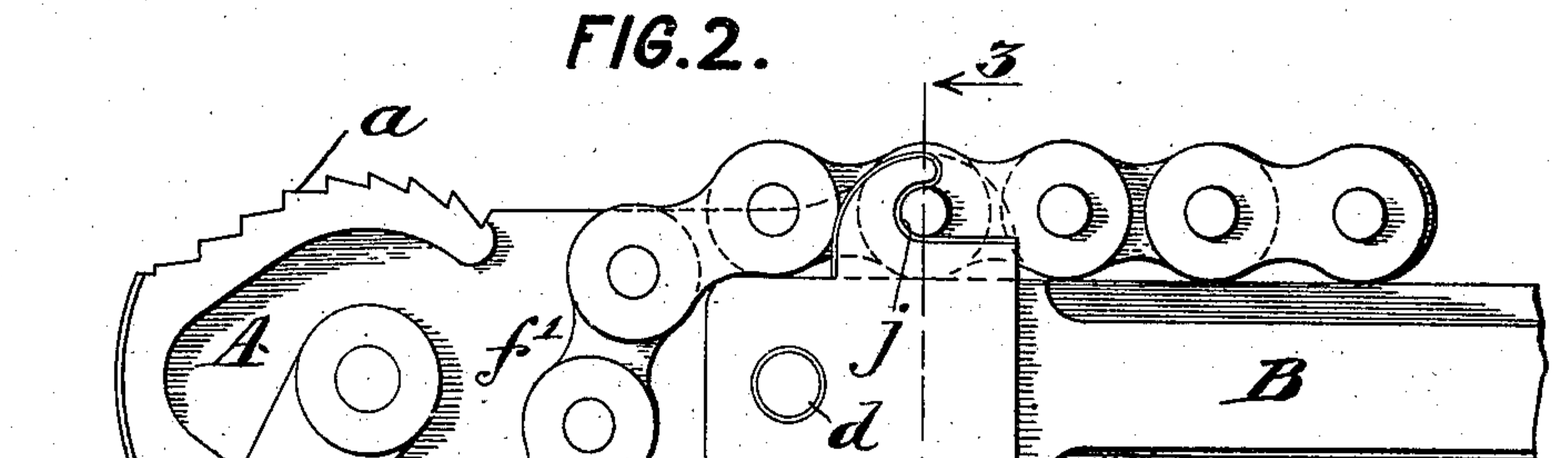

FIG. 3.

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CHAIN PIPE-WRENCH.

No. 881,216. Specification of Letters Patent. Patented March 10, 1908.

Application filed May 6, 1907. Serial No. 372,039.

To all whom it may concern:

Be it known that I, GEORGE AMBORN, a citizen of the United States, residing in the borough of Brooklyn, county of Kings, city and State of New York, have invented certain new and useful Improvements in Chain Pipe-Wrenches, of which the following is a specification.

This invention relates to chain pipe wrenches, and aims to provide certain improvements therein.

The invention relates particularly to that type of wrench which is shown in the United States Letters Patent No. 698,780, granted to me on April 29, 1902. It is characteristic of this type of wrench that the chain is pivoted to a single jaw which is connected to the handle in line therewith in such manner as to leave a chain-receiving recess open at one side of the wrench into which the chain may be passed laterally. This wrench has proved itself to be extremely efficient in practice. It occasionally happens in use, however, that it is inconvenient to pass the chain into its recess without reversing the wrench to bring the open side of the recess into a more accessible position.

The principal object of the present invention is to provide a wrench of this type in which the chain may be engaged from either side in each position of the wrench.

In the drawings, wherein I have shown one embodiment of my invention,—Figure 1 is a plan view of the wrench. Fig. 2 is a side elevation. Fig. 3 is a section taken on the line 3—3 in Fig. 2.

Referring to the drawings, let A indicate the head or jaw of the wrench, which is provided on opposite sides with the usual serrated working faces *a a'*. Instead of connecting the jaw A with the handle B by a connecting portion which extends to one side of the jaw, as heretofore, I provide the jaw with a shank *b* which in plan extends in line with the handle, the latter being formed with a bifurcated end which embraces the rear of the shank *b*. Preferably the shank *b* is formed with grooves *c c* on opposite sides, which receive the bifurcated portions of the handle, as best shown in Fig. 3, the parts being held together by a rivet *d* or other suitable means.

The connecting portion or shank *b* of the jaw is preferably made as wide as possible, as indicated in Fig. 2, in order that its thickness may be reduced to the minimum consistent with the necessary strength of construction. By this means I am enabled to provide at each side of the shank *b* a chain-receiving recess *f* or *f'*, as shown in Figs. 1 and 2 each of which opens toward one side of the wrench.

