No. 620,477. Patented Feb. 28, 1899.

O. M. MILLER.

WRENCH.

(Application filed Mar. 7, 1898.)

(No Model.)

Fig. 1.

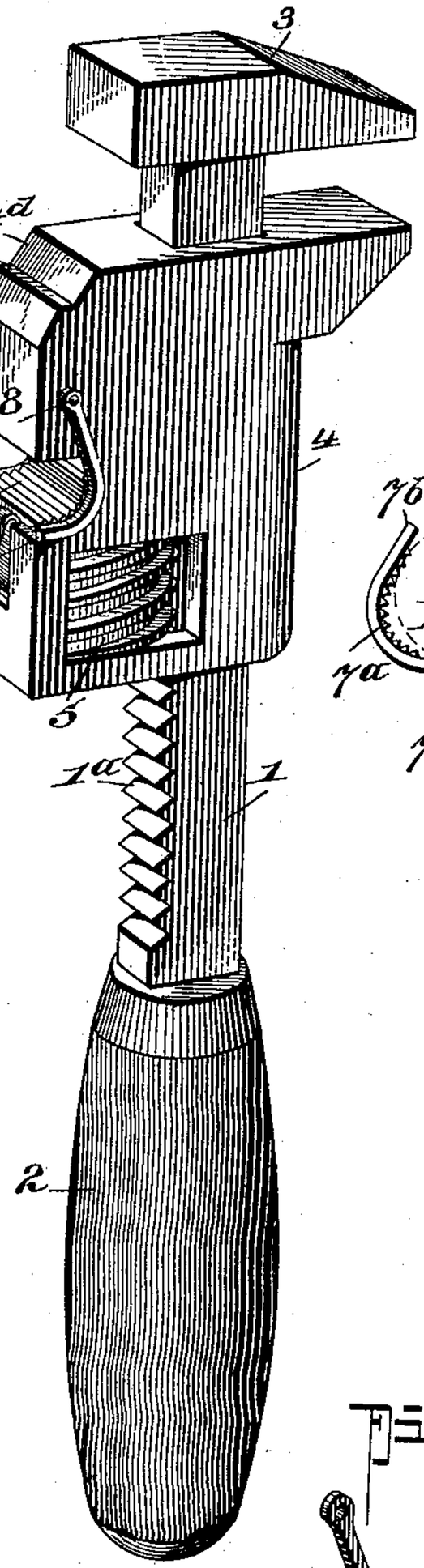


Fig. 2.

