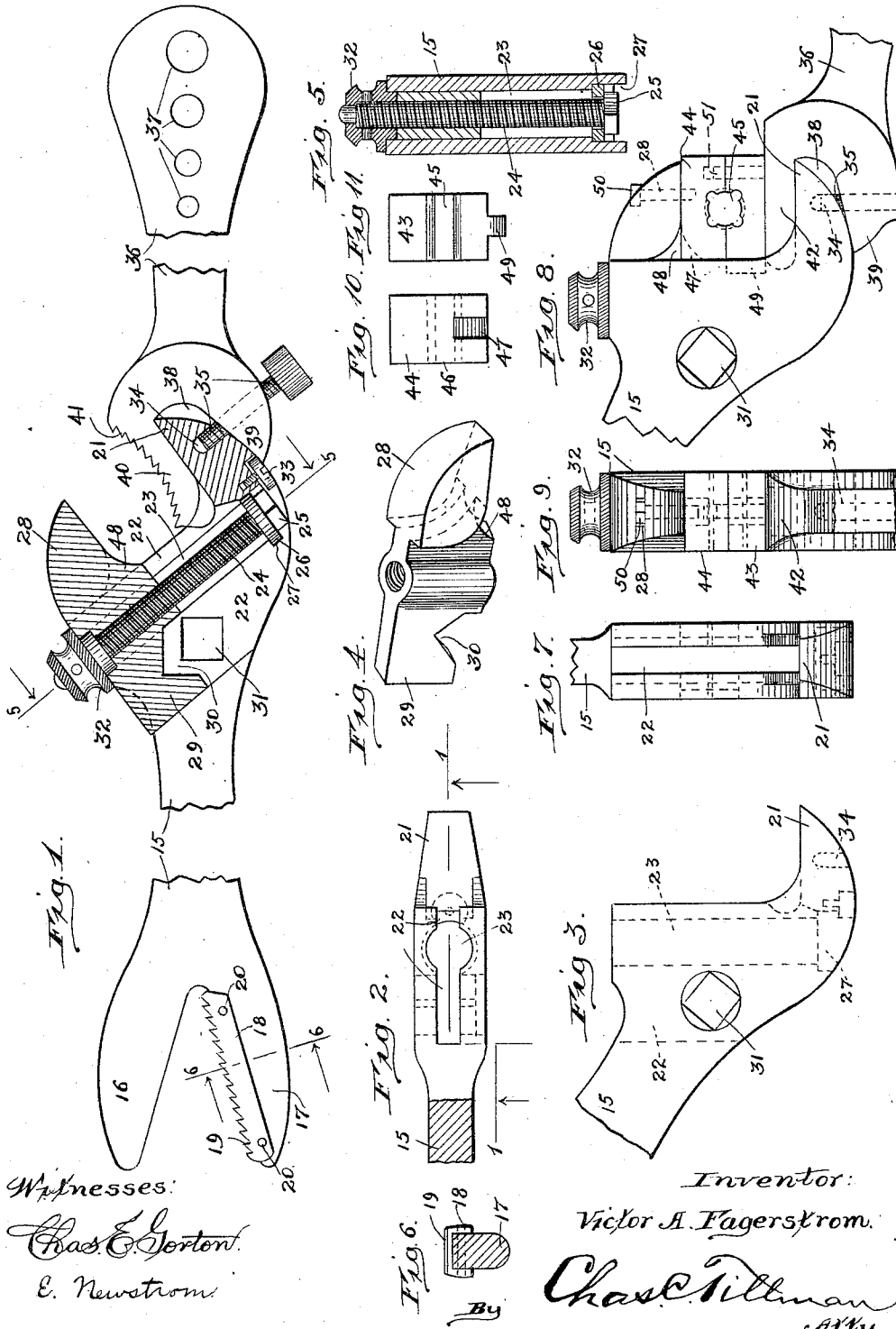


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 COMBINED AND CONVERTIBLE WRENCH AND TOOL.
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UNITED STATES PATENT OFFICE.

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COMBINED AND CONVERTIBLE WRENCH AND TOOL.

