

(No Model.)

2 Sheets—Sheet 1.

R. S. GILLESPIE & H. JAMES.
PIPE WRENCH.

No. 489,803.

Patented Jan. 10, 1893.

Fig. 1.

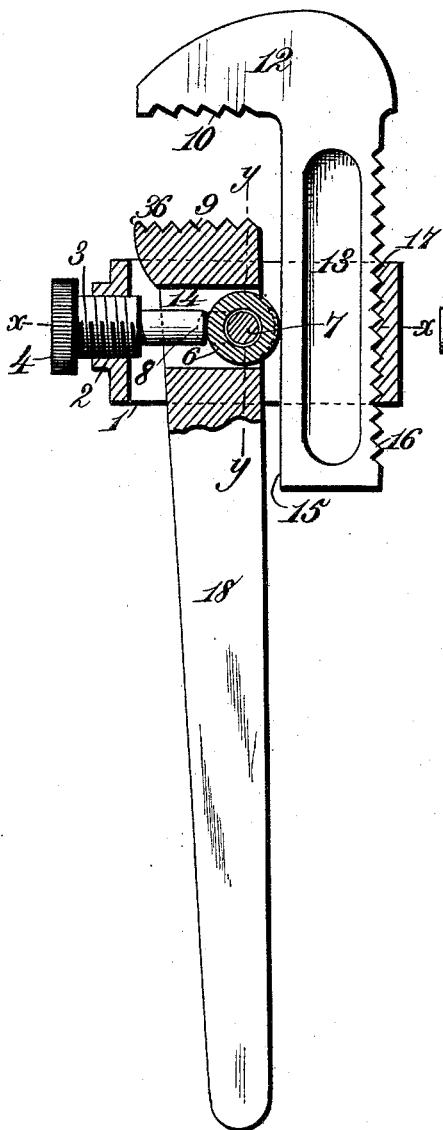


Fig. 3.

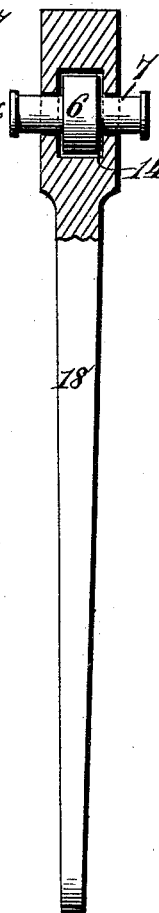


Fig. 4.

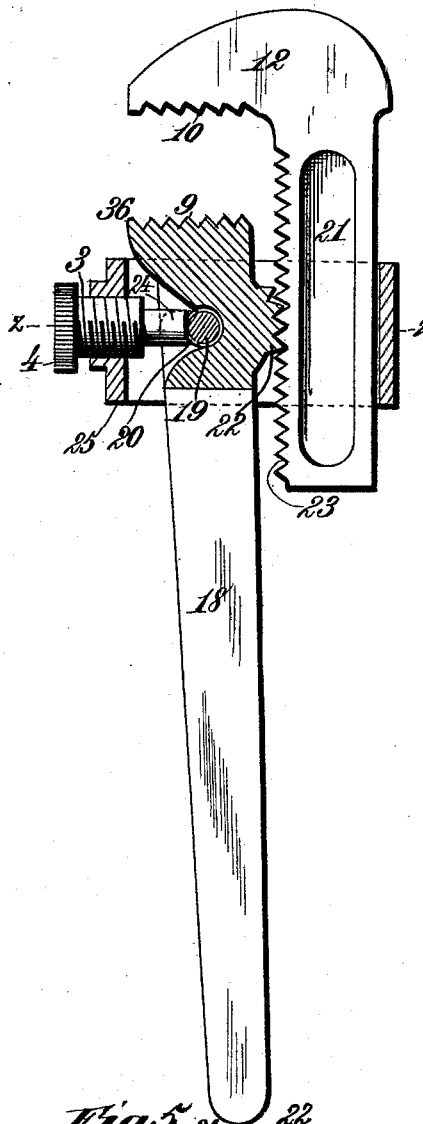
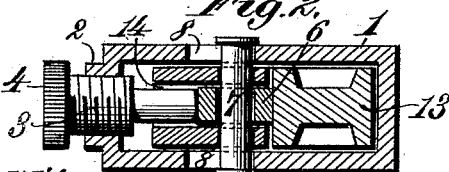
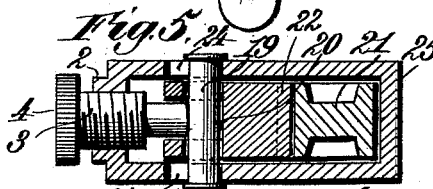


Fig. 2.



Witnesses:
Robert G. Smith,
J. A. Rutherford

Fig. 5.



Inventors,
Richard S. Gillespie,
Harry James,
By James L. Norris,
Att'y.

(No Model.)

