(No Model.)

E. D. BEALES.

COMBINATION TOOL.

No. 345,826. Patented July 20, 1886.

Fig. 2.

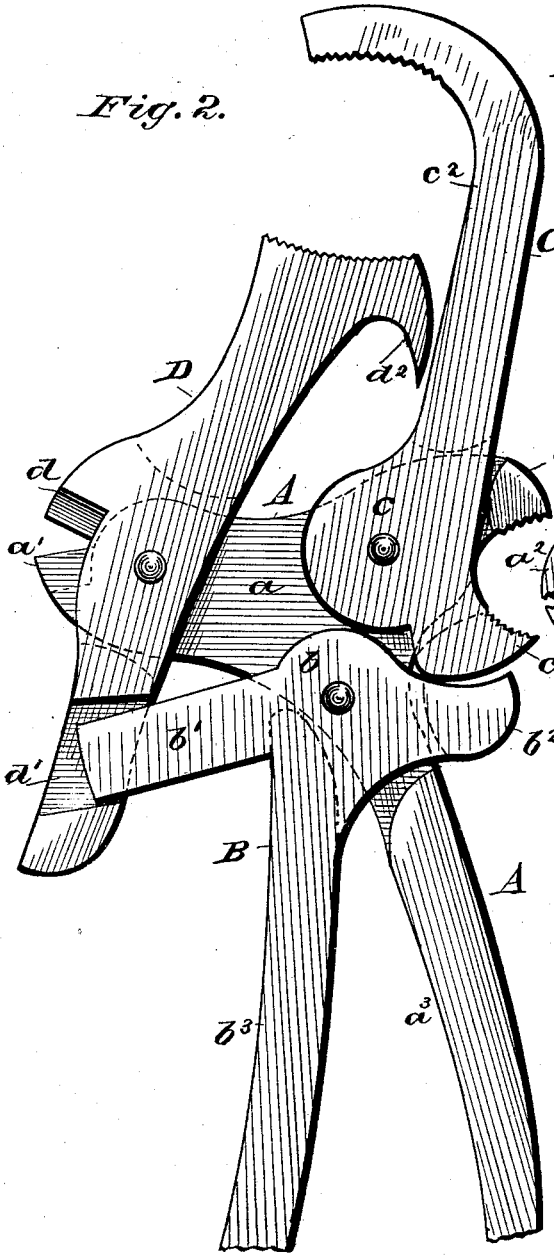
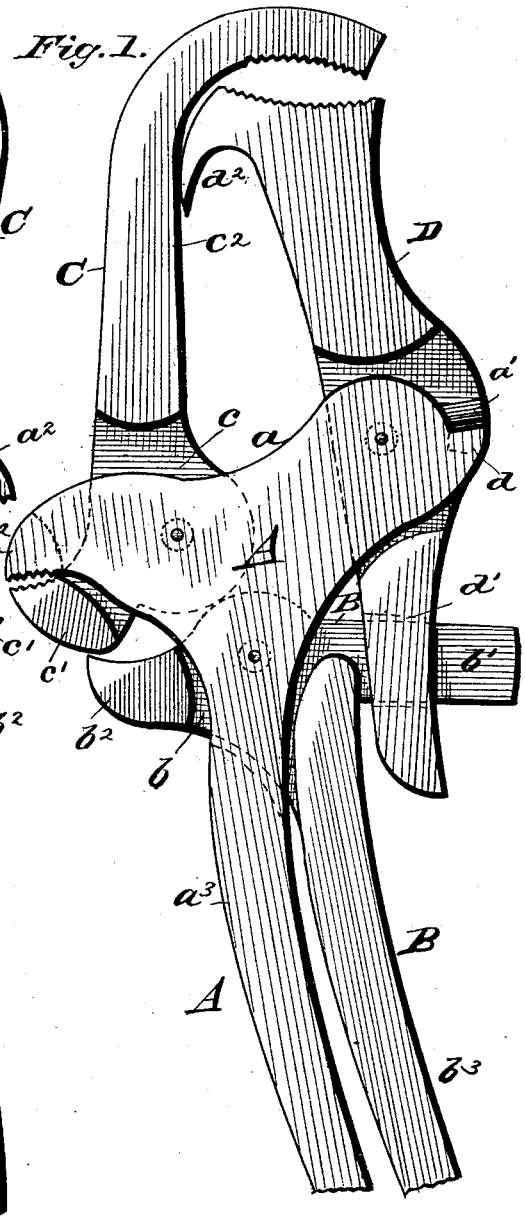


Fig. 1.



WITNESSES

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COMBINATION-TOOL.

SPECIFICATION forming part of Letters Patent No. 345,826, dated July 20, 1886.

Application filed May 22, 1886. Serial No. 203,007. (No model.)

To all whom it may concern:

Be it known that I, EMANUEL D. BEALES, of Guyandotte, in the county of Cabell and State of West Virginia, have invented certain new and useful Improvements in Combination-Wrenches; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification, in which—

Figure 1 is a side view of the tool closed; Fig. 2, a similar view of the opposite side of the tool open.

