[redacted]

H. M. Shaw,

Making Stares.

No. 46,149. Patented Jan. 31, 1865.

Fig 2.

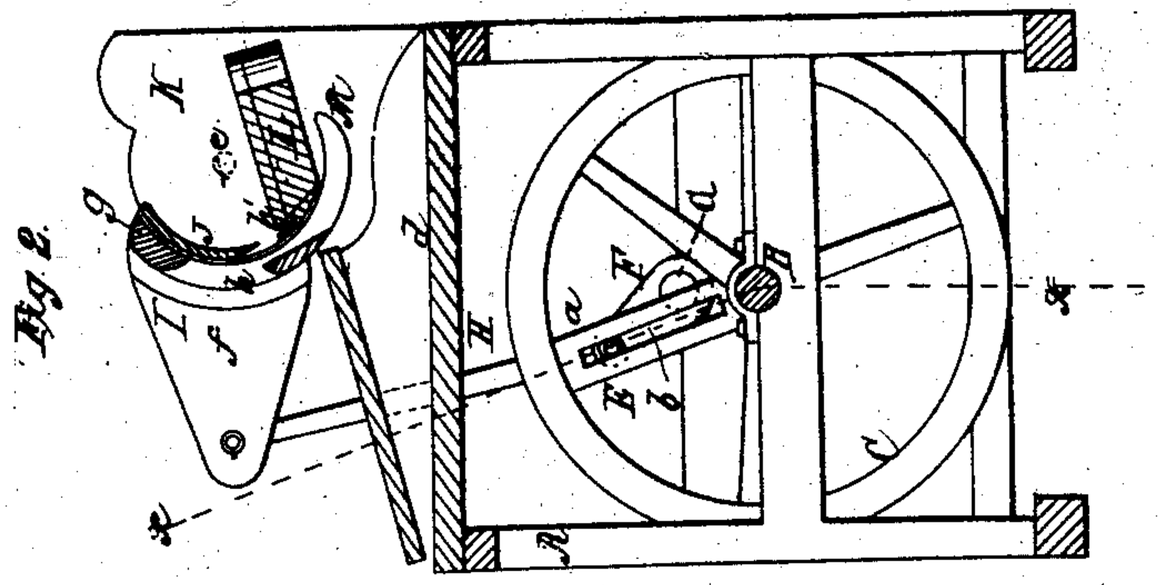
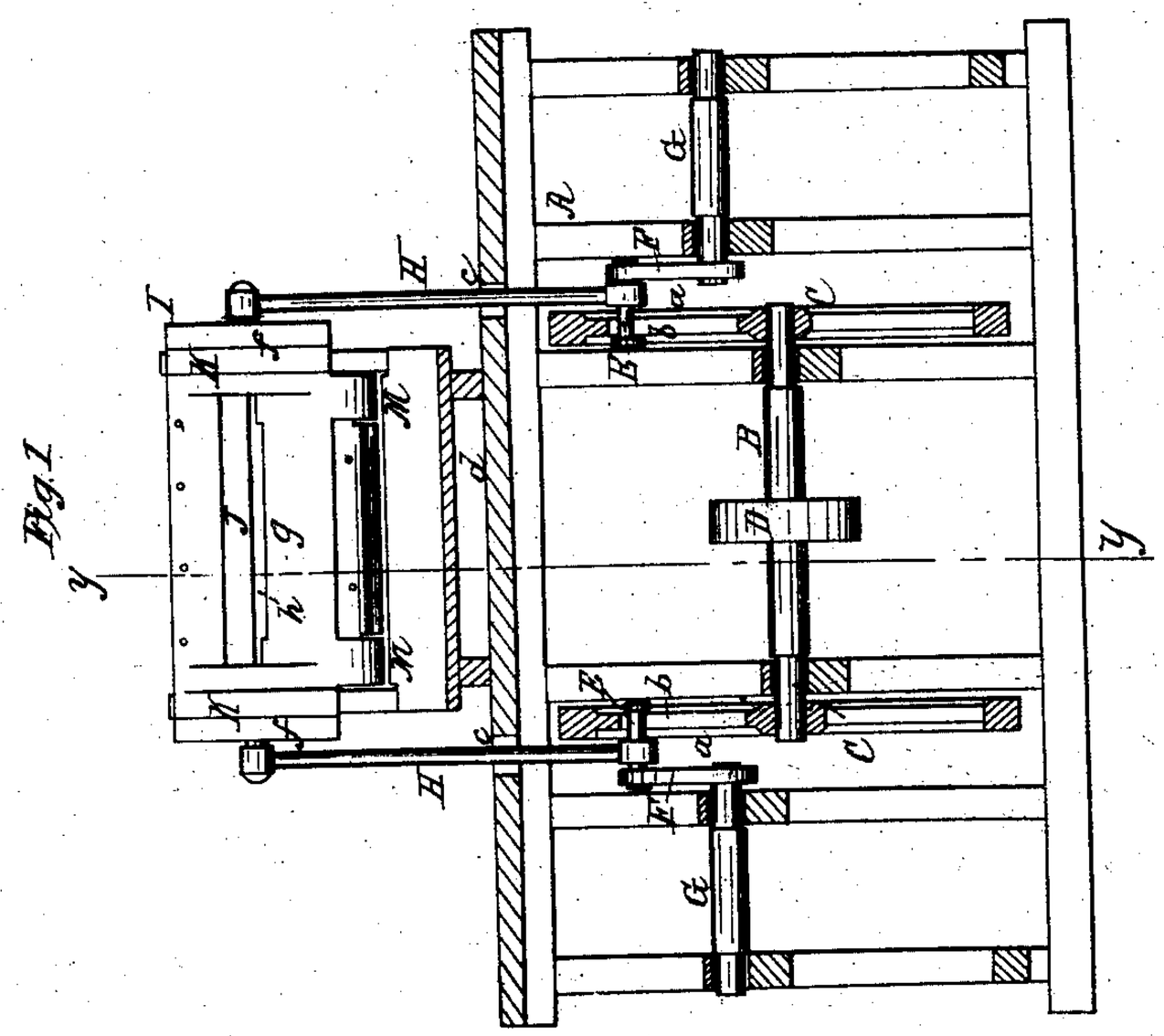


