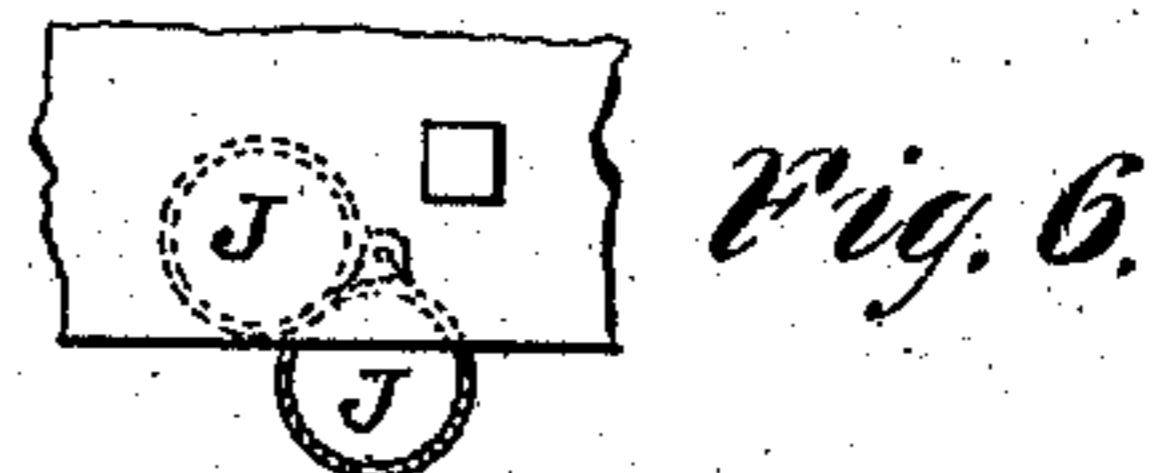
