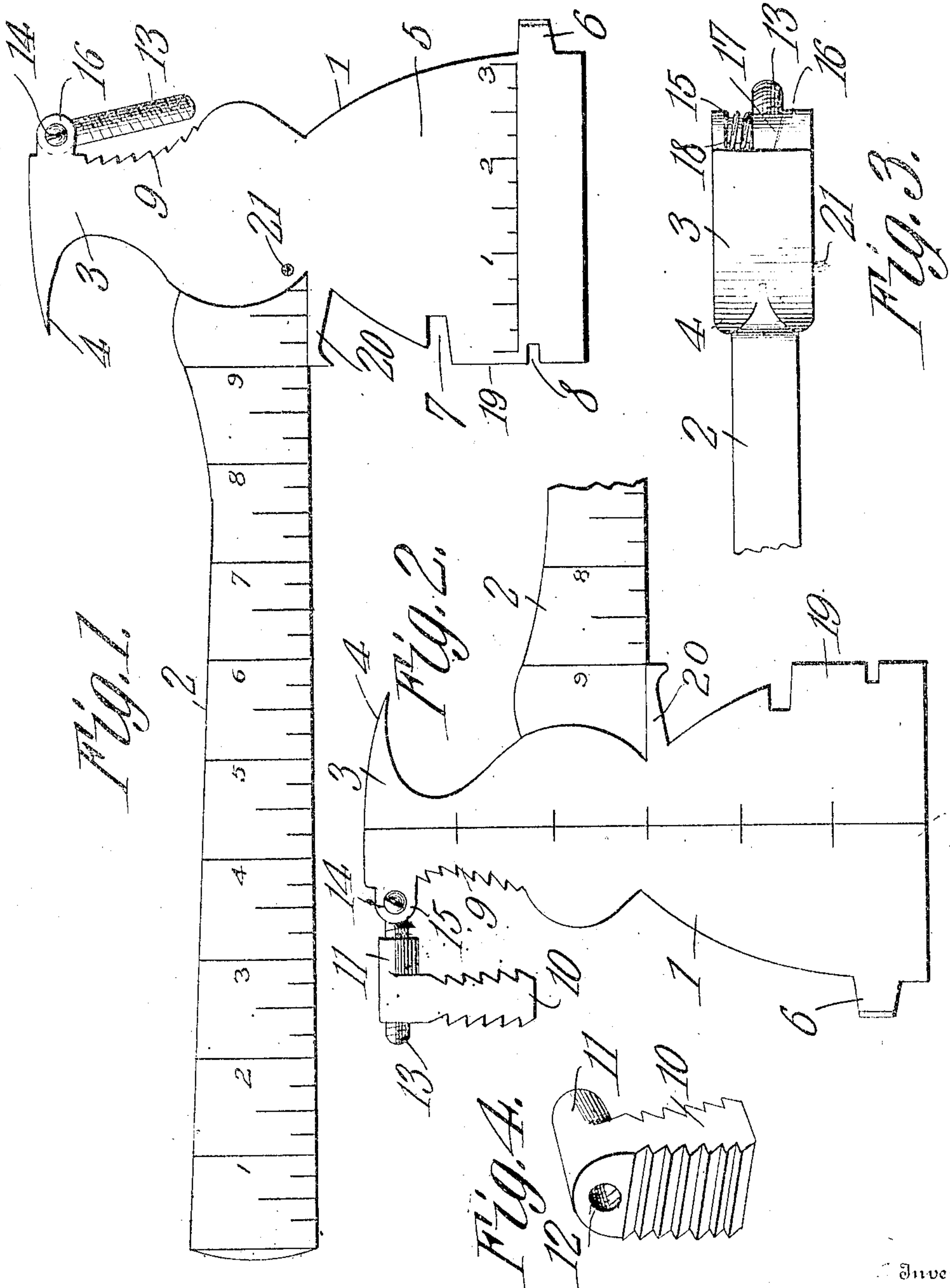


No. 875,724.

PATENTED JAN. 7, 1908.

E. E. MULLINIX.
COMBINATION TOOL.
APPLICATION FILED AUG. 16, 1907.



Witnesses:

E. E. Mullinix
R. L. Smith

Inventor,
Elmer E. Mullinix
By *Cashmore*
Attorneys,

UNITED STATES PATENT OFFICE.

ELMER ELLSWORTH MULLINIX, OF BURLINGTON, KANSAS.

COMBINATION-TOOL.

No. 875,724.

Specification of Letters Patent.

Patented Jan. 7, 1908.

Application filed August 16, 1907. Serial No. 382,601.

To all whom it may concern:

Be it known that I, ELMER ELLSWORTH MULLINIX, a citizen of the United States, residing at Burlington, in the county of Coffey and State of Kansas, have invented a new and useful Combination-Tool, of which the following is a specification.

This invention relates to combination tools.

10 The object of the invention is in a ready, practical and compact manner, to combine in one tool a hatchet, pipe wrench, improved nail puller, screwdriver, saw set, compasses, square and rule, and to dispose the various
15 implements in such manner that either may be used without being interfered with by the others.

