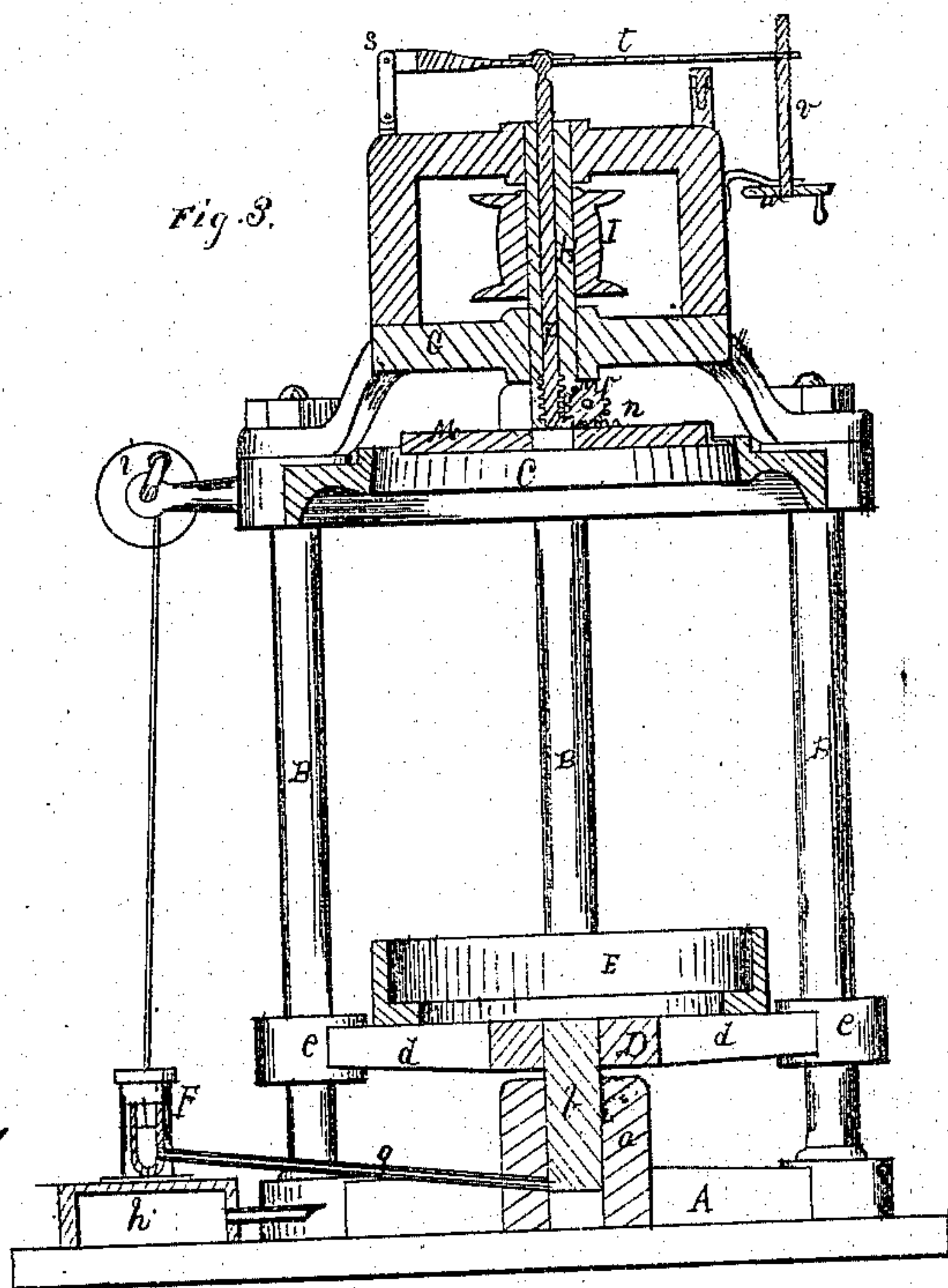
