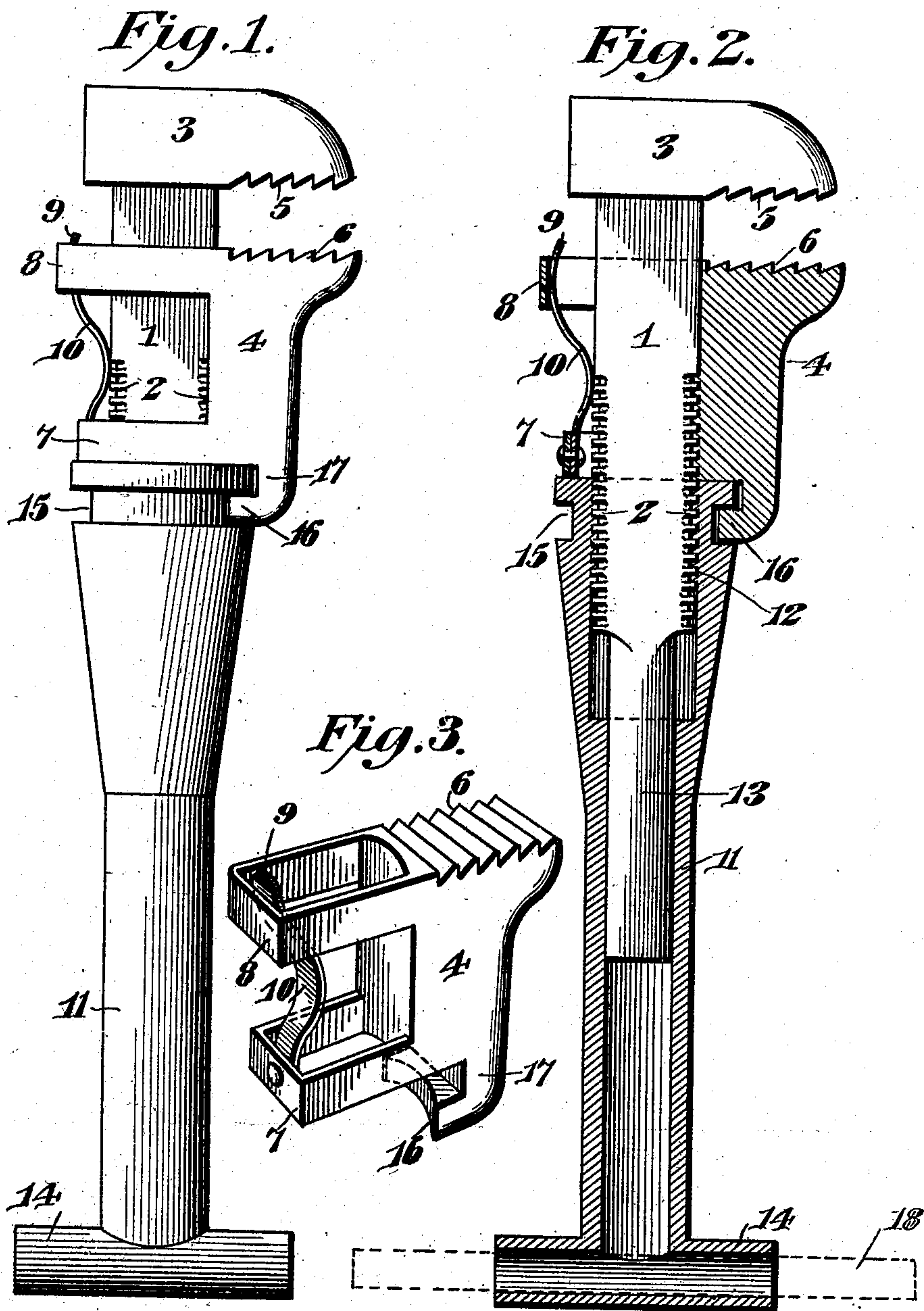


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WRENCH.
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923,886.

Patented June 8, 1909.



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM ELLERY PIPER, OF SAVANNAH, MISSOURI.

WRENCH.

No. 923,886.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM ELLERY PIPER, a citizen of the United States, residing at Savannah, in the county of Andrew and State of Missouri, have invented a new and useful Wrench, of which the following is a specification.

The invention relates to improvements in wrenches.

10 The object of the present invention is to improve the construction of wrenches, and to provide a simple and comparatively inexpensive one of great strength and durability, adapted for use as a pipe or nut wrench, and 15 capable of firmly gripping an object and of subserving the purpose of a vise in drawing two parts together.

With these and other objects in view, the invention consists in the construction and 20 novel combination of parts hereinafter fully described, illustrated in the accompanying drawing, and pointed out in the claims hereto appended; it being understood that various changes in the form, proportion, size and 25 minor details of construction, within the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

30 In the drawing:—Figure 1 is a side elevation of a wrench, constructed in accordance with this invention. Fig. 2 is a longitudinal sectional view of the same. Fig. 3 is a detail perspective view of the slidable jaw.

