# J. Christiansen,

# Turning Bungs.

No. 39,339. Patented July 28, 1863.

Fig. 3.

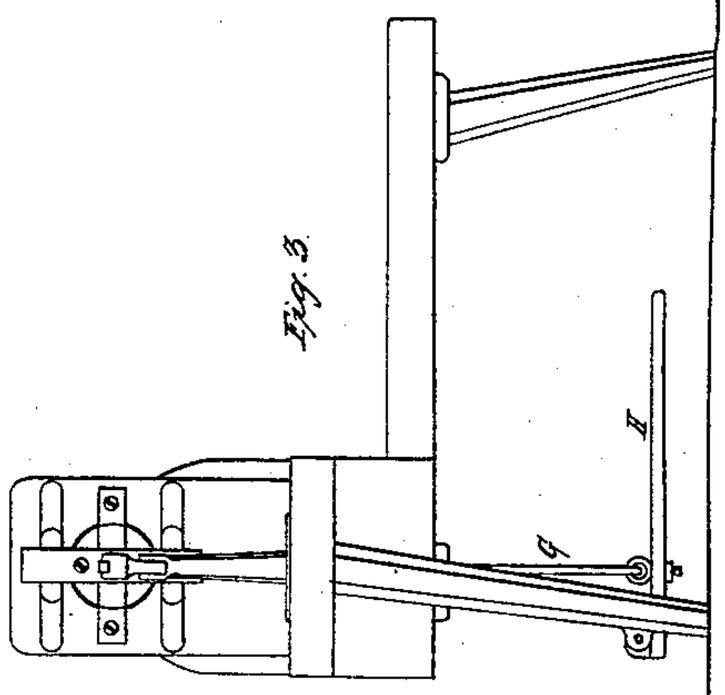



Fig. 5.

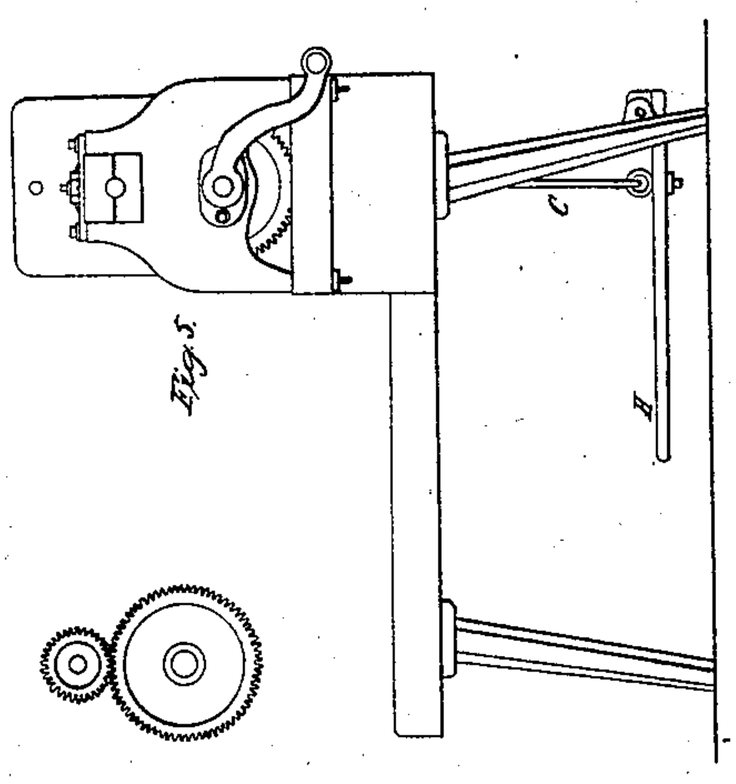



Fig. 2.