Fig 1.



Witnesses:

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UNITED STATES PATENT OFFICE.

H. M. SHAW, OF FREMONT, OHIO

IMPROVEMENT IN MACHINES FOR CUTTING STAVES.

Specification forming part of Letters Patent No. **46,149**, dated January 31, 1865.

To all whom it may concern:

Be it known that I, H. M. SHAW, of Fremont, in the county of Sandusky and State of Ohio, have invented a new and Improved Stave-Cutting Machine; and I 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, in which—

Figure 1 is a front sectional view of my invention, taken in the line *x x*, Fig. 2; Fig. 2, a transverse vertical section of the same, taken in the line *y y*, Fig. 1.

Similar letters of reference indicate like parts.

This invention relates to a new and improved machine for cutting staves for barrels, casks, &c., from bolts of steamed wood; and it consists in a novel construction and arrangement of certain parts, as hereinafter fully shown and described, whereby the work may be done in a neat and perfect manner, and with but a moderate expenditure of power.

A represents a framing, which may be constructed in any proper manner to support the working parts, and B is a shaft which is placed horizontally in the lower part of the framing A, and has two fly-wheels, C C, upon it—one at each end—and a driving pulley, D, its center. The fly-wheels C C are each provided with a radial arm, *a*, and these arms are slotted nearly their whole length, as shown at *b*, to receive the pins E E of cranks F, the latter being on the inner ends of shafts G G, which are fitted in the framing A in line with each other, but out of line with the shaft B, as shown clearly in Fig. 1. On the crank-pins E E the lower ends of the pitmen H H are fitted, said pitmen projecting upward through slots *c* in a horizontal bed, *d*, on the framing A, and connected at their upper ends to a knife frame, I, which works on centers or pivots *e*. This knife-frame is composed of two side pieces, *f f*, to which the upper ends of the pitmen H H are attached, and a cross-piece, *g*, to which the knife J is secured, said cross-piece having a longitudinal opening, *h*, made in it, through which the stave, while being cut, passes behind the knife. (See Fig. 2.) The cross-piece is curved, and its end works in contact with curved heads K, which correspond in curvature to the barrel for which the staves are cut.

Between the heads K an inclined bed-piece, L, is secured, which is provided with a groove, *h'*, to receive the knife J when the latter approaches the lowest point of its movement. (See Fig. 2.) The lower edge of the cross-piece *g* of the knife-frame is provided with two curved guides, M M. The cross-piece *g* is between the points *e*, on which the knife-frame works, and the ends of the side pieces, *f*, to which the pitmen H H are attached, as shown in Fig. 2, and by this arrangement a leverage-power is obtained in operating the knife.

The bolt from which the staves are cut is placed on the bed-piece L, its front edge being allowed to come in contact with the guides M M, and as the knife is drawn down it cuts a stave from the bolt, the stave passing through the opening *h* behind the knife, and the cutting-edge of the latter passing into the groove *h'*. As the knife descends, the leverage-power of the knife-actuating mechanism increases, in consequence of the crank-pins E E gradually approaching the shaft B, on which the fly-wheels C C are keyed or secured. This is an essential feature, for it will be seen that power is increased as it is required, or as the labor of the machine increases, and the latter is therefore enabled to perform its work more uniformly and with a less expenditure of driving-power than is required to operate other machines of this class.

It will be understood, of course, that the bolt is fed to the knife during the upward movement of the latter, so that the former will be in proper position to be acted upon by the knife as the latter descends.

I claim as new and desire to secure by Letters Patent—

The slotted arms *a* of the fly-wheels C C, to receive the pins E E of the cranks F F, the shafts G G of which are placed out of line with the fly-wheel shaft B, and all arranged in connection with the pitmen H H to operate the knife-frame I, substantially as and for the purpose herein set forth.

H. M. SHAW.

Witnesses:
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