35 Like numerals of reference designate corresponding parts in all the figures of the drawing.

1 designates a shank, having an intermediate threaded portion 2 and provided at its outer end with a relatively fixed jaw 3, 40 which coöperates with a slidable jaw 4, mounted on the shank and fitting against the front edge of the same and movable toward and from the relatively fixed jaw. The outer portion of the shank is polygonal, being 45 rectangular in cross section and presenting smooth flat faces to the slidable jaw. The jaws are provided at their opposite engaging faces with teeth 5 and 6 for enabling them to grip a pipe or rod. The slidable jaw is pro- 50 vided with inner and outer transversely disposed substantially oblong loops 7 and 8, composed of sides and connecting end portions and slidably embracing the shank, as clearly shown in Fig. 2 of the drawing. The

outer or upper loop 8 is of greater length than 55 the lower inner loop, and it receives the free end 9 of a spring 10, which is secured at its lower end to the transverse end portion of the lower or inner loop. The spring is bowed inwardly at its center, and its intermediate 60 bowed portion bears against the rear edge of the shank 1, while its upper free end engages the transverse portion of the upper or outer loop. The spring maintains the slidable jaw normally in contact with the front edge 65 of the shank, and it permits the slidable jaw to swing laterally so as to move forwardly away from the front edge of the shank, whereby the wrench when oscillated, is adapted to alternately grip and release a pipe 70 or rod.

The jaw 4 is moved on the shank 1 toward and from the relatively fixed jaw 3 by means of a rotary sleeve 11, provided at one end adjacent to the jaw 4 with interior screw 75 threads 12 for engaging the threads 2 of the shank 1. The operating sleeve, which receives and conceals the inner portion of the shank, constitutes the handle of the wrench. The inner end portion 13 of the shank is 80 rounded and is concealed within the sleeve 11, the two parts having a relative slidable movement. The sleeve has a transversely disposed tubular handle 14 at its outer end, and is provided at its inner end with an exter- 85 rior annular groove 15, which is engaged by a transversely disposed lip or flange 16, extending inwardly from the inner or lower end of the jaw 4. The jaw 4 is provided at its inner or lower end with an extension 17, and 90 the flange, which is carried by the extension, fits in the groove 15, whereby the rotary sleeve and the slidable jaw 4 are coupled together.

The transversely disposed handle forms a 95 convenient grip for enabling the sleeve to be readily rotated with considerable force, and it is adapted also to receive a rod 18, as illustrated in dotted lines in Fig. 2 of the drawing. The rod is adapted to operate as a lever 100 to enable the desired force to be exerted in operating the wrench.

The wrench is adapted to subserve the purpose of a vise in drawing the parts together, and it will be found particularly advanta- 105 geous for operating on pump rods, as there is no liability of a pump rod accidentally slipping out of the jaws of the wrench and drop-

ping back into the well, should, for any reason the operator let go his hold on the wrench. The device is also adapted to be conveniently disengaged from a pump rod, or
5 other object when desired.

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

1. A wrench comprising a shank provided
10 at its outer end with a fixed jaw and having an intermediate threaded portion and provided with a smooth inner portion, a rotary sleeve fitting the smooth inner portion of the shank and extending beyond the same and
15 constituting the handle of the wrench, and having interior screw threads to engage those of the shank, said sleeve being also provided with an exterior annular groove, a slidable jaw provided with inner and outer loops of
20 unequal length slidably receiving the shank and permitting a limited lateral swinging of the slidable jaw, said slidable jaw being also provided with an extension having a lip or flange engaging the annular groove of the
25 sleeve, and a spring located at the rear edge of the shank and having its intermediate portion bearing against the same, said spring being secured at one end to one of the loops

and having its other end free and arranged within the other loop.

2. A wrench comprising a shank provided
30 at its outer end with a fixed jaw and consisting of a polygonal outer portion, an intermediate threaded portion, and a smooth rounded inner portion, a sleeve fitting and rotating on
35 the smooth inner portion of the shank and extending beyond the same and constituting the handle of the wrench and having interior screw threads engaging those of the shank, said sleeve being also provided with an exterior
40 annular groove, a jaw slidable on the outer polygonal portion of the shank and provided with inner and outer loops of unequal length receiving the shank and permitting a limited lateral swinging of the slidable
45 jaw, said slidable jaw being also provided with a lip engaging the annular groove of the sleeve, and a spring carried by the slidable jaw and engaging the shank.

In testimony, that I claim the foregoing as
50 my own, I have hereto affixed my signature in the presence of two witnesses.

WILLIAM ELLERY PIPER.

Witnesses:

J. T. SIMPSON,
J. E. KIRTLEY.