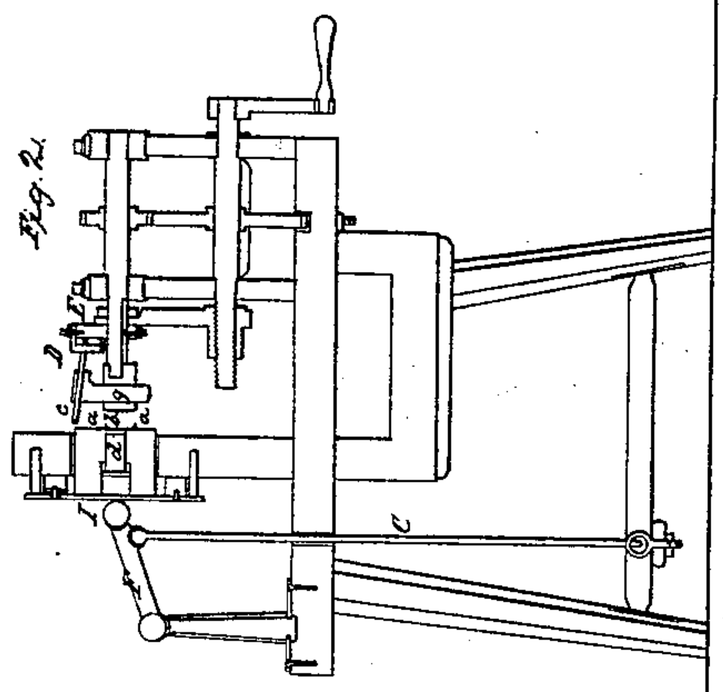



Fig. 6


Fig. 7

Fig. 8

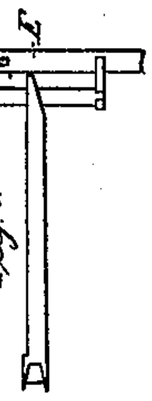



Fig. 1.

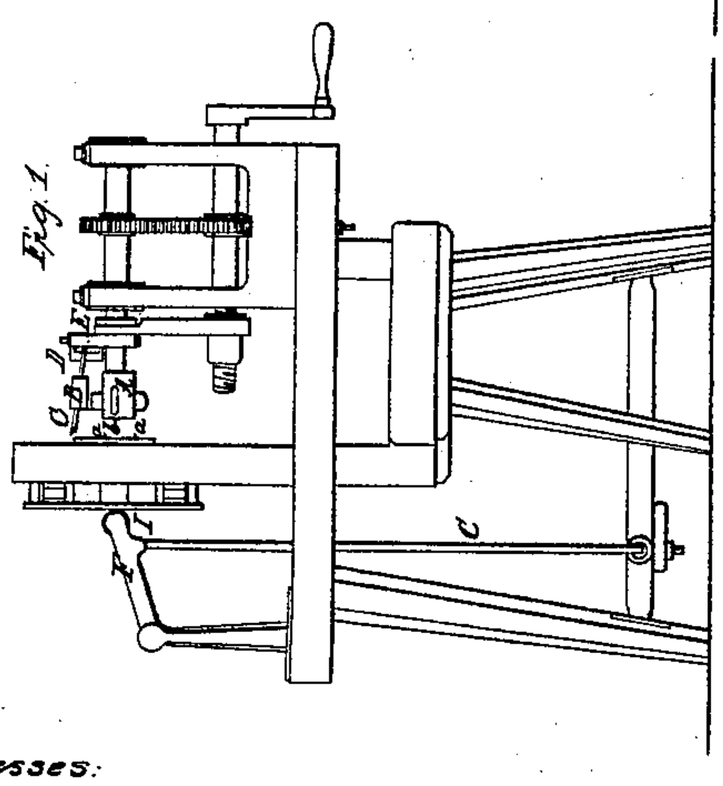
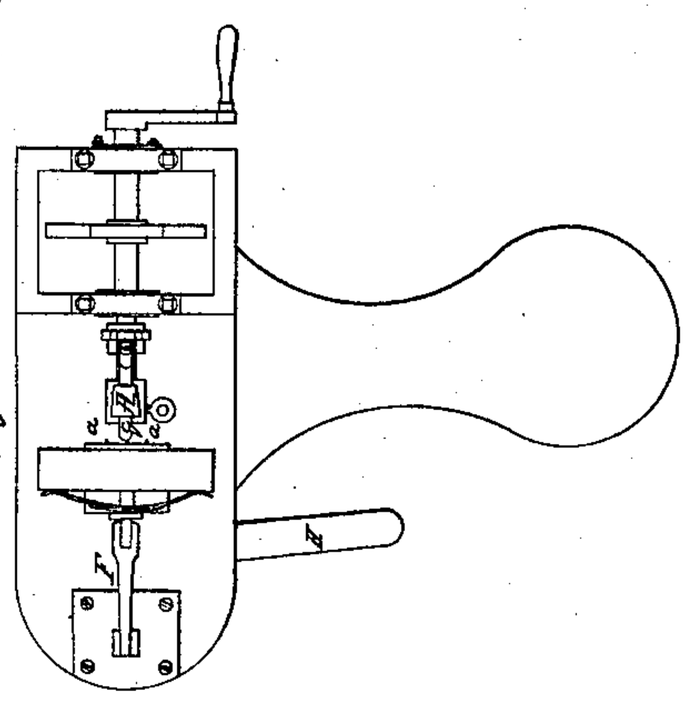



Fig. 9.

