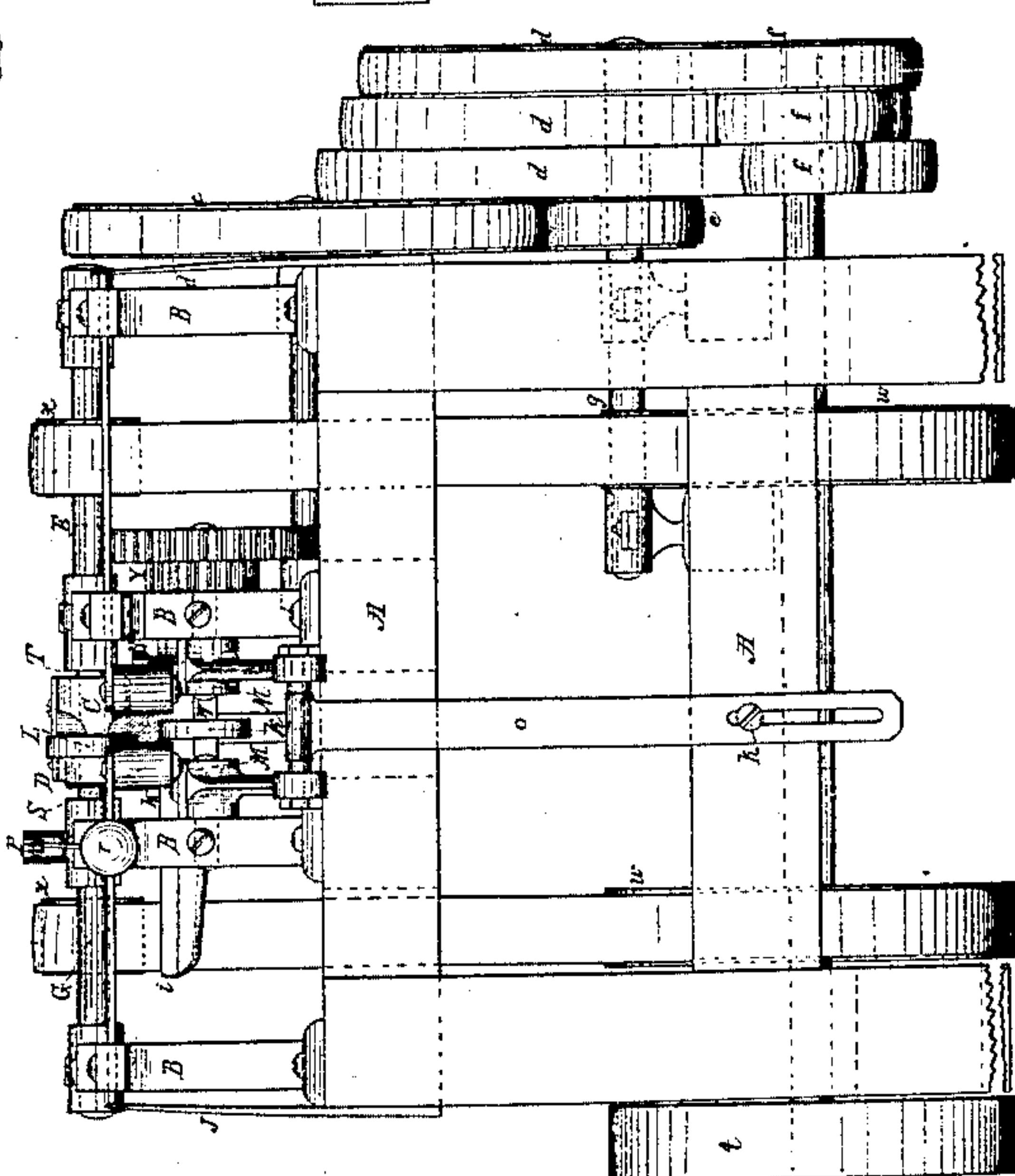
