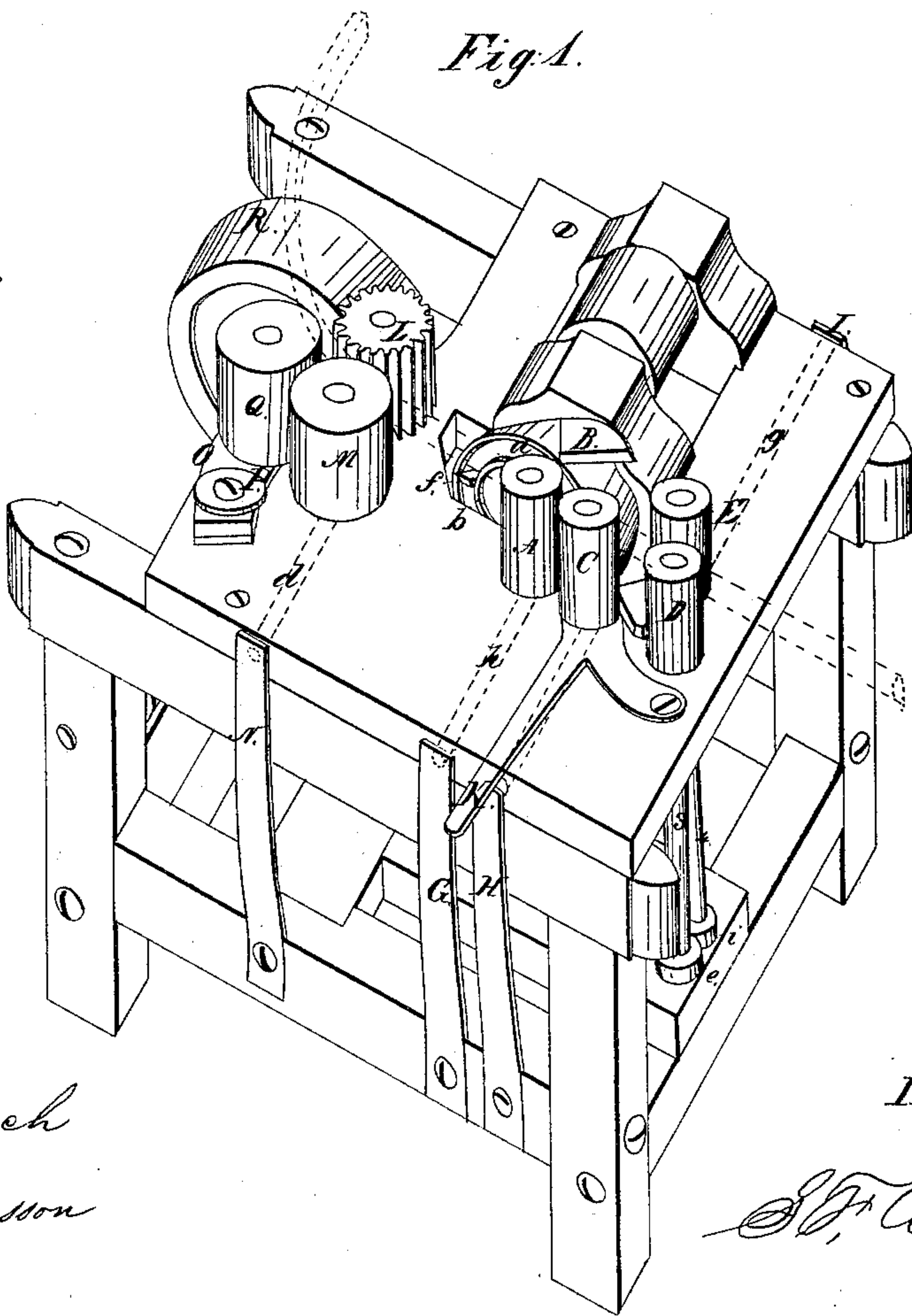
