

A. WALRATH & E. D. BRONSON.

BROOM-MACHINE.

No. 174,038.

Patented Feb. 22, 1876.

Fig. 1

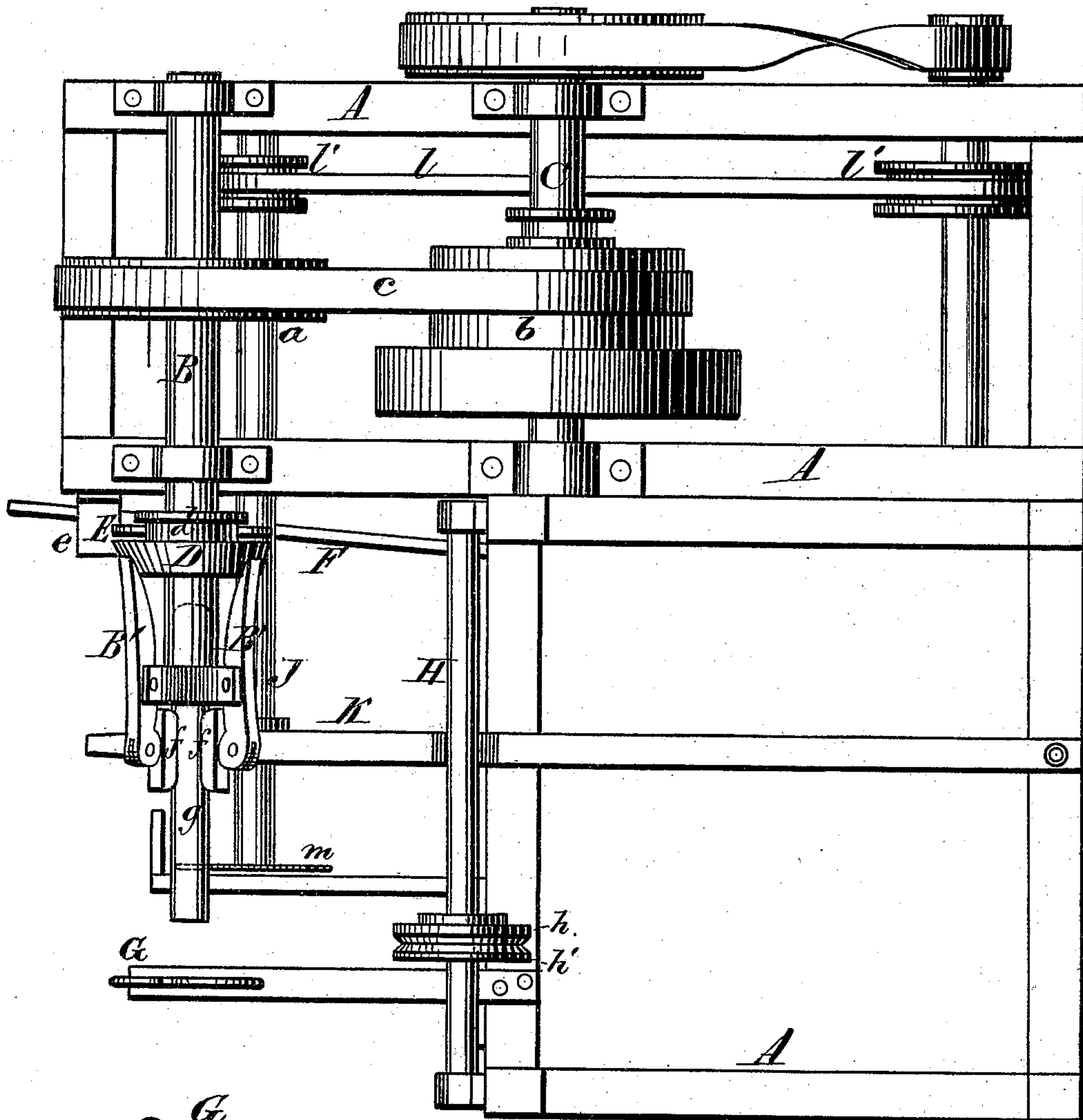
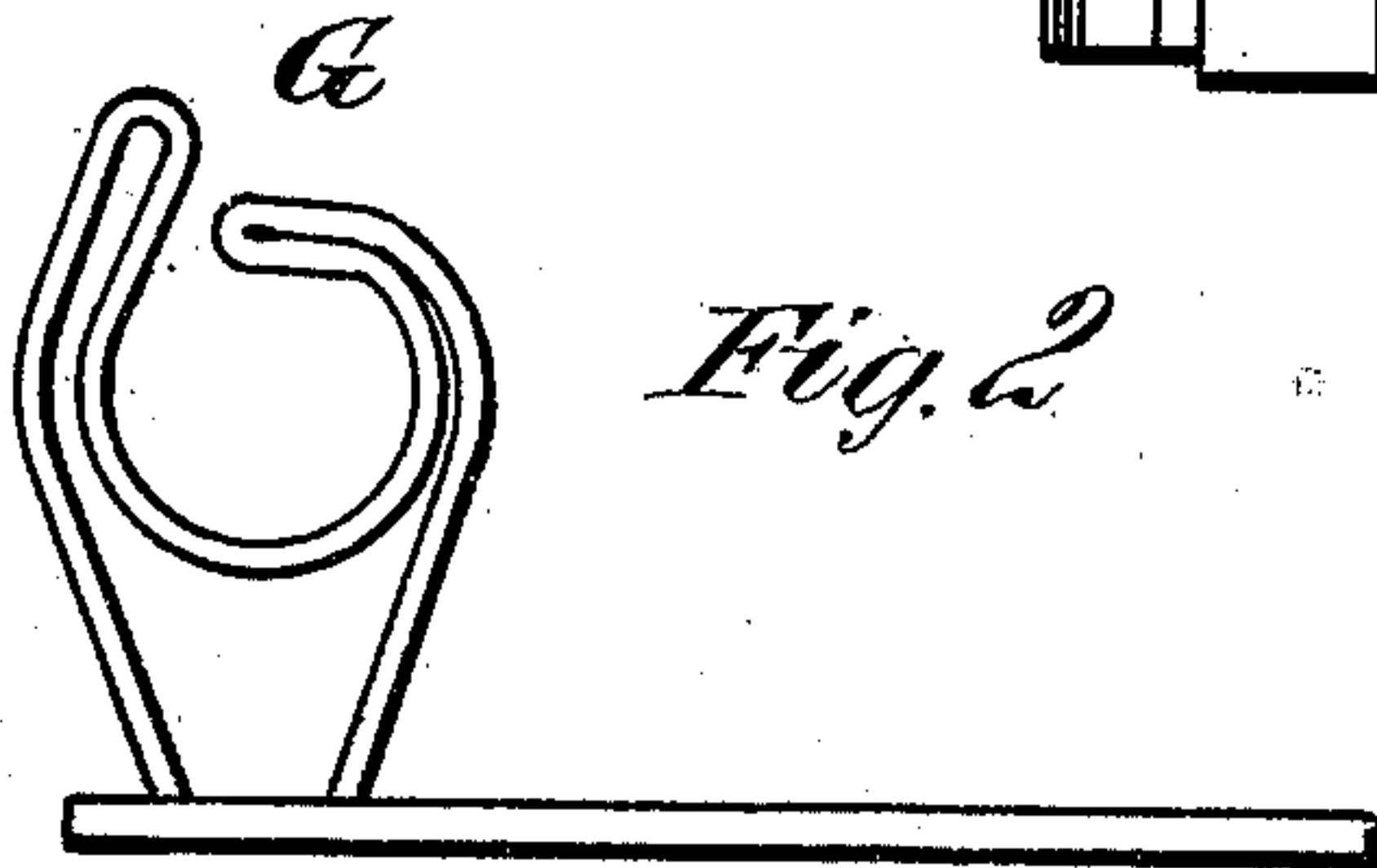


