

F. THOMPSON, F. J. LUDLOW & R. A. McDONALD.

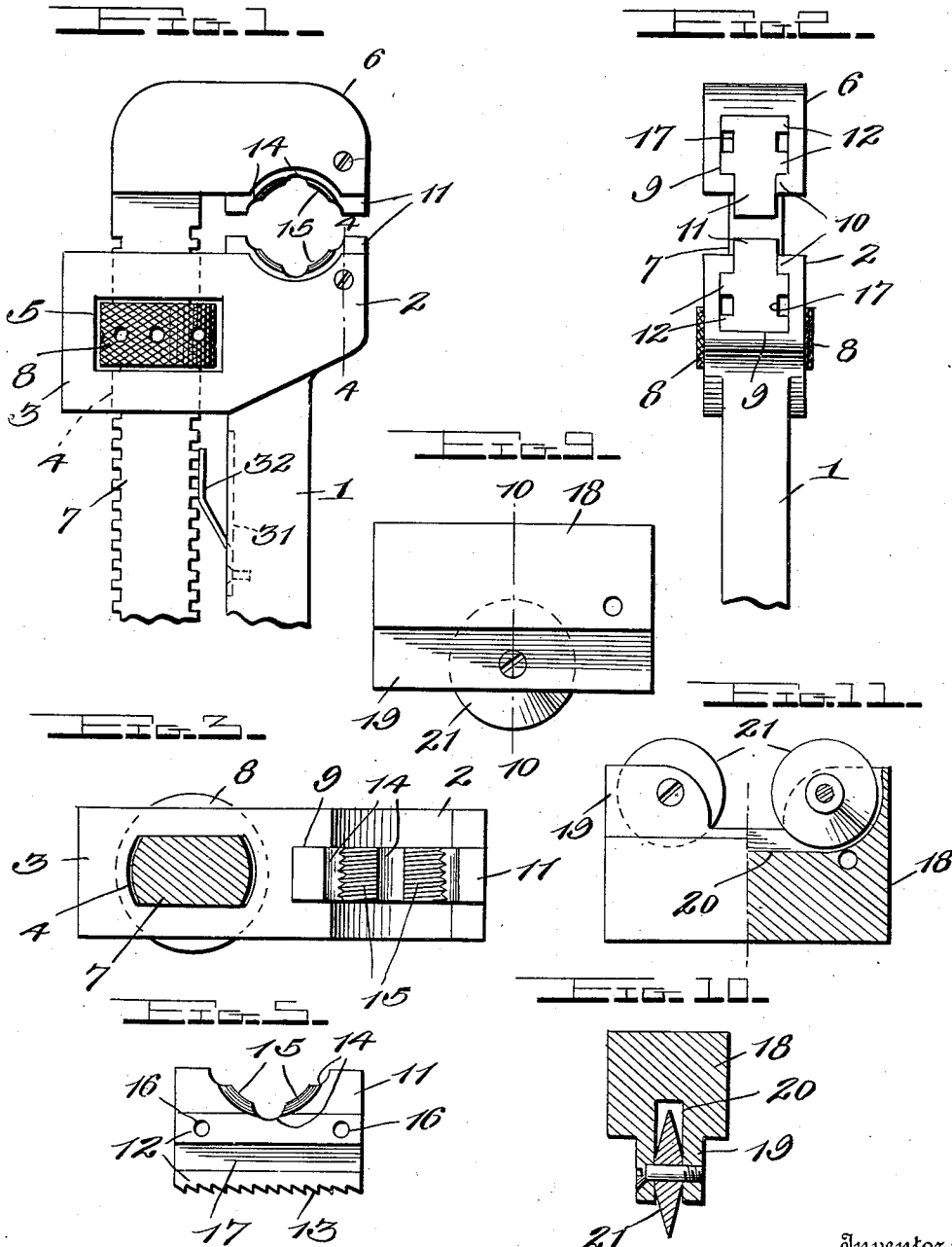
PIPE WRENCH.

APPLICATION FILED JULY 22, 1912.

1,064,182.

Patented June 10, 1913.