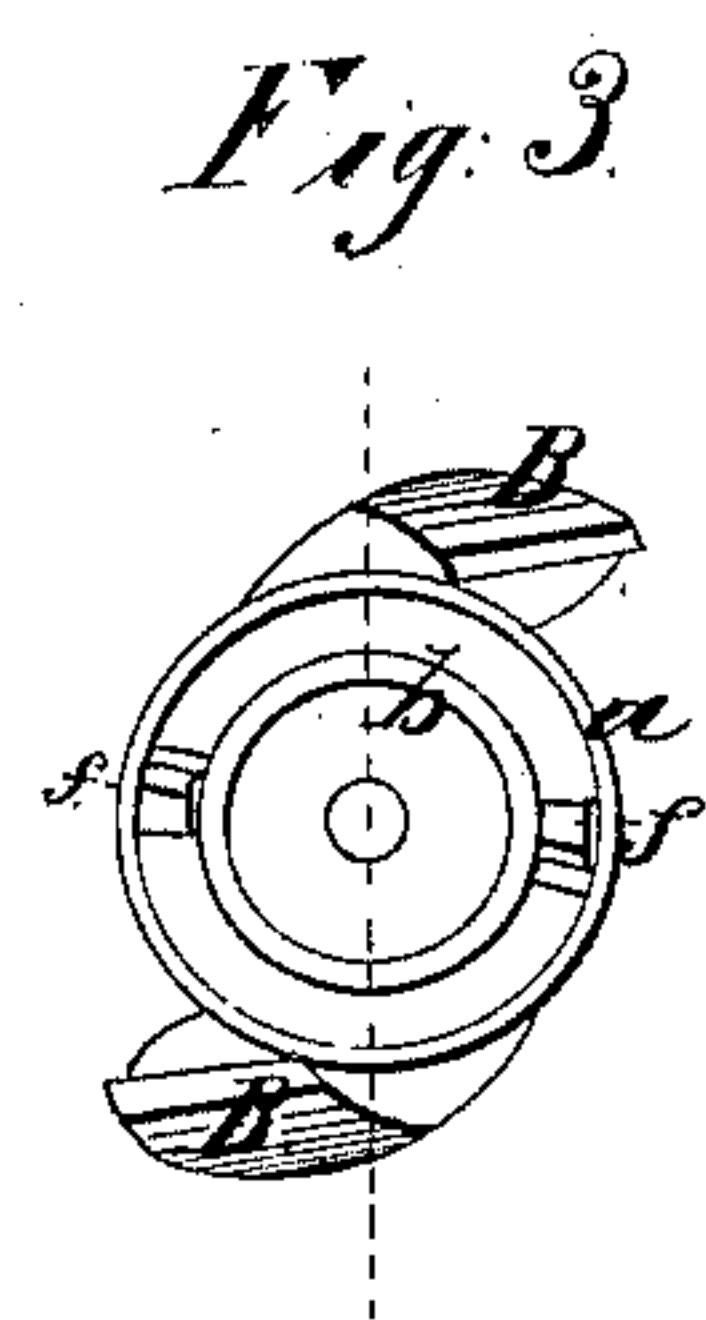
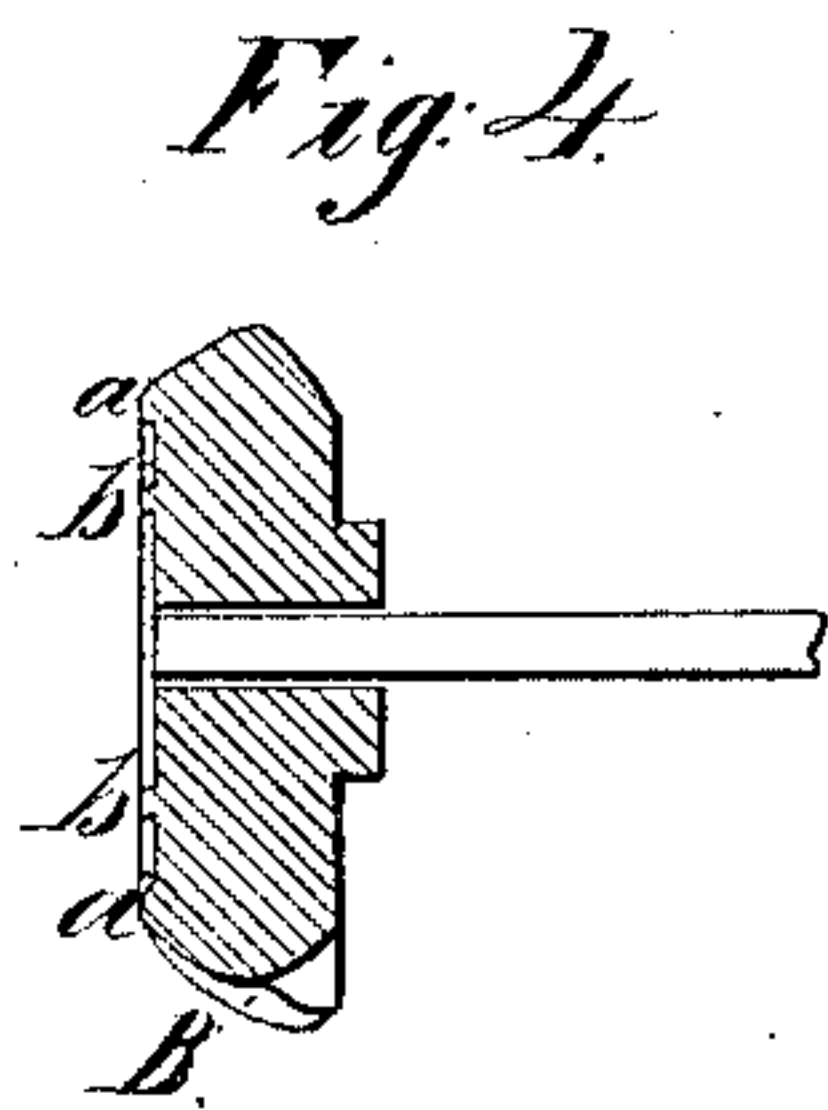