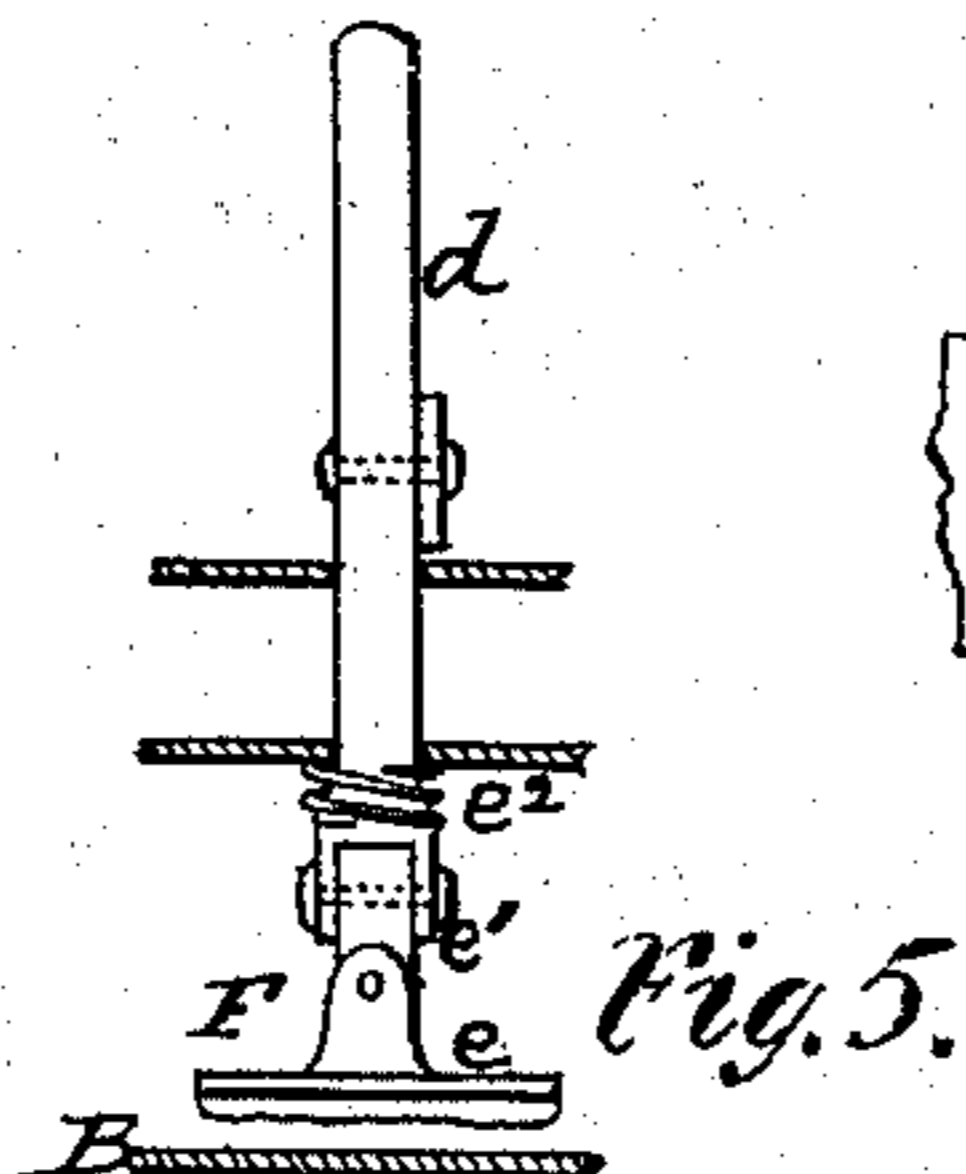
