W. R & O. D. Bishop.

Sawing Staves.

No 75846 Patented Mar. 24, 1868

Fig 1.

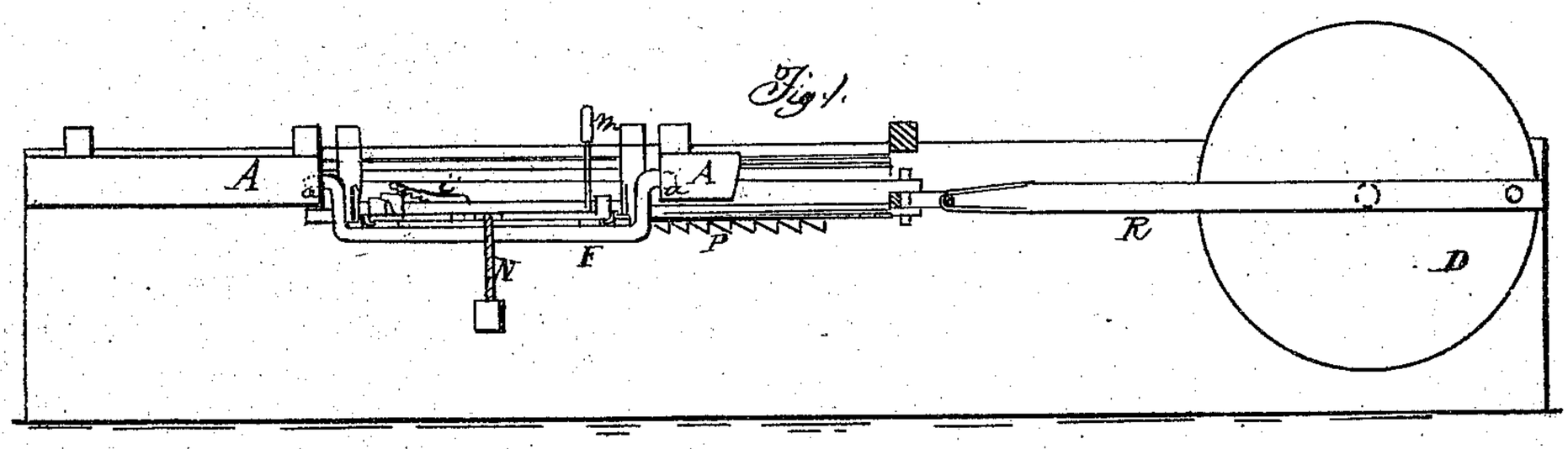

Fig. 2.