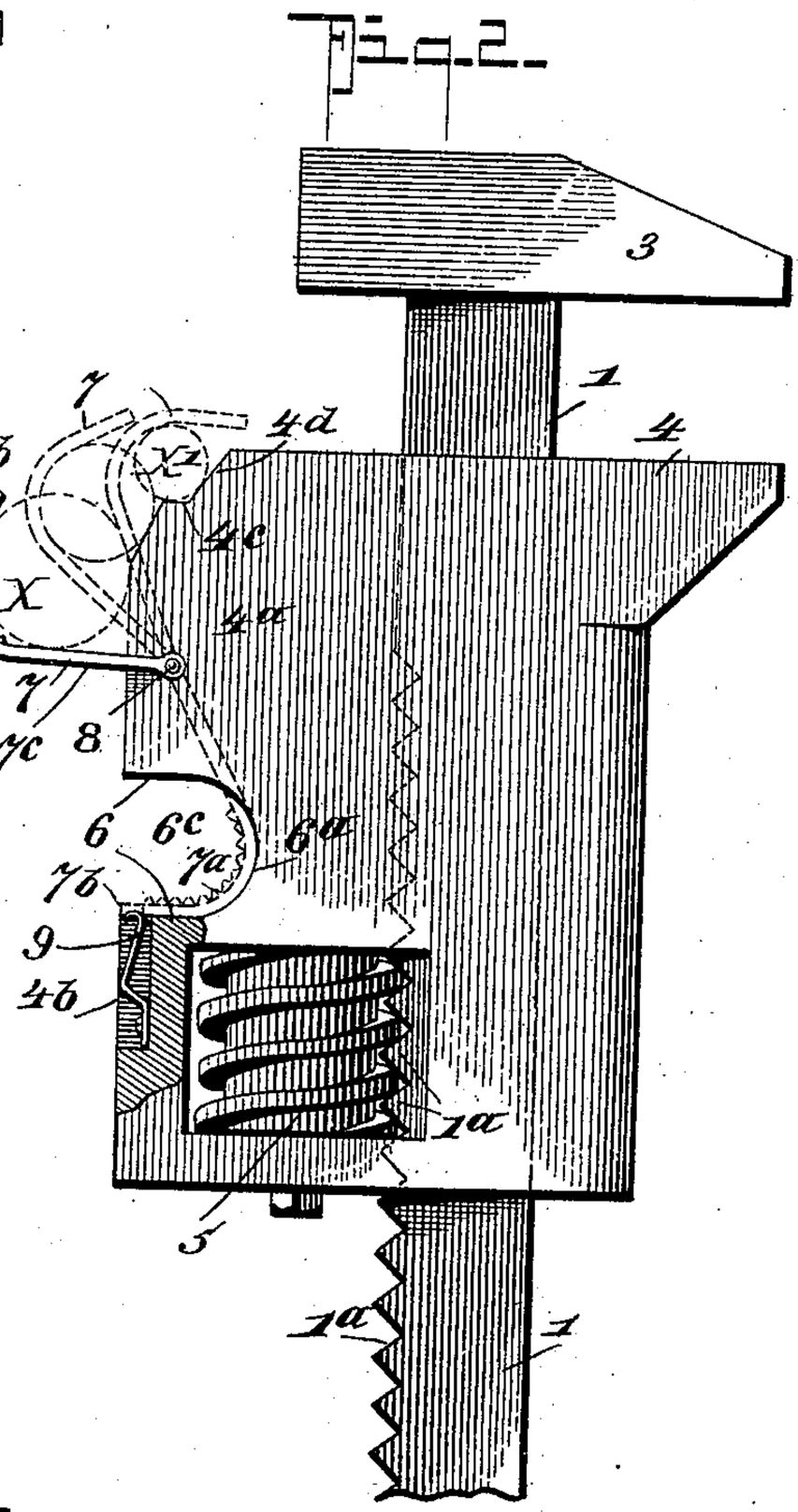
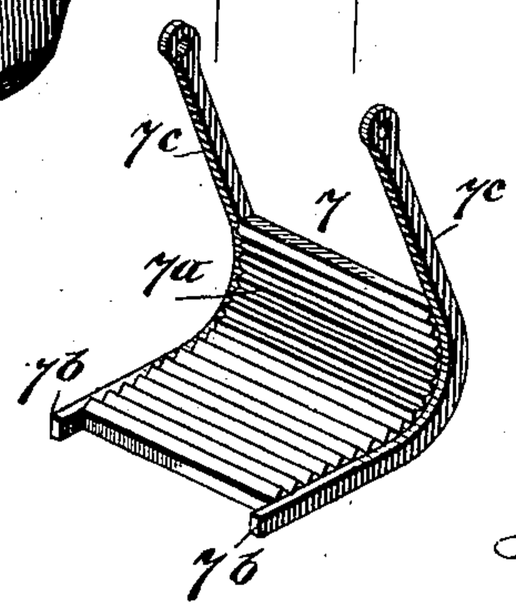


Fig. 3.



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WRENCH.

SPECIFICATION forming part of Letters Patent No. 620,477, dated February 28, 1899.

Application filed March 7, 1898. Serial No. 672,933. (No model.)

To all whom it may concern:

Be it known that I, OSCAR M. MILLER, residing at Benedict, in the county of York and State of Nebraska, have invented a new and Improved Wrench, of which the following is a specification.

My invention is in the nature of an improved combined monkey and pipe wrench; and it has for its object to provide a wrench of this character having a worm-wheel-operated sliding jaw and such sliding jaw equipped with pipe-grip devices which when not in use are capable of such adjustment as to be securely held from projecting beyond the rear edge of the said sliding jaw or in any manner interfering with all the movements or uses for which the ordinary monkey-wrench is adapted.

The invention also comprehends a novel construction of pipe-grip devices attached to the sliding jaw in such a manner as to effect an easy manipulation and an effective operation thereof.

With these objects in view the invention consists in certain details of construction and combination of parts, such as will be first described, and then specifically pointed out in the appended claims, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of my improved wrench, the pipe-grips being shown in the closed position. Fig. 2 is a side elevation of the wrench, the pipe-grip being shown in its operative position; and Fig. 3 is a detail perspective view of the pipe-grip.

