2 Sheets—Sheet 1

J. KISOR.

Machine for Making Wooden Barrels.

No. 205,875. **Patented July 9, 1878.**

Fig. 1.

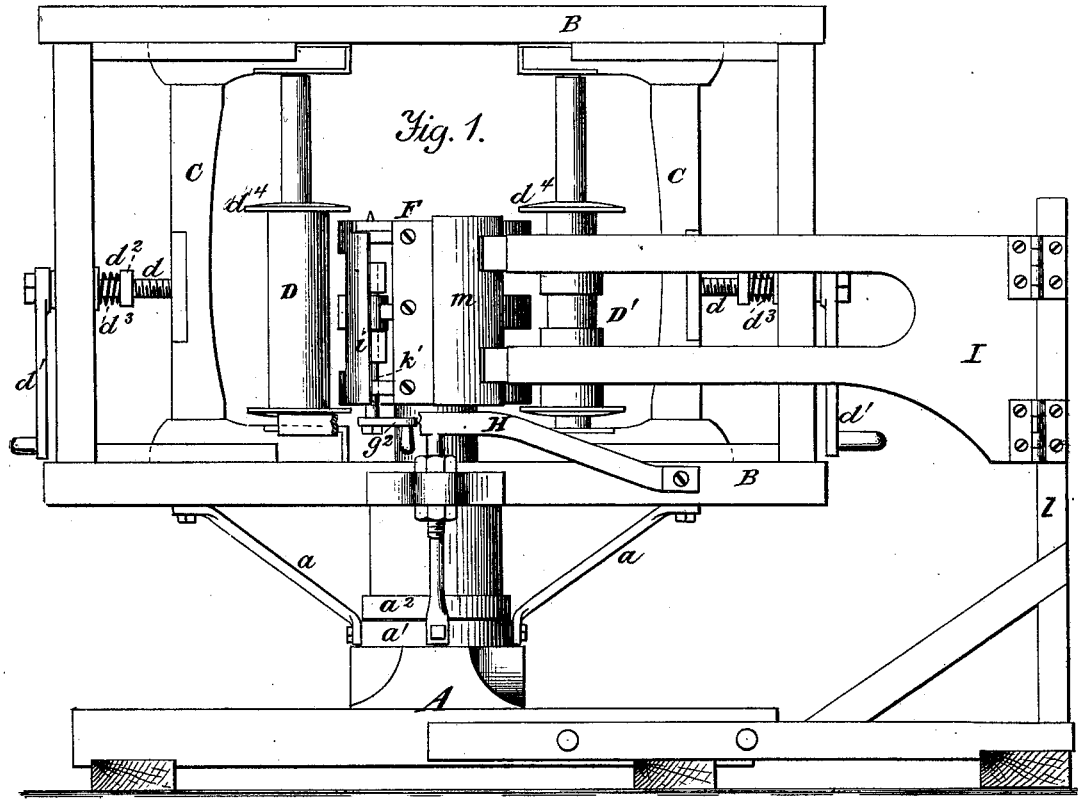
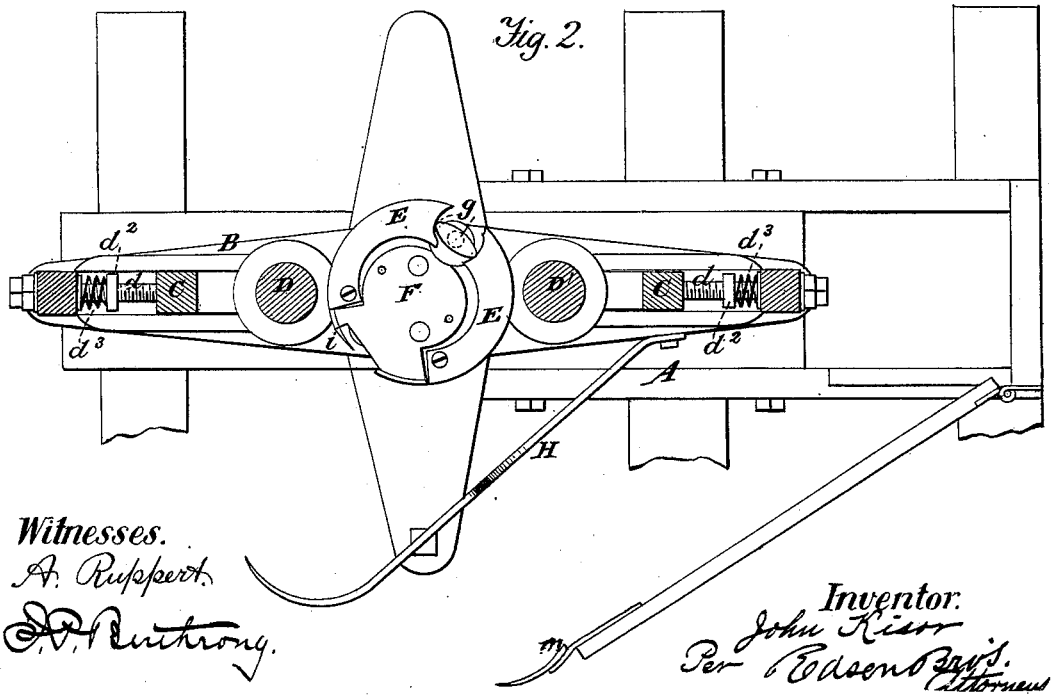


Fig. 2.



