3 Sheets--Sheet 1.

G. GAVIT.

Paper-Pulp Strainers.

No. 156,885. Patented Nov. 17, 1874.

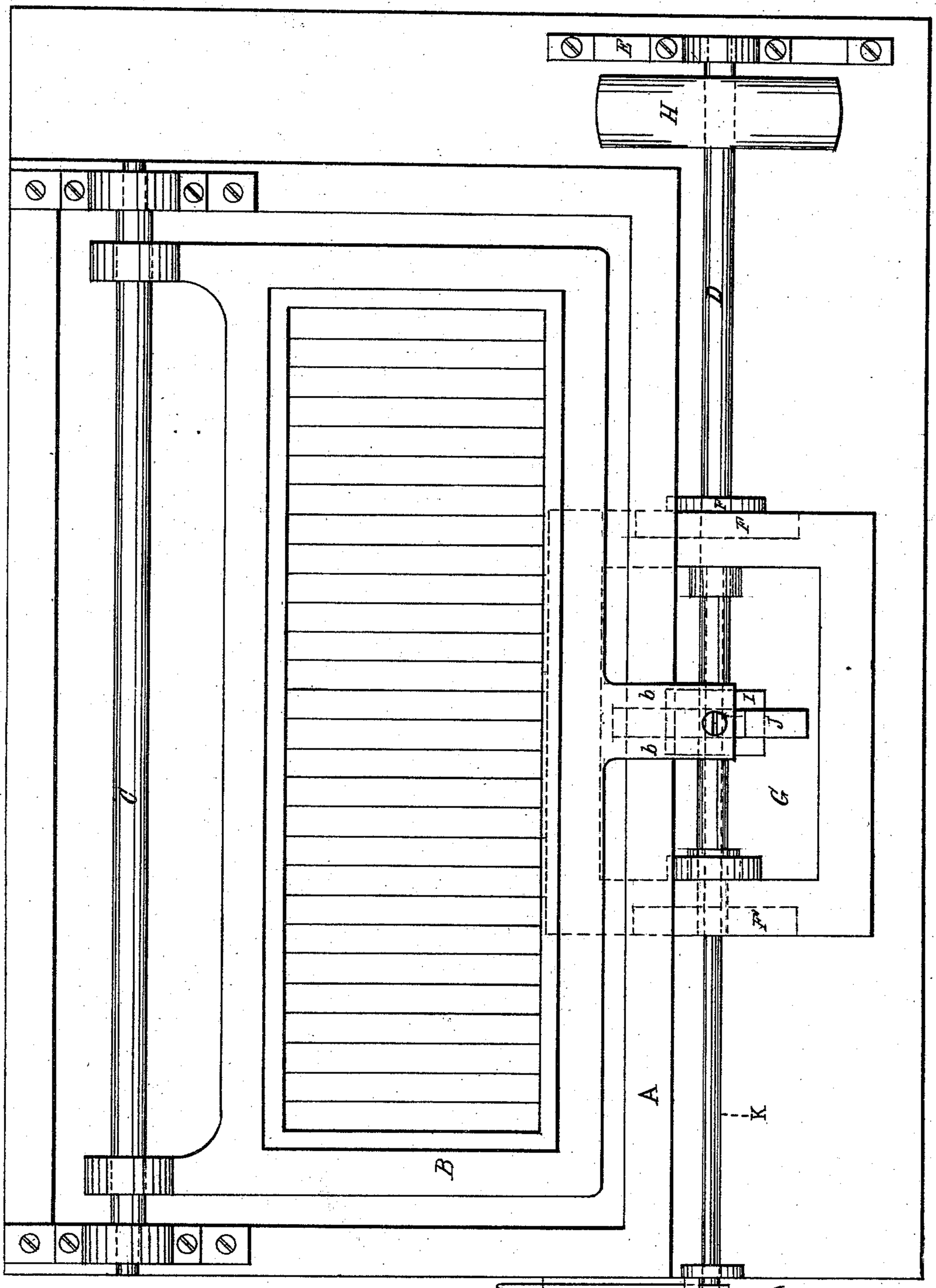

FIG. 1.

