

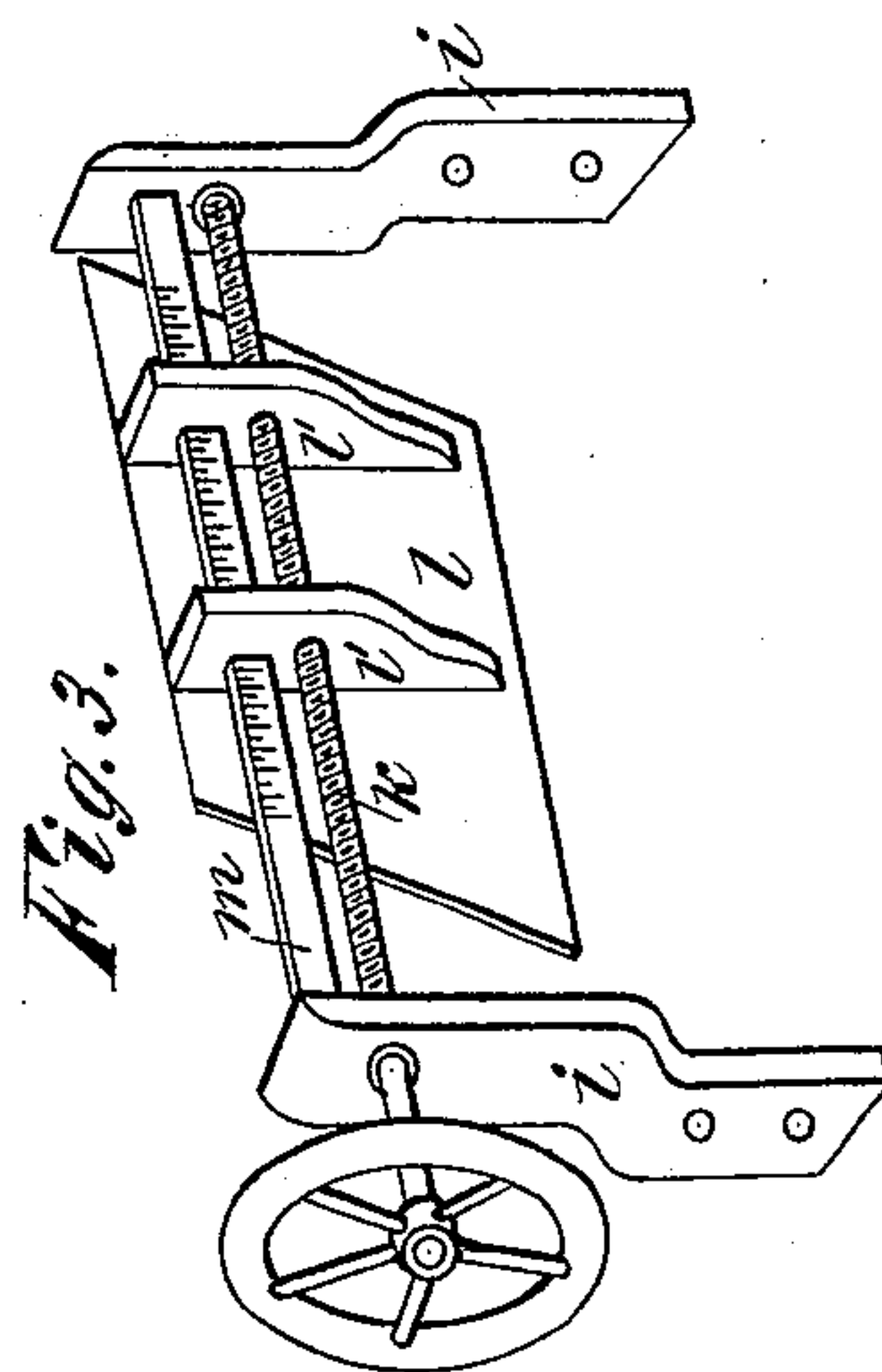