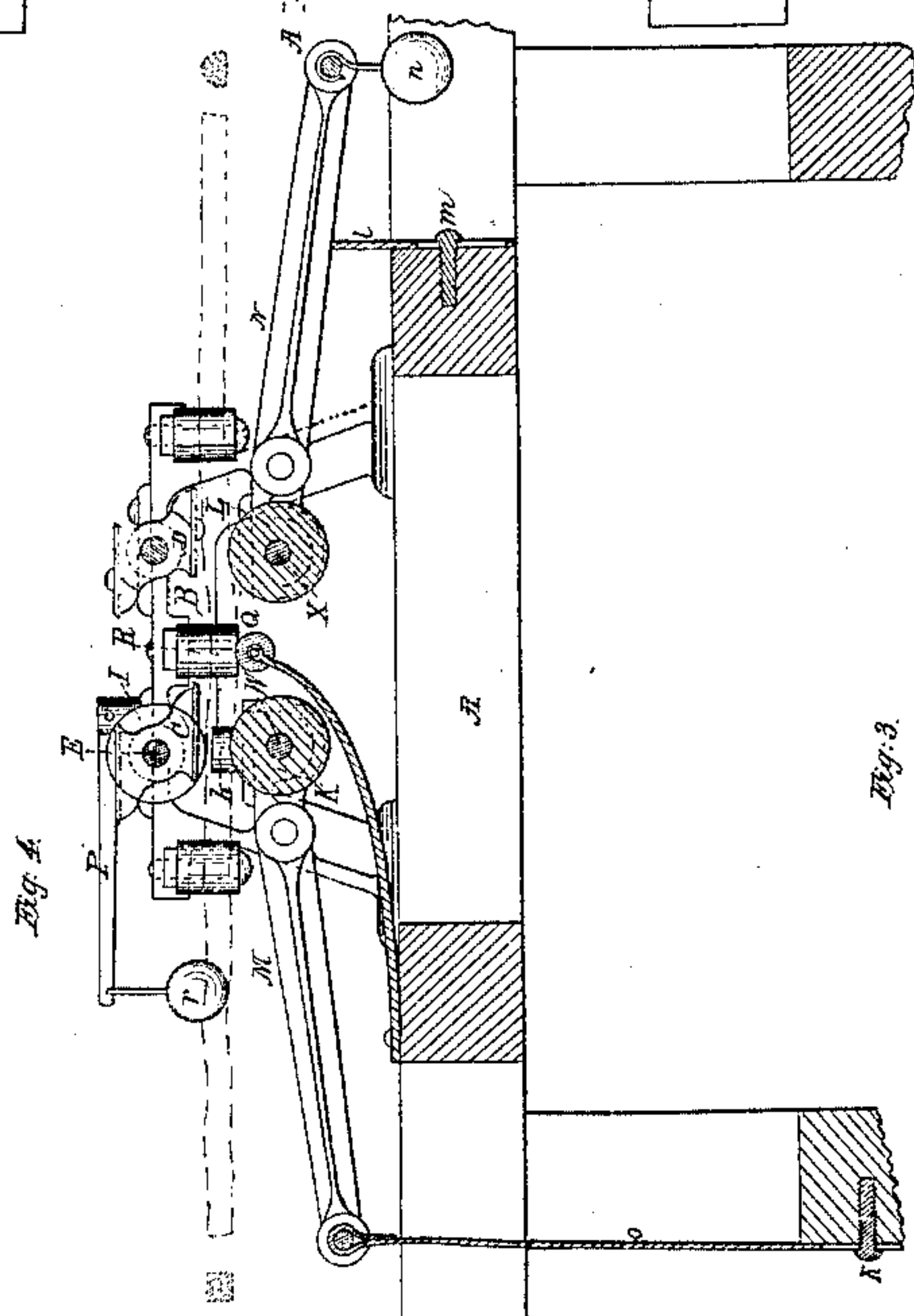
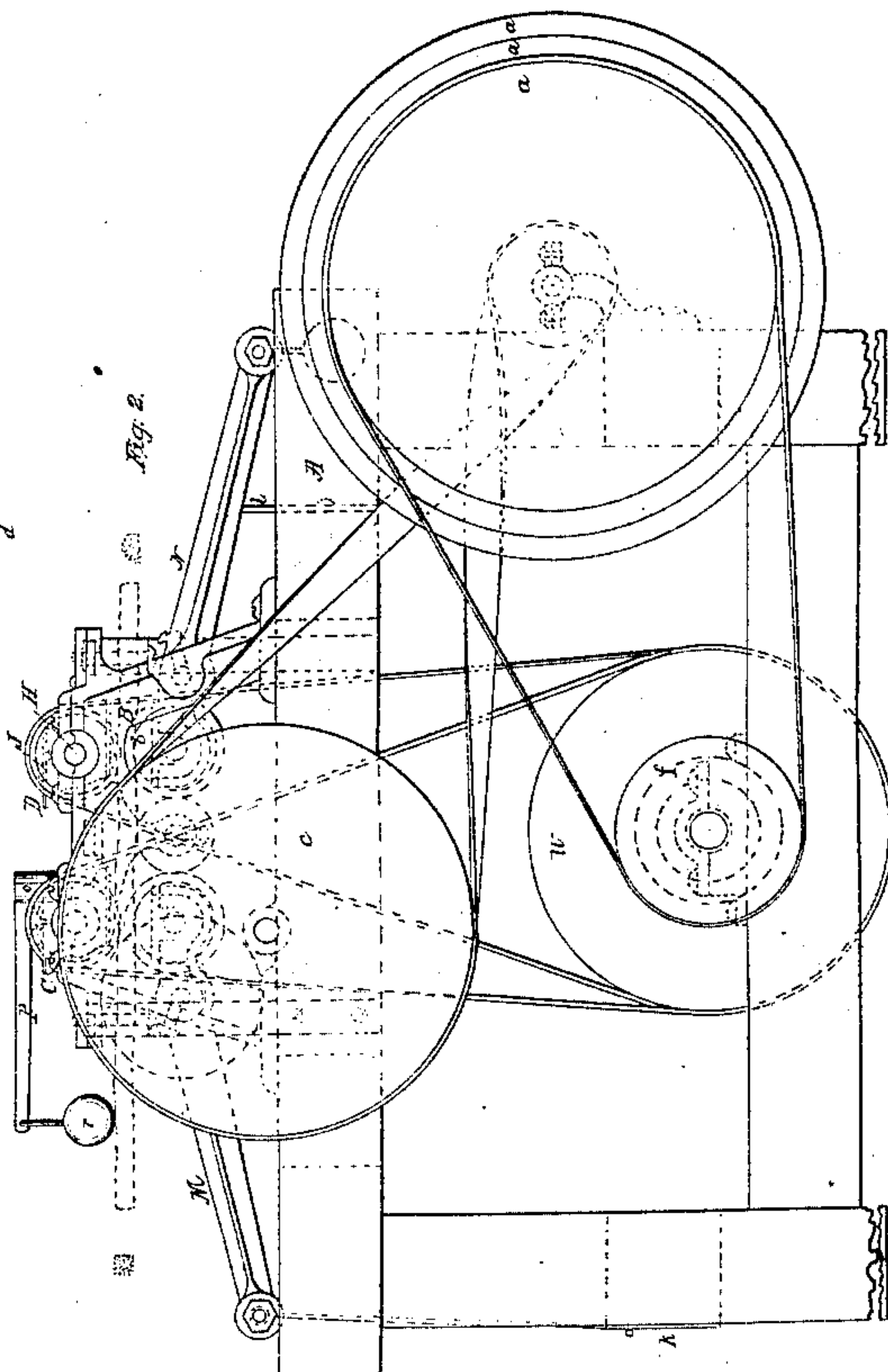