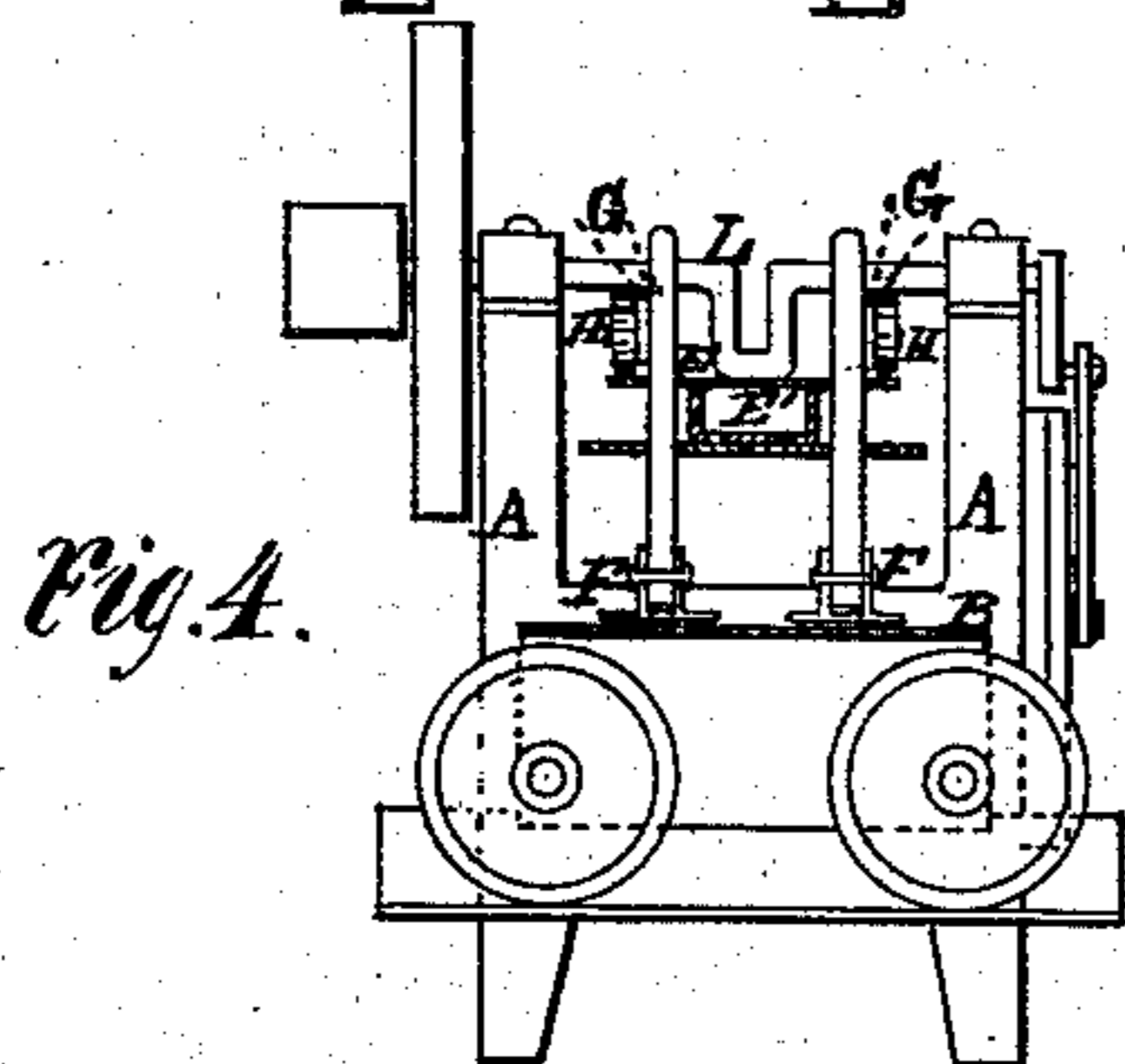
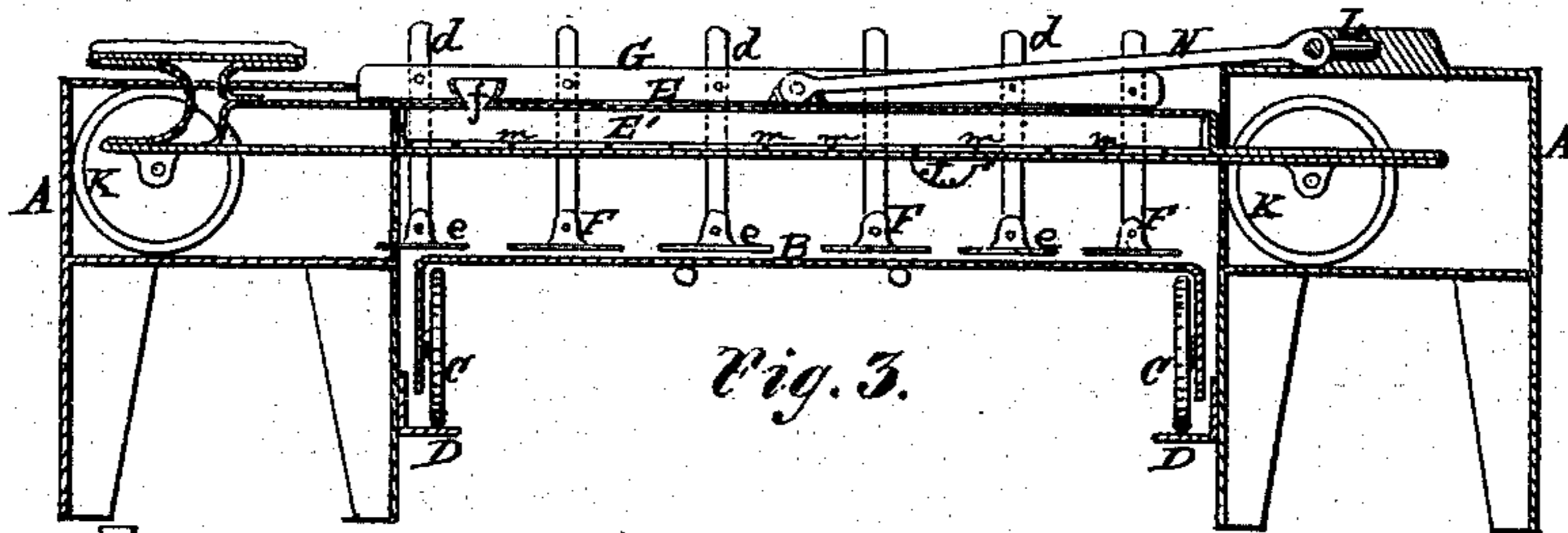