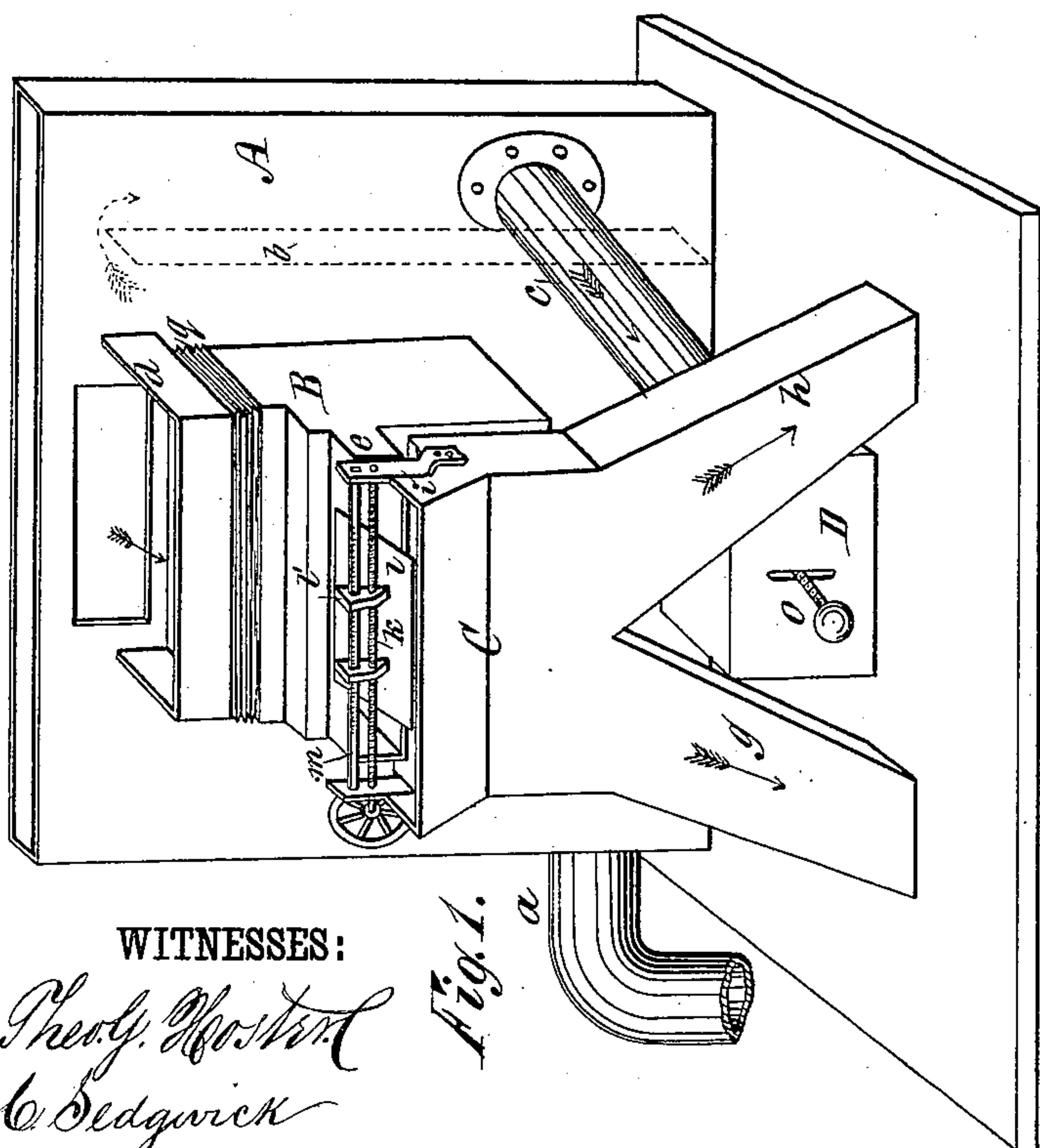
