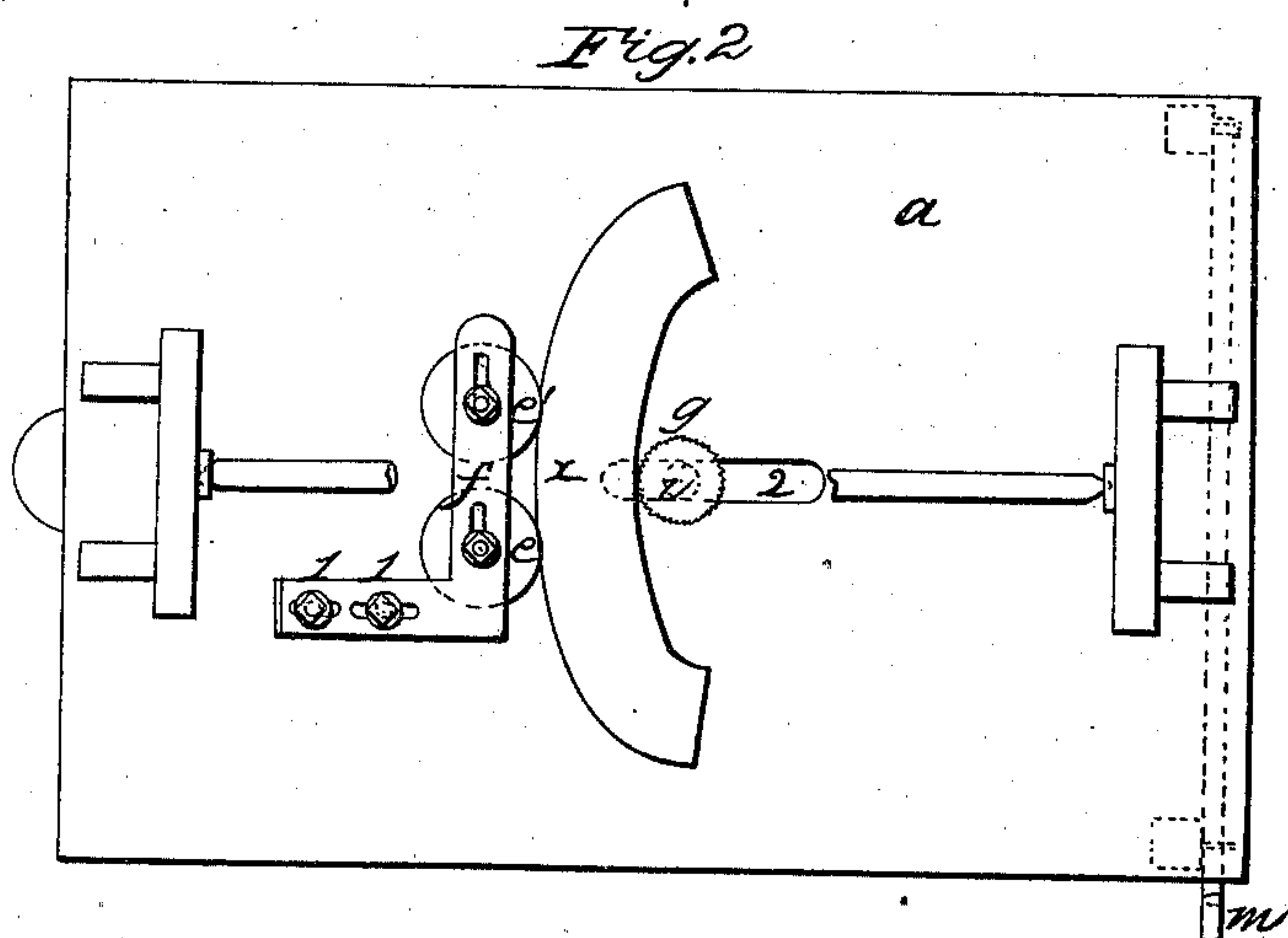