2 SHEETS-SHEET 1.



Witnesses

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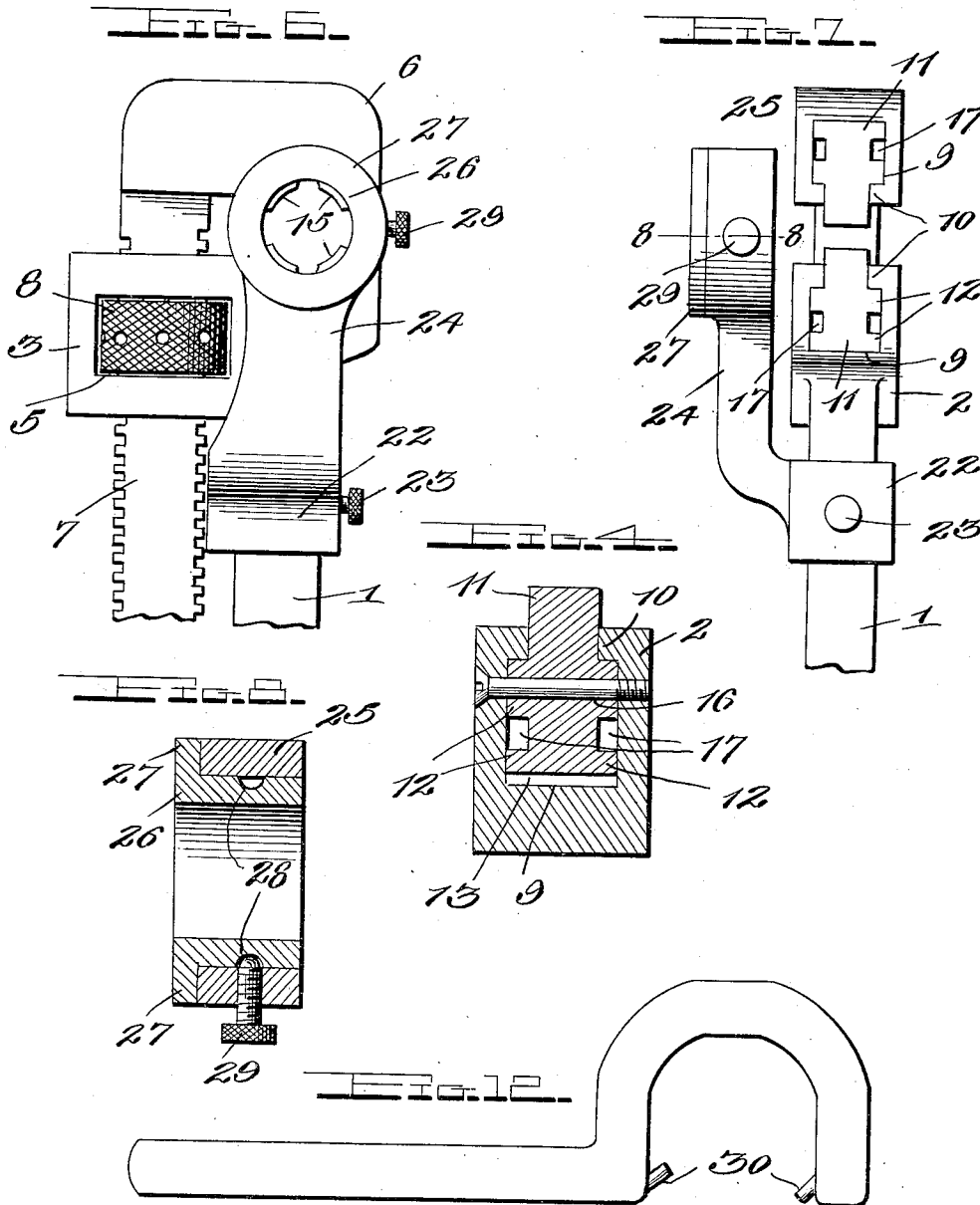
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UNITED STATES PATENT OFFICE.

FRED THOMPSON, FREDERICK J. LUDLOW, AND RANALD A. McDONALD, OF SIDNEY MINES, CAPE BRETON, NOVA SCOTIA, CANADA.

PIPE-WRENCH.

1,064,182.

Specification of Letters Patent.

Patented June 10, 1913.

Application filed July 22, 1912. Serial No. 711,005.