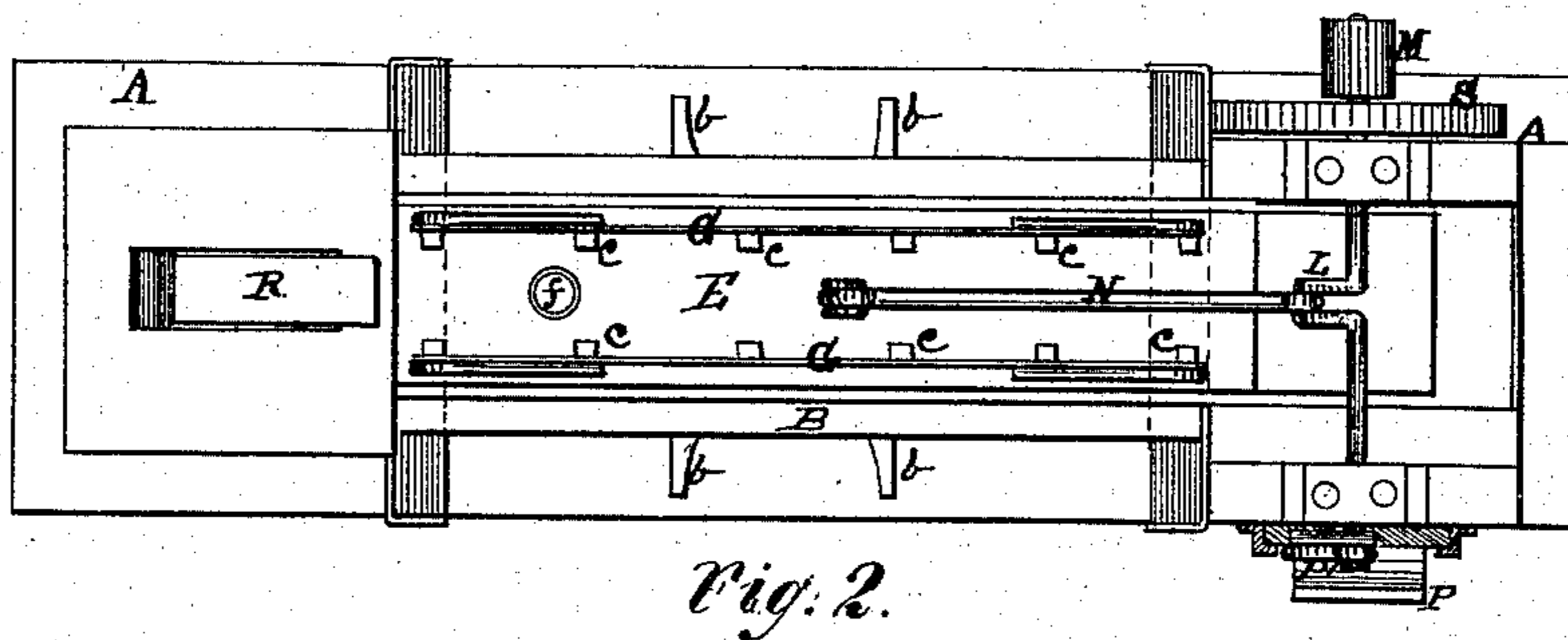
