A. BRANDETTI.

WRENCH.

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1,166,655.

Patented Jan. 4, 1916.

Fig. 1.

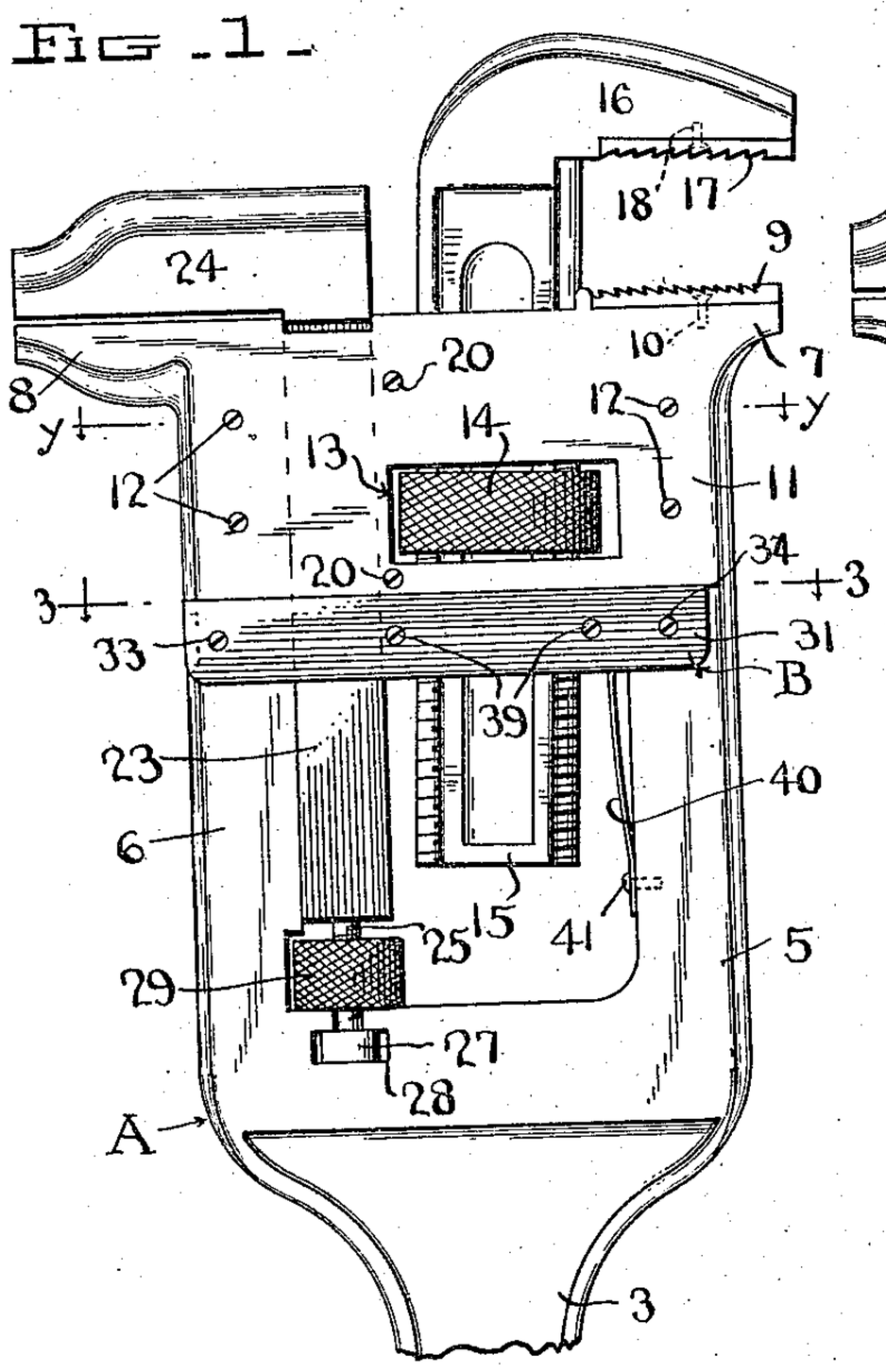

Fig. 2.