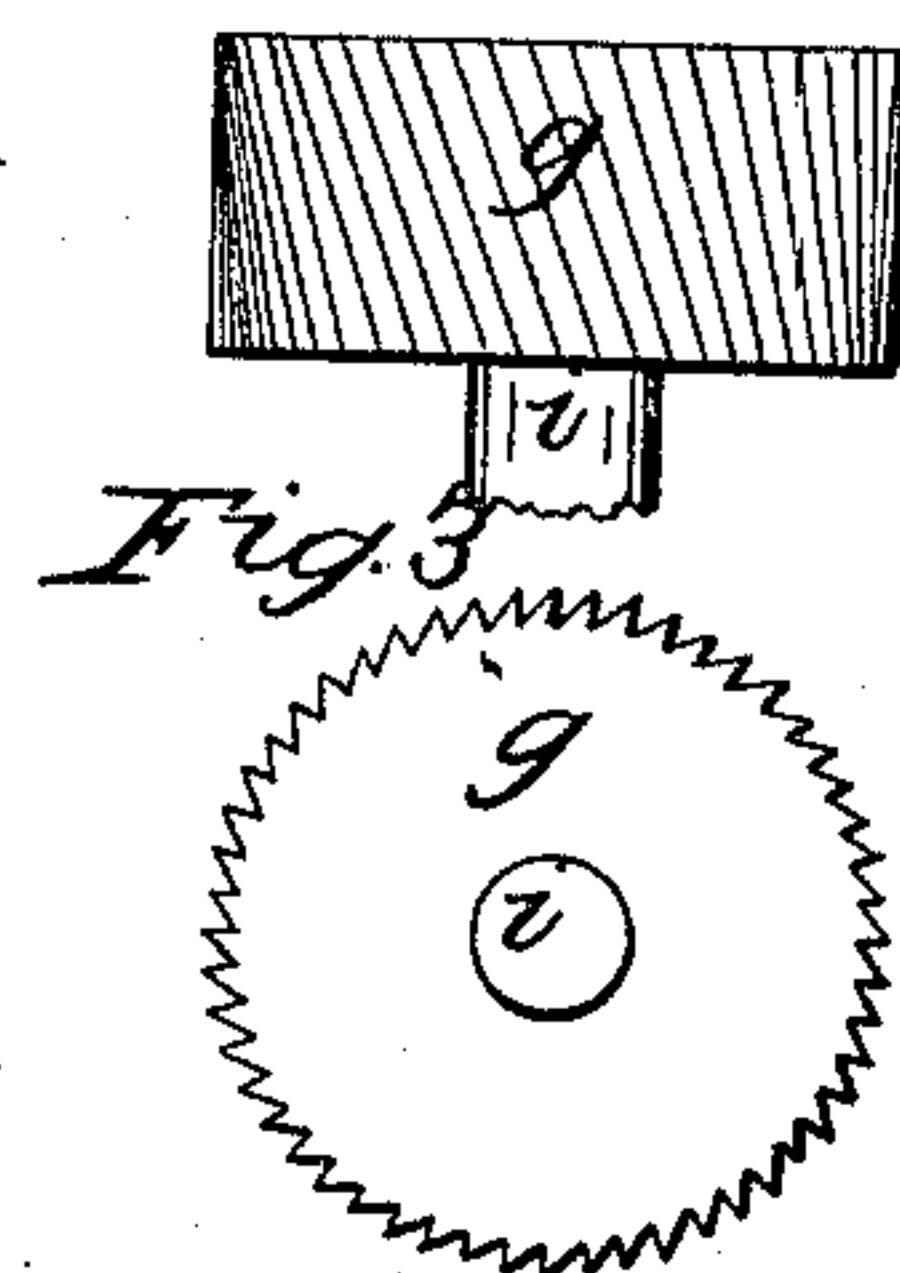