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Isaac Pinelg

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Stephen Ustick

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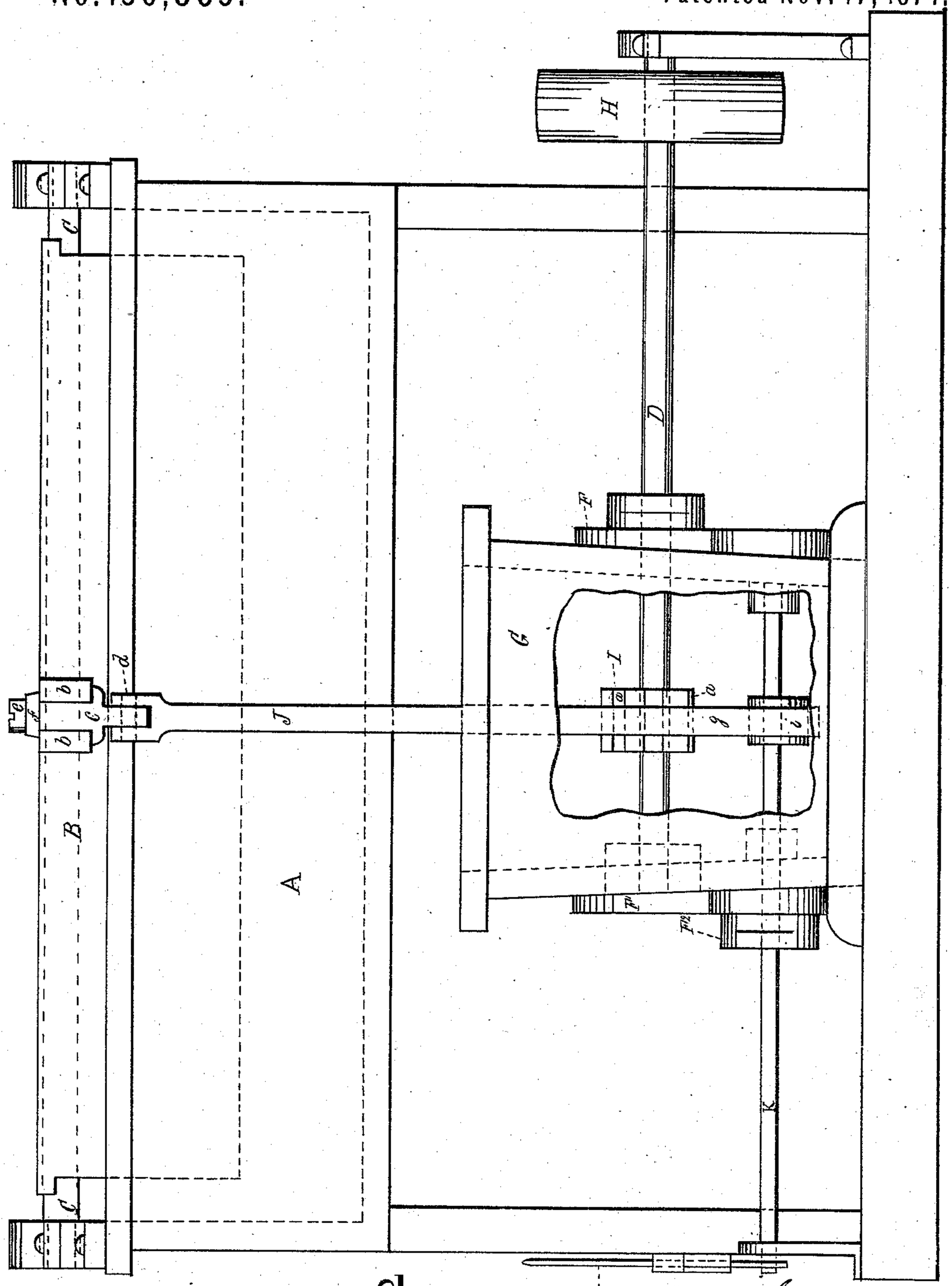

FIG. 2.

