

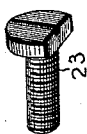
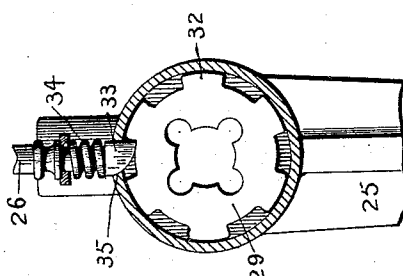
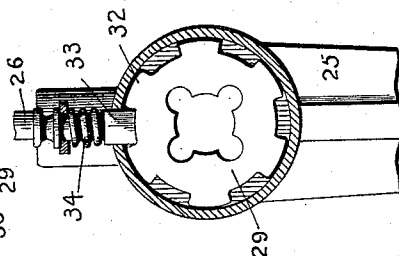
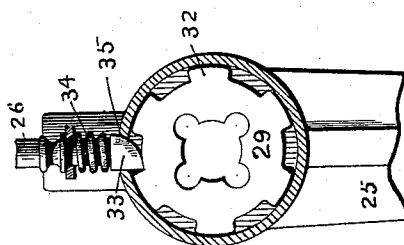
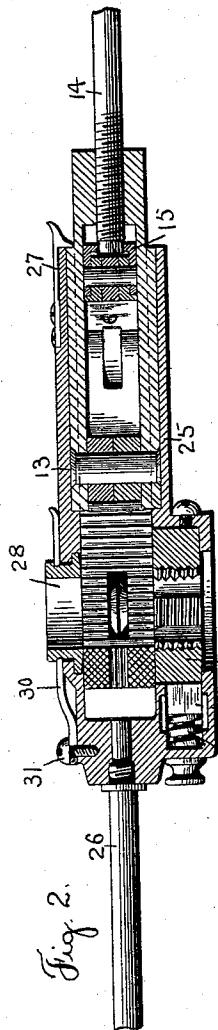
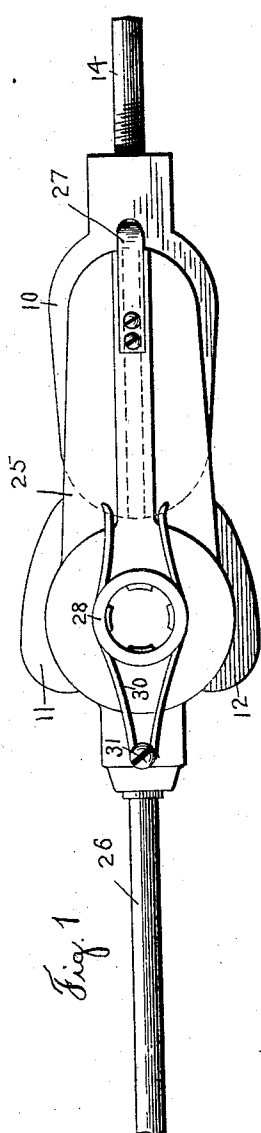
(No Model.)

2 Sheets—Sheet 1.

D. KRITCHER & C. WEINSTEIN.
COMBINATION TOOL FOR PIPE FITTERS.

No. 570,934.

Patented Nov. 10, 1896.



Witnesses.