To all whom it may concern:

Be it known that we, FRED THOMPSON, FREDERICK J. LUDLOW, and RANALD A. McDONALD, subjects of the King of England, residing at Sidney Mines, Cape Breton, in the Province of Nova Scotia, and Dominion of Canada, have invented certain new and useful Improvements in Pipe-Wrenches, of which the following is a specification, reference being had to the accompanying drawings.

The present invention relates to useful improvements in pipe wrenches and the primary object of the present invention is to provide a wrench of this character whereby means may be attached thereto to form a pipe cutter or a pipe die.

A further object of the present invention is to provide a wrench of this character with an adjustable support so that when the same is used for cutting pipes the wrench will be supported upon the end of a pipe thereby facilitating the cutting of the pipe with great accuracy.

With the above and other objects in view this invention consists of novel details of construction, combination, formation and arrangement of parts as will be hereinafter more fully described, claimed and particularly pointed out in the accompanying drawings in which,

Figure 1 is a side elevation of my improved device embodying our invention, Fig. 2 is a front elevation of the same, Fig. 3 is a plan view of the lower jaw illustrating the shank of the movable jaw in section, Fig. 4 is a detail section taken on the line 4—4 of Fig. 1, Fig. 5 is a side elevation of one of the detachable blocks, Fig. 6 is a side elevation of the wrench having the pipe supporter as applied thereto, Fig. 7 is a front elevation of the same, Fig. 8 is a detail section taken on the line 8—8 of Fig. 7, Fig. 9 is a side elevation of the removable block which is to be attached to the upper edge of the wrench when the same is used as a pipe cutter, Fig. 10 is a section through the same taken on the line 10—10 of Fig. 9, Fig. 11 is a side elevation with portions thereof in section of the removable block adapted to be inserted in the stationary jaw of the wrench when the same is used as a pipe cutter, and Fig. 12 is a plan view of a spanner wrench which may be used for adjusting the movable jaw of the device.

Reference now being had to the accompanying drawings wherein we have illustrated corresponding parts by like numerals throughout the several views the numeral 1, indicates the handle of the wrench having formed integral therewith a stationary jaw 2 having a lateral extension 3 formed integral therewith. The extension 3 is provided with a longitudinally extending slot 4 having a transverse slot 5 intersecting the medial portion thereof. The movable jaw 6 having a shank 7 is adapted to slide within the vertically extending slot 4 formed within the extension of the stationary jaw and this shank is provided with teeth upon its opposite edges which are adapted to engage threads mounted upon the inner periphery of the adjusting nut 8 which extends within the transversely extending slot 5 whereby the movable jaw may be adjusted in the usual manner.

The stationary and movable jaws of the wrench are each provided with recesses 9 each of which extends to the front edge of the jaws and each of these recesses is provided with flanges 10 for retaining blocks the purpose of which will be hereinafter described. Adapted to be inserted within these recesses are blocks 11 which are provided with means for gripping the pipes when used as a wrench formed upon one face thereof and means mounted upon the opposite face thereof for forming threads upon the pipe when the device is used as a pipe die. Each of these blocks is preferably rectangular in shape and has formed on its opposite sides longitudinally extending flanges 12. One face of these blocks is provided with serrated teeth 13 whereas the opposite face of these blocks is provided with a concave portion 14, having threads 15 mounted therein each of which forms one member of the pipe die. It is apparent from the foregoing that as these blocks are inserted within the recesses and the serrated face 11 forms a bearing surface the device may be used for a pipe wrench, but when these blocks are inverted, the opposite faces 14 thereof will be used as a die for forming screw threads in the usual manner upon the ends of the pipe. When these blocks are mounted within the recesses 9 of the jaws the flanges 12 thereof will extend within the recesses to prevent the blocks from falling out of the same and to prevent the longitudi-

dinal movement of these blocks we provide therein an aperture 16 which is adapted to register with the apertures formed within the jaws so that a set screw may be inserted therein for adjustably holding the blocks within the jaws. When these blocks are used as gripping jaws of a wrench the flanges 10 of the jaws are adapted to extend within the grooves 17 formed by the flanges 12 and the set screws are inserted through the apertures as before described for holding the blocks with the jaws.