In the drawings, in which like numerals indicate like parts in the several figures, 1 indicates the toothed shank, having a handle 2 at one end and the integral stationary jaw 3 at the other, and 4 indicates the sliding jaw. This jaw in its general form is of the conventional shape, except that its rear edge is extended somewhat more, as at 4^a, the purpose of which will presently appear.

5 indicates a finger-operated worm-wheel journaled in the sliding jaw to mesh with the teeth 1^a of the shank, as clearly shown in Fig. 2.

The rear edge 4^a of the sliding jaw at a point preferably over the worm-wheel opening has a seat 6^c, formed with upper and lower faces 6 6 and the semicircular base 6^a. Within this seat portion is adapted to fit a pivoted pipe grip or jaw 7, the body proper of which has a semicircular gripping-face 7^a, serrated or otherwise roughened, forwardly-extending finger or guide members 7^b, and parallel extensions or side arms 7^c, the ends of which are apertured to engage the pivot-pin 8, fitted in or integrally formed with the jaw edge 4^a.

It will be noticed by reference to Fig. 2 that the grip 7 is so hung on the rear edge 4^a that when swung to its closed position it will snugly fit within the seat 6^a in such a manner as not to project beyond such edge 4^a or interfere with the use of the implement as an ordinary monkey-wrench, and to hold such grip firmly in the socket and also pulled out to an operative position the edge 4^a has a vertical seat or depression 4^b, in which is secured a spring-latch 9, the upper or lock end of which is in the path of movement of the pivoted grip 7 and is adapted to snap in front of the outer edge 7^c of the grip, as clearly shown in the drawings, it being obvious that by providing a latch such as shown the grip 7 can be easily pulled out free from such latch when desired. The arms 7^c are in practice of such length as to permit the grip being swung outward sufficient to engage a pipe of large diameter, as indicated at X in Fig. 2, and grip it against the rear edge 4^a, or pipes of smaller diameter, which may be gripped against the beveled upper edge 4^d of the jaw. To insure a positive tight grip against pipes of very small diameter, such beveled portion 4^d is made with one or more angle-seats 4^e, so as to form double grip-surfaces opposing the pivoted grip, as indicated at X′ in said Fig. 2.

By constructing the pivoted grip and connecting it to the jaw 4, as shown, it is manifest such grip can be used as an ordinary swing-jaw opposing the rear flat edge of the jaw 4, and by providing the said jaw 4 with a beveled bearing having one or more angle-seats and having the grip 7 in such relation to the beveled bearing as to swing thereover the utility of the implement is enhanced, as it can operate on pipes of smaller diameter with a more positive gripping action. Furthermore, by connecting the grip to the jaw 4 and providing such jaw 4 with a seat or socket, as shown, when not in use the grip 7

can be swung entirely out of the way and held from danger of being broken during the ordinary handling of the implement as a monkey-wrench.

The front fingers 7^b of the grip serve as guides to move the pipe to the grip-seat in operation.

While I have shown the sliding jaw operated by a worm-wheel engaging a toothed shank, it is obvious my improvement can be applied to a sliding jaw operated in any other manner.

My improvement is of a very simple character and can be readily constructed in connection with the ordinary monkey-wrench structure without appreciably increasing the cost thereof.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a monkey-wrench, in combination with the sliding jaw having a seat in its rear edge, of a swinging grip-jaw, pivotally hung on such jaw to swing outward to oppose the rear edge of the jaw, and constructed to fit into the jaw-seat when held to an inoperative position, as specified.

2. In a sliding-jaw wrench; in combination with the sliding jaw having a socket or seat in its rear edge; of a grip-jaw pivotally hung on the sliding jaw to close into the said socket or seat when held to its inoperative position, and a spring-detent on the sliding jaw for locking the grip-jaw in the said socket or seat, as specified.

3. A sliding-jaw wrench, having a seat or socket in its rear edge, said rear edge having a beveled bearing portion; a grip-jaw having a semicircular bearing-face, said grip-jaw being pivotally hung on the sliding jaw, and so constructed as to be swung out to oppose the straight or the beveled portions of the rear edge of the sliding jaw and to fit in the seat of such sliding jaw, as and for the purposes specified.

4. A monkey-wrench having its sliding jaw provided with a seat 6^a, in its rear edge, said edge having a beveled portion provided with angle-bearings, in combination, with the grip member 7, having a gripping-face 7^a, guide-fingers 7^b, arms 7^c, pivoted on the rear edge of the jaw, at a point between the seat and a beveled bearing portion, and the spring-latch, all being arranged substantially as shown and for the purposes described.

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Witnesses:
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