W. J. Balmire
E. H. Healy.

Fig. 6

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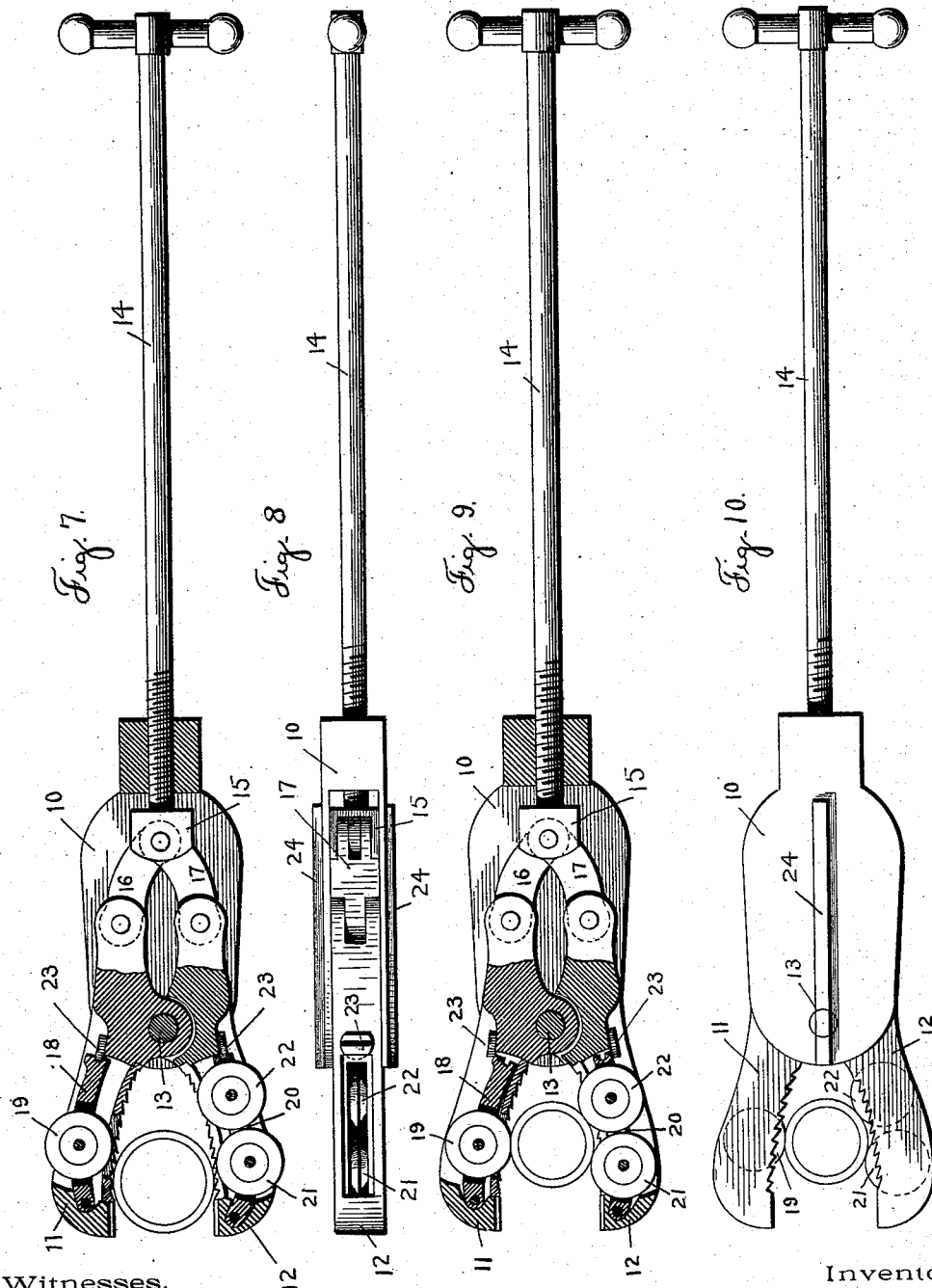
(No Model.)

2 Sheets—Sheet 2.

D. KRITCHER & C. WEINSTEIN.
COMBINATION TOOL FOR PIPE FITTERS.

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Inventors.

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UNITED STATES PATENT OFFICE.

DAVIS KRITCHER AND CHARLES WEINSTEIN, OF WORCESTER,
MASSACHUSETTS.

COMBINATION-TOOL FOR PIPE-FITTERS.

SPECIFICATION forming part of Letters Patent No. 570,934, dated November 10, 1896.

Application filed June 15, 1896. Serial No. 595,526. (No model.)

To all whom it may concern:-

Be it known that we, DAVIS KRITCHER, a citizen of the United States, and CHARLES WEINSTEIN, a subject of the Czar of Russia, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Improvement in Combination-Tools for Pipe-Fitters, of which the following is a specification.