Witnesses.
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C. V. Armstrong.

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Fig. 3.

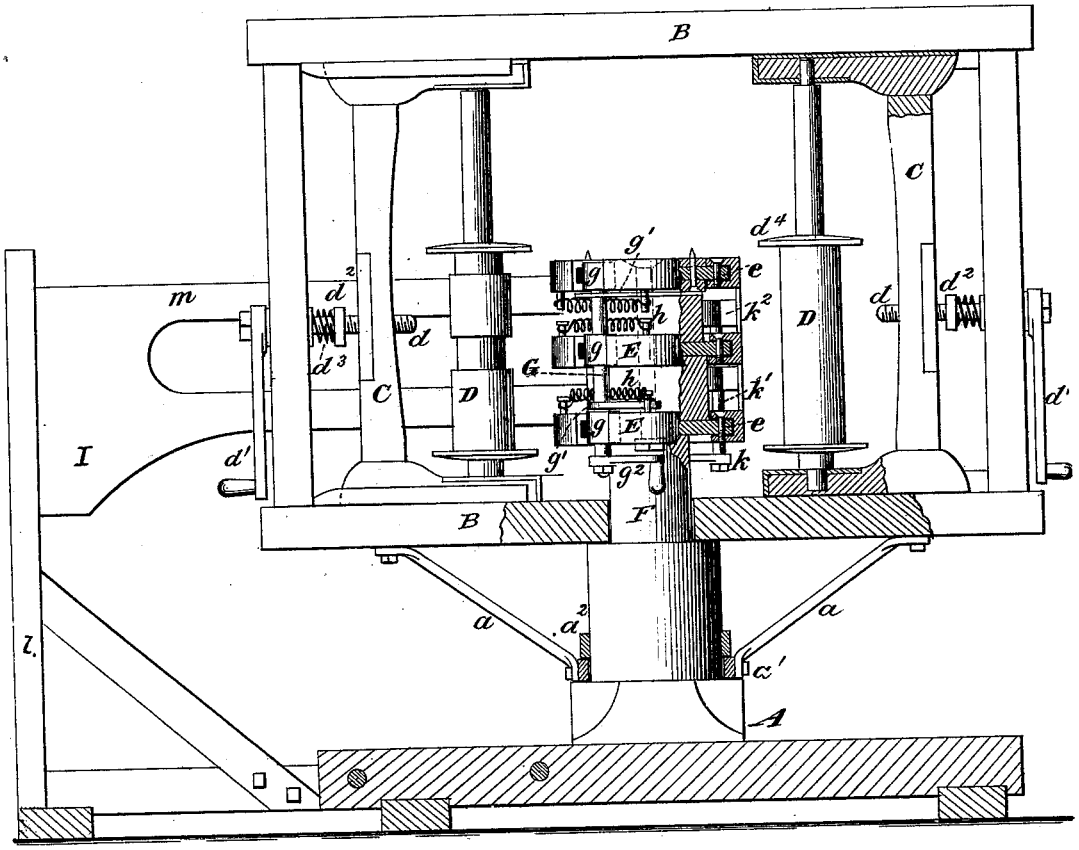
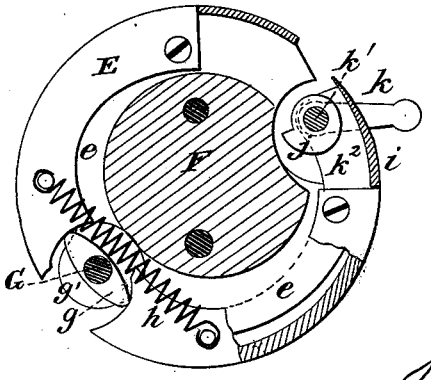


Fig. 4.



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UNITED STATES PATENT OFFICE.

JOHN KISOR, OF NEVADA, OHIO.

IMPROVEMENT IN MACHINES FOR MAKING WOODEN BARRELS.

Specification forming part of Letters Patent No. **205,875**, dated July 9, 1878; application filed March 6, 1878.

To all whom it may concern:

Be it known that I, JOHN KISOR, of Nevada, in the county of Wyandot and State of Ohio, have invented an Improvement in Machines for Making Wooden Barrels, of which the following is a specification, reference being made to the accompanying drawings, which form part hereof, and in which—

Figure 1 is a side elevation of my improved machine for making cylindrical vessels. Fig. 2 is a horizontal section thereof, partly in plan. Fig. 3 is a vertical section of the same, and Fig. 4 is a plan view of the forming-block.

The same part in the several figures is denoted by the same letter.

