J. A. Bidwell.

Screw-Driver & Boring-Tool.

No. 74490 Patented Feb. 18, 1868

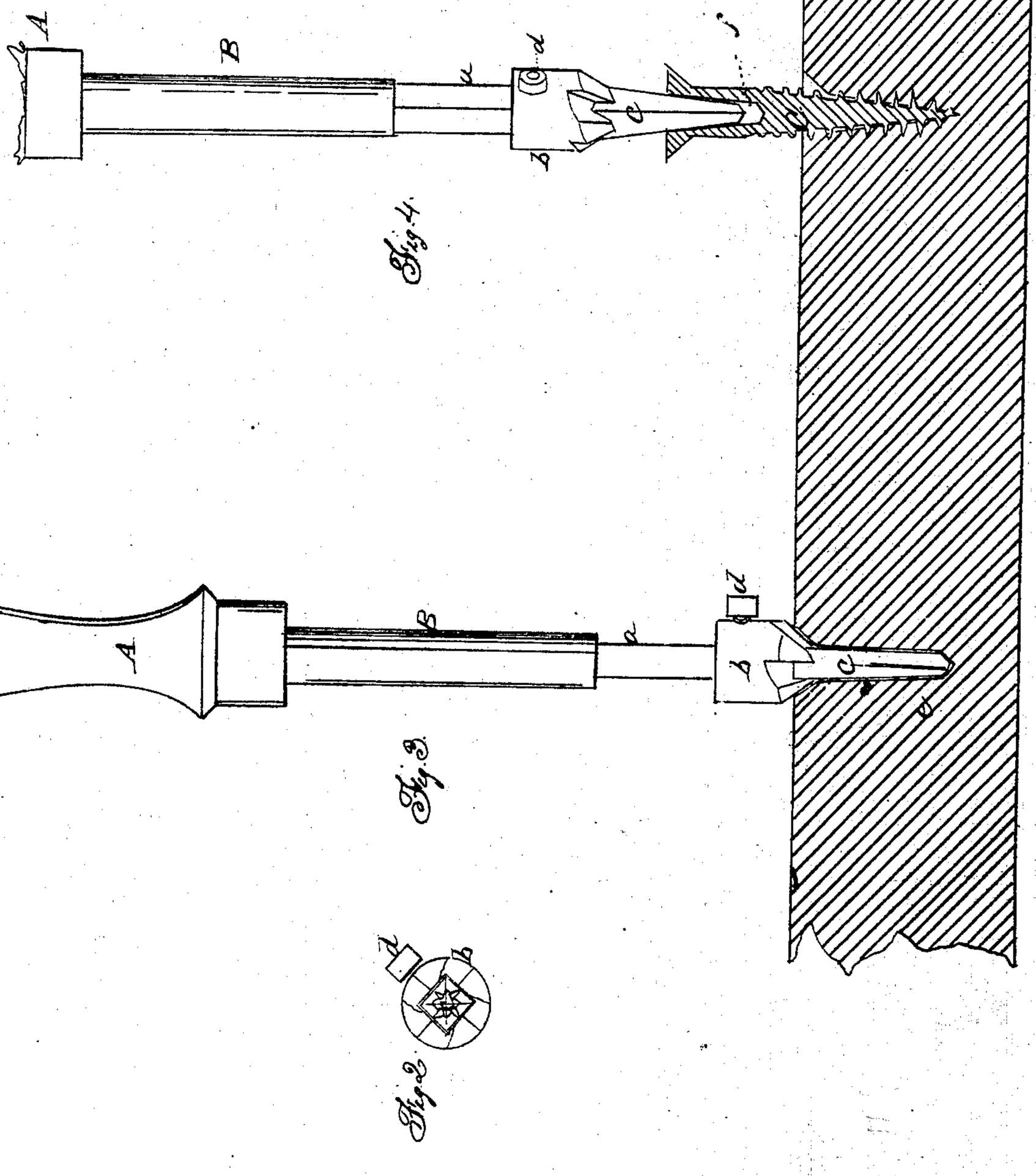

Fig. 4.

Fig. 3.

Fig. 2.