Our invention relates to a combination-tool which has been designed for the use of pipe-fitters or plumbers.

In pipe-fitting the tools ordinarily employed comprise a pipe-wrench for handling and turning pipes, a pipe-cutter for cutting the pipes to length, and dies for cutting screw-threads.

The especial object of our invention is to provide a strong, simple, and inexpensive construction which may be employed either as a pipe-wrench, a pipe-cutter, or as a holder for threading-dies.

In the preferred form of our construction the wrench-jaws are mounted so that they may be brought into engagement and used as pliers or nippers, and the threading-dies which we preferably employ are formed to cooperate with a spring catch or pawl, which may be adjusted to ratchet or turn the die in the desired direction.

To these ends our invention consists of the parts and combinations of parts as hereinafter described, and more particularly pointed out in the claims at the end of this specification.

In the accompanying two sheets of drawings, Figure 1 is a side view of a combination-tool constructed according to our invention, the handles being broken off. Fig. 2 is a sectional view of the same. Figs. 3 to 5, inclusive, are detail views illustrating the operation of the spring-pawl for ratcheting or turning a threading-die. Fig. 6 is a detail view of the catch or screw which we employ for holding the cutting-wheels in their adjusted position. Fig. 7 is a sectional view illustrating the parts which are employed when our combination-tool is to be used as a pipe-wrench. Fig. 8 is a plan view of the same.

Fig. 9 is a sectional view illustrating the position of the parts when our combination-tool is to be employed as a pipe-cutter, and Fig. 10 is a side view of the same.

A combination-tool constructed according to our invention comprises a main frame or body portion and a supplemental die-holder or frame, which may be detachably secured to the body portion. A pair of movable wrench-jaws are pivoted in the body portion, and each of the wrench-jaws is provided with a movable piece carrying one or more cutter-wheels. The movable pieces may be adjusted and secured in place to bring the cutter-wheels into position to form a pipe-cutting device.

Referring to the drawings and in detail, 10 designates the body portion. The wrench-jaws 11 and 12 are pivoted in the body portion by means of a rivet 13. An operating-handle 14 is threaded into the body portion 10 and is provided with a block or piece 15, which is connected to the tails of the jaws 11 and 12 by means of links 16 and 17.

The wrench-jaws 11 and 12 are curved or shaped to engage near their outer ends and are provided with roughened engaging surfaces, so that they may be employed as pin-cers or nippers, if desired. Mounted in the jaw 11, and pivoted near the outer end thereof, is a movable piece 18, carrying a cutter-wheel 19. Mounted in the jaw 12, and pivoted near the outer end thereof, is a movable piece 20, carrying cutter-wheels 21 and 22.

When our combination-tool is to be employed as a pipe-wrench, the movable pieces 18 and 20 are moved back and secured in place by means of catches or screws 23, and when in this position the cutter-wheels will be held out of the way, as illustrated in Fig. 7. The catches or screws 23, as illustrated in Fig. 5, are provided with cut-away or cam-shaped heads, which may be turned to engage with notches in the ends of the pieces 18 and 20 when the cutting-wheels are to be held in an inoperative position.

When our combination-tool is to be employed as a pipe-cutter, the movable pieces 18 and 20 are turned to bring the cutter-wheels into an operative position and the

catches or screws 23 are turned to engage behind the movable pieces 18 and 20, as illustrated in Fig. 9.

It will be seen that the construction as thus far described forms a strong, simple, and efficient device, which may be employed either as a pipe-wrench, as a pipe-cutter, or as a pair of pliers, as desired.