This invention appertains to certain improvements upon my machines for making cylindrical vessels, patented May 25, 1875, No. 163,788, and October 11, 1875, No. 168,752; and it consists primarily in the employment of expansible and collapsible curved arms or bars, suitably secured in position around a block or cylinder, and in certain details of construction, substantially as hereinafter more fully set forth.

With this machine the vessel is made in its entirety, from the putting on of the bottom, the bending of the body or sides to adapt and fasten it to said bottom, and the applying and fastening the hoops thereto.

In the annexed drawings, A refers to a pedestal or support, upon which is supported so as to revolve, a frame, B, which may be braced in position by the arms or braces *a a*, secured thereto and extending from a ring, a^1, encircling the said support, beneath a second ring, a^2, fastened to the same support. C C mark two sliding frames, which are disposed within the frame B, and one carrying a plain roller or cylinder, D, and the other an annularly-grooved roller, D′, the office of which will be referred to hereinafter. These frames, with their rollers or cylinders, can be adjusted toward and held in proximity with the work, or moved away from the same, by means of screws *d d*, provided with handles d^1 d^1 for their operation. These screws are provided with nuts d^2 d^2, between which and the inner ends of the frame B, through which said screws pass, they are also supplied with springs d^3 d^3 to aid their operation. The rollers or cylinders D D′ are provided upon their ends with flanges or projecting disks d^4 d^4, the function of which will be seen hereinafter. E E refer to curved arms or wings pivoted or hinged to a block or cylinder, F, which may form a continuation of, or be supported upon, the support A. These arms or wings may be arranged one above the other, and any number desired be used. They are rendered expansible by means of a rod, G, having cams *g g* arranged between the meeting ends of said arms or wings, the said rod or axis bearing in plates or projections g^1 g^1 fastened to the block or cylinder F.

To the lower or one end of the rod or axis G is attached a handle or crank, g^2, for operating said axis in causing its cams to spread apart or expand the arms or wings E E. Each pair of said arms or wings is connected together by a spring, *h*, by which, it will be observed, they are collapsed or caused to automatically approach each other as the pressure of the cams *g g* is removed therefrom upon returning them to their normal position. These arms or wings E E are preferably recessed to receive plates or projections *e e* upon the cylinder or block F to retain them in a horizontal position. Upon the opposite side of the block or cylinder F is an upright plate, *i*, between which and said block is a cam, *j*, operated by a lever or handle, *k*, attached to an axis or rod, k^1, of said cam and bearing in projections k^2 k^2 fastened to said cylinder. H is a rest or support, consisting of a bar secured at one end to the bottom bar of the frame B, and near its other end to a right-angular arm of said frame. Hung to one side of the cylinder or block and its arms or wings upon an upright, *l*, is an arm or lever, I, provided with an upright curved plate, *m*.

The operation is as follows: The piece to form the head or bottom of the vessel, after having been properly cut into shape, is secured in position upon the block or cylinder F by suitable fastenings and inserting its edges under the flanges d^4 d^4 of the cylinders or rollers D D′, previously adjusted sufficiently near the said block for that purpose. Next insert one end of the piece designed to form the body or sides of the vessel under the plate *i* and clamp the same in place by means of the cam or

clamp *j*, the free end of said piece or body resting upon the support or rest H. The arms or wings E E are now expanded by turning in the required direction the handle g^2 of the axis or rod G, carrying the cams *g g*. The roller D having been adjusted into contact with the said side or body near its clamped end, the frame B is revolved, so as to cause the said roller to bend said body into position around the block F and its expanded arms or wings E E, and simultaneously nailed to the top or bottom until its free end meets or more or less laps its clamped end, which lapping end is held in place by the swinging plate *m* until properly fastened.

To put on hoops when needed, the annularly-grooved roller D′ is properly adjusted with reference to the body of the vessel, one end of the hoop firmly secured or held in position, and the hoop let into one of the grooves of said roller, when the frame B is revolved, so as to cause said roller to carry the hoop around and permit of its being applied to the vessel. Collapse the arms or wings E, and the vessel can be readily removed.

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

1. In combination with the forming-block of a machine for making cylindrical vessels, the arms or wings E, hinged or pivoted thereto and connected together by springs and provided with means for their expansion and contraction, substantially as and for the purpose set forth.

2. In combination with the block or cylinder F, the hinged or pivoted arms or wings E, connected together by springs *h h*, rod or axis G, provided with cams *g g* or their equivalents, plate *i*, and rod or axis *k*, provided with cam *j* or its equivalent, substantially as and for the purpose set forth.

3. The rest or support H, attached to the frame B, in combination and arranged with the block F and its arms E E, so as to support the free end of the piece designed to form the body or side of the vessel, substantially as and for the purpose set forth.

4. The swinging arm I, provided at its free end with a curved metallic plate, *m*, in combination with the block F and its arms or wings E E, substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my own I hereunto affix my signature in the presence of two witnesses.

JOHN KISOR.

Witnesses:
J. L. COOK,
M. S. KELTNER.