With the above and other objects in view, as will appear as the nature of the invention is better understood, the same consists in the novel construction and arrangement of parts of the combination tool as will be hereinafter fully described and claimed.

In the accompanying drawings forming a part of this specification, and in which like characters of reference indicate corresponding parts,—Figure 1 is a view in side elevation of a tool constructed in accordance with the present invention. Fig. 2 is a similar
30 view, partly broken away, and taken from the side of the tool opposite that shown in Fig. 1. Fig. 3 is a plan view. Fig. 4 is a perspective view in detail of a reversible pipe wrench jaw employed in connection with the
35 tool.

The implement embodies a hatchet 1, and a handle 2, which latter may be either wood or metal, as preferred. The hatchet is provided with a driving head 3 including a nail
40 claw 4, and with a blade 5 provided on its outer side and adjacent to its cutting edge with an extension 6 that constitutes a screwdriver and in its inner side with two notches 7 and 8, the former of which constitutes a
45 nail pull and the latter a saw set.

The head 3 is provided in its outer edge with a toothed depression or seat 9 that constitutes the stationary jaw of a pipe wrench, the removable jaw 10 of which is normally
50 detached from the head. This latter jaw 10 is toothed on both sides and is provided on one side with a boss 11 that is pierced by a threaded orifice 12 extending entirely through the jaw. The jaw 10 is designed to engage
55 with a threaded arm 13 that is mounted for pivotal movements upon a bolt 14 which

passes through a pair of ears 15 and 16 integral with the driving head and flush with the sides thereof, and has a threaded engagement with only one of the ears. The inner face of
60 the ear 16 is beveled to engage a similar face on the head 17 of the arm 13, and in order to hold the two beveled faces in positive contact, a coiled spring 18 is mounted upon the
65 bolt 14 and bears against the ear 15 and the straight face of a head 17 of the arm 13.

The object of the two beveled faces and the spring is to hold the arm 13 firmly in the position shown in Fig. 1, which is the normal one, or in other positions. That shown in Fig.
70 2 is the one which it is caused to assume when the implement is employed as a pipe wrench, and in which the jaw 10 will be held firmly in contact with a pipe. When the
75 jaw 10 is positioned as shown in Fig. 2, that is with the boss 11 disposed towards the hammer head, the wrench is arranged for operating on relatively large pipes or the like, while by reversing the position of the jaw,
80 small pipes and other objects can be engaged. The threaded connection between the jaw and the arm will also permit the former to be adjusted to fit any size of pipe within its
85 limit, and this materially adds usefulness to the attachment.

It will be observed that the pitch of the teeth of the jaw 10 is towards the lug, and by this arrangement when the implement is in use the torsional strain will cause the jaw to
90 move towards the jaw 9 and thereby firmly grip the object in a manner similar to an ordinary alligator wrench.

The square is produced by having that edge of the handle facing the blade straight and by providing it with a graduated scale
95 constituting a rule and by forming the blade with an extension 19 the edge of which is at right angles to the handle. In order to reinforce the handle and the eye of the hatchet there is an extension 20 provided that is in-
100 tegral with the head and has its outer end disposed in alignment with the edge of the extension 19 and thereby further facilitates the use of the implement as a try-square.

The compasses is produced by providing a
105 pointed pin 21 that may be either permanently or detachably connected with the eye portion of the hatchet and slightly within the straight edge of the handle. In using the
110 implement as a compasses, the pin is sunk into the surface to be scribed and a pencil or other implement will be held opposite the

graduation mark on the handle that will give the desired circumference to the circle. A further use of the arm 13 is to constitute a fulcrum for the claw 4 in drawing nails of considerable length, and this result is secured by turning the arm at right angles to the position shown in Fig. 2 and projecting beyond the head 3. It will thus be seen that the claw can be made to draw nails of any length without employing a chock or supplemental fulcrum such as is commonly done.

From the foregoing description it will be seen that while the implement embodies numerous features, each is disposed in the most convenient position for use, and further that no interference will ensue between one of the attachments and another when the implement is employed for any purpose.

What is claimed is:—

20 1. The combination with a tool head provided with a toothed jaw, of an arm pivotally connected with the head for swinging movement parallel with the longitudinal axis thereof, and a double toothed jaw engaging the arm and provided on one side with a boss whereby to increase the space between two jaws for the purpose of engaging pipes or the like.

2. The combination with a tool head provided with a toothed jaw, of a threaded arm pivotally connected with the head, and a double toothed jaw engaging the arm and provided on one side with a boss whereby to increase the space between two jaws for the purpose of engaging pipes or the like. 35

3. The combination with a tool head having a toothed jaw, of a threaded arm pivotally connected therewith, and a reversible toothed jaw engaging the arm.

4. The combination with a tool head provided with a toothed jaw, of a bolt carried by the head, an arm mounted upon the bolt and provided with an inclined face, a similarly faced boss with which the face of the arm contacts, a coiled spring upon the bolt to hold the two faces in contact, and a toothed jaw carried by the arm. 45

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

ELMER ELLSWORTH MULLINIX.

Witnesses:

J. R. ANSPAUGH,
G. G. BURNHAM.