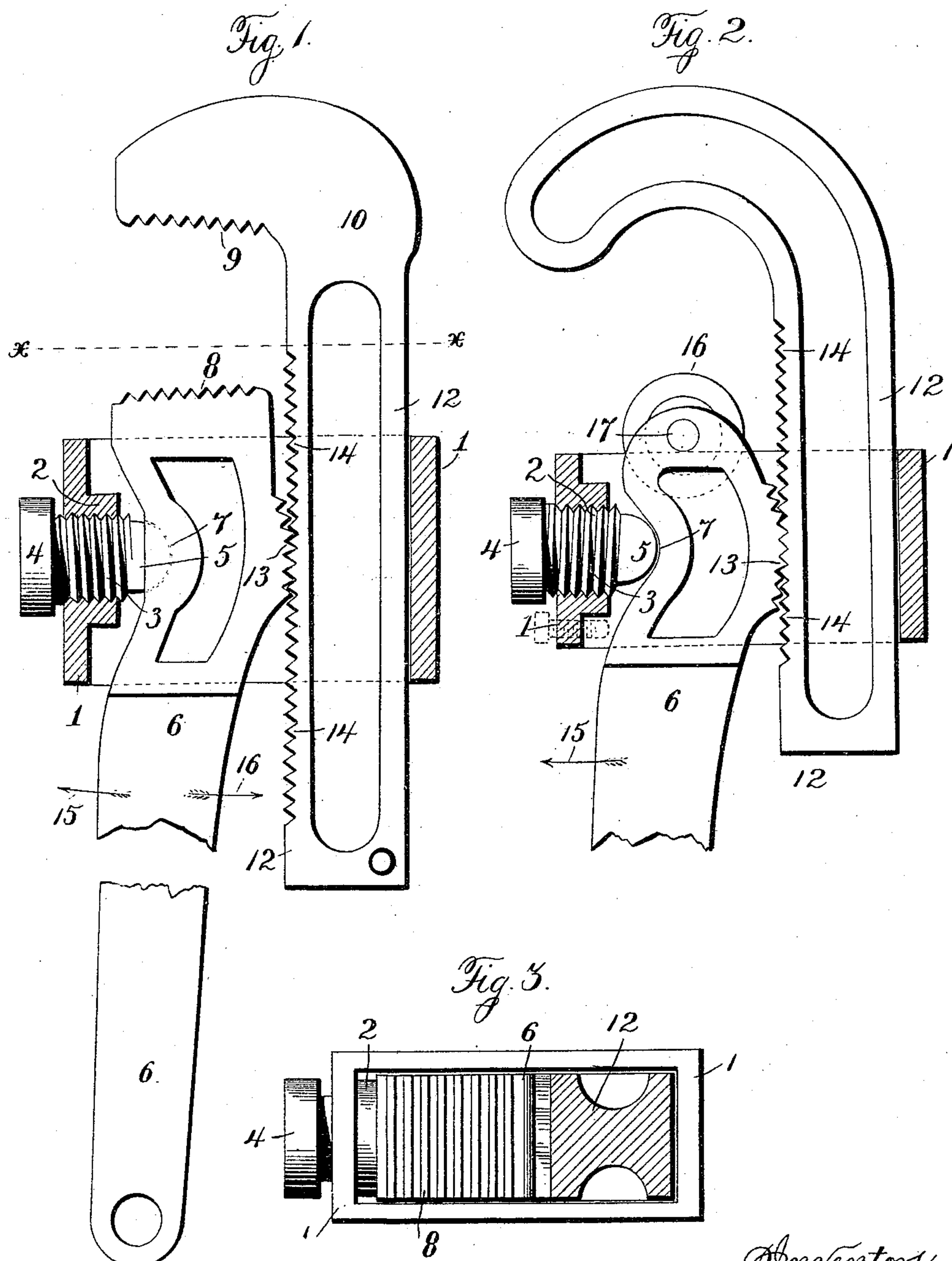


(No Model.)

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

No. 460,008.

Patented Sept. 22, 1891.



Witnesses:

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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. 460,008, dated September 22, 1891.

Application filed June 9, 1891. Serial No. 395,668. (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 has for its object to provide a simple, strong, durable, and economical pipe-wrench of such construction as to provide for quickly releasing and gripping the pipe as the wrench is oscillated or reciprocated in the arc of a circle of which the pipe is the center.

The invention also has for its object to provide a wrench with novel means whereby interchangeable handles or levers can be employed for adapting the implement as a pipe-wrench or a pipe-cutter.

To accomplish these objects 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 elevation of the improved wrench adapted for screwing and unscrewing pipes or other cylindrical objects. Fig. 2 is a similar view, showing the wrench adapted for cutting pipes; and Fig. 3 is a detail sectional view taken on the line *xx*, Fig. 1.