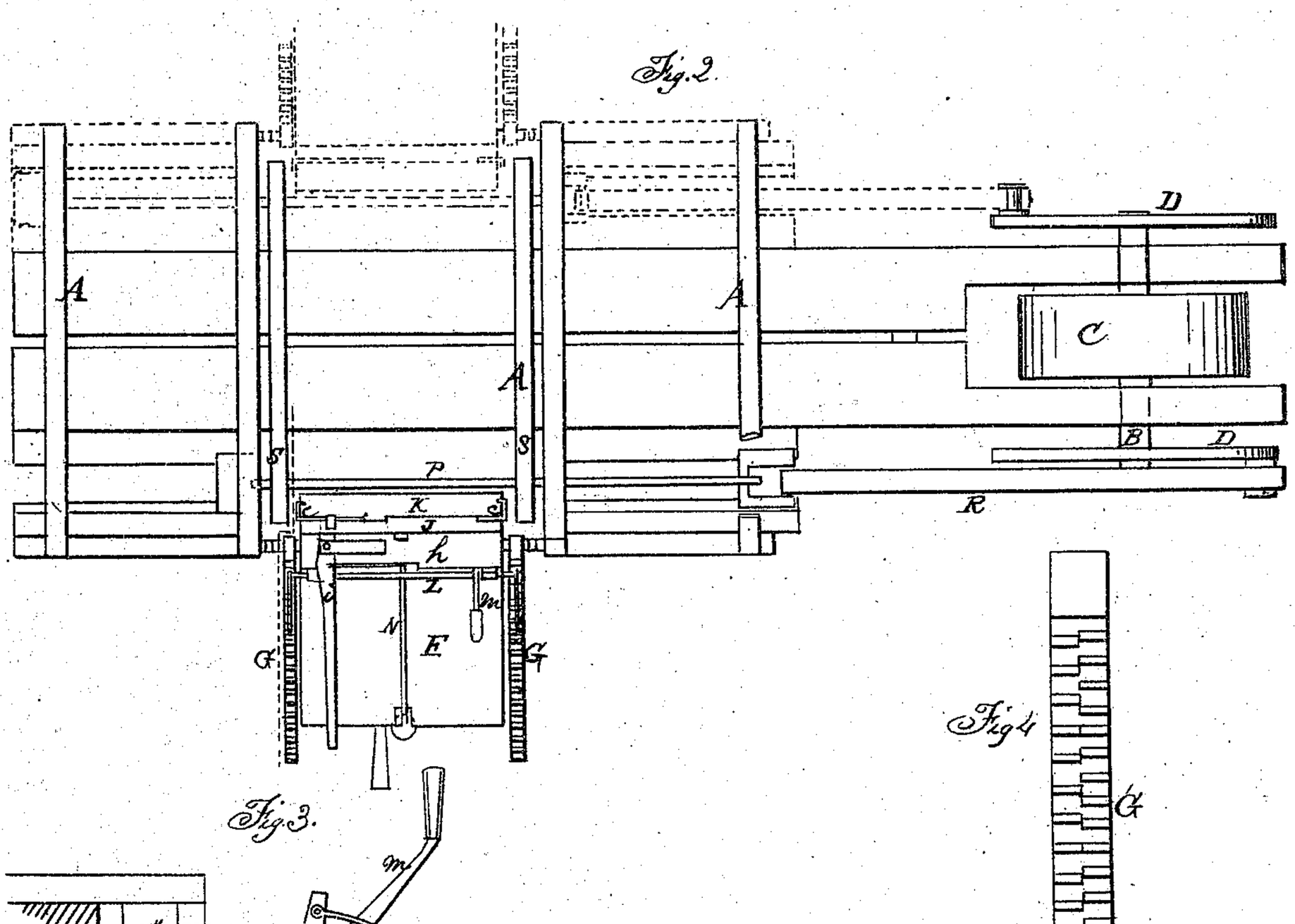

Fig. 3.

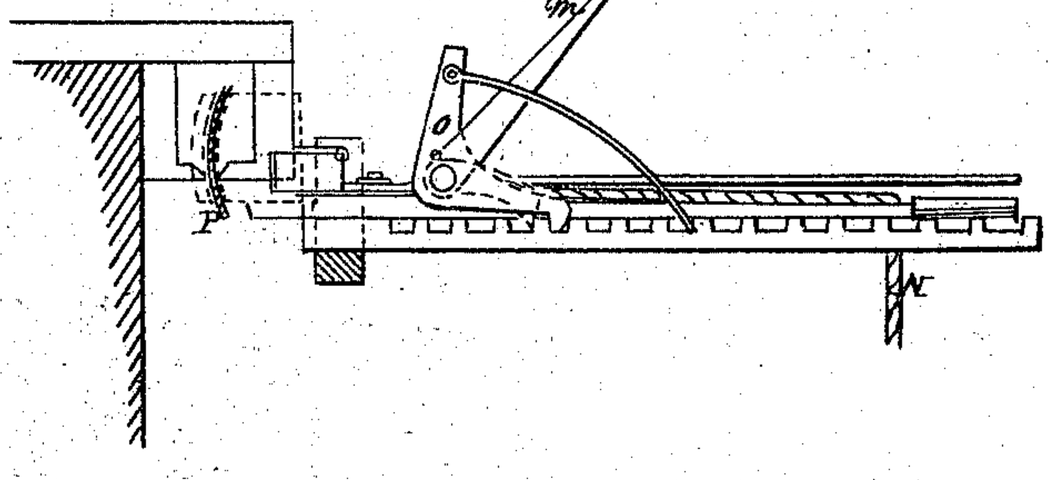

Fig 4

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WILLIAM R. BISHOP AND ORIEL D. BISHOP, OF HARRISON, WISCONSIN.

Letters Patent No. 75,846, *dated March* 24, 1868.

IMPROVEMENT IN MACHINES FOR SAWING STAVES.