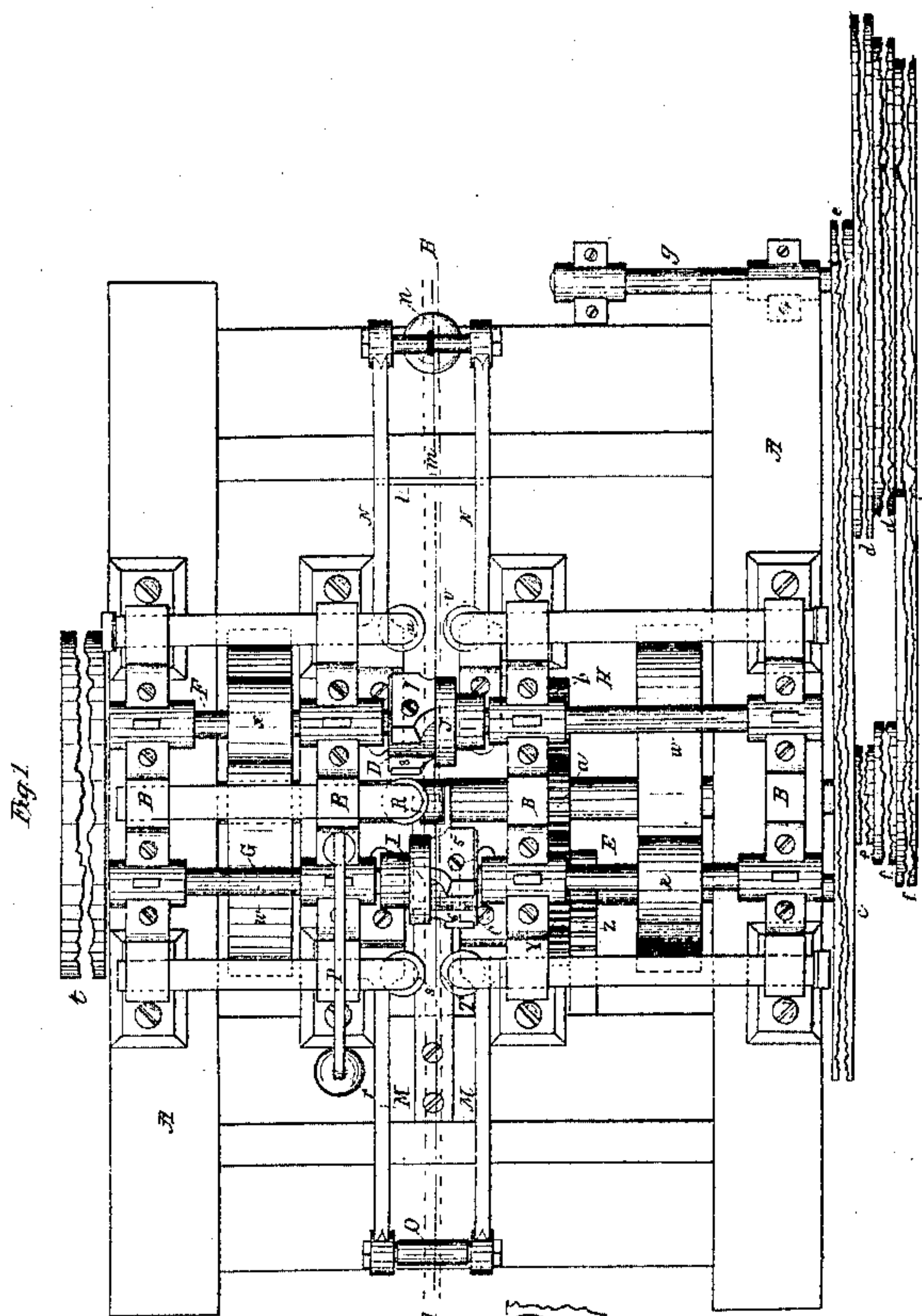


