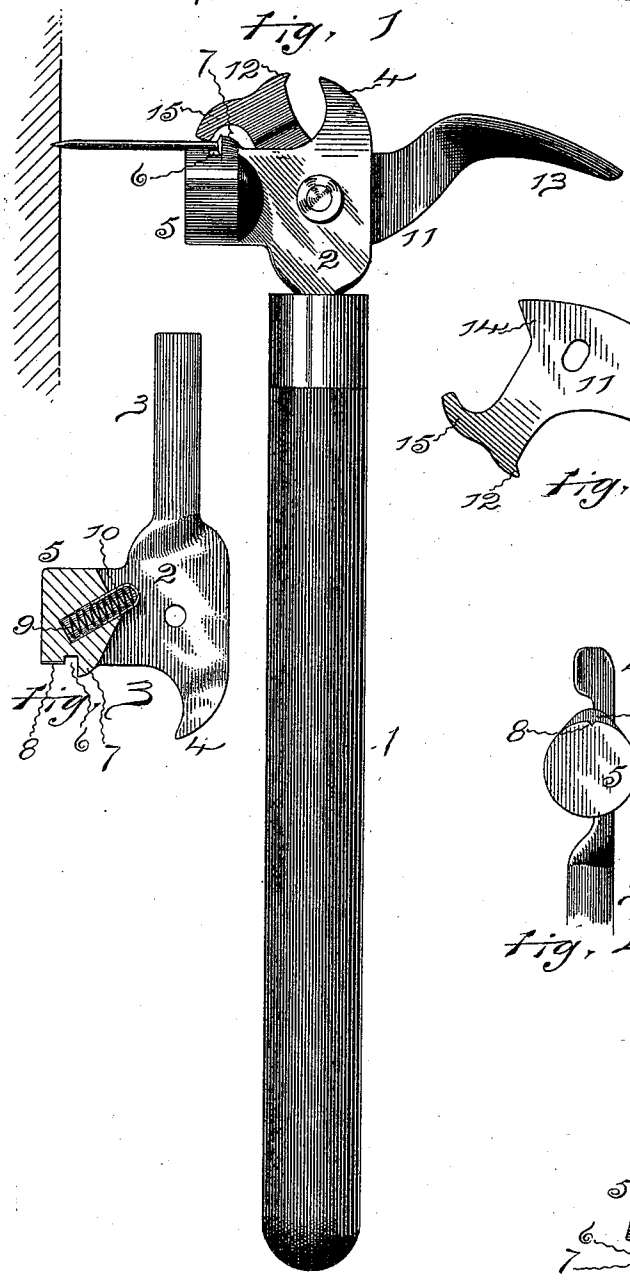
(No Model.) 2 Sheets—Sheet 1.

G. J. CAPEWELL.

COMBINATION TOOL.

No. 519,033. Patented May 1, 1894.



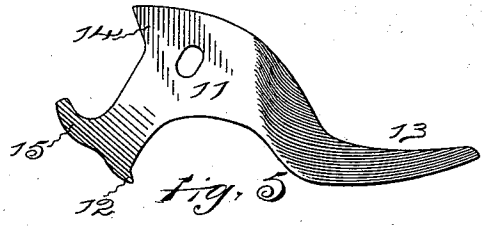


Fig. 5

Fig. 4

Fig. 2

Witnesses;
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Inventor.
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(No Model.) 2 Sheets—Sheet 2.

G. J. CAPEWELL.

COMBINATION TOOL.

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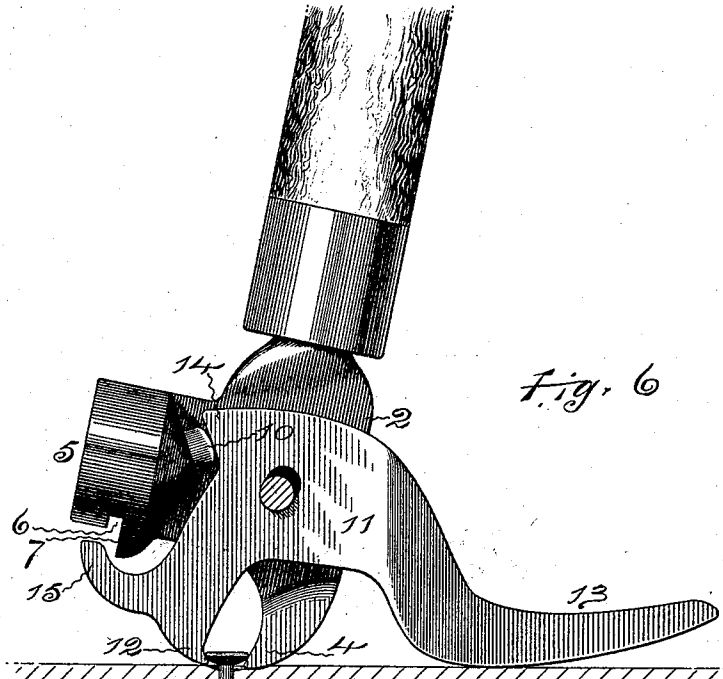