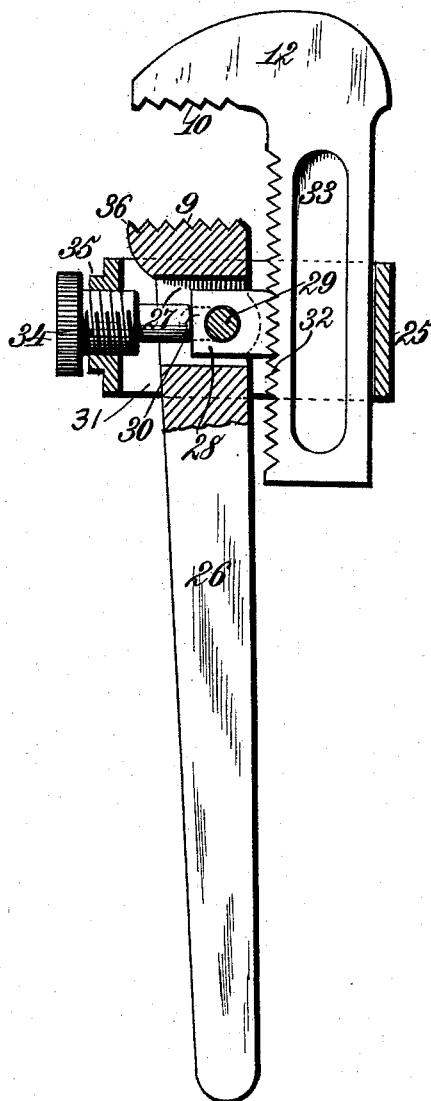
2 Sheets—Sheet 2.

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Fig. 6.



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UNITED STATES PATENT OFFICE.

RICHARD S. GILLESPIE AND HARRY JAMES, OF NEW YORK, N. Y.

PIPE-WRENCH.

SPECIFICATION forming part of Letters Patent No. 489,803, dated January 10, 1893.

Application filed March 3, 1892. Serial No. 423,662. (No model.)

To all whom it may concern:

Be it known that we, RICHARD S. GILLESPIE and HARRY JAMES, citizens of the United States, residing at New York, in the county of New York and State of New York, have invented new and useful Improvements in Pipe-Wrenches, of which the following is a specification.

This invention relates to wrenches of the character described and shown in our application for Letters Patent filed November 12, 1891, Serial No. 411,731 wherein the wrench is composed of a slotted box or frame, a set bolt adjustable in a part of the box or frame, a sliding bar or shank having a jaw, and an oscillatory handle or lever mounted on a transverse pin which is capable of working back and forth in a slotted portion of the box or frame. In the prior construction alluded to, the set screw is arranged to bear directly against the handle or lever and consequently when the toothed parts are in engagement and the set bolt bears against the handle or lever, the latter cannot be swung on the transverse pin.

The object of our present invention is to provide novel means whereby the handle or lever can be swung on the transverse pin even though the set bolt is adjusted to press the toothed parts of the wrench into engagement with each other. To accomplish this object our invention involves the features of construction and the combination or arrangement of devices hereinafter described and claimed, reference being made to the accompanying drawings, in which

Figure 1, is a sectional side elevation of our improved wrench. Fig. 2, is a detail sectional view taken on the line $x-x$ Fig. 1. Fig. 3, is a detail sectional view taken on the line $y-y$ Fig. 1. Fig. 4, is a sectional side elevation showing a modified construction. Fig. 5, is a sectional view taken on the line $z-z$ Fig. 4, and Fig. 6, is a sectional side elevation showing another modification.

In order to enable those skilled in the art to make and use our invention we will now describe the same in detail, referring first to the construction exhibited by Figs. 1, 2 and 3, where the numeral 1 indicates a box or yoke frame having in one end wall a screw threaded socket 2 in which is screwed an ad-

justable set bolt 3 having its outer end portion constructed with a finger or thumb piece 4, and its inner end suitably formed to bear against a roller 6 mounted on a transverse pin 7 the extremities of which are adapted to move back and forth in longitudinal slots 8 formed in the side walls of the box or yoke frame.

The upper extremity of the handle is formed or otherwise provided with a series of teeth or serrations 9, which co-operate with a series of teeth or serrations 10 formed on the rigid jaw 12 of a shank 13 adapted to slide lengthwise in the box or yoke frame. The upper end portion of the handle or lever is also formed with a slot or recess 14 to receive the roller 6 and the side walls of this slot or recess are hung on the transverse pin 7, in such manner that when the pin moves back and forth in the slots 8, the handle or lever also moves back and forth in harmony with the movements of the pin. The inner end of the set bolt 3 is adapted to bear against the roller 6 for pressing the latter against the smooth inner edge 15 of the sliding shank 13, so that the teeth or serrations 16 on the outer edge of the shank can be interlocked with a series of teeth or serrations 17 formed on the inner surface of the box or yoke frame. By this construction it will be obvious that the set bolt can be tightened up to bear against the roller 6 for moving the handle or lever toward the shank 13 and pressing the toothed or serrated edge 16 of the latter into engagement with the toothed or serrated part 17 of the box or yoke frame, while at the same time the handle or lever can be readily swung on the transverse pivot pin 7. The swinging of the handle or lever after the set bolt is tightened up is rendered possible from the fact that the set bolt acts at its inner end against the roller 6, which is a part of the wrench entirely distinct or separate from the handle but serves to move the latter toward the sliding shank.