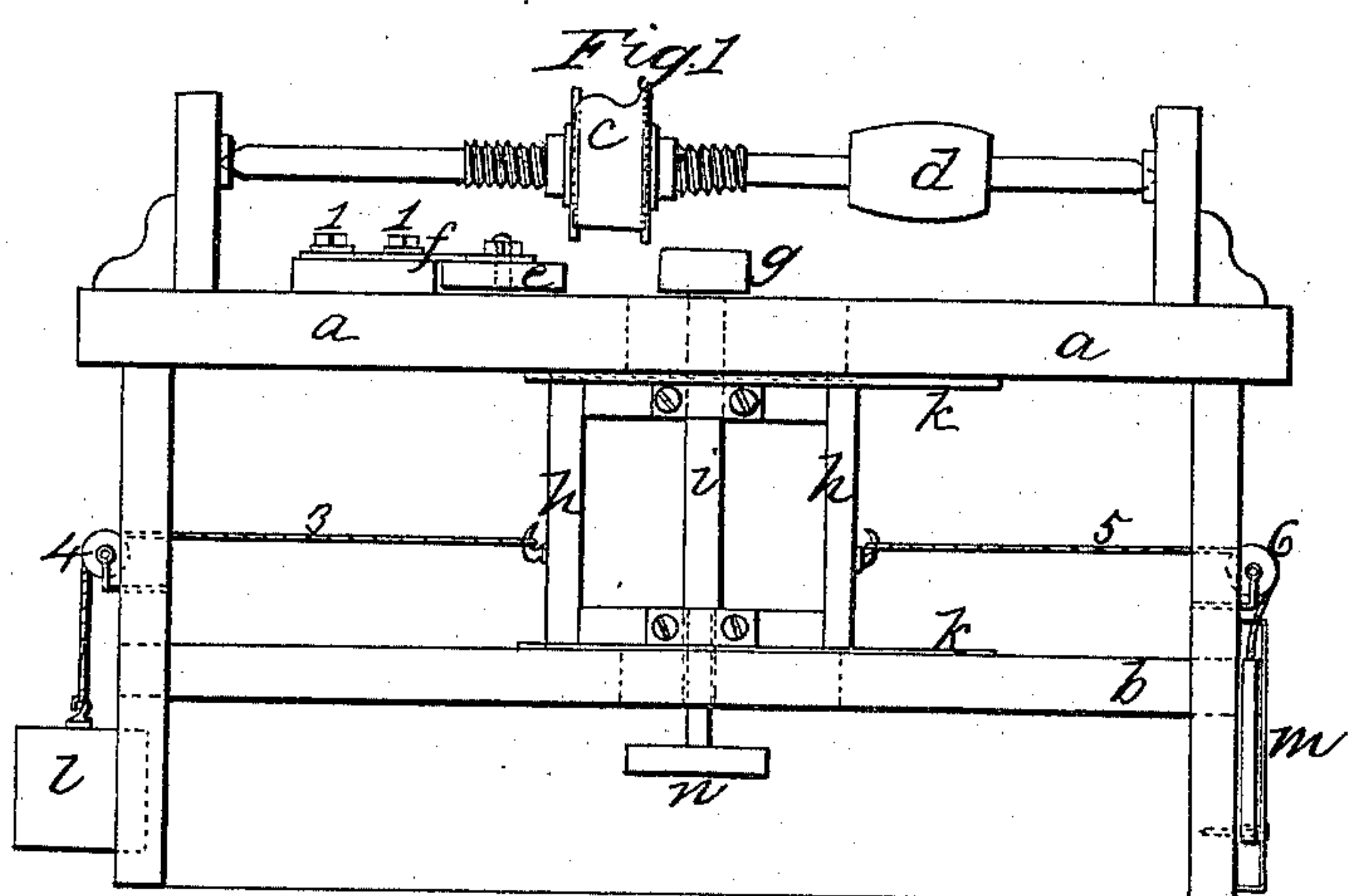