Fig. 6

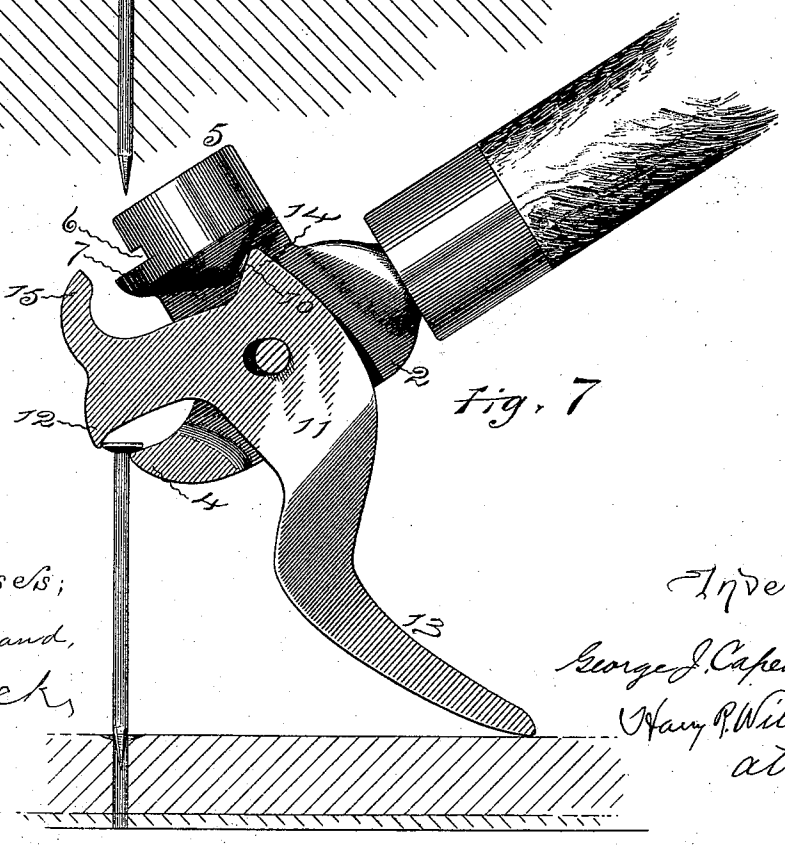

Fig. 7

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UNITED STATES PATENT OFFICE.

GEORGE J. CAPEWELL, OF HARTFORD, CONNECTICUT.

COMBINATION-TOOL.

SPECIFICATION forming part of Letters Patent No. 519,033, dated May 1, 1894.

Application filed July 3, 1893. Serial No. 479,464. (No model.)

To all whom it may concern:

Be it known that I, GEORGE J. CAPEWELL, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Combination-Tools, of which the following is a specification.

The invention relates to the class of tools which combine in one structure means for setting, driving and extracting nails, brads, tacks, pins and the like, and the object is to provide a simple, convenient and efficient tool of this class which is cheaply formed, easily assembled and is durable.

To this end the invention resides in a tool having a handle, a body with an extracting jaw and a setting and driving head fast thereto, and a plate with a holding finger, extracting jaw, and fulcrum pivoted to the body, as more particularly hereinafter described and pointed out in the claims.

Referring to the accompanying drawings: Figure 1 is a side view illustrating the use of the device in setting a nail. Fig. 2 is a side view illustrating the position of the parts when commencing to extract a nail. Fig. 3 is a detail view of the body, with the driving and setting head and the spring cap in section. Fig. 4 is a front view of the same. Fig. 5 is a detail view of the plate with the holding finger, extracting jaw and fulcrum. Fig. 6 is a detail enlarged view showing the tool extracting a nail, and Fig. 7 is a similar view showing the position of the parts when the nail is about drawn.