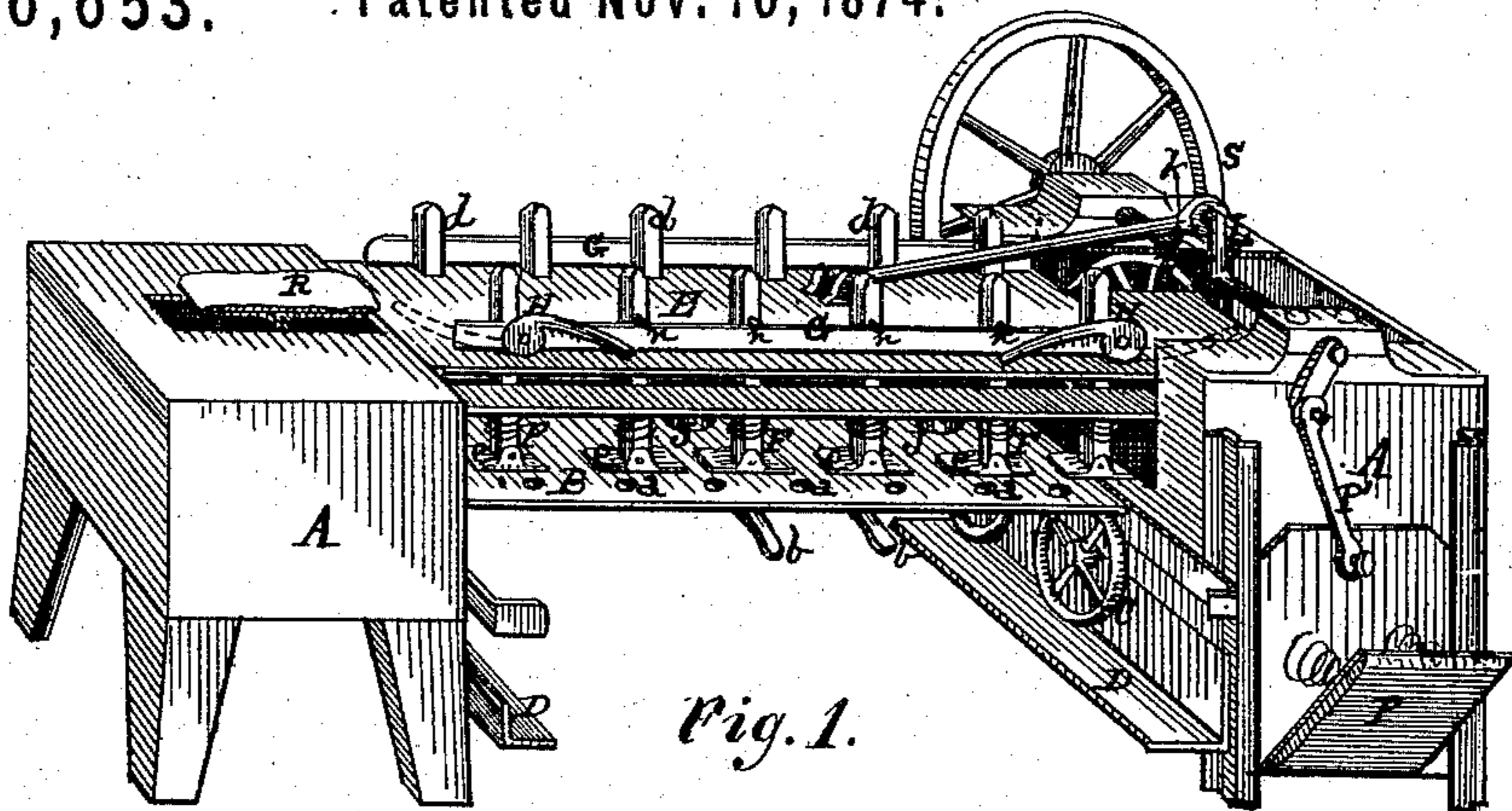