# E. W. Scott, Making Hoops.

N<sup>o</sup> 11,875.

Patented Oct. 31, 1854.





# UNITED STATES PATENT OFFICE.

E. W. SCOTT, OF LOWELL, MASSACHUSETTS.

## MACHINE FOR MANUFACTURING MAST-HOOPS.

Specification of Letters Patent No. 11,875, dated October 31, 1854.

*To all whom it may concern:*

Be it known that I, ELHANAN W. SCOTT, of Lowell, in the county of Middlesex and State of Massachusetts, have invented a new and useful Machine for Planing or Rounding Mast-Hoops; and I do hereby declare that the same is fully, clearly, and exactly described and represented in this specification and the annexed drawing, which makes  
5 part of the same, the letters of which refer to like parts in the several figures.

A working machine should be four times as large as indicated by the drawings.

Figure 1 of the said drawings denotes a  
15 plan; Fig. 2 a side elevation; Fig. 3 an end elevation; Fig. 4 denotes a longitudinal and vertical section at A, B, Fig. 1.

The nature of my invention consists of a machine which is fully detailed hereafter,  
20 for the purpose of planing or rounding rived timber for mast hoops and truss hoops, and at the same time follow the grain of the wood so that the said hoops can be steamed and bent, which will be understood by persons acquainted with making the said article.

To enable persons skilled in the art of making and using mast and truss hoops to carry out my invention I will describe the  
30 same as follows.

I construct a frame of wood as seen at A, A, Figs. 1, 2, 3 and 4 of the drawing, on the top of said frame I place four iron stands as seen at B, Figs. 1, 2, 3, and 4, for  
35 supporting the cutting heads and upper set of feed rolls.

At E, Figs. 1, 3, and 4, can be seen the front cutter shaft on which is placed the cutter head C, Figs. 1, 2, 3 and 4, the cutters  
40 on which are shown at 5 and 6.

At F, Figs. 1 and 4, is shown the back cutter shaft on the end of which is placed the cutter head D, and the cutters on it are shown at 7, and 8.