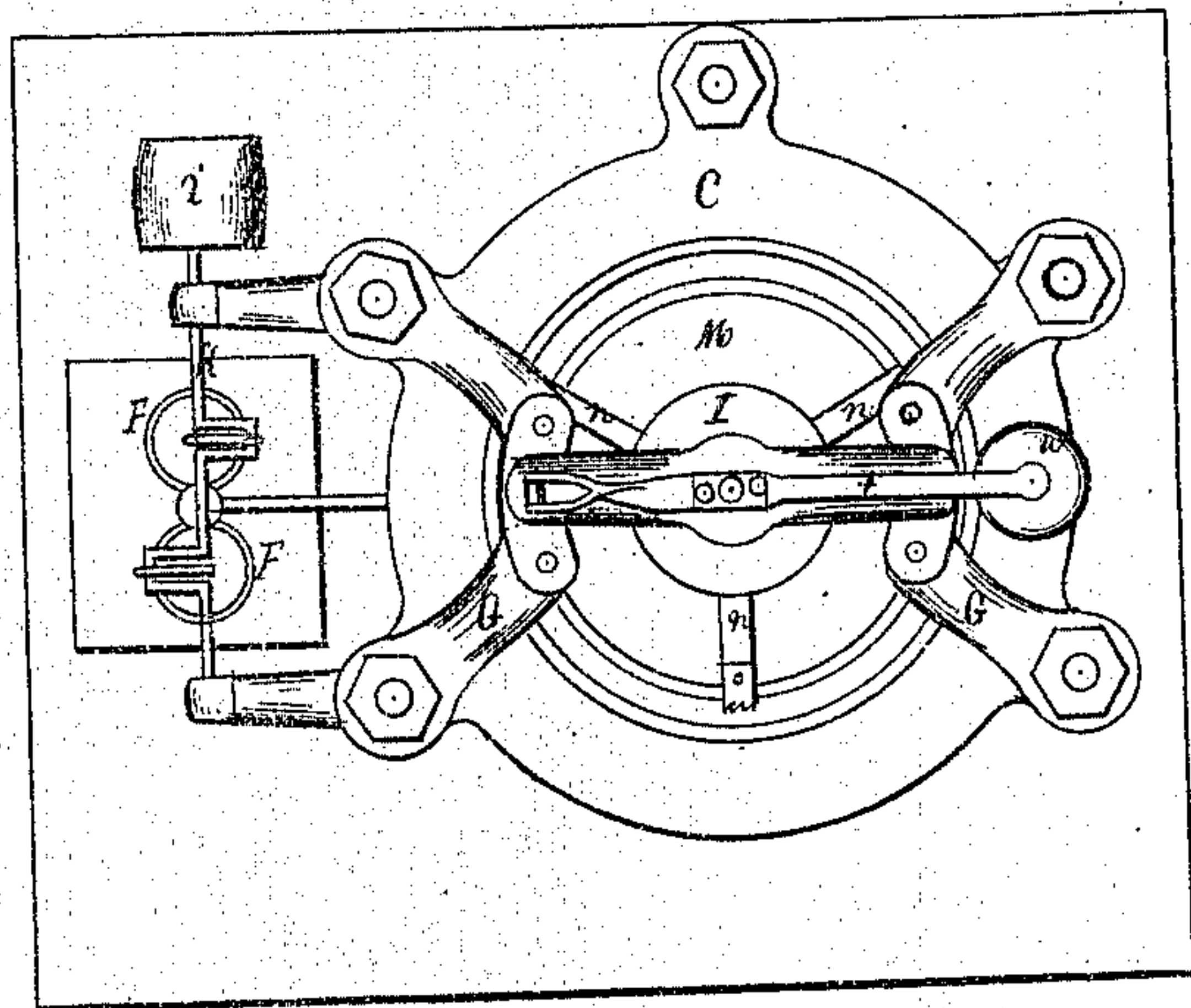