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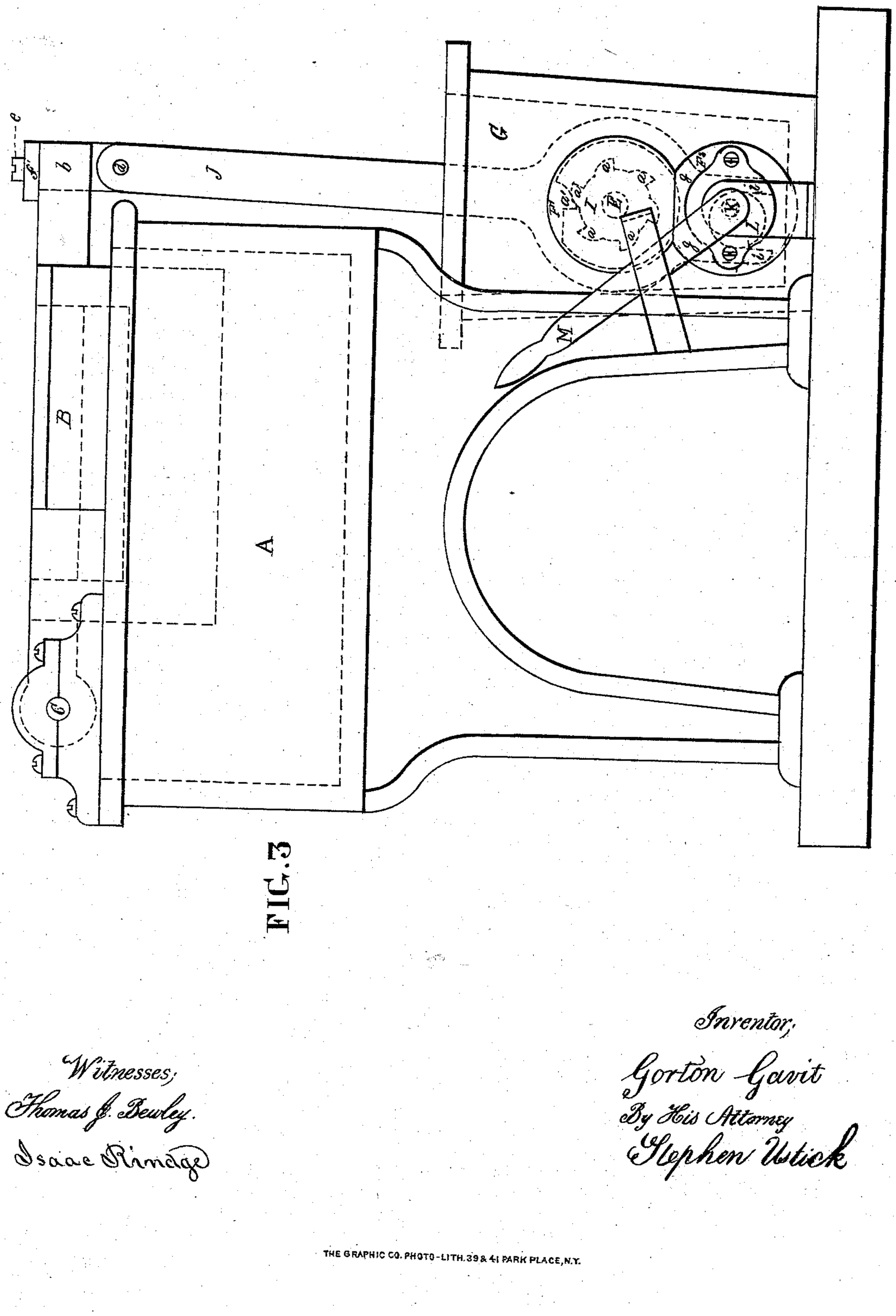

FIG. 3

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UNITED STATES PATENT OFFICE.

GORTON GAVIT, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN PAPER-PULP STRAINERS.

Specification forming part of Letters Patent No. **156,885**, dated November 17, 1374; application filed October 27, 1874.