1,049,349.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, VICTOR A. FAGERSTROM, a citizen of the United States, residing at Rockford, in the county of Winnebago and State of Illinois, have invented certain new and useful Improvements in a Combined and Convertible Wrench and Tool, of which the following is a specification.

10 This invention relates to certain new and useful improvements in a combined and convertible wrench and tool, and it consists in certain peculiarities of the construction, novel arrangement, and operation of the
15 various parts thereof, as will be hereinafter more fully set forth and specifically claimed.

The principal object of the invention is to provide in a simple, compact, and convenient form, an instrument which shall be inexpensive in construction, strong, durable and efficient in operation, the parts of which can be readily assembled or adjusted in such a manner, as to furnish several different kinds of wrenches, a tool-holder, a tool gage, and
20 a cutting tool such as a pipe or thread cutter.

Other objects and advantages of the invention will be disclosed in the subjoined description and explanation.

30 In order to enable others skilled in the art to which the invention pertains, to make and use the same I will now proceed to describe it referring to the accompanying drawing, in which—

35 Figure 1, is a side view partly in section and partly in elevation of an instrument embodying the invention, showing it shortened for the convenience of illustration, and illustrating its members assembled to form
40 a pipe wrench, an alligator wrench, tool-holder, and a tool gage, the section being taken on line 1—1, of Fig. 2, looking in the direction indicated by the arrows. Fig. 2, is a plan view of a portion of the body or
45 master member of the instrument. Fig. 3, is a side view thereof. Fig. 4, is a detached perspective view of a movable jaw which constitutes a part of one of the wrenches. Fig. 5, is a sectional view taken on line
50 5—5, of Fig. 1, looking in the direction indicated by the arrows. Fig. 6, is a cross sectional view of one of the jaws of the alli-

gator wrench, taken on line 6—6, of Fig. 1. Fig. 7, is a front end view of the master member of the instrument. Fig. 8, is a side
55 view of a portion of the instrument, showing its parts so arranged as to hold cutting tools or dies. Fig. 9, is a face or edge view thereof, and Figs. 10, and 11, are detail views of the die members showing them de-
60 tached from the instrument.

Like numerals of reference refer to corresponding parts throughout the different views of the drawing.

The reference numeral 15, designates the
65 master member or main body of the instrument which is provided at one of its ends with diverging jaws 16, and 17, which jaws form what is commonly known as an alligator wrench. Detachably secured on one
70 of said jaws, for instance the one indicated by the reference numeral 17, is a bar 18, which is provided with teeth 19, on its surface adjacent to the other jaw of the wrench, and is channeled on its opposite surface to
75 receive the jaw on which it is mounted. This bar may be secured in position on its jaw by means of pins or screws 20, so that it can be removed when the teeth are worn or stripped and be replaced by another bar.
80 The opposite end of the member 15, is provided at one of its edges with a fixed jaw 21, and said end is provided with a recess 22, which extends from one edge of the member 15, to the other edge thereof as is
85 clearly shown in Figs. 1, and 2, of the drawing. This recessed end of the member 15, is also provided with an enlarged opening 23, which extends from one edge of said member to the other and is for the reception and
90 operation of a screw threaded bolt 24, which has on one of its ends a head 25, adapted to rest against a washer 26, located in an enlargement 27, of one end of the opening 23, which washer rests against the inner end of
95 said enlargement. Mounted on the screw bolt 24, and in screw threaded engagement therewith is an adjustable jaw 28, which has an extension 29, projected into the recess 22, and adapted for movement therein. The ex-
100 tension 29, of the jaw 28, is provided on its surface adjacent to the jaw 21, with an angular recess 30, which is adapted when the movable jaw 28, is suitably adjusted, to

register with a portion of an angular opening 31, transversely extended through the recessed portion of the master member, or to engage the angularly shaped shank of a tool which may be inserted in said opening. Fixed on the end of the screw rod 24, opposite that on which the head 25, is located, is a knurled knob 32, by means of which said screw bolt may be turned so as to advance or retract the jaw 28, toward or from the jaw 21, which jaws may be used as the jaws of a monkey-wrench or as the jaws of a spanner wrench, as is apparent. The jaw 21, has seated in its outer portion adjacent to the bolt head 25, a set screw 33, which may be tightened up against the head 25, so as to prevent the screw bolt turning when the movable jaw 28, thereon, has been adjusted to a suitable point.