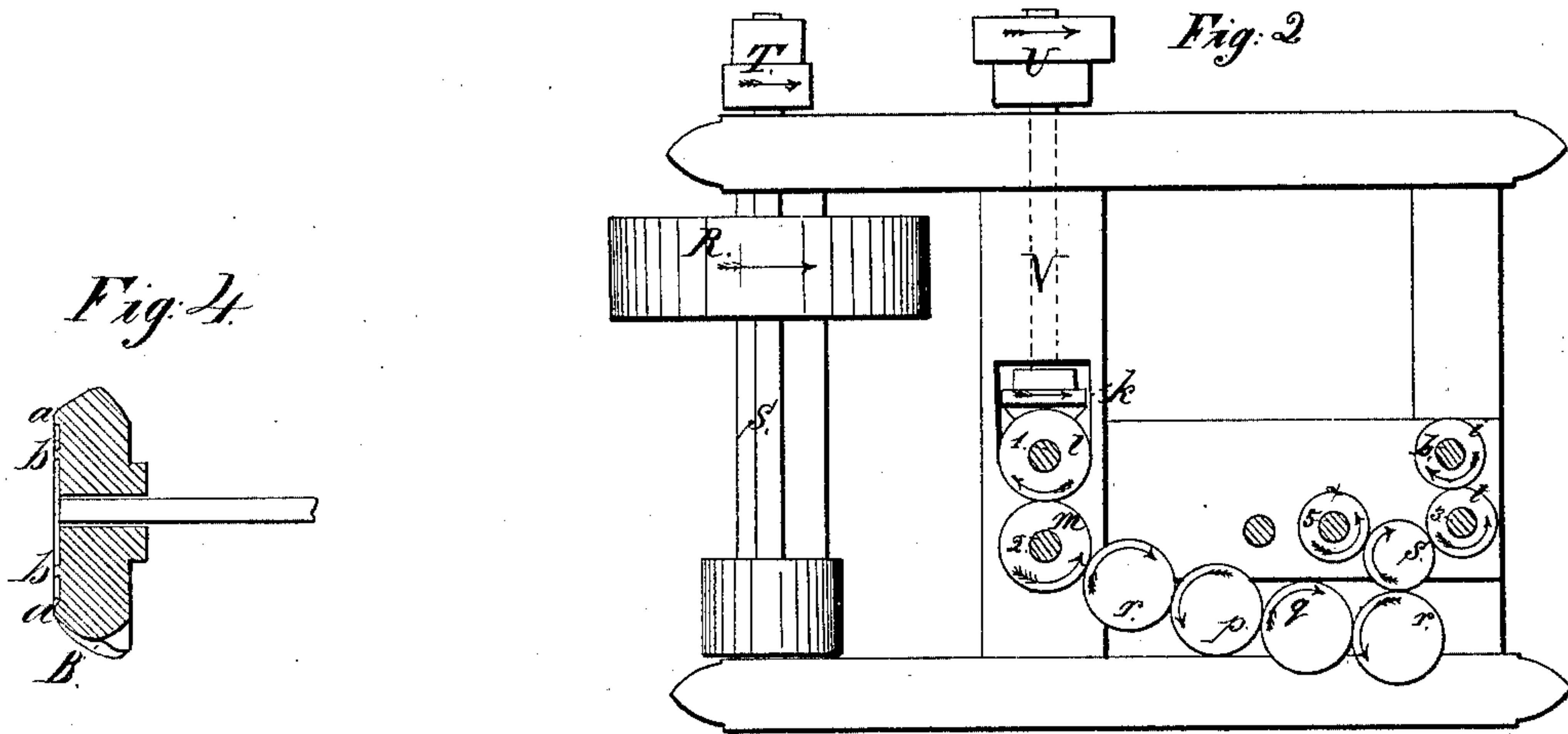