In order to enable those skilled in the art to make and use our invention, we will now describe the same in detail, referring to the drawings, wherein—

The numeral 1 indicates a box or yoke-frame having in one end wall a screw-threaded socket 2, in which is screwed an adjustable set-bolt 3, having its outer portion constructed with a finger or thumb piece 4 and its inner end formed with a hemispherical or convex portion 5, which constitutes the pivotal bearing for a handle or lever 6. The handle or lever is formed with a semicircular or similarly-shaped cavity 7, in which is seated the semicircular or convex extremity 5 of the set-bolt in such manner that the handle or lever can be oscillated to a limited extent upon the set-bolt as a center or fulcrum. The upper

extremity of the handle or lever in Fig. 1 is formed or otherwise provided with a series of teeth or serrations 8, which co-operate with a series of teeth or serrations 9, formed on the jaw 10 of a bar or shank 12, which is adapted to slide lengthwise against the internal surface of the rear wall of the box or yoke-frame 1. The handle or lever 6 is provided at its rear edge with a series of teeth 13, engaging with a series of teeth 14, suitably provided on the adjacent edge of the sliding bar or shank 12.

By the construction described and shown, if a pipe or other cylindrical object be inserted between the teeth or serrations 8 and 9 and the handle or lever 6 be swung in the direction of the arrow 15, such lever will turn on the semicircular or convex extremity of the set-bolt and thereby operate to slide the bar or shank 12 downward and cause the jaw 10 to grip the pipe. At the same time the outermost portion of the toothed or serrated extremity 8 of the handle or lever 6 will move toward the jaw 10, by which means the pipe or other cylindrical object will be firmly gripped for the purpose of turning it in the desired direction. At the limit of the stroke the handle or lever is swung backward in the direction of the arrow 16, and consequently the handle or lever will turn on the set-bolt and thereby operate to move the sliding bar or shank 12 in an outward direction for the purpose of releasing the pipe to obtain a fresh grip thereupon.

In practice the set-bolt is unscrewed sufficiently far to permit the teeth 13 of the handle or lever 6 to become disengaged from the teeth 14 of the sliding bar or shank 12, after which the sliding bar or shank and the handle or lever are moved toward each other until the gripping-teeth 8 and 9 come in contact with the external surface of the pipe or other cylindrical object which is to be rotated. The set-bolt is then screwed up until the teeth 13 of the handle or lever 6 are caused to engage the teeth 14 of the sliding bar or shank 12, when the parts are in position for turning the pipe, as hereinbefore specified. The oscillations of the wrench are continued until the pipe is tightly screwed up, and then to entirely release the wrench from the pipe

the set-bolt is unscrewed for the purpose of disengaging the teeth 13 of the handle or lever from the teeth 14 of the sliding bar or shank 12.

5 The wrench above described and shown in Fig. 1 is adapted as a pipe-wrench; but for the purpose of cutting pipes the handle or lever 6 exhibited in Fig. 2 is substituted for the handle or lever 6 in Fig. 1.

10 The handle or lever in Fig. 2 is in all respects substantially the same as described with reference to the handle or lever in Fig. 1, except that its upper extremity is provided with a suitable pipe-cutter 16, which, as
15 herein exhibited, is composed of a circular cutting-disk journaled to the extremity of the handle or lever through the medium of suitable journals 17.

When the handle or lever of the implement
20 exhibited by Fig. 2 is swung in the direction of the arrow 15, the handle or lever turns on the semicircular or convex extremity 7 of the set-bolt 3 to slide the bar or shank 12 downward for the purpose of forcing the pipe into
25 engagement with the cutting-disk. The continued oscillations of the handle or lever provide sufficient pressure to force the cutting-disk into the pipe. By the construction exhibited the pipe can be cut without constantly
30 adjusting the cutter, as in those pipe-cutting wrenches where the cutter is adjusted through the medium of a set-screw, which can be moved at intervals to secure the required pressure of the cutter upon the pipe.

35 By our invention we provide a simple, economical, and efficient construction wherein the pawls and gripping devices are made posi-

tive, while the strength and durability of the structure are materially increased.

In some instances we propose to use an ad- 40 justable stop-screw, as indicated by dotted lines in Fig. 2, for the purpose of preventing undue penetration of the cutting-disk into the pipe when the handle or lever is swung in the direction of the arrow 15. 45

We do not herein broadly claim the combination, with the box or frame having a pivot-bearing at the inner side of one wall, of an oscillatory handle or lever pivotally engaging the pivot-bearing, and a sliding shank having 50 a jaw and in toothed engagement with the handle or lever, as such is described and claimed in another application for Letters Patent, filed June 25, 1891, Serial No. 397,460.

Having thus described our invention, what 55 we claim is—

The combination, with a box or frame, a sliding bar or shank having a jaw, and an oscillatory handle or lever in toothed engagement with the bar or shank, of a set-bolt ad- 60 justable in the box or frame and having its inner extremity constituting pivot or journal on which the handle or lever oscillates to slide the bar or shank in the box or frame, substantially as described. 65

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

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HARRY JAMES. [L. S.]

Witnesses:

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