A. T. Serrell,
Wood Molding Machine.
N^o 31,678. Patented Mar. 12, 1861.



Witnesses:

Lemuel W. Serrell

Chas. Geo. Harwood

Inventor:

Alfred T. Serrell

UNITED STATES PATENT OFFICE.

ALFRED T. SERRELL, OF NEW YORK, N. Y.

FEEDING-ROLLER FOR ROTARY PLANING.

Specification of Letters Patent No. 31,678, dated March 12, 1861.

To all whom it may concern:

Be it known that I, ALFRED T. SERRELL, of the city and State of New York, have invented, made, and applied to use a certain new and useful Improvement in Machinery for Planing Curved Moldings, Beads, &c.; and I do hereby declare that the following is a full, clear, and exact description of my said invention, reference being had to the annexed drawing, making part of this specification, wherein—

Figure 1 is a side elevation of said machine, and Fig. 2 is a plan with the rotary cutter removed to show the guiding rollers. Similar marks of reference denote the same parts.

The nature of my said invention consists in the combination of a movable feeding roller with two adjustable stationary rollers, so located and acting in connection with a rotary cutter that the said cutter will produce a molding or bead upon an irregular or curved strip of wood; the movable feeding roller not only causing the wood to progress regularly, but also acting to keep the same down to the bed in consequence of oblique serrations formed in the edge thereof.

In the drawing *a*, is a suitable bed or table supported on a frame or legs *b*. *c*, is a rotary cutter fitted with planes of the shape of the molding to be cut and *d*, is the driving pulley on the shaft of the rotary cutter. The said rotary cutter may be constructed in any desired manner, and supported and adjusted as usual.

e, *e'*, are rollers fitted to a frame *f*, that is attached by bolts 1, 1, to the bed *a*, and the rollers *e*, *e'*, can be adjusted in the frame *f*, by slots taking the bolts or gudgeons of said rollers.

g is a feed roller on the upper end of a shaft *i*, that is supported by journal boxes in a sliding frame *h*, supported in the slides *k*. The bed *a*, is slotted as at 2, to pass the shaft *i*, and the weight *l*, on the cord 3, over the pulley 4, tends to keep the roller *g* toward the rollers *e*, *e'*, and by a lever *m*, and the cord 5, over a pulley 6, the workman can, by his foot, draw the frame *h*, and roller *g* away from the rollers *e*, *e'*, for the entering of the strip of wood to be acted on.

The wood to be planed into a curved molding or bead is first sawed out into the shape desired, and is then entered between

the rollers *e*, *e'*, and *g*, as aforesaid. It will now be seen that the axis of the rollers *e*, *e'*, being in a plane at right angles to the axis of the rotary cutter, that the curved strip of wood pressed to said rollers *e*, *e'*, by the roller *g* will stand in the correct position for the action of the rotary cutter; because the axis of the rotary cutter is parallel to and perpendicularly above the radius of the curve whether said curve be regular or varying and that the cutter itself will act parallel to a tangent on the curve or arc being planed. The material at *x* will illustrate the position of the wood being planed.

The action of the rotary cutters is to raise the wood from the bed and if the curved wood is not held down firmly against the operation of the rotary cutter particularly at the ends it is quickly torn and injured on account of the grain of wood generally running more or less crosswise. I therefore construct my feed roller with oblique serrations as represented in Fig. 1, so that under the action of the rotary cutter it shall tend to press the wood down to the bed, or in other words that the oblique serrations in causing the wood to progress shall tend to clamp or "screw" the wood down to the bed by the said oblique or screw formed serrations taking the edge of the strip of wood. The roller *g* may be revolved by any suitable mechanism. I have however shown a pulley *n*, adapted to a belt, and my said roller *g* is represented in larger size in plan and elevation in Fig. 2.

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

1. The feed roller *g*, formed with serrations upon its edge which are oblique to the surface of the bed upon which the wood moves, so that the action of the rotary cutter upon said wood shall cause the same to remain firmly upon said bed as set forth.

2. The rollers *e*, *e'*, in combination with the aforesaid serrated roller *g* and rotary cutter *c*, in the manner specified for the purpose of planing curved moldings as set forth.

In witness whereof I have hereunto set my signature this 23rd day of October, 1860.

ALFRED T. SERRELL.

Witnesses:

LEMUEL W. SERRELL,
THOS. GEO. HAROLD.