

G. W. Holmes,

Making Hoops.

N^o 14,753.

Patented Apr. 22, 1856.

Fig. 1

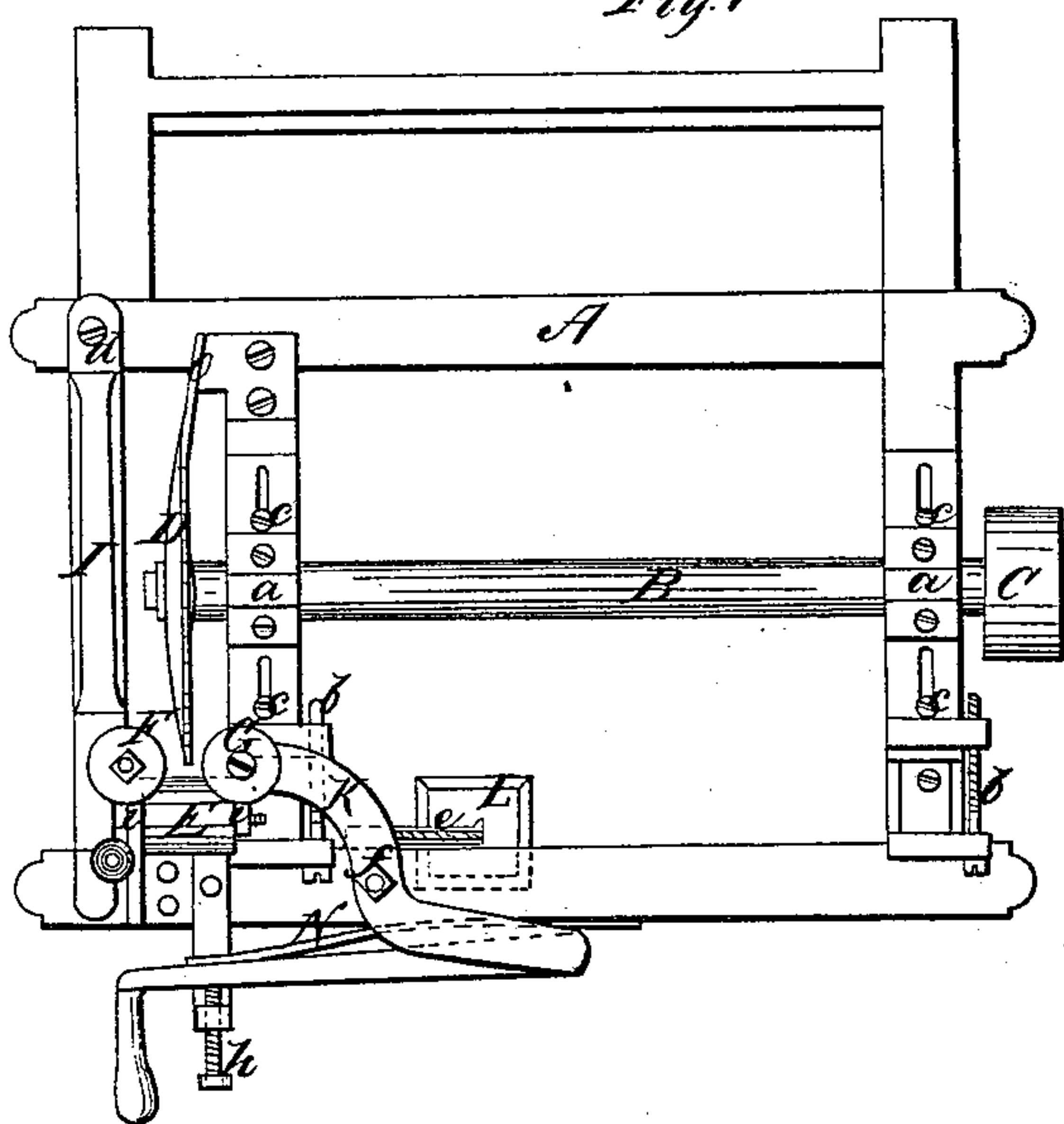


Fig. 4