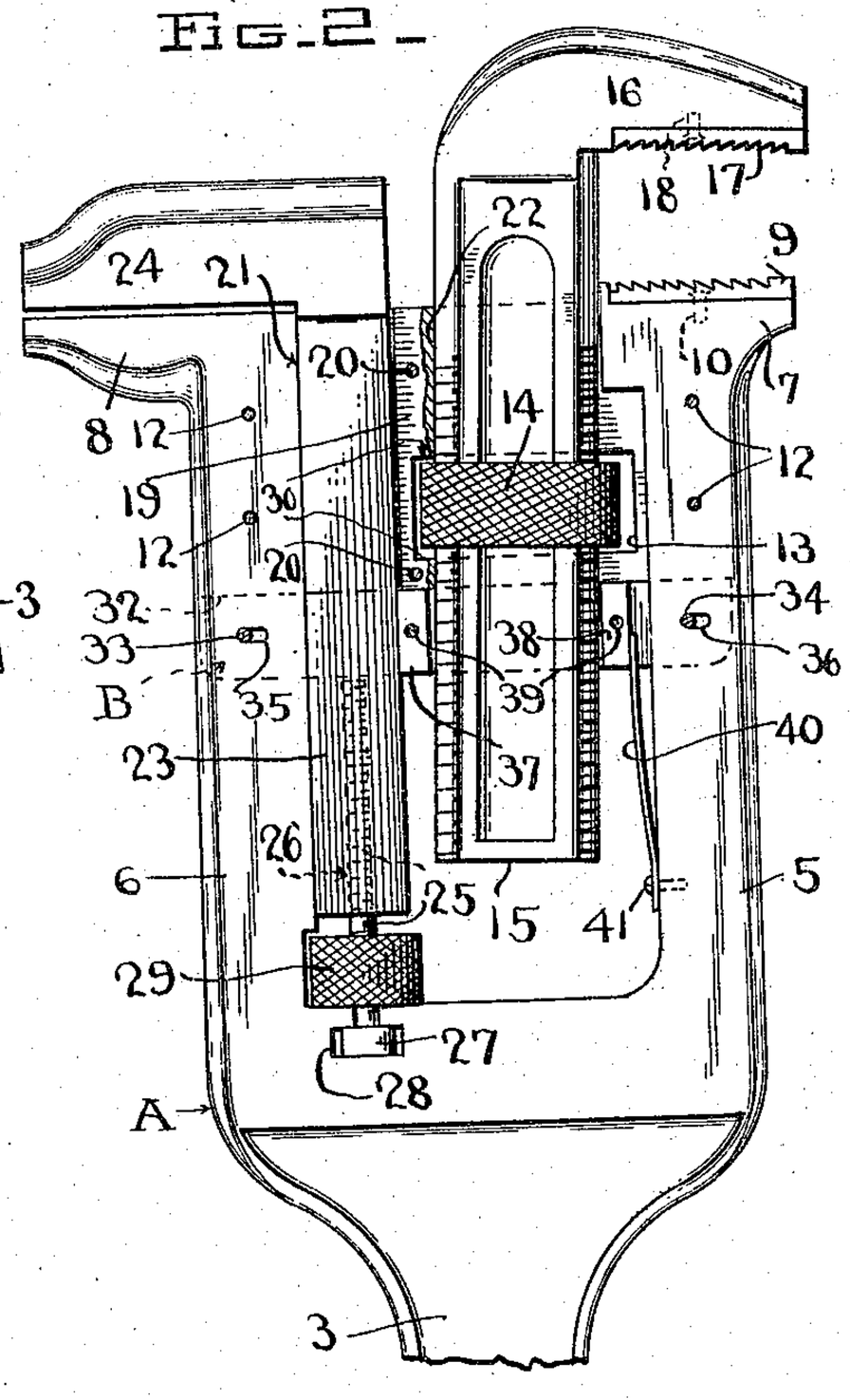

Fig. 3.