*S. F. Atherton,*  
*Making Hoops.*

*N<sup>o</sup> 30,609.*

*Patented Nov. 13, 1860.*



*Witness:*

Thos. R. Rouch

Ernund Masson

*Inventor:*

*E. F. Atherton*



# UNITED STATES PATENT OFFICE.

S. F. ATHERTON, OF FITCHBURG, MASSACHUSETTS.

## HOOP-MACHINE.

Specification of Letters Patent No. 30,609, dated November 13, 1860.

*To all whom it may concern:*

Be it known that I, S. F. ATHERTON, of Fitchburg, in the county of Worcester and State of Massachusetts, have invented certain Improvements in Machines for Shaving Hoops, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a view of a hoop shaving machine with my improvements attached; Fig. 2 a plan of the machine, the table being removed to show the driving parts; Fig. 3 an elevation of the cutter head detached; Fig. 4 a section through the same, in a plane passing through its axis.

Machines for shaving hoops have been constructed, in which the hoop was supported by a rest projecting within a dish, or hollow faced cutter head, and was held up to the cutter head by a roll bearing upon the opposite side of it. The work done upon such machine was however more or less imperfect, it not being practical to place a rest in advance of the finishing cutter, owing to the rough and irregular surface of the undressed hoop.

The first part of my invention has for its object to remedy this inconvenience, and consists in the combination of a gouge or roughing cutter with a disk or face cutter-head having a finishing cutter with a rest upon each side of it—the gouge cutter preparing the surface of the hoop for the exterior rest, while the two rests hold the hoop for both the gouge and finishing cutters as will hereafter be more fully described.

My invention also consists in submitting the dressed hoop to the action of a crimping roll after it has passed the finishing cutter by which it is brought approximately into the form which it is ultimately to assume, and is rendered so supple as easily to be bent when applied to the cask.

That others skilled in the art may understand my invention I will proceed to describe the manner in which I have carried it out.

The cutter head which forms the subject of the first part of my invention is seen in elevation in Fig. 3 and in section in Fig.

4. A continuous rest *a* projects from the face of the cutter head immediately within the gouge or rough cutter B and against this rest the rough dressed surface of the hoop bears; immediately within the rest *a* is the smoothing cutter *f* and within this a second continuous rest *b* against which the finished surface of the hoop bears. The hoop is thus held rigidly upon each side of the finishing cutter, by the two rests *a* and *b* to which it is borne by the roll A, which is forced up to its work by a spring G operating through a rod *h* seen dotted in Fig. 1. The hoop is received into the machine between the feed rolls D and E and is kept from yielding to the gouge cutter by the roll C which is kept in contact with the hoop by a spring H. The roll E is allowed to yield to accommodate the distance between it and the roll D to the thickness of the hoop, and is pressed up by the spring I operating through a rod *g* seen dotted in the table. The roll C may at any time be manipulated by means of the lever K. The crimping roll L runs in permanent boxes, and the roll M is pressed up to it by the spring N operating through the rod *d* which presses against its shaft. The roll Q is adjustable and is set so as to bend the hoop more or less after it passes the crimping roll. This adjustment is effected by means of the screw P which confines the plate O on which it runs, to the frame work. Motion is given to these parts in the following manner. Power being applied to the drum R on the shaft S motion is communicated from a pulley T upon this shaft to a pulley U on a shaft V by means of a band. The latter shaft carries a bevel gear *k* which engages with a corresponding gear upon the shaft 1 of the crimping roll; a gear *l* upon this same shaft drives a gear *m* upon the shaft 2 of the roll M; another gear upon the top of this shaft 2 through the intermediate gears *n*, *p*, *q*, *r*, *s* drives the gear *t* on the shaft 3 of the roll D and gives motion to this roll, and the roll E is driven by the gear *t* and *i* on the shafts 3 and 4. The roll C is driven by the wheel *s* which engages with a gear *x* upon the shaft 5 of this roll. The roll A need not be driven.

What I claim as my invention and desire to secure by Letters Patent is—

1. The combination of a gouge cutter with a cutter head constructed substantially as described and having continuous rests *a*, and *b*, for the support of the hoop upon each side of the finishing cutter as set forth.

2. The crimping roll *L* for giving form to the hoop as described.

S. F. ATHERTON.

Witnesses:

THOS. R. ROACH,  
EDMUND MASSON.