Fig. 2



WITNESSES

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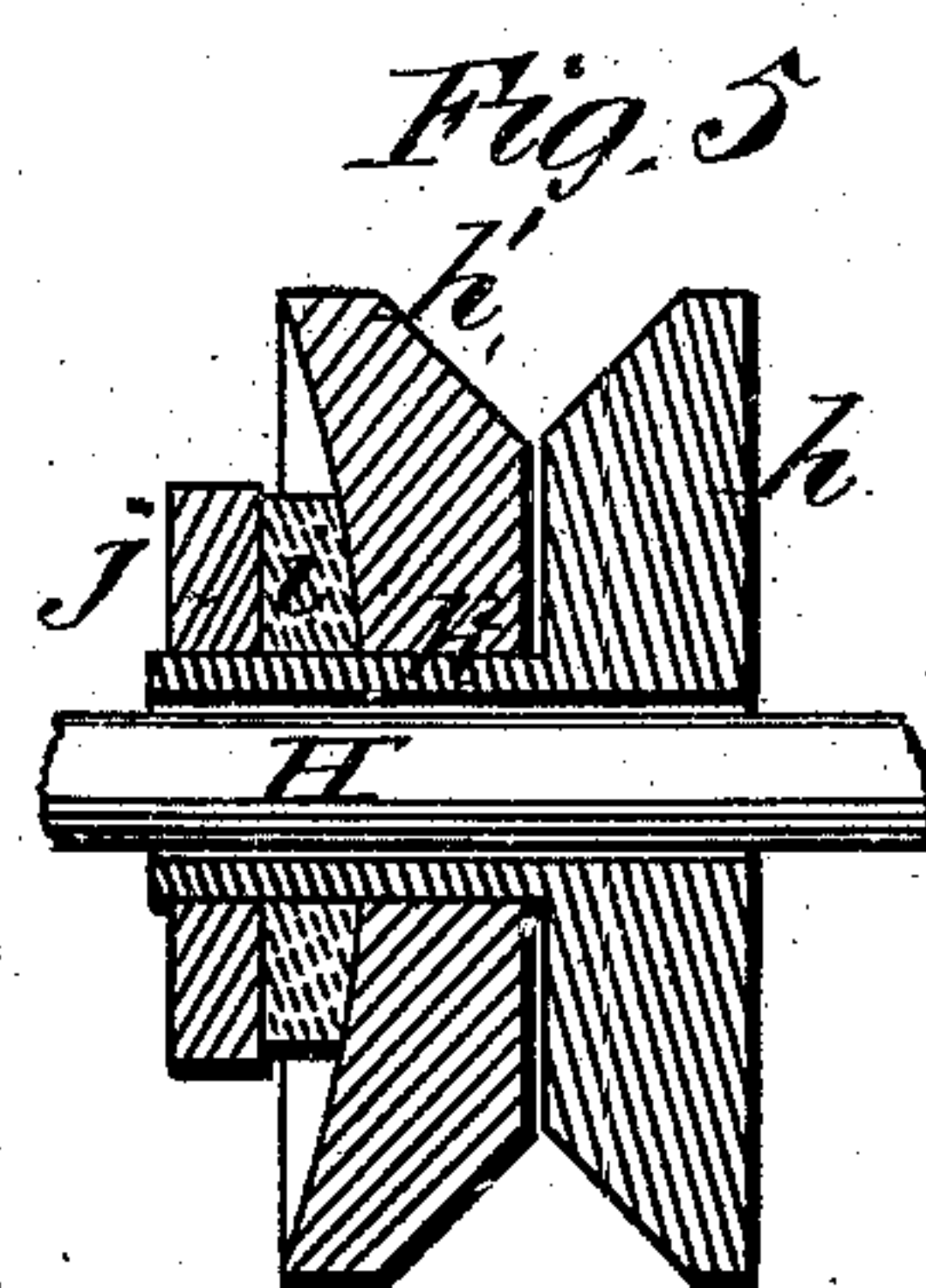
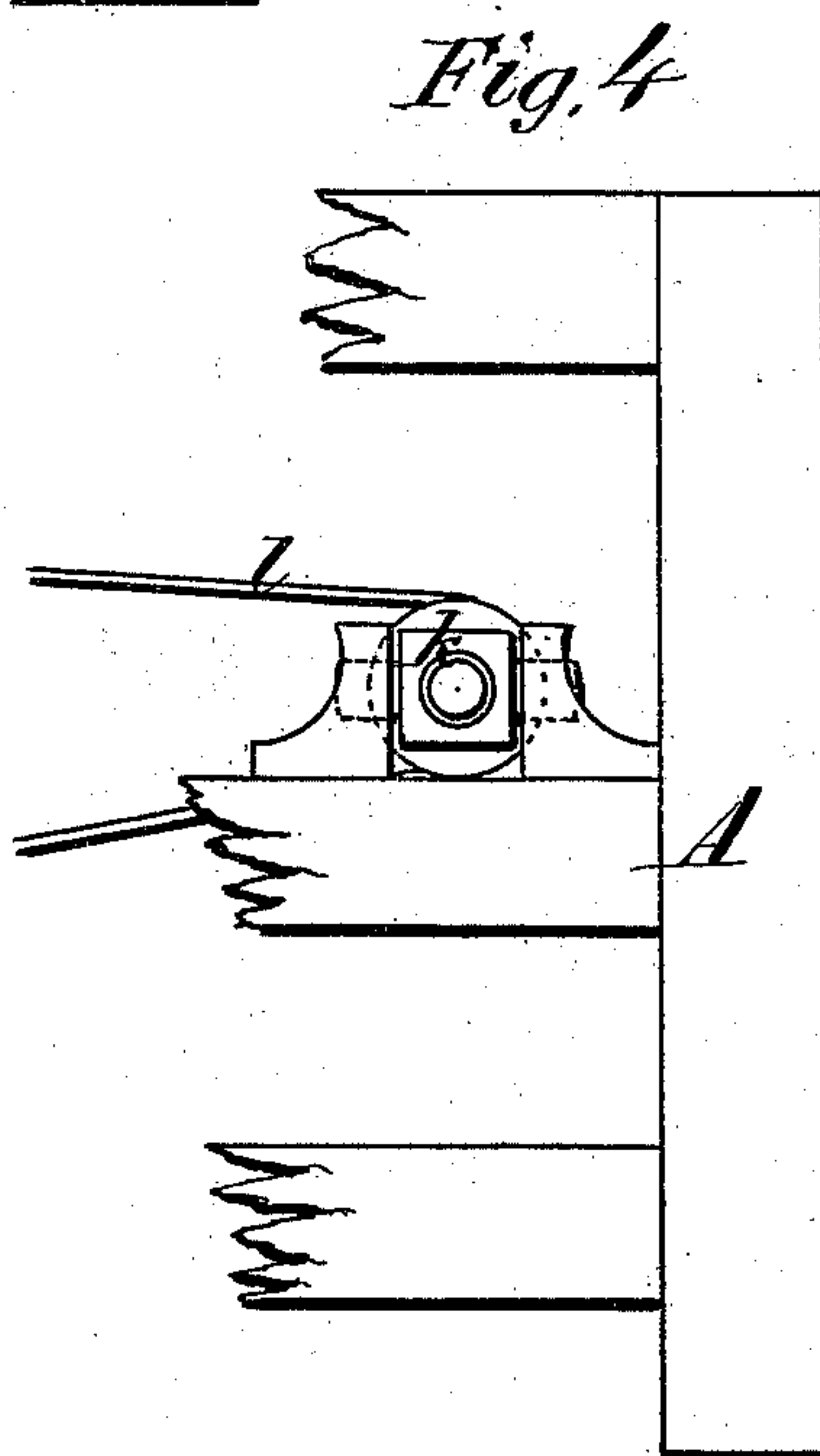