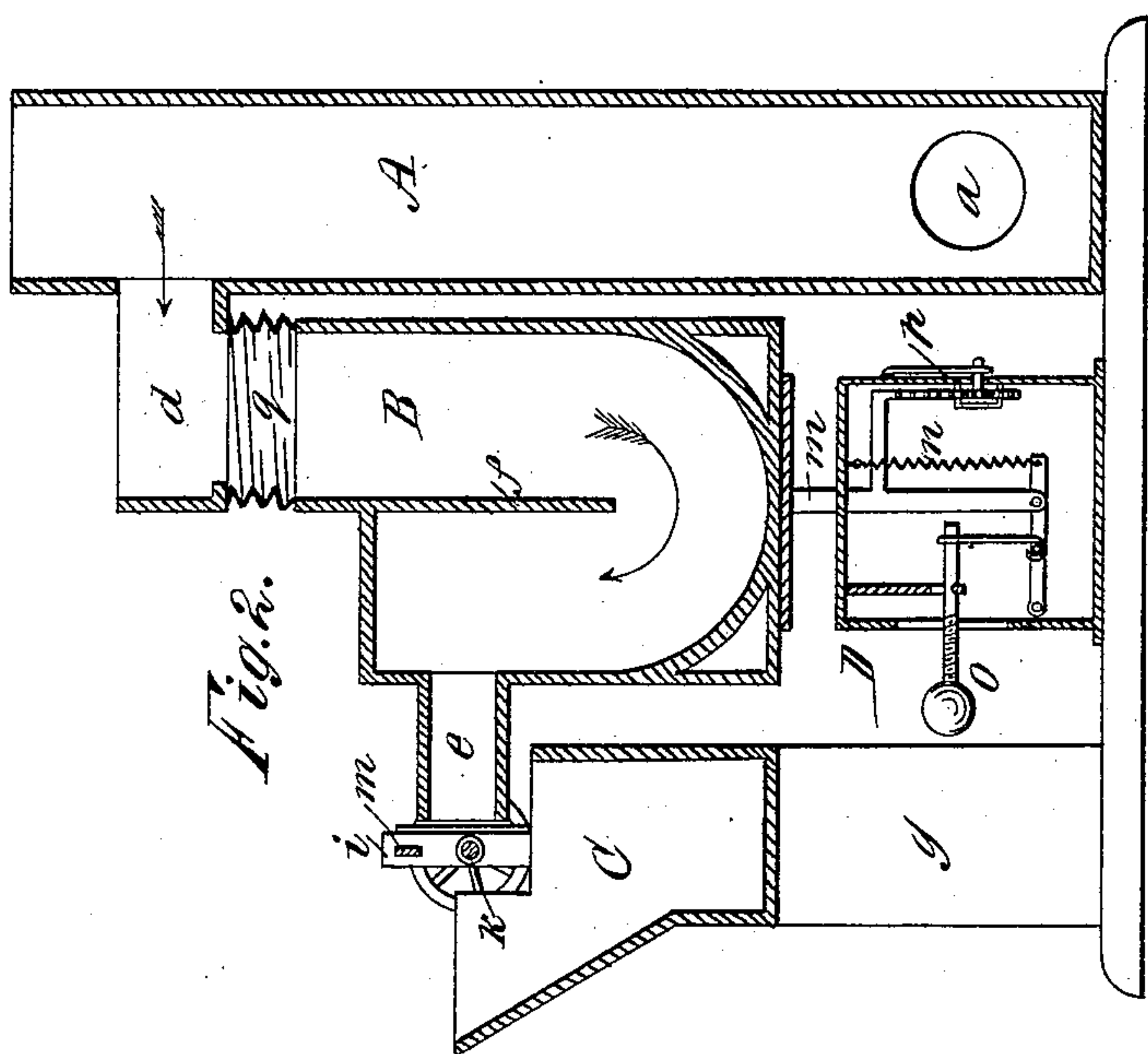
(No Model.)