To all whom it may concern:

Be it known that I, GORTON GAVIT, of the city and county of Philadelphia, in the State of Pennsylvania, have invented an Improvement in Machines for Straining Paper-Pulp, of which the following is a specification:

Heretofore the pulp-strainer box has been vibrated by means of two cam-wheels, one at each end of the machine, and any inaccuracy between the action of the cams causes one end of the box to rise higher, or before the other, and may result in the middle thereof remaining in a state of rest, and hence there will be an imperfect vibration of the strainer and its action upon the pulp; and this inaccuracy may arise even if the cam-wheels are made precisely alike. For instance, if there is only a trifling variation in setting the cam-wheels on the shaft, one set of the cam-teeth will be in advance of the other set, and consequently the raising of one end of the strainer will commence before that of the other; or, if the points of some of the teeth of either wheel should wear off unequally with the teeth of the other wheel, an irregular action will also be produced.

To overcome this difficulty I use a single cam-wheel arranged in a vertical plane produced through the middle of the strainer, whereby its ends are caused to rise and fall simultaneously and precisely alike. The invention further relates to a device for throwing the cam-wheel in and out of gear.

In the accompanying drawings, Figure 1 is a plan view of my improved machine for straining pulp, the cover of the grease-box being removed. Fig. 2, Sheet No. 2, is a front elevation of the same. Fig. 3, Sheet No. 3, is an end elevation.

Like letters of reference in all the figures indicate the same parts.

A is the pulp-dresser box. B is the strainer-box, constructed in the ordinary manner, and hung on the rod C. D is the driving-shaft, supported at one end by the pedestal E. The other end has its bearings in the stuffing-boxes F and F′, in parallel sides of the grease-box G. The outer end of the shaft is provided with a pulley, H, which connects by means of a band, (not seen in the drawings,) with the motive power. On the other end of the shaft there is a wheel, I, having cam-teeth *a*. J is a connecting-rod, which is jointed to the bifurcated arm *b* on the front side of the strainer-box by means of the detachable projecting-piece *c* and joint-pin *d*, there being a screw, *e*, and clamping-plate *f* for confining said piece *c* to the arm, so that by the withdrawal of the screw the rod may be disconnected from the strainer for turning it up to remove the strained pulp from the box A. On the lower end of the rod there is a yoke, *g*, which surrounds the cam-wheel I. It has a cam-tooth, *a′*, on which the teeth *a* of the wheel I impinge for the successive elevation of the strainer to produce the requisite vibration thereto. This connection of the cam-wheel and its arrangement in the grease-box G are similar to those of existing machines. The arrangement of the cam-wheel, however, is radically different, and produces a very different result from those, as will now be shown.

I place the cam-wheel in the middle of the length of the machine, so as to take the weight of the strainer-box B in the vertical plane cutting through the middle of its length, so as to have its ends equally balanced upon the wheel, and thereby cause the ends of the strainer to rise and fall simultaneously, and without any variation in their movements; whereas in the old method the strainer-box is operated by two cam-wheels, one at each end of the machine, and consequently any variation of the cam-teeth of one wheel with those of the other caused by even a slight difference in setting, the wheels on their shaft, or an unequal wearing of the cam-teeth, produces an irregular movement of the ends of the strainer-box.

In practice the variation has sometimes been so great as to result in one end of the strainer going down while the other is going up, and causing the middle of the strainer to remain stationary. The irregular motion also has a racking effect upon the strainer-box and its operating mechanism.

K is a shaft, which passes through a stuffing-box, F^2, of the grease-box G, its inner end being supported by the bearing at the opposite side of the box. The shaft is provided with an eccentric, L, which is straddled by

strips *i i* on the lower side of the yoke *g*. M is a shifting-lever on the outer end of the shaft K, for operating the eccentric L, to instantaneously disconnect the toothed wheel I from the yoke *g*, or connect it therewith at any time.

I claim as my invention—

1. The combination of a single cam-wheel, I, and connecting-rod J with the strainer-box B in the middle of its length, to produce a complete simultaneous and unvarying movement of the two ends of the box, substantially as and for the purpose above described.

2. The combination of the shaft K and eccentric L with the connecting-rod J, the shaft being operated by the shifting-lever M, or equivalent device, substantially in the manner and for the purpose set forth.

GORTON GAVIT.

Witnesses:

STEPHEN USTICK,

A. FURMAN BLAIR.