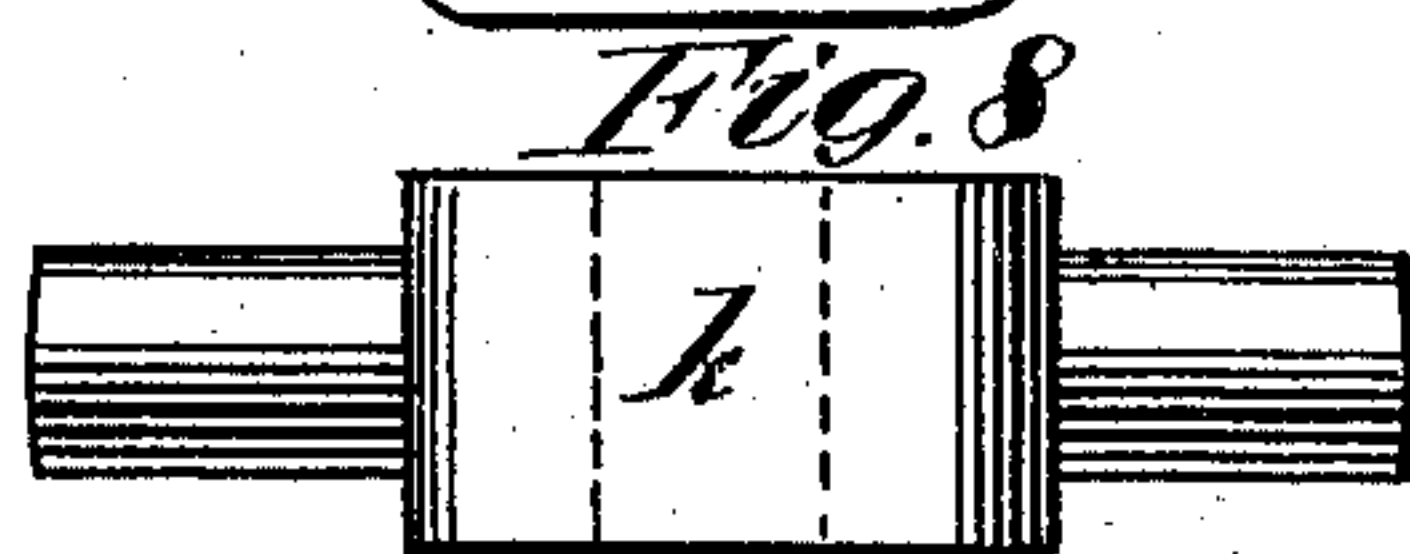
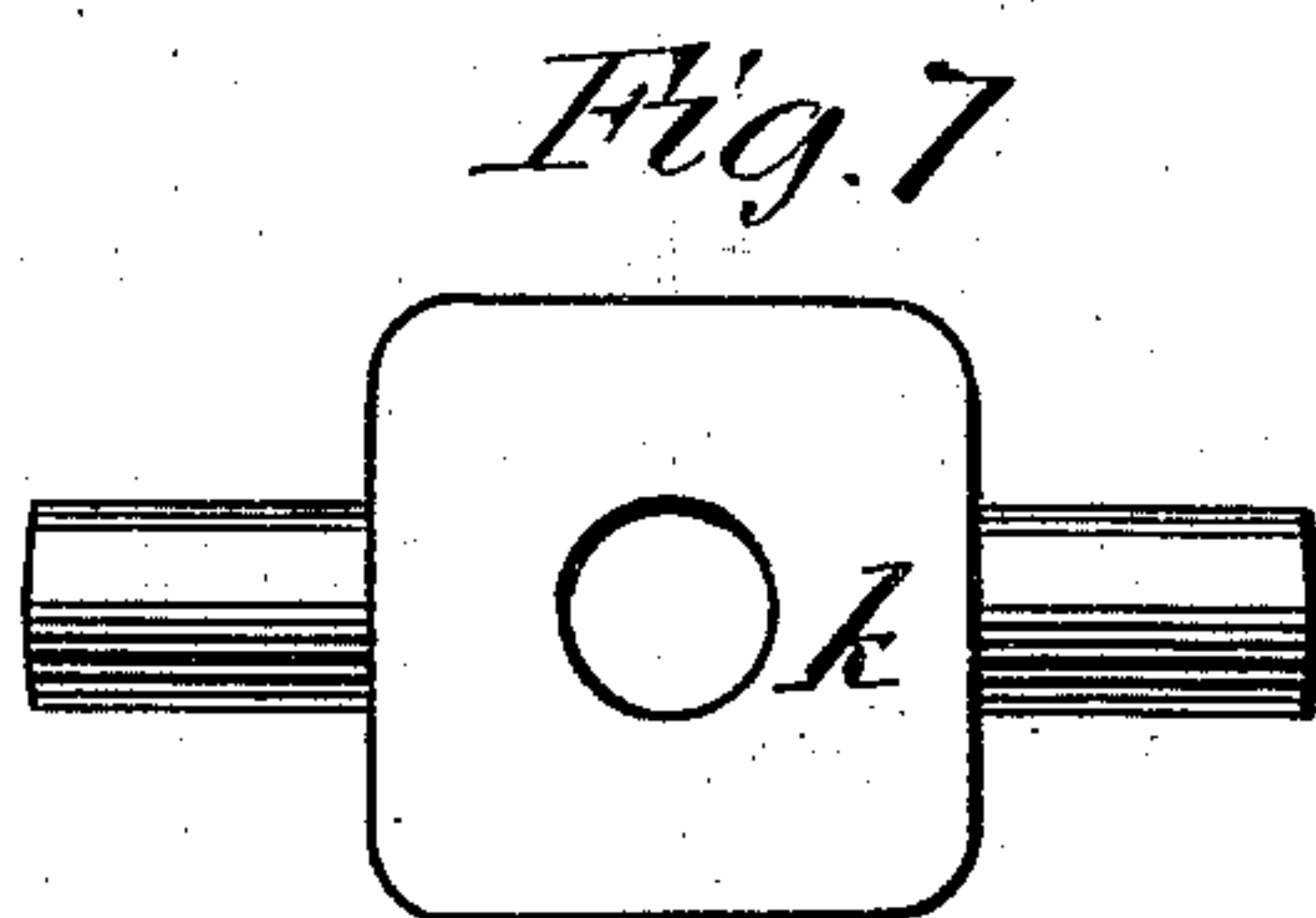