C. W. MACE.

STUFF REGULATOR FOR PAPER MACHINES.

No. 246,799.

Patented Sept. 6, 1881.



WITNESSES:

Theo. Boston
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162A

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CHARLES W. MACE, OF WESTBROOK, MAINE.

STUFF-REGULATOR FOR PAPER-MACHINES.

SPECIFICATION forming part of Letters Patent No. 246,799, dated September 6, 1881.

Application filed June 30, 1881. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. MACE, of Westbrook, in the county of Cumberland and State of Maine, have invented a new and useful
5 Improvement in Stuff-Regulators for Paper-Machines, of which the following is a specification.

The object of my invention is to accurately gage the flow of stuff to paper-machines, so as
10 to secure uniformity in the thickness and weight of the sheets of paper.

Heretofore a movable gate has been used to regulate the flow, and the paper weighed at intervals to determine the adjustment of the
15 gate; but between these intervals the paper is liable to vary on account of the constant variations in the density of the stuff.

The nature of my invention consists in the automatic adjustment of the gate to the variations in the weight of the stuff as it is fed to the machine; and the invention consists in a combined feed-box, balance, and gate, as hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a perspective elevation of the self-regulating feed-box. Fig. 2 is a vertical section of the same, and Fig. 3 is a perspective view of the adjustable gate.

Similar letters of reference indicate corresponding parts.

A is the supply-box or reservoir, provided with inlet *a*, overflow-dam *b*, and overflow outlet-pipe *c*, as usual.

B is the feed-box, connected at the top to the
35 outlet-trunk *d* of reservoir A, and provided with an outlet-pipe, *e*, at one side. The bottom of the box B is made in semicircular form, and it is divided vertically by a partition, *f*, terminating above the rounded bottom, so that
40 the stuff in passing to the outlet shall pass beneath the partition. This rounded bottom and partition serve to prevent any settling or thickening of the stuff on the bottom.

C is the distributing-box, placed with its open
45 upper end beneath the outlet *e* of box B, and formed with two outlet-pipes, *g h*, one of which, *g*, will supply the paper-machine, while the other, *h*, carries off the surplus stuff.

i i are posts or standards attached on the
50 upper part of box C, and sustaining a screw, *k*, in front of the outlet *e*.

l is a gate, sustained by threaded lugs *l'* on the screw *k* against the end of the outlet-pipe. *m* is a gage-bar, sustained by posts *i*, and extending through the lugs *l'*.

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The gate *l* is about half the length of the outlet *e*, so that when placed midway of the outlet the material can escape by the opening at each end to the respective pipes *g h*, and by operation of the screw to move the gate
60 in either direction the opening at one end is enlarged while the other is diminished.

The gage-bar serves as an indicator for regulating the adjustment.

The ends of gate *l* are inclined, as shown, to
65 obtain automatic adjustment in connection with the devices next described.

The feed-box B is fixed upon the platform-post *m* of a balance, D, which may be of any suitable character. As shown, the post is sustained by a spring, *n*, and weighted lever *o*, and indicates by a pointer, *p*, the weight of material in the box B. The connection between box B and the outlet *d* is made by a section, *q*, of flexible material, which allows rise and
75 fall of the feed-box.

In operation the stuff is pumped to box A, and from thence it flows to feed-box B, and by outlet *e* to distributor C. The box B is thus kept constantly full, and the balance is pressed down
80 to a given point.

By adjusting the gate *l* the supply to the pipe *g* is regulated until the proper flow for the machine is found, and the surplus will go to the pipe *h*. The apparatus being thus set,
85 variations in density of the stuff, and consequently of the weight in box B, will cause rise and fall of the box, thereby varying the position of the outlet *e* with reference to the stationary gate, and enlarging or decreasing the
90 openings at the ends of the gate. This insures a uniform supply of stuff to the machine.

I do not limit myself to the construction exactly as shown, as it is evident that the arrangement may be modified without departing from
95 the essential features of the invention.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination, with the feed-box of a
100 paper-machine, of an indicating-balance, substantially as shown and described, whereby

the weight of stuff in the box is constantly indicated, as set forth.

2. The combination, with the feed-box of a paper-machine, of a supporting-balance and a
5 fixed gate sustained at the outlet independently of the feed-box, substantially as and for the purpose set forth.

3. The combination, in a stuff-regulator for paper-machines, of feed-box B, balance D, dis-
10 tributer C, and the adjustable gate *l*, substantially as shown and described, for operation as set forth.

4. The screw *k* and gate *l*, provided with

threaded lugs *l'*, in combination with the balanced feed-box B, having outlet *e*, and box C, 15
having outlets *g h*, substantially as shown and described.

5. The paper-stuff feed-box B, formed with a rounded bottom, and provided with partition *f*, substantially as and for the purposes set 20
forth.

CHARLES W. MACE.

Witnesses:

JOS. DUNNELL,
E. H. SAMPSON.