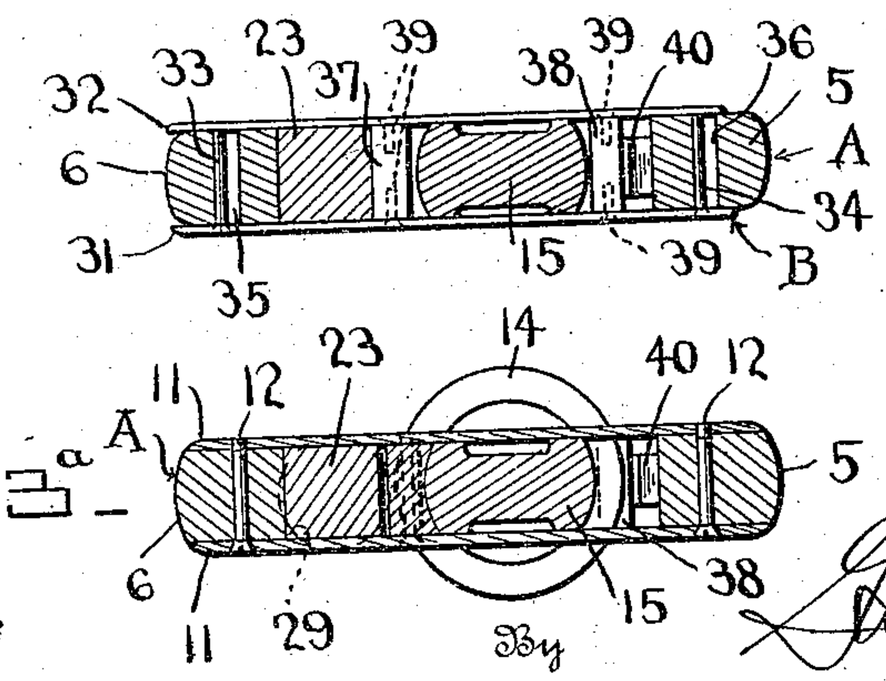

Fig. 3a.

Witnesses

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UNITED STATES PATENT OFFICE.

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WRENCH.

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To all whom it may concern:

Be it known that I, ALBERTO BRANDETTI, (a citizen of Italy, but who has taken out first papers for a citizen of the United States,) residing at 167 Glenwood avenue, Medina, in the county of Orleans and State of New York, have invented certain new and useful Improvements in Wrenches, of which the following is a specification.

This invention relates to wrenches.

One object is to provide a wrench particularly constructed for use in connection with nuts or other rectangular shaped bodies or with pipes or other cylindrical shaped bodies.

Another object is to provide a simple, durable, inexpensive and effective tool embodying means whereby it may be used as a pipe or as a nut wrench and in which the pipe and nut wrench parts do not interfere one with the other in the manipulation of the wrench.

With the above and other objects in view, the present invention consists in the combination and arrangement of parts hereinafter more fully described, illustrated in the accompanying drawings and particularly pointed out in the appended claims, it being understood that changes may be made in the form, proportion, size and minor details without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings: Figure 1 is a side elevation of my improved wrench, the handle portion, which is preferably long, being broken away. Fig. 2 is a similar view partly in section. Fig. 3 is a transverse sectional view on the line 3—3 of Fig. 1. Fig. 3ª is a sectional view on the line *y—y* of Fig. 1.

Referring now more particularly to the accompanying drawings, the reference character 3 indicates a shank which is preferably long but which may be of any suitable length provided at one end with a head A, preferably U-shaped, whose legs 5 and 6 are preferably provided with laterally directed fixed jaws 7 and 8, there being preferably a serrated jaw 9 detachably secured to the working face of the fixed jaw 7, by means of a suitable fastening 10.

Connecting opposite sides of the legs 5 and 6 are plates 11 which are secured to the legs by means of screws or other suitable fastenings 12 and each of which is provided with an opening 13 which may receive the nut 14 screw threaded on the shank 15 of the movable jaw 16 which latter also has detachably secured to it a serrated jaw 17 adapted to coöperate with the detachable jaw 9 to insure a firm grip upon a pipe or other cylindrical shaped body (not shown), there being a screw or other suitable fastening 18 provided to effect a detachable connection of the detachable jaw 17 to the jaw 16.