As is clearly shown in Fig. 1, of the drawing, the jaw 21, is provided on its outer surface with a screw threaded opening 34, which is adapted for the reception and engagement of a set screw 35, carried by the detachable member or arm 36, which is provided with a series of graduated openings 37, which openings are adapted for use as a tool gage. The arm or member 36, is provided at one of its ends with a slot 38 to receive the fixed jaw 21, on the master member, and it is apparent that said slot provides extensions or jaws 39, and 40, on each side thereof through the former of which jaws the screw 35, is extended and adapted for engagement with the opening 34, in the fixed jaw 21, of the master member. The other jaw 40, of the arm or member 36, may be provided with teeth 41, arranged on the segmental outer surface of the jaw 40, thus providing in conjunction with the movable jaw 28, a pipe wrench.

Instead of providing the detachable member or arm 36, with a segmental and serrated jaw 40, as shown in Fig. 1, of the drawing, said member may be provided with a jaw 42, as well as the jaw 39, and the jaw 42, may have each of its surfaces straight and flat so as to lie in parallelism with the surface of the movable jaw 28, adjacent to the straight surface of the jaw 21, on the master member. In this modified construction, the jaw 39, of the member 36, is provided as in the other construction with a screw 35, to engage an opening 34, in the jaw 21, when said jaw is extended into the slot 38, of the detachable member. When the construction of the detachable member 36, illustrated in Fig. 8, is employed it is apparent that dies 43, and 44, having suitable cutting openings 45, and 46, respectively, may be placed between the jaws 28, and 42, when by turning the screw rod 24, by means of the knob 32, in the proper direction, the jaw 28, will be caused to press them firmly together and

against the jaw 42, of the detachable member or arm, and in such a manner that the segmental openings 45, and 46, in the dies 43, and 44, respectively, will register with one another, so as to be caused to thread a pipe or other article. As is clearly shown in Figs. 10, and 11, of the drawing, the die 44, is provided with a recess 47, to receive a portion 48, on the jaw 28, which will prevent any lateral movement of said die, and that the die 43, is provided with a projection 49, which will extend into the recess 22, of the master member and prevent any lateral movement of said die.

From the foregoing and by reference to the drawing, it will be readily understood and clearly seen, that when the parts are assembled as shown in Fig. 1, of the drawing, an alligator wrench, is provided at one end of the master member 15, while at its other end a pipe wrench is furnished, and that the openings 37, in the member 36, can be used as gages, while the opening 31, in the recessed portion of the master member, is adapted to receive a tool, such as a bit, an auger, or other implement having a rectangular shank, which shank can be inserted in said opening, when by turning the knob 32, in the proper direction, the movable jaw 28, will be moved so that its angular recess 30, will engage the angular shank extended into the opening 31, and assist in preventing the same turning. It is evident that by removing the detachable arm or member 36, the jaws 21, and 28, of the master member can be used as a monkey-wrench or spanner wrench. It is also apparent that by using the modified construction, shown in Fig. 8, of the detachable arm 36, that the dies 43, and 44, may be securely held in position between the jaw 28, and the jaw 42, so that they can be used for threading pipes or for analogous purposes.

In the modification shown in Fig. 8, the die 44, may be more firmly secured in place by means of a set screw 50, extended through an opening in the jaw 28, and the dies 43, and 44, may be united together by means of a dowel pin 51, provided on the surface of one of said dies to fit in a suitable opening in the adjacent surface of the other die.

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

In an instrument of the character described, the combination with a master member flattened at one of its ends and having at one of the edges of said flattened portion a fixed jaw and also having a recess extended edgewise of the flattened portion from said jaw through the opposite edge of said member, said recess provided with a longitudinal enlargement, of a screw bolt located

in the enlarged portion of said recess and swiveled therein at its end adjacent to said jaw, a head fixed on said end of said bolt, another jaw movably mounted on said bolt
5 and provided with an extension projected from the bolt into said recess, means to turn said bolt, and a set screw seated in the fixed jaw and having an enlargement to engage the head of the screw bolt to fix the latter when desired.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."