Fig. 4.

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# UNITED STATES PATENT OFFICE.

JES CHRISTIANSEN, OF MILWAUKEE, WISCONSIN.

## IMPROVED BUNG-CUTTER.

Specification forming part of Letters Patent No. **39,339**, dated July 28, 1863.

*To all whom it may concern:*

Be it known that I, JES CHRISTIANSEN, of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented a new and useful Improvement in Machines for Cutting Bungs; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a side elevation view. Fig. 2 is a vertical transverse view; Fig. 3, an end elevation; Fig. 4, a plan view of the machine, as in operation. Fig. 5 is also an end view; Fig. 6, a sectional view of the cutter-head with cutter-arm and set-screw; Fig. 7, a plan view of the cutting-knife; Fig. 8, a side view of the cutting-knife with a sectional view of the slide which holds the back end of the knife. Fig. 9 is a pad from which project spurs for holding the wood when being cut into bungs.

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

The nature of my invention consists in a novel construction and arrangement of mechanism, so as to constitute a machine for cutting tapering bungs for casks of any desired size or taper.

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

I make the frame of my bung-cutter of wood or iron, the movable parts of metal of any kind suitable for machinery.

The drawings will indicate the frame-work to any practical mechanic without reference to it by letters.

A is a revolving cutter-head with an arm, B, passing through it, held in position by a set-screw, so that the arm may be lengthened or shortened at pleasure. In the end of the arm B is a slot in a diagonal position to the line of motion, through which passes the cutting-knife C, the back end of which is held by the slide D, which passes through a hole in the end of the knife, so that when the arm B is lengthened or shortened the back end of the knife C moves a corresponding distance from or toward (as the case may be) the center of motion.

E is a movable guide (on the shaft, to which is attached the cutting-head) to which the slide D is attached, which is moved toward or from the revolving cutter-head by a screw, lever, or any other means operated by hand or power, which, when moved toward the cutting-head, throws the cutting-knife forward bringing it in contact with the wood to be cut into bungs, and when moved from the cutting-head draws the cutting-knife back through the arm, clearing it from the wood. The revolving head may be put in motion by means of a crank and gearing worked by hand, as shown in the annexed drawings, or by pulley and belt operated by steam or other power.

F is a hinged lever, operated by the rod G connecting it with the treadle H, which, when forced down, presses the apparatus I toward the revolving cutter-head, forcing the spurs *a a a* into the wood to be cut into bungs, and by that means pressing the wood against the center *b* in the cutter-head, thus holding it firmly while the cutting-knife is thrown forward, cutting through the wood, forming a tapering bung.

The apparatus I is attached to springs fastened to the frame-work. The pad, Fig. 9, from which project the spurs *a a a*, is a part of said apparatus I, and works through a hole in the frame. A hole is made in the center of the pad, through which passes the stationary pin *d*, secured by a bar across the opening in the frame through which the pad works, the bar being in rear of the pad. This stationary pin projects through the pad to a point even with the face of the frame, so that when the apparatus I is thrown back by the springs the bung is prevented from following, and the spurs *a a a* are withdrawn, so that the bung may fall out.

Operation: The revolving cutter-head is put in motion by hand, foot, steam, or other power, and the wood from which bungs are to be cut, which must be prepared of a thickness suitable for the length of the bungs, is placed between the movable apparatus I and the cutter-head. The treadle H is forced down with the foot, which presses the wood against the center in the cutter-head, the spurs *a a a* in the pad holding it securely in place. The cutting-knife is moved forward by the guide E, worked by a lever or otherwise, which brings

the cutting-edge of the knife in contact with the wood, and as it is thrown forward by reason of its diagonal position it increases the circle it performs larger and larger till the wood is cut through, and a bung is cut of a true taper, the small end toward the cutter-head. The knife is then withdrawn by the same means by which it was thrown forward. The foot lifted from the treadle H, the springs throw back the apparatus I, the wood or timber is released, then pushed forward the size of another bung, the bung just cut falling out, and the same process as before repeated.

To increase or diminish the size of bungs, as may be desired, the arm B is to be lengthened or shortened by loosening the set-screw which holds it and shoving it out or in, thus making the cutting-knife describe a larger or smaller circle, and thus cut a bung of any desirable size.

What I claim as my invention, and wish to secure by Letters Patent, is—

1. The arrangement of the parts, substantially as herein described, so as to constitute a machine for cutting tapering bungs.

2. The movable apparatus I to hold the timber in place, substantially as described.

3. The cutting-knife, Figs. 7 and 8, with spurs to head down, and projecting edge to clear the chips, substantially and for the purpose described.

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