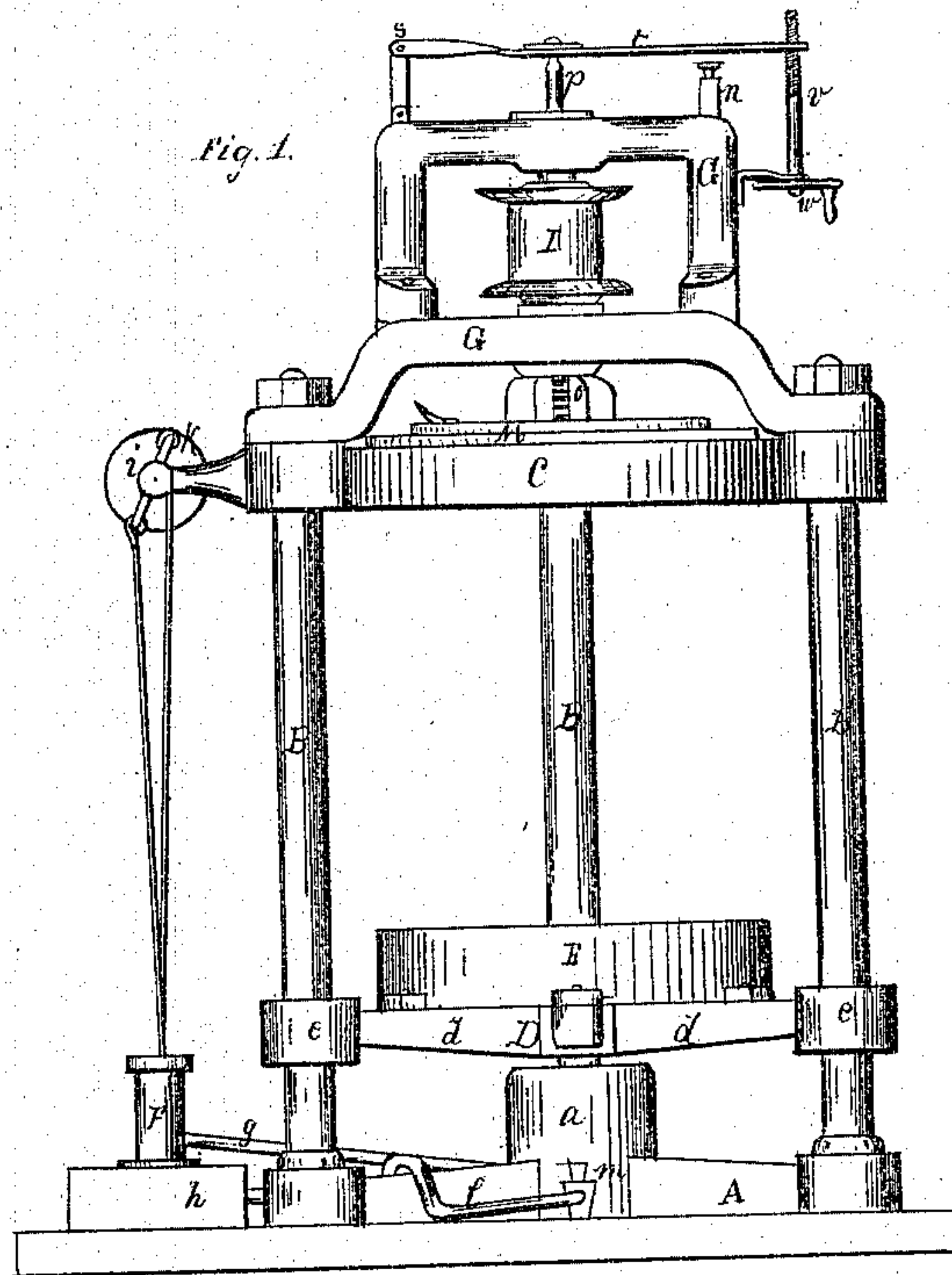