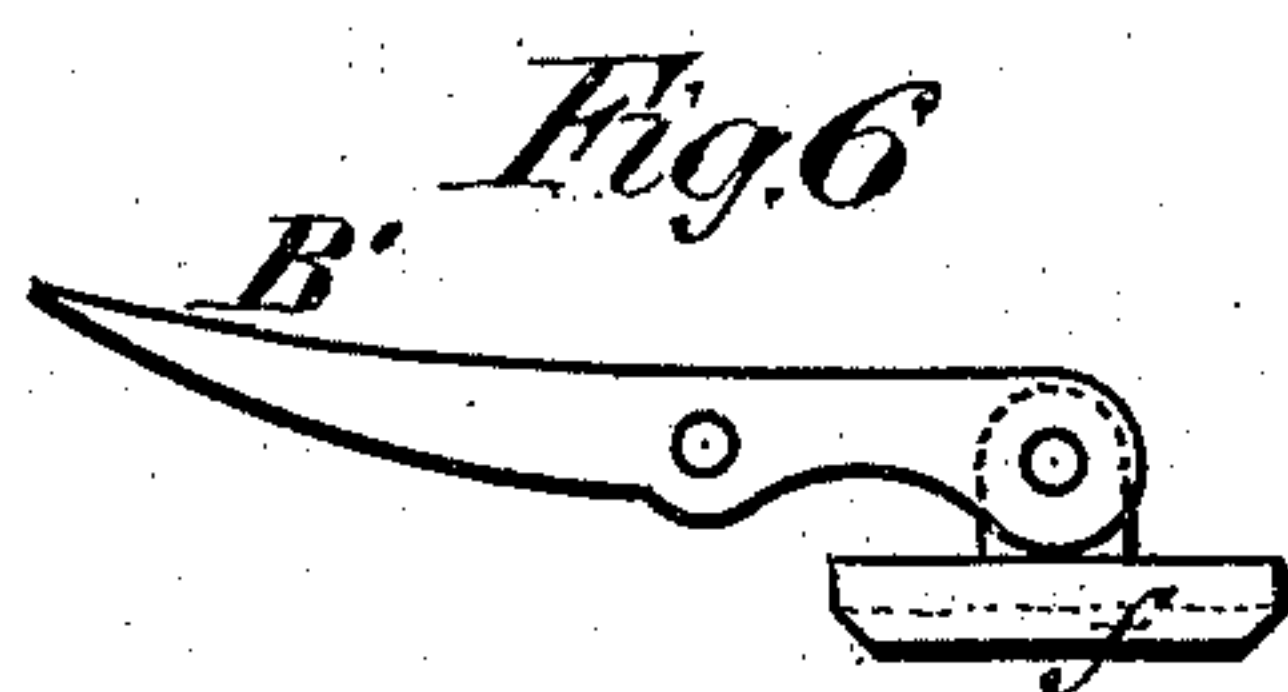
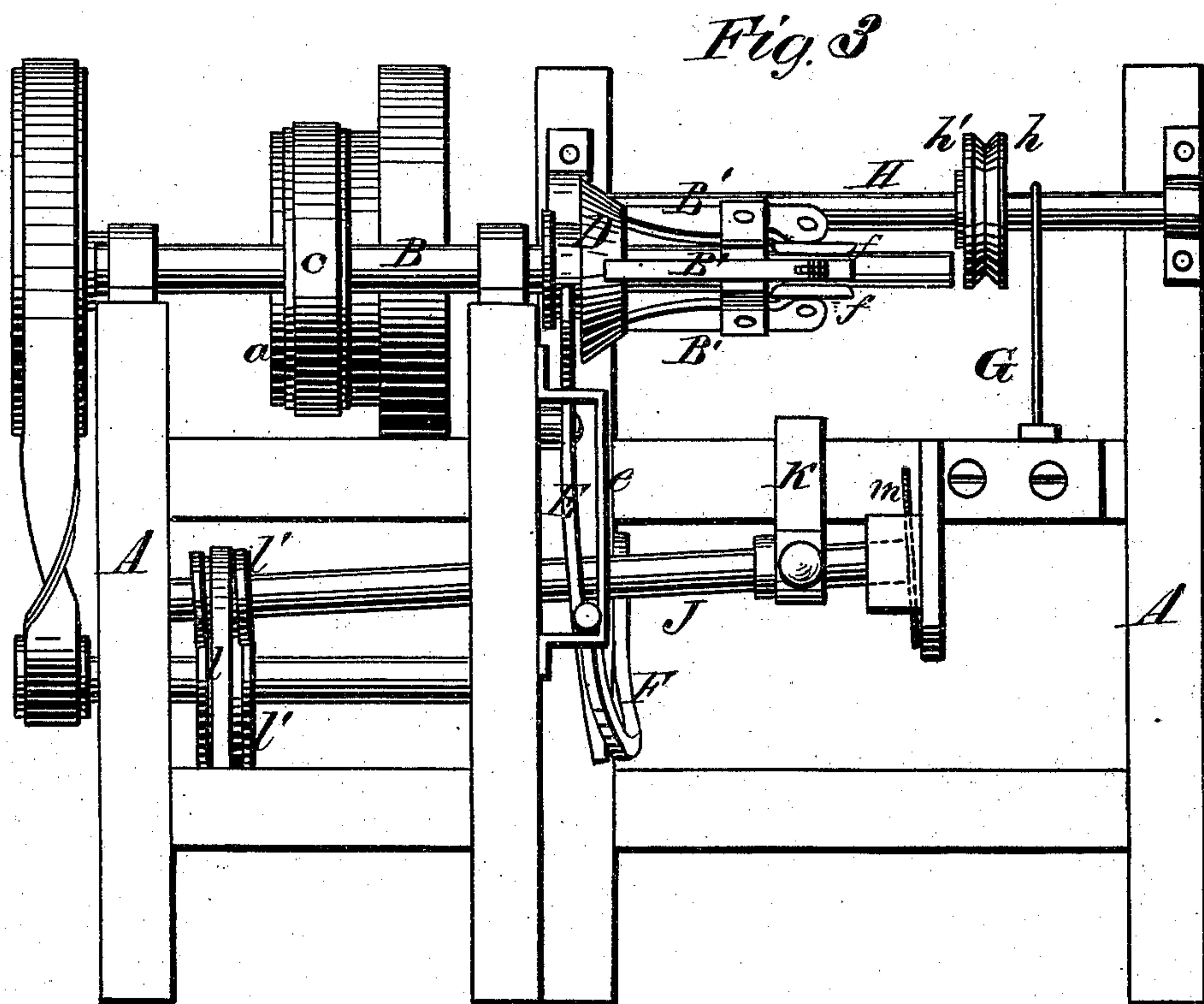
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UNITED STATES PATENT OFFICE.