In the modified construction Figs. 4 and 5, the handle or lever 18 is loosely hung on a transverse pivot pin 19, extending through a recessed portion 20 in the inner edge of the handle or lever, in such manner that the set bolt can enter said recess and press directly on the transverse pin to force it and the handle toward the sliding shank 21, but as the

pivot-pin 19, is a part of the wrench which is distinct or separate from the handle or lever, it is possible for the latter to swing after the set bolt is tightened up. In this construction
 5 the handle or lever is formed with a toothed or serrated portion 22 which engages the toothed or serrated inner edge 23 of the sliding shank 21. The extremities of the transverse pin are adapted to work back and forth
 10 in longitudinal slots 24 formed in the side walls of the box or yoke frame 25.

In the modification Fig. 6, the upper end portion of the handle or lever 26 is formed with a slot or recess 27 containing a toothed
 15 block 28 through which passes the transverse pin 29 having its extremities adapted to work back and forth in longitudinal slots 30 formed in the side walls of the box or yoke frame 31. The toothed block is adapted to
 20 engage the toothed inner edge 32 of the sliding shank 33, and the set bolt 34 which engages the screw threaded socket 35 of the box or yoke frame, is adapted to bear at its inner end against the toothed block 28. The handle
 25 or lever is hung upon the transverse pivot pin at opposite sides of the toothed block 28 and as the latter engages the pin, and is a part of the wrench distinct or separate from the handle or lever, it is obvious that the set bolt
 30 can be adjusted to press the toothed block into engagement with the sliding shank without interfering in any manner with the free swinging movement of the handle or lever on the transverse pin.

35 In the different constructions illustrated and described, when the toothed part of the sliding shank is engaged with the toothed part with which it co-operates, and the set bolt is tightened up, the handle or lever is
 40 susceptible of being freely swung to a limited extent on the transverse pin, and this result is attained from the fact that the set bolt bears on a part of the wrench which is distinct from the handle but which serves to
 45 move the latter toward the sliding shank when the set bolt is tightened up to effect the interlocking of the toothed part of the sliding shank with the toothed part with which it co-operates.

50 It will be observed that when the parts are in working position as indicated in Figs. 1, 4 and 6, the handle or lever is so hung on the transverse pin that when swung in one direction the outer end portion 36 of its toothed
 55 face will be moved away from the toothed face 9 of the rigid jaw 10 and consequently the pipe or other object grasped will be released on the back stroke of the wrench.

Having thus described our invention what we claim is—

60 1. The combination with a box or yoke frame having opposite side walls provided with slots, and a sliding shank having a rigid jaw, of a transverse pin having its ends movable in the slotted parts of the box or yoke frame toward
 65 and from the sliding shank, a swinging handle or lever suspended by the transverse pin, a set bolt which is adjustable to press the transverse pin and the handle or lever toward the sliding shank, and toothed portions which
 70 are thrown into or out of interlocking engagement when the set bolt is tightened up or loosened, substantially as described.

2. The combination with a box or yoke frame having opposite side walls provided with slots,
 75 and a sliding shank having a rigid jaw, of a transverse pin having its ends movable in the slotted parts of the box or yoke frame toward and from the sliding shank, a handle or lever suspended by and swinging on the transverse
 80 pin, and a set bolt which is adjustable to press the transverse pin and the handle or lever toward the sliding shank without interfering with the free swinging motion of the handle or lever on the pin, substantially as described. 85

3. The combination with a box or yoke frame, and a sliding shank having a rigid jaw, of a transverse pin movable toward and from the
 90 sliding shank, a handle or lever hung on the transverse pin and movable therewith, and a set bolt acting directly on the pin to move the latter toward the sliding shank without interfering with the free swinging motion of the handle or lever on the pin, substantially as described. 95

4. The combination with a box or yoke frame having longitudinal slots in its side walls, and a sliding toothed or serrated shank having a rigid jaw, of a transverse pivot pin adapted to work back and forth in the slots, a handle
 100 or lever hung on the transverse pin and in toothed engagement with the sliding shank, and a set bolt bearing at its inner extremity directly against the transverse pin to adjust the latter toward the sliding shank without
 105 interfering with the free swinging motion of the handle or lever, substantially as described.

In testimony whereof we have hereunto set our hands and affixed our seals in presence of two subscribing witnesses.

RICHARD S. GILLESPIE. [L. S.]
 HARRY JAMES. [L. S.]

Witnesses:

RANSOM E. WILCOX,
 WM. A. SHELTON.