At G, Figs. 1 and 3, is shown the front upper feed roll shaft, and the feed roll on it at I, Figs. 1, 3, and 4. At H Figs. 1, 2, 3 and 4, is shown the back upper feed roll shaft on which is placed the back feed roll J  
50 Figs. 1 and 2. At P Figs. 1, 2, 3, and 4, is seen a lever and on the end of it I place a weight as seen at r Figs. 1, 2, 3 and 4. This lever and weight is for the purpose of constantly pressing down the feed roll upon the  
55 hoop as it passes through the machine.

The cap of the feed roll shaft G near the roll I, is so fitted as to allow the said roll I to move up and down to accommodate itself to the unevenness of the piece of wood for the hoop.

At K, Figs. 3 and 4 can be seen the front and lower feed roll which is attached to the shaft W as seen at Figs. 3 and 4. This feed roll shaft is fitted to the ends of the levers M, Figs. 1, 2, 3 and 4, at the out end of  
60 which is attached to an adjustable stay or guide as seen at o, Figs. 1, 2, 3 and 4 for the purpose of setting the feed roll at any required distance below the cutter head for different sized hoops.

At L, Figs. 2 and 4, is seen the lower back feed roll which turns in the weighted levers N N, Figs. 1, 2, and 4; both of the lower feed rolls are driven the right speed by gears as seen at Y, a, b, z, Figs. 1, 2, and 3, the gear  
75 z being driven by the belts and wheels c, e, d, and f respectively.

At i Fig. 3 is seen the end of the movable and adjustable slide, to which is attached the friction guide k, for properly guiding  
80 the hoop sidewise as it passes the first set of cutters.

At Q Fig. 4 is seen a friction roll attached to the end of a spring for the purpose of steadying the ends of the hoops after they  
85 pass the front cutter head. I, place a roll as seen at S Figs. 1, 3, and 4, which is attached to an adjustable slide so as to be set or varied for the different sized hoops.

At R, u, and v, I place friction rolls which  
90 are pressed against the hoop by the springs j and a, on the front, and similar ones on the back of the machine for guiding and steadying the pieces for the hoops as they pass through the said machine.

At l, Figs. 1, 2, and 4, can be seen an adjustable stop, held in its position by the screw m, Figs. 1 and 4, for the purpose of preventing the levers N from dropping too  
100 low when or after the hoop passes through.

The stock for the hoops should be rived and the bark taken off, then it should be squared or roughed out by a side wheel then it is ready to be rounded or planed.

I, operate my machine by introducing the  
105 piece of wood intended for the hoop between the friction guide S and spring guide T. I then press the end of the intended hoop (as seen in red lines at Figs. 1, 2, 3 and 4,) between the feed rolls I and K, then the hoop  
110



is carried forward by the said feed rolls K and I Figs. 1, 3, and 4 and as it passes over the said roll K, the cutters on the front cutter head shape or round one half of the hoop while it is firmly held and carried along by the other half, by the said rolls I and K as seen at Fig. 4, then the hoop passes forward by the friction roll *r*, and between the second set of feed rolls L and J, Figs. 1, 2 and 4, and the second half of the hoop is finished by the said cutter-head D and the hoops are guided sidewise by the friction roll *y* Fig. 3 as they are carried forward by the feed rolls L and J, through the machine.

It will be understood that the first set of cutters and feed rolls finish one half of the hoop, and that the second set of cutters and feed rolls finish the other half of the hoop and at the same time leave the hoop to take any irregular course or position, except when it passes the aforesaid feed rolls and cutters as then it is shaped.

The object of this arrangement is for the purpose of allowing the crooked wood as it is rived, to pass through and be rounded parallel with the grain, which by being done in this way it can be steamed and bended into hoops without peeling or splitting the grain of the hoops apart, as would be the

case if the wood or hoops were rounded or planed across the grain.

The speed of the cutters should be about twenty-five hundred revolutions per minute for ordinary work.

I do not claim revolving cutter heads for dressing lumber, as they have been known and used. Neither do I claim stationary feed rolls as such, for they have also been known for planing boards and other straight timber.

I claim—

The feed rolls L and K, the feed rolls I and J, and the cutters and cutter heads C and D, when they are so constructed, arranged, and operated, as to round or finish and shape the mast hoops, while passing the said cutters and rolls, which shape, round, or finish them, parallel to the grain, the hoops being at liberty to take their natural course, excepting where they are held by the feed and friction rolls, and where the cutter heads and cutters are operating to dress them, essentially and for the purposes set forth.

ELHANAN W. SCOTT.

Witnesses:

WILLIAM A. RICHARDSON,  
GEO. STEVENS.