H. A. Crossley,

Crozing Staves.

No. 103,303.

Patented May 24, 1870.



Witnesses.
Geo. W. Fiddell
C. E. Fiddell

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United States Patent Office.

HARRY A. CROSSLEY, OF CLEVELAND, OHIO.

Letters Patent No. 103,303, dated May 24, 1870.

IMPROVEMENT IN MACHINES FOR BEVELING AND CROZING BARRELS.

The Schedule referred to in these Letters Patent and making part of the same

I, HARRY A. CROSSLEY, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain Improvements in Barrel-trussing, Beveling or Chamfering and Crozing-Machines, of which the following is a specification.

The nature of this invention relates to a machine for working off barrels for heading; that is, trussing, beveling, or chamfering and crozing all at the same time.

In the drawings—

Figure 1 is a side elevation.

Figure 2 is a top or plan view.

Figure 3 is a vertical section.

A is a base or foundation, from which arises a suitable number of standards, B B, to the top of which is secured a strong circular frame, C. These, together, make the frame work, which carries and supports the working-parts.

In the center of the base A is a cylinder, *a*, in which plays a plunger, *b*, attached to the under side of a cross-head, D, which has arms, *d d*, with wings, *e e*, on each end, embracing the standards B B, upon which the cross-head is made to slide.

Upon the arms *d d* is secured a ring, E.

Just outside of the frame are placed force-pumps, F F, connected with the cylinder *a* by a pipe, *g*.

The pumps are set on a reservoir, *h*, from which they take water.

An outlet-pipe, *l*, has a cock, *m*, allowing the water to return to the reservoir.

The pump-rods are worked by a crank-shaft, *k*, set in arms on the top of frame C, the said shaft *k* being driven by the pulley *i*.

On the top of the circular frame C is placed a frame, G, in which is arranged an upright hollow shaft, H, having its bearings on the said frame G, and which is driven by the pulley I.

On the lower end of the shaft H is a disk, M, which turns just within the circular frame C.

Fitted into grooves in the upper side of the disk M are the sliding tool-holders *n n n*, on the ends of which are secured, to one a cutter for smoothing the inside of the chine; to another a cutter for beveling the edge of the chine, and to the third a cutter for cutting the croze in the chine of a barrel.

The inner ends of the tool-holders have a rack on them, as seen at *n* in fig. 3.

Within the hub of the disk M are placed ratchet-wheels, *o*, meshing with the racks on the tool-holders *n n*.

Within the hollow shaft H is a rod, *p*, having a thread-vent on its lower end, which meshes with the ratchet-wheels *o*.

The rod *p* is connected at the top by a ball-joint to a lever, *t*, pivoted at S.

The other end of the lever *t* is connected to an elevating-screw, *v*, having a crank-wheel and handle, *w*, by which it may be turned.

An adjustable screw is set in a projection, *u*, on the frame G for determining the depth to which the lever shall fall. By this arrangement the tool-holders are carried in and out.

The operation of this machine is as follows:

A barrel having the truss-hoops upon it is set into the ring E, the hoop resting on its edge, when the pumps are set in motion, and, by the hydraulic force the barrel is trussed. At the same time, the disk being in motion, by turning down the lever *t*, by the screw *v*, the rod *p* carries the tool-holders outward, and the chine of the barrel is worked off. The rod *p* is again carried up, withdrawing the tools, the cock *m* is opened, when the water flows back into the reservoir *h*, and the ring E and cross-head D are lowered. The barrel may be taken out and set in the ring E, the other end up, when the operation is repeated, working off the other end in like manner to the first.

I claim—

1. The arrangement of the frame G, ring C, shaft H, rack *p*, lever *t*, screw *u v*, the regulating-screw, pinions *o*, disk M, and cutters *n*, upon the columns B B, and platform A, all constructed, arranged, and operating substantially as described.

2. In combination with the above, the cylinder *a*, piston *b*, frame D *d e*, ring E, pumps F, and a reservoir, connecting-pipes and pump-operating mechanism, all substantially as herein described.

HARRY A. CROSSLEY.

Witnesses:

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