R. & G. N. CRICHTON.

BUNG-CUTTER.

No. 191,658. Patented June 5, 1877.

Fig. 1.

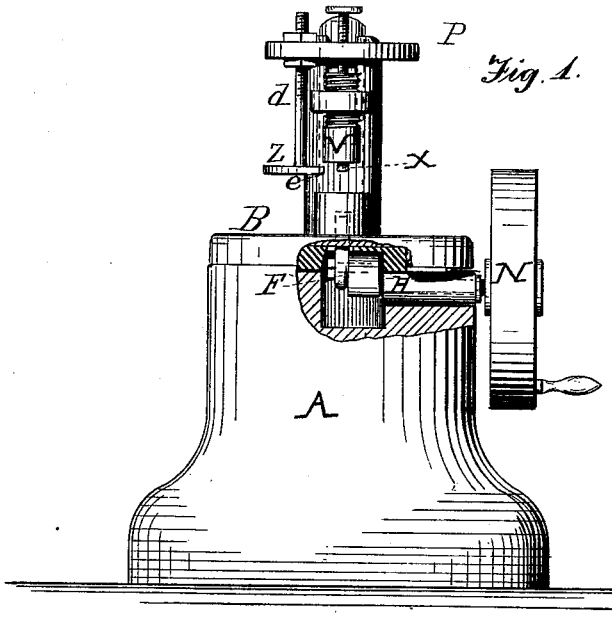


Fig. 3.

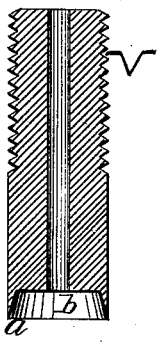


Fig. 2.

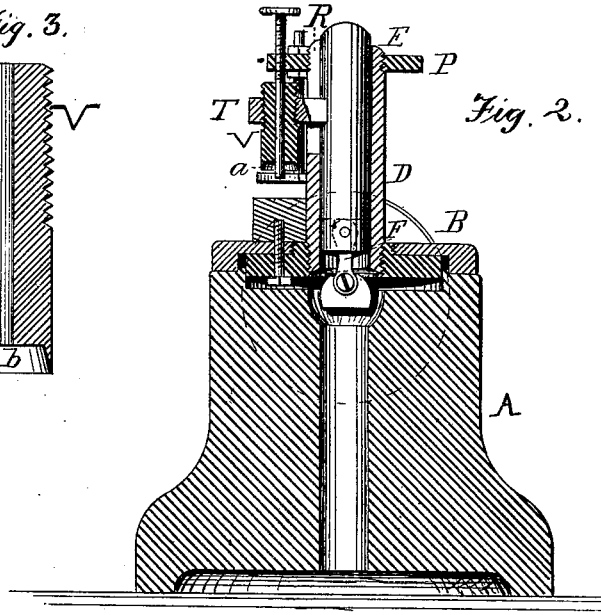


Fig. 4.

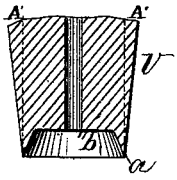
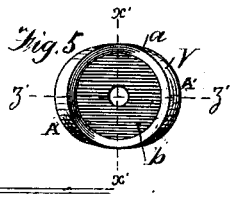


Fig. 5.



Witnesses,
Grenville Lewis
W. J. Baxter

Inventors,
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George N. Crichton
by their attys.
Cox & Cox

UNITED STATES PATENT OFFICE.

ROBERT CRICHTON AND GEORGE N. CRICHTON, OF PARKERSBURG, WEST VIRGINIA, ASSIGNORS OF ONE-THIRD OF THEIR RIGHT TO JAMES REES, OF PITTSBURG, PENNSYLVANIA; SAID ROBERT CRICHTON ASSIGNOR TO ELIZABETH A. CRICHTON, OF PARKERSBURG, WEST VIRGINIA.

IMPROVEMENT IN BUNG-CUTTERS.

Specification forming part of Letters Patent No. **191,658**, dated June 5, 1877; application filed September 18, 1876.

To all whom it may concern:

Be it known that we, ROBERT CRICHTON and GEORGE N. CRICHTON, of Parkersburg, in the county of Wood and State of West Virginia, have invented a new and useful Improvement in Bung-Cutters, of which the following is a specification, reference being had to the accompanying drawings.