I. C. SHULER.
Stone-Polishing Machines.
 No. 156,653. Patented Nov. 10, 1874.



Witnesses. *H. Clark*
H. B. Watson

Isaac C. Shuler
 Inventor.

UNITED STATES PATENT OFFICE.

ISAAC C. SHULER, OF AMSTERDAM, NEW YORK.

IMPROVEMENT IN STONE-POLISHING MACHINES.

Specification forming part of Letters Patent No. **156,653**, dated November 10, 1874; application filed July 8, 1874.

To all whom it may concern:

Be it known that I, ISAAC C. SHULER, of Amsterdam, Montgomery county, New York, have invented a Machine for Rubbing and Polishing Surfaces, of which the following is a specification:

The object of my invention is a machine to be used in rubbing and polishing surfaces or solids, for various kinds of work and on various surfaces, and in different stages of completion, which machine is represented in the accompanying drawing, and is herewith described.

Figure 1 represents a perspective view of the machine embodying the improvements of this invention. Fig. 2 is a plan view of the same. Fig. 3 is a longitudinal sectional elevation. Fig. 4 is a cross-sectional view. Fig. 5 is a side view of the elastic rubber, illustrating its form of construction. Fig. 6 is a plan view of a section of the carrier and dredge-box employed in this invention.

In the drawings, A A represent any suitable frame-work of wood or iron. B is the supporting-table for holding or retaining the article to be rubbed or polished, which table is supported by wheels C C running on the tracks or ways D D, and capable of being moved laterally in either direction. *a a* are perforations made in the said table, to permit the water, or other liquid used, flowing on the work to pass off. *b b* are handles for operating said table. Placed above the table B is the carrier E, made with a water-chamber, E', Figs. 3 and 4, and vertical ways *c c*, as shown in Fig. 2, to receive the shafts *d d* of the rubbers F. The rubbers F are made to consist of the shaft *d* and rubbing-head *e*, which head is connected to the shaft *d* by a universal joint, *e*¹, as shown in Fig. 5, so as to render the said rubbing-head capable of oscillating in any direction, and accommodating itself to various undulations which the surface of material or object to be operated upon may require. Each rubber is made elastic by a spring, *e*², so as to be capable of yielding and gently pressing on surface operated with. G G are lifting-bars placed longitudinal with the carrier E, one at each end of the line of rubber shafts *d d*, as shown in Fig. 1, 2, 3, and 4. The ends of the said lifting-bars are each pivoted to an end shaft, *d*, and are provided with the cam-

levers H H, Figs. 1, 2, and 4, by which the said bars are elevated when the handles of the cams are thrown back, as indicated by dotted lines in Fig. 1, and are represented to fall when the said handles are thrown down, as shown by full lines in same figure. The several shafts *d d* are suspended by pins *n*, Fig. 1, fixed in the said shafts, and resting on the upper edges of the lifting-bars G G. The water-chamber is provided with a funnel, *f*, Fig. 3, for the introduction of water to the said chamber, the bottom being provided with perforations *m m* at intervals, through which the water may escape to feed the work resting on the table B B below. J J are dredges for holding and sifting sand, emery, pumice-stone, or other equivalent material, and are pivoted to the under side of the carrier, so as be capable of being turned out from beneath for the introduction of polishing material, as shown by full lines in Fig. 6, and of being passed beneath, as shown by dotted lines in same figure. The carrier E is supported by wheels K K', Fig. 3, running on a proper track, and is operated by the crank-shaft L from the pulley M, through the medium of the pitman N, Figs. 1, 2, and 3. P is an elastic rubber, made to operate vertically with a reciprocating motion from the crank-shaft L by the pitman P', and is intended to operate with plain surfaces. Attached to and carried by the end of the carrier E is the edge-polisher R, operated simultaneously with the rubbers F F. S is the flier or balance-wheel for giving uniformity of motion.

What I claim as my invention, and for which I desire Letters Patent, is—

1. The combination of the carriage E, constructed with double bed pieces to receive and operate the series of rubbers F F, and the water-chamber E', provided with dredging-boxes J J, to sift the polishing material between rubber-heads *e e*, the several parts being relatively arranged and operated as and for the purposes set forth.

2. The combination of the series of rubbers F, with bars G, and cam-levers H H, whereby the said rubbers may be elevated and depressed, substantially as described.

I. C. SHULER.

Witnesses:

A. CLARK,

H. B. WALDRON.