

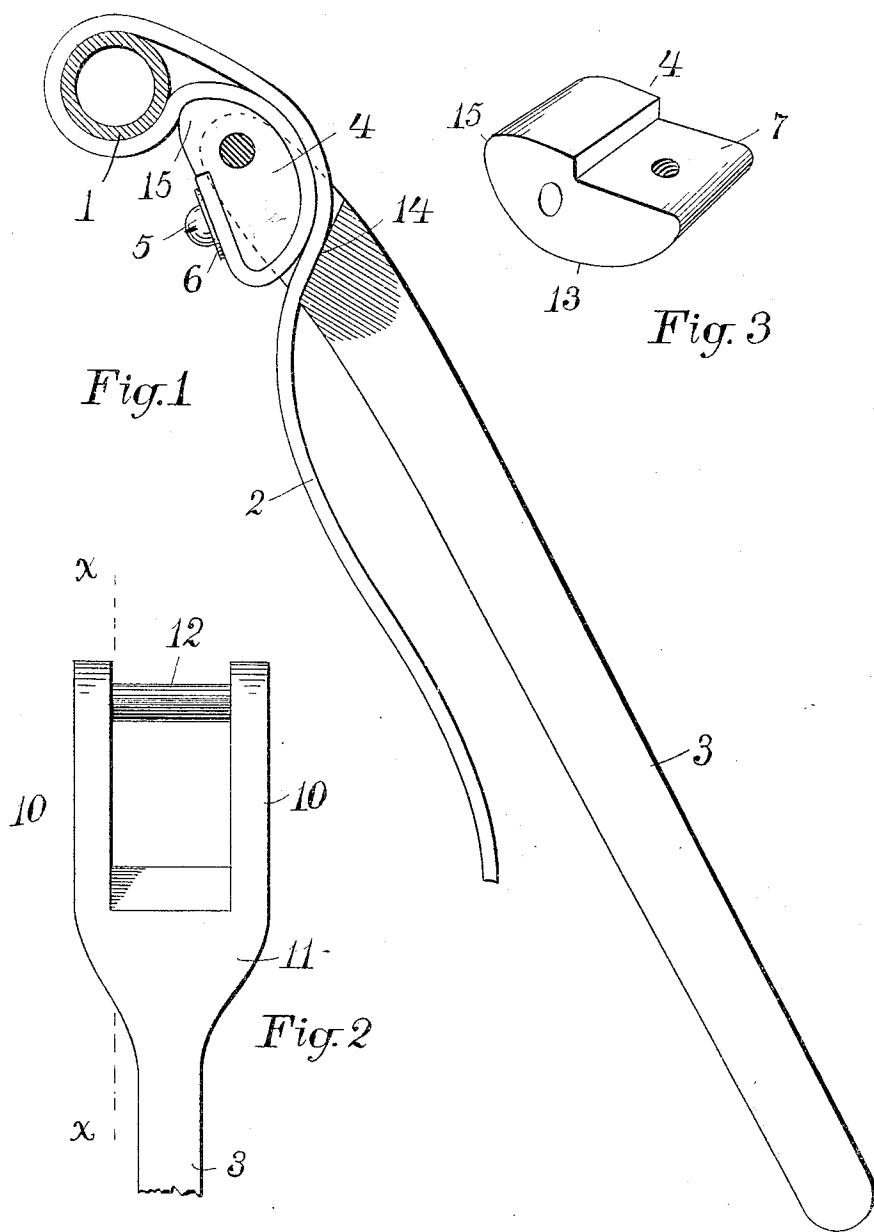
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PATENTED JAN. 14, 1908.

W. C. MARTIN & L. H. OGDEN.

STRAP PIPE WRENCH.

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UNITED STATES PATENT OFFICE.

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STRAP PIPE-WRENCH.

No. 876,469.

Specification of Letters Patent.

Patented Jan. 14, 1908.

Application filed October 7, 1907. Serial No. 396,155.

To all whom it may concern:

Be it known that we, WILLIAM C. MARTIN, of 32 School street, Mansfield, in the county of Bristol and Commonwealth of Massachusetts, and LOUIS H. OGDEN, of 5 P street, South Boston, in the county of Suffolk and said Commonwealth, both citizens of the United States, have invented certain new and useful Improvements in Strap Pipe-Wrenches, of which the following is a specification.