The chain C is pivoted, as heretofore, to the central or other convenient portion of the jaw A, and is in use passed around the pipe and laterally into one of the recesses *f f'*, so that its free end lies upon the opposite side of the wrench to the pipe, as shown in Fig. 2. It will be observed, when the parts are in the positions of use, that the chain, instead of being directly in line with the axis of the wrench, extends slightly obliquely or angularly thereto. This slight angularity is permitted in the construction shown by the ordinary looseness of the connection of the various links with each other, or by so pivoting the yoke or eye *g* that it may tilt slightly in a lateral direction, or by otherwise providing for the necessary amount of free play in the construction of chain used.

An important feature of the invention is the provision of suitable means for locking the free end of the chain. It is obvious that by reason of the construction of the wrench the centrally disposed locking faces or lugs heretofore employed cannot be used, since the chain occupies a different position when engaged on each side of the wrench. I hence provide locking means which are adapted to engage the chain in its two positions. Such locking means may consist of any of the well known types of lock. In the construction shown the chain is provided with locking pintles *h* on each side thereof which are adapted to engage locking faces *i i'* on one side of the wrench, and *j j'* on the opposite side of the wrench. The locking faces shown are of well known construction, and comprise hook-like members having recesses adapted to engage the chain pintles. Preferably the locking faces *i j* are formed on the bifurcated portions of the handle, and the faces *i' j'* on the end of the shank *b*. Preferably also each pair of locking faces is inclined to the longitudinal axis of the wrench so as to extend perpendicularly to the chain when the latter is adjusted in locking position, although this ordinarily is not necessary.

It will be understood that each pair of locking faces is duplicated on the under side of the wrench, so that when the wrench is reversed the chain may be locked in corresponding positions.

In use the chain may be passed laterally into either of the recesses *f*, *f'* as may be convenient, having in view the conditions under which the work is being done. This is true whether the wrench is in the position shown in Fig. 2, or whether it is in the reverse position in which the working face *a* is brought into operation. It is therefore unnecessary to reverse the wrench, as it may be used in either position which it has naturally assumed in use.

The wrench provided by my present invention is found to be extremely efficient in operation. The slight relative angularity of the chain and wrench has been found to be advantageous rather than otherwise in practice. Preferably in use the wrench is arranged with the chain wrapped around the pipe in a plane perpendicular to the longitudinal axis of the pipe, as is customary with the common forms of wrench, so that the jaws are disposed angularly to the pipe instead of the chain. This produces a very effective gripping action upon the pipe. The jaw teeth do not engage with the pipe throughout their entire length at first so that a stronger gripping action is obtained with less pressure upon the pipe.

Although I have described in detail one form of my invention, I do not wish to be limited thereto, as other constructions may be adopted without departing from the invention. For instance, instead of the form of chain shown, any other suitable construction may be adopted. So also any suitable type of link may be substituted for that shown. Other similar changes may also be made which are within the scope of the invention.

I claim as my invention:—

1. A chain pipe wrench having a handle, a head, a connecting portion between such parts, said parts being constructed to form a chain-receiving recess on each side of such portion, said recesses opening toward the sides of the wrench, a chain adapted to be passed laterally into either of such recesses, and means for locking such chain.

2. A chain pipe wrench having a handle, a head, a connecting portion between such parts, said parts being constructed to form a chain-receiving recess on each side of such portion, said recesses opening toward the sides of the wrench, a chain adapted to be passed laterally into either of such recesses, and locking means at the rear of said recesses adapted to lock the chain in either of its positions.

3. A chain pipe wrench having a handle, a head, a connecting portion between such parts, said parts being constructed to form a chain-receiving recess on each side of such portion, said recesses opening toward the sides of the wrench, a chain adapted to be passed laterally into either of such recesses, and two locks, each of which is adapted to lock said chain in one of its positions.

4. A chain pipe wrench having a handle, a head, a connecting portion between such parts, said portion being of reduced thickness so as to leave a chain-receiving recess between such handle and head on each side of such portion, said recesses opening toward the sides of the wrench, a chain pivoted to said head and adapted to be passed laterally into either of said recesses, and means for locking such chain at the rear of said recesses.

5. A chain pipe wrench having a handle, a head having working faces on opposite sides, a connecting portion between such parts, said portion being of reduced thickness so as to leave an open-sided chain-receiving recess on each side thereof, a chain pivoted to said head and adapted to be used in connection with either of said working faces, and being adapted in each such use to be passed into either of said recesses, and locking means on the upper and lower sides of the wrench for engaging said chain.

In witness whereof, I have hereunto signed my name in the presence of two subscribing witnesses.

GEORGE AMBORN.

Witnesses:
EUGENE V. MYERS,
THEODORE T. SNELL.