When our construction is to be employed for cutting screw-threads, a secondary frame or die-holder 25 is secured to the body portion 10. As illustrated, the body portion 10 is provided with longitudinal ribs or projections 24. The die-holder or frame 25 is provided with grooves which fit over and engage the ribs 24. A latch or spring 27 is arranged to detachably secure the body portion and the die-holder together. A handle 26 is threaded into and secured in the secondary frame or die-holder 25. The die-holder 25 is provided on opposite sides with sockets for receiving a threading-die, as 29, and a bushing or guide, as 28. The bushing 28 is provided with a circumferential groove, and a forked spring 30, fastened upon the die-holder 25 by means of a screw 31, is arranged to fit into and engage said groove. The threading-die 29, which we preferably employ, is provided with a plurality of teeth or projections 32, which are arranged to engage with a catch or pawl 33. The pawl 33 is normally held in engagement with the threading-die by means of a coiled spring 34 and is provided with an inclined or curved edge 35. When the spring pawl or catch 33 is in the position illustrated in Fig. 3 and the die-holder is oscillated or turned, the threading-die 29 will be ratcheted or turned in one direction.

When it is desired to lock the threading-die, so that the same will turn with the frame or die-holder, the spring-catch 33 is drawn back and turned to the position illustrated in Fig. 4.

To turn or ratchet the threading-die in the opposite direction to that in which it will be turned when the parts are in the position illustrated in Fig. 3, the spring catch or pawl 33 may be withdrawn and then turned half-way around, as illustrated in Fig. 5.

In some cases instead of having the ratchet-teeth 32 formed directly upon the die 29 the ratchet-teeth may be formed upon a ring or collar, in which the threading-die may be fastened or secured in any desired manner.

We are aware that many other changes may be made in our combination-tool by those who are skilled in the art without departing from the scope of our invention as expressed in the claims. We do not wish, therefore, to be limited to the form which we have shown and described, but

What we do claim, and desire to secure by Letters Patent of the United States, is—

1. In a device of the class described, the

combination of a body portion, wrench-jaws pivotally mounted therein, an operating-handle threaded into the body portion, links for connecting the operating-handle and the wrench-jaws, said parts being arranged so that the wrench-jaws will be moved simultaneously when the operating-handle is turned, substantially as described.

2. In a device of the class described, the combination of a body portion, wrench-jaws pivoted in said body portion, said wrench-jaws being formed to engage near their outer ends so that they may be employed as pliers or pincers, an operating-handle threaded into the body portion, and links for connecting said handle with the wrench-jaws, substantially as described.

3. In a device of the class described, the combination of a body portion, wrench-jaws movably mounted in said body portion, a die-holder or frame, and handles secured in the body portion and die-holder respectively, said parts being constructed so that the body portion and die-holder may be detachably secured together to form a double-handle die-stock, substantially as described.

4. In a device of the class described, the combination of a pipe-wrench comprising a body portion, wrench-jaws mounted in said body portion, and means for operating said wrench-jaws, a secondary body portion or die-holder, said parts being provided with oppositely-extending handles, and means for detachably securing said parts together to form a double-handled die-stock, substantially as described.

5. In a device of the class described, the combination of a body portion, wrench-jaws movably mounted in said body portion, a handle for operating the wrench-jaws, a holder for threading-dies, a handle secured to said holder, and means for securing the body portion and holder together, so that said devices may be united to form a double-handled die-stock, substantially as described.

6. In a device of the class described, the combination of a pipe-wrench comprising a body portion, wrench-jaws mounted therein, an operating-handle threaded into the body portion, and links for connecting the operating-handle with the wrench-jaws, and a holder for threading-dies adapted to fit over the body portion of the pipe-wrench, said holder and body portion being formed with supporting ribs and grooves, and said holder having a spring-catch for detachably securing the parts together, substantially as described.

7. In a device of the class described, the combination of a body portion, wrench-jaws movably mounted in said body portion, a handle for operating the wrench-jaws, a holder for threading-dies, a spring catch or pawl mounted therein, means for adjusting said spring catch or pawl so that it may ratchet

or turn a threading-die in either direction, a
spring-catch for securing the bushing or guide
in said die-holder, a handle secured to said
holder, and means for detachably fastening
5 the body portion and holder together so that
said devices may be united to form a double-
handled die-stock, substantially as described.
In testimony whereof we have hereunto set

our hands in the presence of two subscribing
witnesses.

DAVIS KRITCHER.
CHARLES WEINSTEIN.

Witnesses:

PHILIP W. SOUTHGATE,
FREDERICK B. HARLOW.