A strip 19 is secured between the aforesaid plates 11 by means of suitable fastenings 20 which, with other parts of the wrench head, provide guides 21 and 22 between the plates 11, the guide 21 adapted to slidably receive the shank 23 of the movable jaw 24 which coöperates with the fixed jaw 8 when it is desired to apply the tool to a nut or other rectangular shaped object (not shown). This movable nut engaging jaw 24 is moved toward and away from the fixed jaw 8 by sliding movement of the shank 23 in the guide 21 by means of a screw 25 having screw threaded engagement in a socket 26 in the inner end of the shank 23 and which has its outer end provided with a head 27 located in a recess 28 in the head A, there being a nut 29 mounted on the screw 25 to manipulate said screw to move the movable jaw 24 toward and away from the fixed jaw 8.

The shank 15 of the movable pipe engaging jaw 16 is not only slidable in the guide 22 but has rocking movement therein and the jaw 16 is movable toward and away from the jaw 7 by means of the aforesaid nut 14 disposed in said alining openings 13 and rotatably held therein by the shoulders 30. The shank 15 is screw threaded and the nut 14 having screw threaded engagement therewith results in a sliding movement of the shank 15 toward and away from the jaw 7 when the nut 14 is manipulated.

A member B is slidably connected to the legs 5 and 6 of the head A, embracing said legs and also the shanks 12 and 23 of the movable jaws 16 and 24, respectively. This member B is adapted to rock the shank 15 of the movable pipe engaging jaw 16. The member B may consist of two plates 31 and 32 connected together by means of bolts 33 and 34 which have sliding movement in slots 35 and 36 formed in the legs 6 and 5, respectively, of the head A. Also connecting the plates 31 and 32 are strips 37 and 38 which are secured between said plates by means of screws or other suitable fasten-

ings 39. The strip 37 lies between the aforesaid shanks 15 and 23 while the strip 38 lies between the leg 5 and the shank 15.

A spring or other suitable yieldable element 40 is secured at one end, as at 41, to the leg 5 of the head A of the wrench and the free end of this yieldable element 40 is adapted to bear against the strip 38 between the plates 31 and 32 and thereby normally hold the shank 15 of the pipe engaging jaw 16 normally in an inclined position and this inclined position of the shank 15 may be maintained during manipulation of the nut 14. When a pipe slightly larger than the space between the pipe engaging jaws 7 and 16 is thus engaged the slidable member B is caused to slide and force the free end of the yieldable element 40 toward the leg 5 and the yieldable engagement between the yieldable element 40 and the strip 38 insures firm gripping action between the jaws 7 and 16. Immediately upon releasing the pipe engaging jaws 7 and 16 from the pipe or similar object the yieldable element 40 slides the member B transversely of the head A and thereby causes the shank 15 of the jaw 16 to assume its normal inclined position.

From the foregoing it will be seen that I provide a wrench capable of effective use for the tightening or loosening of nuts or for the manipulation of pipe or other cylindrical shaped bodies.

What is claimed is:

1. In a wrench, a head having a recess and provided with a shank and a fixed jaw, a movable jaw coöperating with said fixed jaw and provided with a shank having slidable and rocking movement in said recess of the head, spaced plates mounted for transverse sliding movement on opposite sides of the head, strips located in the recess of the head, and at opposite ends connected to the aforesaid plates between which plates and strips the shank of the movable jaw operates, and a spring confined wholly within the recess of the head and at one end connected to the head and at its opposite end engaging one of said strips to hold said plates at one limit of their sliding movement and thereby hold the shank of the movable jaw normally in tilted position against rocking movement.

2. In a wrench, a head having a recess and provided with a shank and a fixed jaw, a head having alining relatively short slots therein on opposite sides of said recess, a movable jaw coöperating with said fixed jaw and provided with a shank having slidable and rocking movement in said recess of the head, plates mounted on opposite sides of the head, connections between said plates which operate in said relatively short slots in the head on opposite sides of the recess, whereby said plates may have transverse sliding movement with relation to the head, and whereby the sliding movements of the plates are limited by said slots, strips located in the recess of the head and at opposite ends connected to the aforesaid plates between which plates and strips the shank of the movable jaw operates, and a spring located in the recess of the head and at one end connected to the head and at its opposite end engaging one of said strips to hold said plates at one limit of their sliding movement and thereby hold the shank of the movable jaw normally in tilted position against rocking movement.

In testimony whereof I affix my signature in presence of two witnesses.

ALBERTO BRANDETTI.

Witnesses:
NICK GALLO,
JOSEPH NESTO.