In the views, 1 indicates the handle, which may be formed in any common shape of suitable material, either wood or iron, as desired. In the form shown the handle is made of wood with a ferrule driven onto the end, into which the shank of the body of the tool is set. This body, 2, is preferably a steel forging with an integral shank, 3, adapted to be secured to the handle, a beak shaped jaw, 4, that usually is somewhat hollowed out at the point so as to readily set under the head of the nail or other piece that is to be extracted, and an enlarged cylindrical head, 5, for driving nails or the like. A mortise, 6, is usually made in this head by a milling cut across the outer perimeter of the cylinder, and back of this is a projecting shoulder or anvil, 7, while usually on the edge of the head from this mortise to the face of the hammer is made a groove, 8, for the reception of the shank of a nail when its head is in the mortise backing against the anvil. Into one side of the back of this head a socket, 9, is drilled and in this is placed a plunger, or cap, 10, that is normally forced outward by a spring. Held to this body by a pivot, or stud, is a plate, 11, the opening through this plate for the passage of the pivot usually being made oblong, so that the plate will have a slight sliding movement as well as an oscillation. This plate is preferably a steel forging formed with an extracting jaw, 12, the complement of the jaw, 4, a fulcrum, 13, on which the tool rides to hold together and lift the jaws when extracting a nail, and a shoulder, 14, against which the spring cap, 10, may thrust. On this plate is also formed a finger, 15, that is normally forced toward the groove in the perimeter of the hammer head when the spring cap thrusts against the shoulder on the plate. By means of this arrangement a nail or other piece to be driven can be laid on the perimeter of the hammer head with its shank in the groove and its head in the mortise back against the firm anvil, and the finger on the plate under the thrust of the spring will hold the nail in position, as shown in Fig. 1, so that it may be set or started in the wood into which it is to be driven. This is particularly advantageous for driving nails into places that are a distance above, or almost out of the ordinary reach of persons. When a nail is thus started the tool is readily pulled off, as the finger holds the nail in place with a yielding spring grasp, and the remainder of the driving is accomplished by means of the ordinary cylindrical hammer head on the body.

The spring plunger or cap is protected and cannot be removed when once the movable plate is secured in position, and the spring being thus inclosed is very durable, as it is not exposed to the weather, or to knocks and bruises.

In extracting a nail the fixed jaw is forced under the head in the usual manner and the tool rocked on its fulcrum until the end of the movable jaw grasps the head, then further tipping of the handle draws the nail, which is grasped between the jaws. As the nail is drawn out, and the tool rocks on the fulcrum,

the head of the nail turns a little between the jaws as the relative position of the parts change, and after the head has turned between the jaws as far as possible the strain causes the plate to move or slide on the pivot, as permitted by the oblong slot so that the end of the longer jaw is drawn out and allows the nail to turn still farther without bending near the head where the jaws grasp it.

This puller is simple in construction and operation. It is durable and capable of use for starting the driving of nails into positions that are out of ordinary reach, for completing the driving of nails thus started, and for extracting nails from the material in which they are embedded, without bending them near their heads, by the grip of the jaws, or bending the shanks by the changes of direction of pull as the tool rocks on the fulcrum.

I claim as my invention—

1. A combination tool consisting of a handle with a body having a beak shaped jaw, a plate having a jaw and fulcrum loosely held to said body by a stud passing through a slot so that the relative distances of the ends of the jaws from the pivotal stud are variable, and a spring operating between the fixed body and the movable plate to hold the jaws open and also with their ends about equal distances from the pivotal stud, substantially as specified.

2. A combination tool consisting of a handle with a fixed shank having a beak shaped jaw and a hammer head with a socket in the back of the head, a plate having a jaw, fulcrum and a shoulder pivoted to the shank, a hollow plunger borne by the socket in the back of the head, and a spring in the socket and plunger thrusting the latter against the shoulder on the movable fulcrum plate, substantially as specified.

3. A combination tool, consisting of a handle with a fixed body having a beak-shaped jaw, and a driving head with a fixed anvil and nail groove on one side of the head holding the nail in position to be driven by said anvil, and a plate having a jaw, fulcrum and finger pivoted to the body, substantially as specified.

4. A combination tool, consisting of a handle with a fixed body having a beak-shaped jaw, and a driving head with a fixed anvil and nail groove on one side of the head holding the nail in position to be driven by said anvil, and a socket in its back, a plate having a jaw, fulcrum, shoulder and finger pivoted to the body, and a spring plunger located in the socket in the head so as to thrust against the shoulder, substantially as specified.

GEORGE J. CAPEWELL.

Witnesses:
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