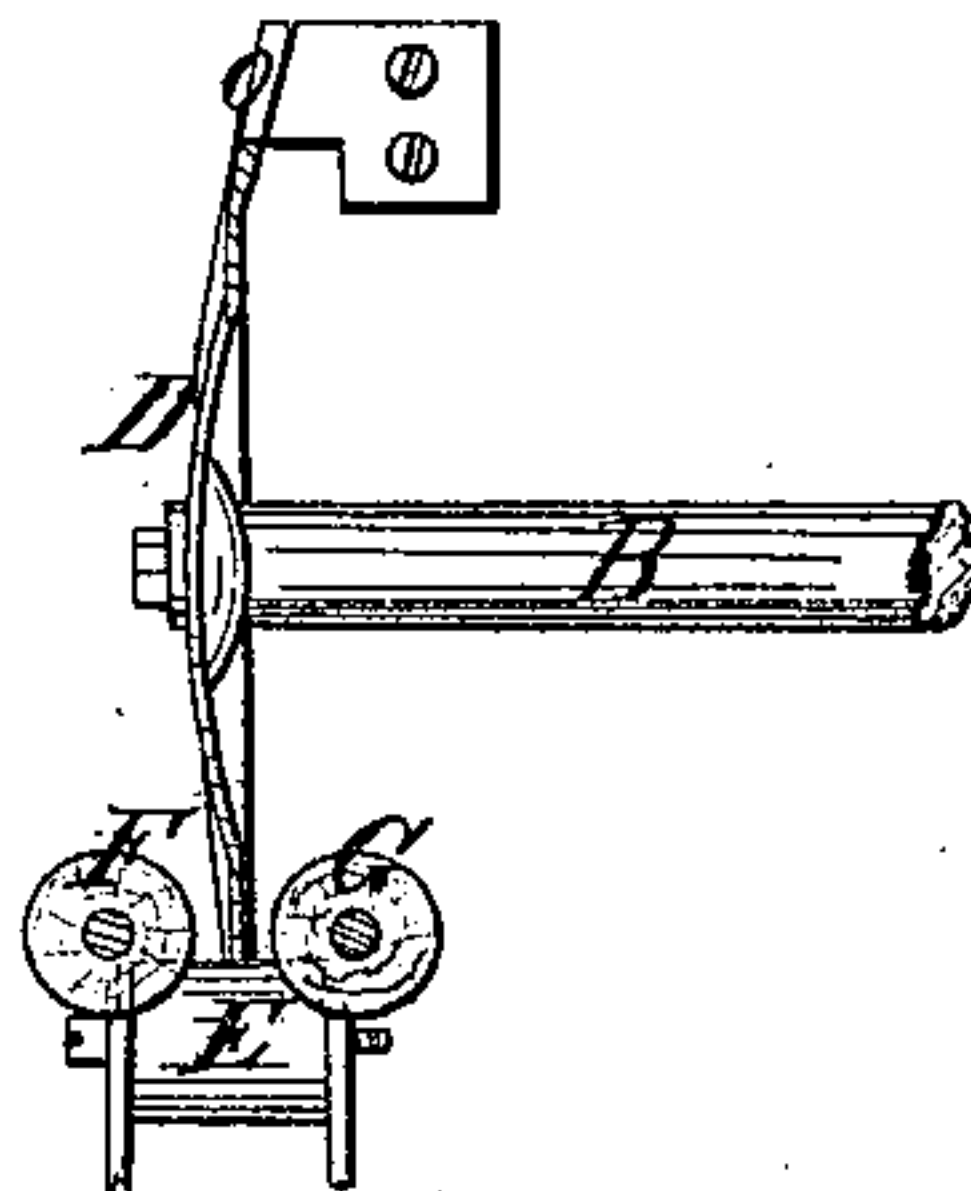


Fig. 2

