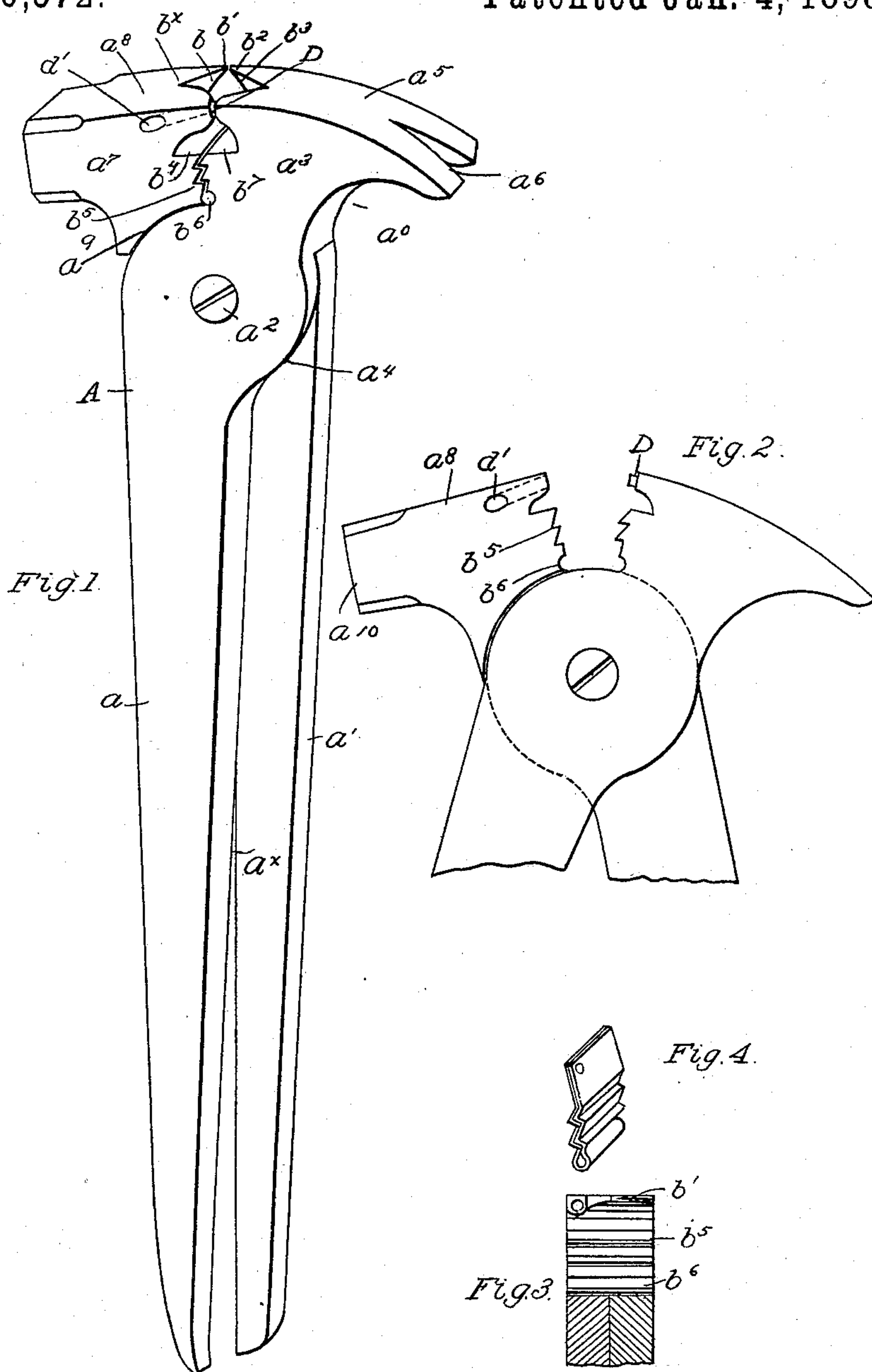


(No Model.)

M. CAHILL.
WIRE WORKING TOOL.

No. 596,572.

Patented Jan. 4, 1898.



WITNESSES.

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MORTIMER CAHILL, OF LAWRENCE, KANSAS.

WIRE-WORKING TOOL.

SPECIFICATION forming part of Letters Patent No. 596,572, dated January 4, 1898.

Application filed February 4, 1897. Serial No. 622,014. (No model.)

To all whom it may concern:

Be it known that I, MORTIMER CAHILL, a citizen of the United States, residing at Lawrence, in the county of Douglas and State of Kansas, have invented a certain new and Improved Wire-Working Tool; and I do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others to make and use the same, reference being had to the accompanying drawings, forming a part of this specification.

My invention has for its object an improvement for the extraction of wire staples and nails, holding bolts for removal of burs; also, for making metal clips for advertising-signs; and it consists in the novel construction and combination of parts, such as will first be fully described, and specifically pointed out in the claim.

In the drawings, Figure 1 is a view in perspective of the improved implement in a closed position. Fig. 2 is a detail view of the end portion of the implement, showing the jaws in an open position. Fig. 3 is a portion of one of the jaws of the implement in detail, showing the serrated surface, the recess for the wire, and pointed nipper. Fig. 4 is a view of the metal clip made with the improved tool.