The object of this invention is the construction of a strap pipe wrench wherein the strap can be more readily wrapped about the pipe to be turned, more quickly and easily reengaged by the wrench, and more securely locked in place; also a wrench adapted to have its cooperating strap secured thereto without further labor than punching a hole through it at one end and inserting an ordinary screw therethrough; and, finally, a wrench which shall embody certain other improvements in detail of construction.

Referring to the drawings forming part of this specification, Figure 1 is a side elevation of a wrench made in accordance with my invention, a part thereof being represented as broken away on the line X—X in Fig. 2. Fig. 2 is a plan view of the wrench head with the locking cam removed. Fig. 3 is a perspective view of the locking cam by itself.

The pipe 1 which is shown in section in Fig. 1, and which represents the one to which the wrench is being applied, has the strap 2 passed about it in a manner to tighten the grip of such strap thereon in proportion as the handle 3 of the wrench is forced downward; such grip being sufficient to turn the pipe with the swing of the wrench. One end of said strap is secured to the locking cam 4 by a screw and washer 5, 6; the extremity of said end fitting the seat 7 of said cam; the latter being rotatably held between the walls 10 of the wrench head 11, by the pin 12. From said seat, the strap passes about the convex face 13 of said cam 4 between said walls, and thence about the pipe 1 and down through the space included between said cam and the inclined surface 14 at the base of said walls. When, now, the handle 3 is forced downward, the convex surface of the locking cam 4 and said inclined surface grip the two strap-sections between them, and lock the same against withdrawal. The

nose 15 of said cam, resting in the fold of the under section of strap, now becomes the fulcrum of the lever or handle 3, and the harder the latter is swung toward the left, the more tightly the bight of the strap encircles the pipe. So strong is this grip that even polished brass or nickeled piping will be forced to turn with the wrench.

By having the inclined throat surface 14 at the proper angle, the wrench pressure is incapable of causing the strap to pull out therefrom even a fraction of an inch. Inasmuch as both sections of the strap are simultaneously locked by the operating pressure of the wrench, it is evident that there is no strain upon the screw 5, and no danger of the belt breaking or splitting thereat.

When the handle 3 is elevated to a horizontal position, or slightly higher, with the locking cam remaining at its illustrated position, the throat opening becomes so large as to permit the free end of the strap to be thrust through the same, after having passed it about the pipe, with the greatest of ease. When one end of the strap becomes worn, it is the work of but a moment to take out the screw 5, reverse the strap and insert the screw through a hole punched therein. If no tool is handy, a good sized wire nail can be driven into the strap to form the required screw hole. A new strap can be substituted for the old one with equal ease. Inasmuch as the strap has both sections gripped by the locking means described, the wrench could be made to work fairly well without having an end of the strap secured to the cam 4, so that the strap could be entirely separate from the remainder of the tool. This would be objectionable, however, on account of the constant losing of the strap, and also because the wrench would not be nearly so conveniently manipulated. So, also, the strap-end now shown secured to the locking cam could be entirely free therefrom, and the opposite end of the strap fastened to the wrench instead; but this would be quite inconvenient in use as compared with the construction set forth.

What we claim as our invention and for which we desire Letters Patent is as follows to wit:—

1. A wrench comprising a handle having a head formed with a pair of parallel walls, a locking cam pivotally supported near one end between said walls, and having its op-

posite end convex, and a strap having both
ends penetrating the space between the
convex end of said cam and the surface of
said head between said walls, and held by
5 the clamping action of said end and surface.

2. A wrench comprising a handle having
a head formed with a pair of parallel walls,
a locking cam pivotally supported between
said walls and having a shouldered seat at
10 one side and a convex face opposite thereto,
a strap having one end located in said seat,
and a screw securing said end to said cam.

3. A wrench comprising a handle having
a head formed with a pair of walls, a lock-

ing cam located between said jaws, a pin 15
penetrating said cam and walls, an inclined
surface at the base of said walls coacting
with said cam, and a strap secured at one
end to said cam and passing through the
space between said cam and inclined surface. 20

In testimony that we claim the foregoing
invention, we have hereunto set our hands
this 4th day of October, 1907.

WILLIAM C. MARTIN.
LOUIS H. OGDEN.

Witnesses:

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