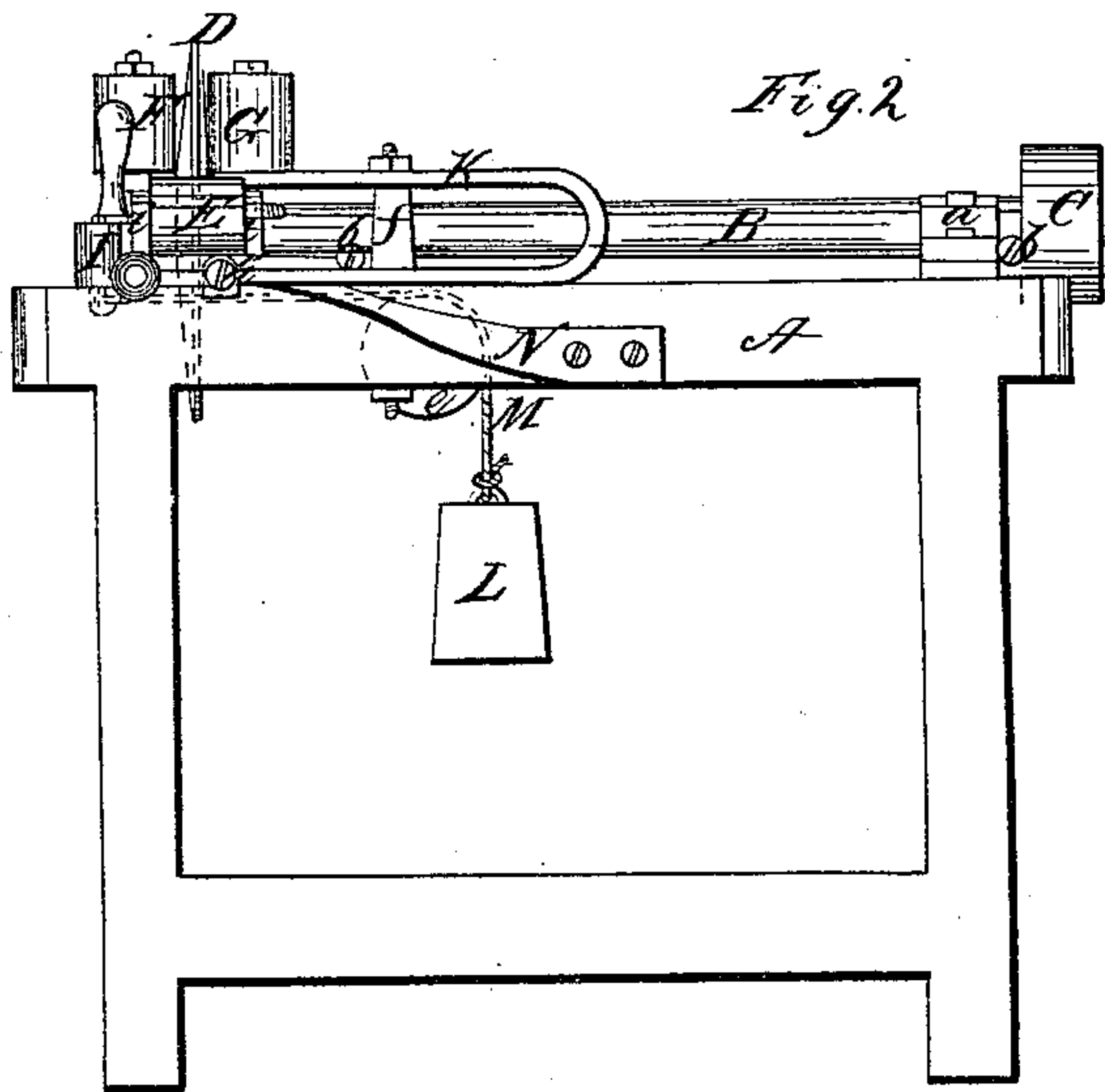
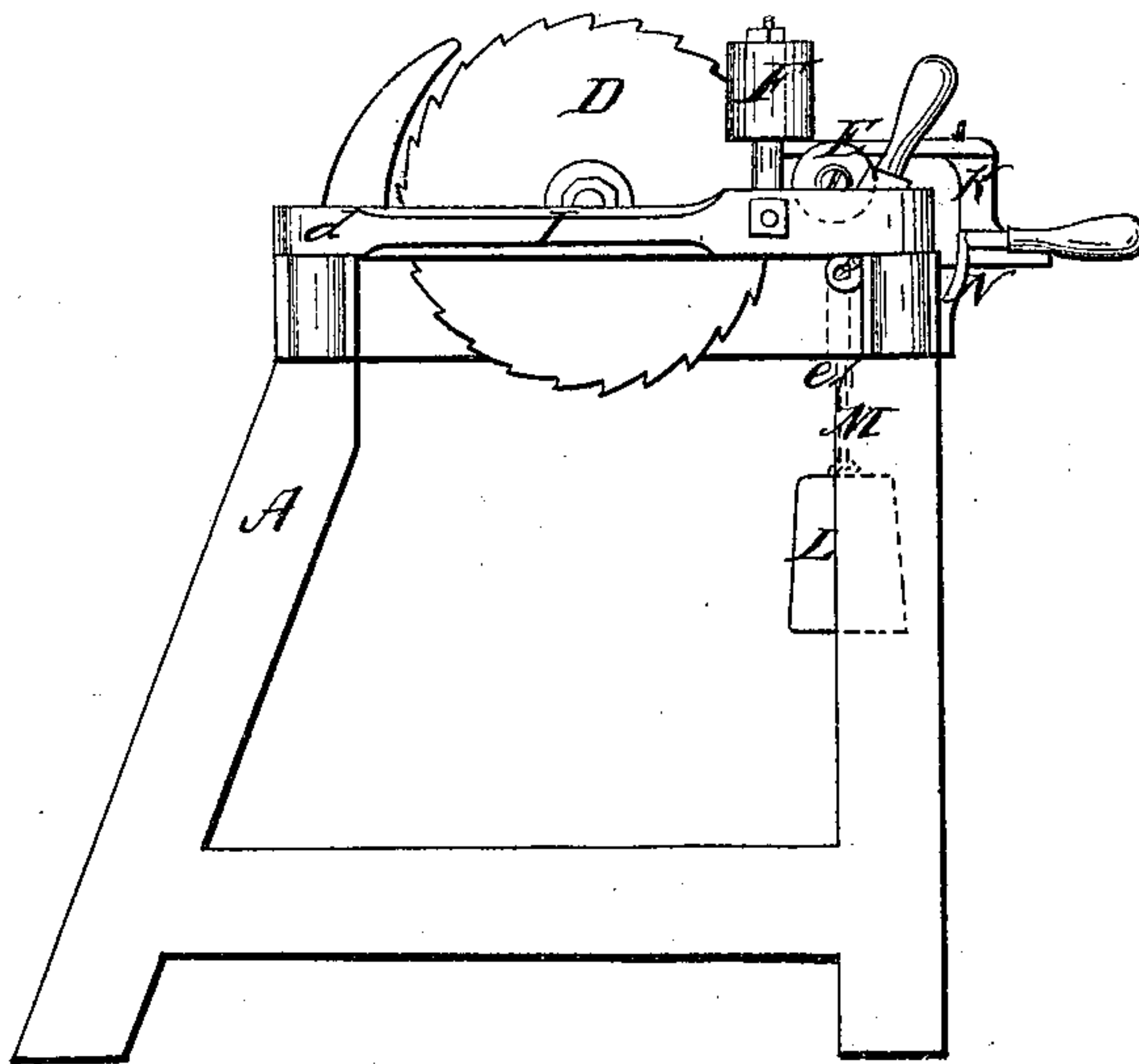