Similar letters of reference indicate corresponding parts in all the figures.

Referring to the drawings, A represents the improved implement or tool, which consists of two separate bars or levers $a a'$ of considerable length, which are pivoted together flatwise on the pivot a^2 at one end. Upon the end of bar a , beyond the pivot a^2 , is a working jaw a^3 , which extends in width from the outer surface of said bar a to a position in the same plane with the outer surface of the bar a' . The inner edge a^x of the bar a , at the pivotal point of said bar with bar a' , extends outwardly in the direction of the jaw a^3 in an outwardly-curved line, as at a^4 , and the outer end of the jaw from the curved end of lever a extends in a single inwardly-curved line, as at a^0 . The outer edge of the bar a at the pivotal point of said bars $a a'$ extends to the inner grasping-face of the jaw a^3 in a single outwardly-curved line. The outer bearing-surface a^5 of the jaw a^3 extends from the grasping-face of the jaw to the outer end in a single curved line, meeting at a point the curved

portion a^0 of the end of bar a , at which point in the end of the jaw a^3 is a V-shaped niche a^6 .

Upon the bar a' and opposite jaw a^3 is a jaw a^7 , portions of the inner face of which come in contact with like portions of the inner face of the jaw a^3 , as hereinafter described. The jaw a^7 is of the same width as jaw a^3 , the outer bearing-surface a^8 extending from the face of the jaw to the outer end in nearly a straight line. The inner and outer edges of the bar a' at the pivotal point of said bars $a a'$ are curved outwardly in the same manner as described of the bar a , and the lateral extensions of each jaw have a corresponding inwardly-curved portion, as at a^9 . The outer end a^{10} of the jaw a^7 extends at right angles to said jaw and conforms in shape to the head of an ordinary hammer. A portion of the face of the jaw a^7 extends from the bearing-surface a^8 downwardly and inwardly a short distance in a single curved line, as at b , leaving a horizontal shoulder b^4 . In the surface of the jaw a^8 at a point equidistant from the opposite sides of said jaw is a V-shaped opening b^x , one side of which opening extends to the side of the said jaw and terminates in a point or prong b' . The face of the other jaw a^3 is curved inwardly at b^3 to a shoulder b^7 in the same manner as described of the portion b on the jaw a^7 . In the bearing-surface a^5 of the jaw a^3 is a V-shaped opening, which is the same as the V-shaped opening in the jaw a^7 , the side of which opening extends to the side of the jaw and forms the prong b^2 , which prong is directly opposite the prong b' . Upon the other side of the jaws $a^3 a^7$ from that having the prongs $b' b^2$ and upon the face of said jaw at one side of the V-shaped opening and a short distance below the bearing-surface a^5 of said jaw is a punch D, and in the face of the other jaw directly opposite the punch D is a bearing-surface in a direct vertical line with the serrated portions of the jaws $a^3 a^7$, in which bearing is an opening d' to admit the punch, the said opening being deflected and extended through the side of the jaw a^7 at d' , so as to afford the discharge of the metal cut from the plate by the punch. The face of the jaw a^7 beneath the shoulder b^4 is serrated, the serrations b^5 extending beyond the face of the jaw and the separate teeth inclined upwardly

at an acute angle to the face of the jaw. Beneath the serrations b^5 and near the pivotal portions of the jaw is a groove b^6 , extending in the same transverse direction as the serrations b^5 . The face of the jaw a^3 beneath the shoulder b^7 is made in precisely the same manner as the face of the jaw a^7 , the separate teeth of the serrations, however, being inclined downwardly at an acute angle to the face of the jaw and the angular portion of said teeth made to fit the depression in the opposing jaw, as seen in Fig. 1.

In the various uses of the implement, and particularly in extracting wire staples, the prongs $b^1 b^2$ on each face of the jaws are placed opposite the staple and the levers operated to grasp the staple at the same time the tool is rocked upon the bearing-surface a^8 and the staple drawn from the material in which it is embedded. The curved under surface b^3 of each prong acts as a wedge in grasping the staple.

In my invention I am enabled to employ the combination-tool for the purpose of making metal clips for advertising-signs, as seen in the drawings, the groove in the face of the tool making the tube for the sign-connecting wire, the serrations of the tool corrugating the separate parts of the clip for close adhesion, and the punch making the perforation for the ring by means of which the clip is attached to

a fence-wire in one operation. The shoulder b^4 of the tool prevents the staple from injuring the serrated face of the tool when the tool is employed to extract the staple. Such other uses of the serrated parts of the implement may be instanced in the removal of wire nails and bolts from their burs, thus making an implement of great utility for the workshop and for special uses.

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

In an implement for working metal, the combination with opposite pivoted grasping-jaws having a tube-forming groove on the inner surface and near the pivotal point of each jaw; of serrations or teeth extending outwardly at an acute angle to the face of each jaw, and the angular portion of said teeth adapted to fit the depressions in the opposite jaw, a punch upon the extreme outer edge portion of one of said jaws and a projection or bearing upon the other jaw, in a vertical plane with the serrated portions of said jaws having an opening adapted to receive the said punch, as and for the purpose described.

MORTIMER CAHILL.

Witnesses:

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