This invention relates to improvements in tool-wrenches, and has for its objects to provide in one implement pipe and nut wrenches, nail-drawer, and wire-cutter; and it consists in the construction and novel arrangement of parts hereinafter described, and pointed out in the appended claims.

The tool is made in four parts, all of which coact to give greater power to the device when in use, and these parts are constructed as follows:

Referring to the accompanying drawings, A designates the main part or piece of the tool, having the form shown in the drawings, and composed of the head portion a, which has at one side an outstanding projection, a', provided with a cutting-edge, and at the opposite side a beak-shaped portion, a^2, which is preferably serrated on its concave surface. The parts a' and a^2 act against similar opposite parts on other pieces of the tool, hereinafter described, and form the nippers or cutter, and nail-drawer or small wrench, as shown. The head a is also provided with a handle, a^3, which is of the same width as the part a^2, and extends rearward at about right angles with a line drawn from part a' to a^2.

B designates the second piece of the tool, having the shape shown in the drawings, and provided with a head, b, having an outstanding arm, b', and a projection, b^2, for a purpose hereinafter described.

The piece B is suitably pivoted upon the piece A, as shown, and has a handle, b^3, which extends rearward nearly parallel to handle a^3 of piece A.

C designates the third piece of the tool, which is of the form shown in the drawings, having a head, c, by which it is pivoted upon head a of piece A, and a beak-shaped projection, c', which is preferably serrated upon its concave surface, and which, when the piece C is properly pivoted upon the piece A, acts with the beak-shaped portion a^2 thereof, and forms the nail-puller or small wrench. Parts a^2 c' of pieces A C are forced into engagement by means of the projection b^2 on piece B, the inner face of projection b^2 impinging against the outer convex face of projection c' when the handles a^3 b^3 are drawn together, thus affording a powerful leverage to hold any object grasped between projections a^2 c'. The outer portion of piece C is extended into an arm, c^2, which is normally in a line parallel with the handles a^3 b^3. The outer end of arm c^2 is curved downward and inward, as shown, and is serrated on its inner concave surface for the purpose of obtaining a firm hold on a pipe or nut, the curved portion of the arm c^2 forming the outer jaw of the main or large wrench.

D designates the fourth piece of the tool, which is of the form shown, and is pivoted near its center upon the head a of piece A. To one side of the pivot on piece D is formed a projection, d, having a beveled cutting-edge, and adapted to act with the projection a' of piece A and form the cutters. The rear extending end of piece D has formed in it a diagonal groove or slot, d', in which enters and plays the arm b' of piece B, the edges of the slot being rounded, as shown, to allow free movement of the arm therein. The arm B causes the piece D to turn upon its pivot on piece A when the handles a^3 b^3 are opened or closed. The front extending portion of piece D is of sufficient length to lie easily within the curved outer portion, c^2, of piece C, and is made concave and serrated, as shown at d^2, forming, with the serrated portion of arm c^2, the main or large wrench. The outer end of piece D has an inwardly rearwardly curved projection, d^2, which bears against the inner surface of the arm c^2 of piece C, and causes piece C to turn upon its pivot on piece A when the handles of the two are spread apart, as shown, thus opening the small wrench or nail-puller, which is closed by the means before described.

The several pieces A B C D and their parts

where they pivot upon or overlap each other are stepped or cut away, so that when put together the outside surfaces of all the pieces are flush, and the several parts of the combined implement are in proper relative position to act with each other, as shown.

It will be observed that when the handles a^3 b^3 are spread apart the arm b', working in groove d', turns piece D upon its pivot on piece A, opening the cutters, and through the medium of projection d^2 on the outer end of piece D forces piece C to turn upon its pivot and opens the larger and smaller wrench. When the handles are closed, the arm b' turns piece D in the reverse direction, closing the nippers and pushing forward the end d^2, while projection b^2 of piece B, acting, as described, against the projection c' of piece C, causes the piece C to oscillate reversely, closing the nail-puller and large wrench.

Having described my invention, I claim—

1. A combined wrench and cutter composed of four pieces fitted and pivoted together in such manner that their faces are flush, and that the opening or closing of all the jaws of the wrenches and cutter is effected by one movement of the handles of the tool, all substantially as and for the purpose specified.

2. In a combined wrench and cutter, the combination of the pieces A B, provided with suitable handles and pivoted together, and pieces C and D, pivoted upon piece A and operated by piece B, whereby the operating of the cutter and wrenches is effected by one movement of the handles, all substantially as and for the purpose described.

3. As an article of manufacture, a tool combining a large wrench, a nail-puller or small wrench, and a cutter, and composed of four pieces, A B C D, piece A being formed with a handle, a cutting-jaw, and a small wrench-jaw, piece B formed with a handle, an arm engaging in a slot in piece D, and a projection engaging against a small wrench-jaw on piece C, piece D having a slot engaging the arm of piece B, a cutter-jaw, and a large wrench-jaw, and a projection engaging against the arm of piece C, and piece C having a small wrench-jaw on its inner end and a large wrench-jaw at its outer end, all substantially as and for the purpose specified.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

EMANUEL D. BEALES.

Witnesses:

E. P. FULLERTON,

H. G. TANNER.