ALPHONSO WALRATH AND EDWARD D. BRONSON, OF AMSTERDAM, N. Y.

IMPROVEMENT IN BROOM-MACHINES.

Specification forming part of Letters Patent No. 174,038, dated February 22, 1876; application filed December 24, 1875.

To all whom it may concern :

Be it known that we, ALPHONSO WALRATH and EDWARD D. BRONSON, of Amsterdam, in the county of Montgomery and State of New York, have invented a new and valuable Improvement in Broom-Machines; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a plan view of our broom-machine, and Fig. 2 is a detail view of the same. Fig. 3 is an end view thereof; and Figs. 4, 5, 6, 7, and 8 are detail views.

This invention has relation to machinery which is designed for the manufacture of brooms; and the nature of our invention consists, first, in the novel form of the holder for facilitating the application of the layers of broom-corn upon the handle during the winding operation, as will be hereinafter explained; second, in a circular rotary cutter for trimming the shoulders of the brooms, which cutter is applied on a shaft which can be vibrated by means of a hand-lever, as will be hereinafter explained.

In the annexed drawings, A designates the frame of the improved machine, and B a hollow mandrel, which latter is sustained in a horizontal position at the front part of the frame. This hollow mandrel receives rotary motion from a driving-shaft, C, by means of pulleys *a b* and a belt, *c*. D designates a circular conical slide, which is applied on the mandrel B and formed with an annular groove, *d*, which is embraced by the bifurcated end of a lever, E, pivoted to one side of the frame A so that it can be acted on by a curved hand-lever, F, which passes through a long staple, *e*. To one end of the hollow mandrel B three clamping-levers, B', are pivoted, having self-adjusting jaws *f* on the ends of their shortest arms, which, when the slide D is forced against their longest arms, will firmly gripe and hold a broom-handle, *g*, in a proper position for fastening the broom-corn to it. G designates a device which is secured to a projecting bar of frame A, and which is used for holding the broom-corn while it is being fastened to the

handle *g*. This device is formed of wire bent somewhat in the form of the letter C, with one limb extending above the other for the purpose of catching and gathering in the broom-corn layers as they are successively applied on the handle. The wrapping-wire is taken from a spool, not shown in the drawings, and passed between two disks, *h h'*, having beveled peripheries. The disk *h* is constructed with a hub, *h²*, which is free to turn on a shaft, H, on which hub the disk *h¹* is applied; also a rubber washer, *i*, and a nut, *j*. By adjusting the nut *j* any degree of tension can be applied to the wire. This is a very convenient device for holding the wire when broken off after the operation of winding a broom. J designates a shaft, which is journaled in a box, *k*, and a vibrating lever, K, and rotated by means of a belt, *l*, passed around pulleys *l' l'*. One end of this shaft J has a circular cutter, *m*, secured to it, which may present a knife-edge or a serrated edge. After the broom-corn has been wound upon the handle, what is technically termed the "shoulder" is formed by bringing the cutter *m* in contact with the wrapped ends of the stalks, which cutter will neatly trim them. Any desired angle or bevel can be given to the shoulders by raising or depressing the journal-box *k*.

What we claim as new, and desire to secure by Letters Patent, is—

1. In a broom-machine, the C-shaped holder G, formed of wire, with one limb extending above the other for the purpose of catching and gathering in the broom-corn, in combination with a broom handle holder, substantially as described.

2. The rotary cutter-shaft J, having its outer end bearing in a block journaled in the frame of the machine, and its inner bearing in a perforation in the vibrating lever K, in combination with the mandrel B, having clamping-levers B', substantially as described and for the purpose set forth.

In testimony that we claim the above we have hereunto subscribed our names in the presence of two witnesses.

ALPHONSO WALRATH.
EDWARD D. BRONSON.

Witnesses:

JOHNSON I. SNELL,
JOHN G. HEATH.