The invention relates to an improved mechanism for cutting out bungs and other forms from planks of wood; and consists in the devices hereinafter more fully described.

The object of the invention is to provide a device capable of cutting bungs and other forms directly from the planks at one operation.

Figure 1 is a vertical elevation of the machine, certain parts broken out to disclose the internal construction. Fig. 2 is a vertical central section of same. Fig. 3 is a vertical section of the tool V through the line *x x'*, Fig. 5. Fig. 4 is a vertical central section of the lower part of the tool V on the line *z z'*. Fig. 5 is an end view of the tool V, showing the shoulders A' on each side.

In the accompanying drawings, A represents the stand, upon which is set the cap B, having an aperture at its center, through which depends the lower part of the tubular standard D, wherein works the vertical shaft E, the lower end of which encompasses the pitman-crank F on that part of the crank-shaft H which traverses the aperture I in the center of the stand A, the shaft being provided at one end with the head L, and with the washer M, the upper side of which is rounded so as to permit it to turn without coming in contact with the lower surface of the cap B.

The crank-shaft projects through the stand A, its extremity being provided with a crank or band wheel, N, through which motion is communicated.

The upper end of the standard D is provided with a circular plate or head, P, below which, upon one side, is provided the slot R in the standard, and through which projects the arm T, the base of which is secured at right angles to the shaft E, its outer parts being enlarged to a head wherein is set the tubular tool V, the edge of which may be formed in any desired outline, according to the design to be cut from the wood.

Upon the opposite sides of the tool are provided the shoulders A', which begin at a suitable distance above, and then decrease as they extend downward to the cutting-edge.

It is to be especially noted that these shoulders are used only on opposite sides of the tool, their purpose being to strengthen the tool against the pressure of the wood when forced therein, and without them the tool would spring outward at the points where they are placed. Again, the board is always fed to the tool in such manner that the vertical plane of grain of the wood which is generally parallel to the length of the board will bisect the vertical plane of the curve of the base of the shoulders at a right angle; thus the shoulders bear upon the board lengthwise, and, while strengthening the tool, do not tend to split the wood; and, further, the shoulders thus act as guides to insure the perpendicular action of the tool. Besides the shoulders A' the tool is vertical on its exterior superficies. This is to prevent wedging in or splitting the board. The interior of the tool is tapered upward and inward by the bevel *a* to the horizontal surface B, so that as the tool descends upon the board placed on the block W, the design is cut and simultaneously compressed on its upper edges.

It is to be noted that in using the above apparatns the design is to cut directly from the board, and that in operations of this kind, as heretofore practiced, the board has to be first ripped, and then cross-cut into blocks before being fed to the tool.

For the purpose of ejecting the material cut and remaining in the tool there is provided the adjustable ejector X, the upper part of which is threaded and properly secured in a corresponding aperture in the head F, where it extends downward and directly through the tool V, which, as it rises, brings the upper

surface of the material within it in contact with the lower end of the ejector, thereby expelling the blank.

To prevent the plank rising with the ascending tool, there is provided the check-foot Z, secured upon the lower end of the adjustable rod *d*, the upper end of the rod being secured by a thread and corresponding aperture in the head P. In order to bring the foot Z in close relation to the tool V, a section, *o*, of the foot is cut out, through the curve of which the adjacent surface of the tool passes.

It is obvious that, motion being communicated to the crank-shaft H, the shaft E will be rapidly elevated and depressed, operating the tool, and thus cutting out the form of the edge thereof from a plank placed upon the block W, which form will be ejected, as the tool rises, by coming in contact with the ejector X, while the foot Z will prevent the plank being carried up with the ascending tool.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. A tool for cutting designs from a board, provided with tapered shoulders on two opposite sides, vertical on the remainder of its superficies, and beveled on its interior, substantially as set forth.

2. The tool V, provided with the shoulders A′, as set forth.

In testimony that we claim the foregoing improvement in machines for cutting blanks from wood, as above described, we have hereunto set our hands this 14th day of September, 1876.

ROBERT CRICHTON.
GEO. N. CRICHTON.

Witnesses:
JOHN COOK,
WM. H. HUNTER.