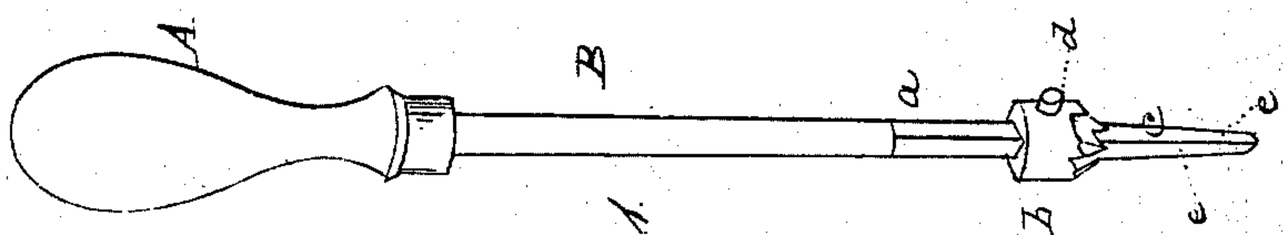

Fig. 1.

Witnesses
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Edw. F. Chafe

Inventor
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United States Patent Office.

JASON A. BIDWELL, OF EAST BOSTON, MASSACHUSETTS.

Letters Patent No. 74,490, *dated February* 18, 1868.

IMPROVEMENT IN SCREW-DRIVERS AND BORING-TOOL.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, JASON A. BIDWELL, of East Boston, in the county of Suffolk, State of Massachusetts, have invented a Combined Screw-Driver, Boring-Tool, and Countersink; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view of the improved tool.

Figure 2 is an end view of the same.

Figures 3 and 4 illustrate the manner of using the tool.

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

The object of this invention is to produce a tool that shall practically serve for boring and countersinking different depths into wood, and also for inserting screws into wood. The instrument which I shall describe is designed particularly for driving screws which are constructed with central tapering holes in their heads for receiving a rectangular tapering screw-driver.

To enable others skilled in the art to understand my invention, I will describe its construction and operation.

A is the handle of the instrument, and B the staff, which is secured therein in any suitable manner. The end of this staff furthest from the handle is reduced so as to form a square shank or stem, *a*, the sides of which are parallel to each other, for the purpose of receiving a countersink, *b*, and admitting of the endwise adjustment thereof, as will be hereinafter explained. This square shank *a* terminates in a tapering rectangular bit, *c*, which is grooved or scored, as shown at *e*, and constructed with four radial sharp cutting-edges, that are produced by first forming a pyramidal point, and then grooving the plane surfaces thereof. This bit *c* presents four right angles to the sides of the hole *f* in the screw C, shown in fig. 4, and, by its being made tapering, it wedges itself tightly in said hole *f*, and thus serves as a screw-driver for the perforated head wood-screws.

The sharp bevelled edges on the end of the bit *c*, together with the scores or grooves *e* in its four sides, adapt it to serve an excellent purpose as a boring-tool for making holes in wood. The scores *e* in said bit are designed for allowing the free upward escape of the chips from the cutting-edges as the bit enters the wood, so that these edges shall not become clogged.

The countersink *b*, which is upon the square shank *a*, is a cylindrical piece of metal, having bevelled cutting-edges formed upon one end, of a proper description for countersinking in wood. There are four cutting-edges on the countersink, shown in the drawings, which edges correspond to and are arranged in the middle of the four sides of the shank, as shown in figs. 2 and 3. This countersink is applied to the shank, so that it can be adjusted and set, by means of the screw *d*, at any desired distance from the end of bit *c*, according to the depth of hole which it is desired to bore.

It will thus be seen that the bit *c* is adapted to serve as a screw-driver and boring-tool, and also that this bit is provided with a reamer for reaming the holes bored in the wood ready for receiving the screws.

While I prefer to have the countersink bit *b* adjustable upon its shank or bit, I do not confine my invention to this construction, as it may be formed on the shank or staff of the tool, so as not to be adjustable. In this case the tool is adapted for boring a hole, and countersinking it, of a given length only; while in the former case the bit can be caused to penetrate different depths in wood, and countersink the holes.

While this improved tool is designed particularly to be used with perforated head-screws, it may be employed successfully for boring and countersinking holes for receiving the common slit-head screws to be inserted with the flat-bit screw-driver.

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

1. The construction of a screw-driver, which is adapted for driving perforated head-screws, with cutting-edges formed on a pyramidal point, in combination with scores or grooves *e* for conducting out of the hole the chips or dust, while in the act of boring, substantially as described.

2. As a new and improved article of manufacture, a tool having a rectangular tapering point, *c*, a rectangular straight shank, *a*, and an adjustable countersink, *b*, said tool being adapted to serve the threefold purpose of a screw-driver, a boring-tool, and a countersink, as herein set forth.

JASON A. BIDWELL.

Witnesses:

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