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

TO ALL WHOM IT MAY CONCERN:

Be it known that we, WILLIAM R. BISHOP and ORIEL D. BISHOP, of Harrison, in the county of Calumet, and State of Wisconsin, have invented a new and improved Stave-Sawing Machine; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to a new and improved machine for sawing staves for barrels and other articles of similar construction; and the invention consists in the construction and arrangement of parts, as will hereinafter be described.

Figure 1 represents a longitudinal side view of the machine.

Figure 2 is a top or plan view.

Figure 3 is a detached view of the feed-works on an enlarged scale.

Figure 4 is a view of a double rack employed on the table in feeding up the bolt to be sawed.

Similar letters of reference indicate corresponding parts.

A represents the frame, to which the saw and other apparatus are attached. B is the driving-shaft; C is the driving-pulley. D D represent crank-wheels, on the ends of the driving-shaft B. E is a table or apron, which is attached to a bent shaft, marked F, the form of which shaft is plainly seen in fig. 1. G G represent racks, which are rigidly attached to the shaft F on each side of the apron E, as seen in the drawing. The ends of this shaft, F, form pivots, *a a*, fig. 1, in the frame, which allow the apron and the parts connected with it to be raised and lowered, as occasion may require, in the process of sawing staves. On the top of the apron E, but attached to it by lips on the under side, so as to allow it to slide back and forth on the apron, there is an arrangement for dogging or holding the block or bolt to be sawed, and also for feeding the same up to the saw. *f* is a handle, attached to the apron E. *h* is a plate, which is attached to the apron by lips, as before mentioned, and which slides on it. J is a block on this plate, against which the bolt to be sawed is fastened by the dogs *c c*, as seen in fig. 2. K represents a bolt, which is thus fastened or dogged. One of the dogs is stationary or fixed to the block J; the other dog is made to slide on the face of J, and is operated by the lever, marked *i*, as seen in the drawing. This lever is held in place by a ratchet, marked *i'*. Extending across the back edge of the plate *h* there is a shaft, L, which is attached to the plate by hinged joints, and to each end of this shaft, L, there is a double pawl, *o*, which engages with the racks G G. *m* is a lever, which is attached to the shaft L, by which the shaft is operated or partially rotated, so as to raise or disengage the pawls or hold them to the rack, when desired. N is a cord, which is attached to the plate *h*, and which has a weight at its other end, as seen in fig. 1.

When the pawls are raised from the racks, the weight will draw back the plate on the apron, so that a new bolt may be dogged for sawing. These racks may be made with a double set of cogs, as seen in the detached view, fig. 4, so that either a thick or a thinner stave may be sawed from the same bolt when desired.

P represents the saw, which is connected with the crank-wheel D by the pitman R, from which it receives a reciprocating motion.

The operation will be readily understood from the drawing. When the bolt is dogged or fastened, as seen in fig. 2, it is fed up to the saw by sliding up the plate E with the pawls. When the bolt is in position, the pawls in the rack hold it in place while the attendant handles the apron, raising it so as to allow the top of the bolt to pass under the saw, and then pressing down, and thus feeding the bolt up to the saw by hand. The pivots *a a*, upon which the apron turns, are designed to be on the same plane as the edge of the saw, so that the pivots would represent the centre of the circle of which the stave is an arc, the distance of the pivots to the edge of the saw being the radius. Arranged in this manner, the edges of the stave will be of equal thickness. The saw is curved, as seen in fig. 3, so as to correspond, or nearly so, with the circle described. S S, on the frame, indicate guides, which drop down and steady the saw near each end of the block or bolt to be sawed.

It will be noticed that the arrangement of our frame and driving-shaft, crank-wheels, &c., is such that we can drive two saws, one each side of the frame, as indicated in red lines in fig. 2.

As the arrangement for feeding, &c., would be the same as that already described, no particular description in reference to it is necessary. But we derive an important advantage from this double action of the saws, from the fact that they are arranged to cut alternately, so that, as far as the jar or tendency to longitudinal motion is concerned, the machine counteracts itself. As will be noticed, in the throw of our crank, the stroke of the saw is greater than the length of the bolt to be cut. We support the saw in proper ways or guides for this especial purpose, and we consider this long stroke necessary to a successful operation of the machine.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

The combination of the apron E with the bent shaft F, whereby the block, from which the staves are cut, is depressed to bear against the teeth of the saw P, to cut a stave of uniform thickness, constructed and operated as herein shown and described.

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Witnesses:
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