

UNITED STATES PATENT OFFICE.

JAMES WEATHERS, OF INDIANAPOLIS, INDIANA, ASSIGNOR OF ONE-HALF
TO JOHN A. ROBBINS, OF INDIANAPOLIS, INDIANA.

COMBINATION-TOOL.

SPECIFICATION forming part of Letters Patent No. 698,601, dated April 29, 1902.

Application filed November 25, 1901. Serial No. 83,618. (No model.)

To all whom it may concern:

Be it known that I, JAMES WEATHERS, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Combination-Tools, of which the following is a specification.

This invention relates to improvements in tools for use on the farm and in small shops where miscellaneous work of a greatly-diversified character is to be done requiring a varied assortment of tools; and the object of the invention is to provide a tool that is capable of satisfactory use for a variety of purposes.

I accomplish the objects of the invention by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of my invention ready for use as an anvil, vise, and pipe holder or cutter; Fig. 2, a side elevation of same adapted for use as a drill; Fig. 3, a longitudinal vertical central section of the drill with the anvil removed and a modified form of bearing-block substituted in its stead; Fig. 4, a vertical transverse section of base between the head and the bearing-block in Fig. 3 looking toward the bearing-block; Fig. 5, a vertical section through the screw and sliding jaw; Fig. 6, a perspective view of a removable jaw used to grip a pipe in the pipe-holder of my device, and Fig. 7 a perspective view of a pipe-cutter.

Like letters of reference indicate like parts throughout the several views of the drawings.

A represents the table or bench on which the invention is mounted, and B is the base of my invention, comprising a pair of bars of strap-iron held edge up in parallel position by the wooden blocks b , which are bolted between the ends of the bars by bolts b' . I prefer to use the iron straps, for the reason that the material can be obtained very readily on the market, and wooden separating end pieces, for the reason that the wooden blocks can be shaved down if the base should be too wide and new blocks readily obtained and substituted when required. The base is secured by the bolts b^2 to the table A. The sides b^4 have transverse holes to receive pins d .

E is the head-block, having flanges e , be-

tween which the base B is located. The flanges have ears e^1 , with perforations through which the block is bolted to the table, or the block may be secured to the base by passing one of the pins d through openings in the flanges and base. The plate e' , connecting the flanges e , has the central vertical flange e^2 , culminating at the top with the cylindrical head e^3 , having a screw-threaded bore in which takes the screw C. This screw is rotated by the hand-wheel C'. The screw is hollow to receive the drill-shaft F. The shaft F has an enlargement at one end to form the head G, which has a socket to receive and hold a drill g . The opposite end of the shaft F from the head has the hand-crank G'. Between the screw C and the head G is the disk g' , of greater diameter than the diameter of a hole in the standard h of a jaw H, into and through which the head G takes. The base h' of this jaw rests upon a horizontal plate e' and is guided by the parallel edges of said plate by the marginal clamps h^2 , which engage the edges of the plate in the manner shown in Fig. 5. The base h' has a slot h^3 to prevent interference with the flange e^2 . The head G has a transverse hole through which a pin g^3 is inserted when the jaw H is in use to enable the jaw to be drawn back by the screw. When the tool is to be used as a drill, the jaw will be removed, which removal is made easy by withdrawing the pin g^3 .

J is an anvil having the horn j and hardyhold, in which the hardy j' is inserted. The projecting end of the anvil opposite the horn forms the mating jaw with the jaw H to form a vise. The lower web or body of the anvil makes a close sliding fit between the parallel bars of the base B and has the lateral projections j^2 , overlapping the top edges of said parallel bars. This bottom part has an extension j^3 , tapered toward the top on its under side and provided with a series of transverse grooves j^7 on its upper side, which form seats for one of the pins d , whereby the anvil is locked in a fixed position of the base, as required when used as part of a vise or as a stop for holding work when used as a drill. When used as a drill, a bearing-board l is placed with its end in one of the grooves j^7 and its top bearing against the top of the anvil, as

shown in Fig. 2. The middle web of the anvil has the triangular opening I, which, together with a set-screw *i*, entering it from the end of the web under the horn, forms a pipe-holder. The pipe K is passed through the triangular opening and is forced into the opposite angle by the set-screw. A clamping-plate *m*, caught between the pipe and end of the screw, has sharp edges which engage the pipe and additionally hold it. By replacing the plate *m* by a plate *n*, having cutters *p p*, the pipe can be cut by rotating it against the cutters.

As it is often desirable to drill holes in objects that cannot be brought to the bench, I make my device portable by removing the bolts that secure it to the bench, and to make it lighter and more convenient to handle I remove the anvil and substitute the block R therefor. This block has a base like that of the anvil, with the exception that the middle under portion is cut away so as to produce two parallel side bars *r r* with opposite notches instead of grooves to receive the pin *d*. The standard *r'* has a middle vertical slot *d'* for the drill to enter. The dotted lines in Fig. 3 show the manner in which the block is tilted to disengage the holes from the pin *d* and enable the block to be moved quickly without the trouble of changing the pin. The anvil is constructed in the same manner in this respect, so as to be quickly adjusted.

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

1. In a combination-tool, a base comprising a pair of iron bars held parallel by end blocks, a head having parallel flanges between which said base is removably secured, said head having a sliding jaw, a shaft removably secured to the jaw, a screw having a longitudinal bore in which said shaft is mounted, said screw being held in a threaded portion of the head, a second block having a lower portion making sliding fit between the bars of the base and having its upper portion formed into a vise-jaw to mate with the sliding jaw, the lower portion of said block having a pro-

jecting portion with top indentations and a pin passing through the bars of the base and engaging one of the said indentations to prevent the longitudinal movement of the second block.

2. In a combination-tool, a base comprising a pair of flat iron bars turned edge up and held parallel by end blocks to which the bars are bolted, said bars having a plurality of holes in opposite pairs, a head having a pair of parallel flanges between which the base is removably secured, a horizontal plate on said head, a sliding jaw located thereon and having lugs to engage the edges of the plate, an extension of the head above the plate having a screw-threaded bore longitudinally of the base, a threaded sleeve screwing in said bore said sleeve having a longitudinal bore and having a hand-wheel at one end, a shaft seated in the bore of the sleeve having a removable transverse pin to secure the sliding jaw to the shaft, a block seated between the bars of the base having side flanges resting on the base, a projecting portion tapering toward its outer end having top indentations to engage a cross-pin, a cross-pin in a pair of the holes of the base to engage the indentations of said block extension, the upper portion of said block being formed to act as a vise-jaw to mate with the sliding jaw.

3. The combination of a pair of parallel bars, a head-block secured in a fixed manner thereto, a screw-shaft carried by said head-block to move a vise-head or a drill longitudinally of said bars, and a tail-block seated between the bars and extending up to form a bearing for the vise or drill and having a projecting portion with top indentations and a pin passing through said bars and engaging one of said indentations to prevent longitudinal movement of said tail-block.

In witness whereof I have hereunto set my hand and seal, at Indianapolis, Indiana, this 8th day of November, A. D. 1901.

JAMES WEATHERS. [L. S.]

Witnesses:

J. A. MINTURN,
S. MAHLON UNGER.