When the device is being used as a pipe cutter we provide blocks indicated by the numerals 18 which are adapted to extend within the recesses 9 formed within the jaws of the wrench and adapted to be secured therein in a manner as before described. Each of these blocks 18 is provided with a substantially rectangular body portion having a reduced portion 19 formed integral therewith which is adapted to extend within the slot formed by the flanges 10 within each of the recesses mounted within the jaws of the wrench. These reduced portions 19 are each provided with a longitudinally extending slot 20 in which is journaled the cutting disks 21. The block 18 which is adapted to be mounted within a stationary jaw of the wrench is provided with a recess in the center thereof and has mounted in the slot on each side of the recess a pair of cutting disks 21, whereas the block 18 adapted to be mounted within the movable jaw is provided with only one cutting disk mounted in the central portion of the said block and adapted to extend between the disks mounted within the opposite block when the jaws are brought together.

When the device is being used for a pipe die or cutter, we provide an adjustable support which is adapted to be adjustably mounted upon the same for holding the device upon the pipe. This support comprises a sleeve 22 which is provided with an opening for receiving the handle 1 of the stationary jaw. This sleeve is slidably mounted upon the handle 1 and is provided with the set screw 23 by which the same may be held in an adjusted position. Formed integral with this sleeve and extending therefrom is an arm 24 having formed in its upper extremity a bearing 25 which is adapted to lie in alinement with the concave portion formed in the block 18 mounted within the lower jaw of the device. This bearing 25 is for holding the various sizes of pipe and in mounting the pipes within the bearing we provide a sleeve 26 having a central bore of the same diameter as the exterior diameter of the pipe to be inserted therein. This sleeve is provided with a flange 27 which forms a stop to limit the movement of the sleeve in one direction and the central portion of the sleeve is provided with

a groove 28 in which is adapted to rest one end of the adjustable set screw 29 formed within the bearing 25 thereby providing means for holding the sleeve within the bearing and at the same time allowing it to rotate freely.

In adjusting the movable jaw we provide within the periphery of the adjusting nut 5 a plurality of spaced recesses so that the lugs indicated by the numeral 30 as shown upon the auxiliary wrench shown in Fig. 10 of the drawing, may be inserted therein for facilitating easy adjustment of the movable jaw.

Formed within the back of the handle 1 is a longitudinally extending recess 31 having mounted therein a leaf spring 32. The outer or free end of the leaf spring is adapted to rest upon the inner face of the shank of the movable jaw thereby holding the same in a substantially vertical position, but when the sleeve 22 of the support comes in contact with this spring it will hold the support in a raised position until the set screw 23 is adjusted for permanently holding it in place.

What we claim is:

1. A wrench comprising a stationary jaw and a movable jaw, each of said jaws having a recess formed therein, blocks having work engaging tools formed on their opposite faces detachably mounted within said recesses, longitudinally extending ribs formed upon said blocks, and means formed upon said jaws for engagement with the ribs on said blocks, whereby said blocks may be reversed so that either face thereof may project beyond said jaws, as and for the purpose described.

2. A wrench comprising a stationary jaw and a movable jaw, each of said jaws having a recess formed therein, blocks detachably mounted within said recesses, said blocks having work engaging tools formed on their opposite faces, inwardly extending flanges formed upon said jaws, and means formed on said blocks for engagement with said flanges, whereby said blocks may be reversed so that either face thereof may project beyond said jaws, as and for the purpose described.

3. A wrench comprising a stationary jaw and a movable jaw, each of said jaws having a recess formed therein, blocks having work engaging means formed on their opposite faces detachably mounted upon said recesses, inwardly extending flanges formed within said jaws, and longitudinally extending ribs formed upon said blocks, said ribs being adapted for engagement with said flanges, whereby the blocks may be reversed so that either face thereof may project beyond said jaws, as and for the purpose described.

4. A wrench comprising a stationary jaw

and a movable jaw, each of said jaws having
a recess formed therein, blocks detachably
mounted within said recesses, a pair of lon-
gitudinally extending ribs formed upon the
5 opposite faces of said blocks, said jaws hav-
ing flanges extending within said recesses,
said blocks adapted to be reversed, said ribs
arranged within said recess below said
flanges when one face of the blocks projects
10 beyond said jaws, and said flanges adapted
to rest between said ribs when the opposite

faces of the blocks project beyond said jaws,
as and for the purpose described.

In testimony whereof we hereunto affix
our signatures in the presence of two wit- 15
nesses.

FRED THOMPSON.

FREDERICK J. LUDLOW.

RANALD A. McDONALD.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