Fig. 3



UNITED STATES PATENT OFFICE.

GEORGE W. HOLMES, OF BUCKFIELD, MAINE, ASSIGNOR TO JARVIS C. MARBLE, OF PARIS, MAINE.

HOOP-MACHINE.

Specification of Letters Patent No. 14,753, dated April 22, 1856.

To all whom it may concern:

Be it known that I, GEORGE W. HOLMES, of Buckfield, in the county of Oxford and State of Maine, have invented an Improved
5 Machine for Sawing Barrel-Hoops from Poles; and I do hereby declare that the same is fully described and represented in the following specification, and the accompanying drawings, of which—

10 Figure 1, is a top view of said machine. Fig. 2, a front elevation of it. Fig. 3, an end elevation. Fig. 4, a horizontal section of the pressure rollers, saw, and the stand-guard to be hereinafter described.

15 In the said drawings, A, exhibits the frame of the machine, the same supporting on its top part a horizontal shaft, B, which rests and revolves in suitable boxes, *a, a*, which are provided with adjusting screws
20 *b, b*, and clamping screws, *c, c*, so applied to the main frame as to enable the shaft to be moved laterally and horizontally either in one direction or its opposite, as occasion may require.

25 On one end of the shaft, B, a driving pulley, C, is fixed and for the purpose of imparting motion, by means of a belt from a suitable motor, to the shaft and a circular
30 saw, D, fixed on the other end of the said shaft and so as to be revolved by it. This saw is made dishing in cross section, or is formed concavo convex, like a meniscus or watch glass, and has arranged above its center (as shown in the drawings) a horizontal
35 rest roller, E, and two vertical pressure rollers, F, G, said pressure rollers being placed respectively on opposite sides of the saw. Each pressure roller is supported on one of two levers, I, K, the lever, I, turning on a
40 fulcrum at, *d*, and being drawn toward the saw by means of a weight, L, whose cord, M, is attached to the lever and passes around a guide pulley, *e*, arranged as seen in Figs. 1 and 2. The other pressure roller, viz, G, has
45 its lever K, turning on a fulcrum, *f*, and pressed against by a spring N arranged as seen in the drawings, the said spring serving to force the longer arm of the lever against a stop screw *h*, and with a power or
50 pressure which shall maintain the roller, G, in position with a greater force than the roller F, is drawn toward the saw or has its lever drawn in contact with one of the standards, *i, i*, by which the rest roller is
55 supported.

In advance of the saw and in the same plane or line with it, and so as to stand as seen in the drawings with respect to its opposite faces or sides I arrange a stand guard, *o*, it being a bent piece of metal, 60 curved both transversely and longitudinally and arranged very nearly up to the teeth of the saw and so as to project upward from the frame, A, as high as the tops of the pressure rollers.

65 In operating with my machine, it first becomes necessary to regulate the distance at which the pressure roller, G, should stand from the adjacent side of the saw. This is done by means of the stop screw, *h*, and 70 when it has been accomplished, a pole from which the hoops are to be sawed is inserted endwise between the pressure rollers and is pressed forward against the cutting edge of the saw, the saw being supposed to be in 75 revolution; while the roller, G, by its greater pressure toward the saw controls the thickness of the hoop and prevents the other roller F, from effecting said thickness, it (the said roller G) in consequence of the 80 peculiar application of pressure to it, can and will give way under the pressure of knots or irregularities on the outside surface of the hoop; the other pressure roller serving to steady the pole and to give way under 85 any pressure occasioned by irregularities or knots on the part of the pole which is directly between it and the saw.

By making the saw dishing and arranging the pressure rollers with respect to it in 90 the manner as described, we are not only enabled to saw bent or crooked sticks to better advantage than we can with a plane saw, but we cut each hoop with a lateral bevel such as will cause it when bent around in a 95 circle to be frusto conical on its inner sawed surface and thus enable it to fit closely against the taper of the barrel.

100 In sawing a curved pole with a plane circular saw, there is constant danger of the saw running laterally out of the pole, but with the dished saw the liability of such an occurrence is greatly diminished and besides we gain the advantage of lateral beveling of the hoop as specified. The stand 105 guard arranged with respect to both faces of the saw as described, will prevent either the pole or hoop blank from coming into contact with the teeth, in front of the axis of the saw and thereby being injured by such. 110

I claim—

1. The arrangement and combination of
the pressure rollers, the saw and the stand
guard as specified and so as to operate to-
5 gether and for the purpose as set forth, the
said rollers being pressed toward the saw
with variable degrees of pressure in manner
as hereinbefore explained.

2. And under the arrangement of the saw
10 and pressure rollers as described I claim

making the saw dishing, or concavo convex,
by which advantages are gained as stated.

In testimony whereof, I have hereunto set
my signature this eighth day of March
A. D. 1856.

GEORGE W. HOLMES.

Witnesses:

R. H. EDDY,

F. P. HALE, Jr.