

F. PETERHANSL.

UNLEADING MACHINE FOR LINOTYPE MATTER.

No. 547,448.

Patented Oct. 8, 1895.

Fig: 1.

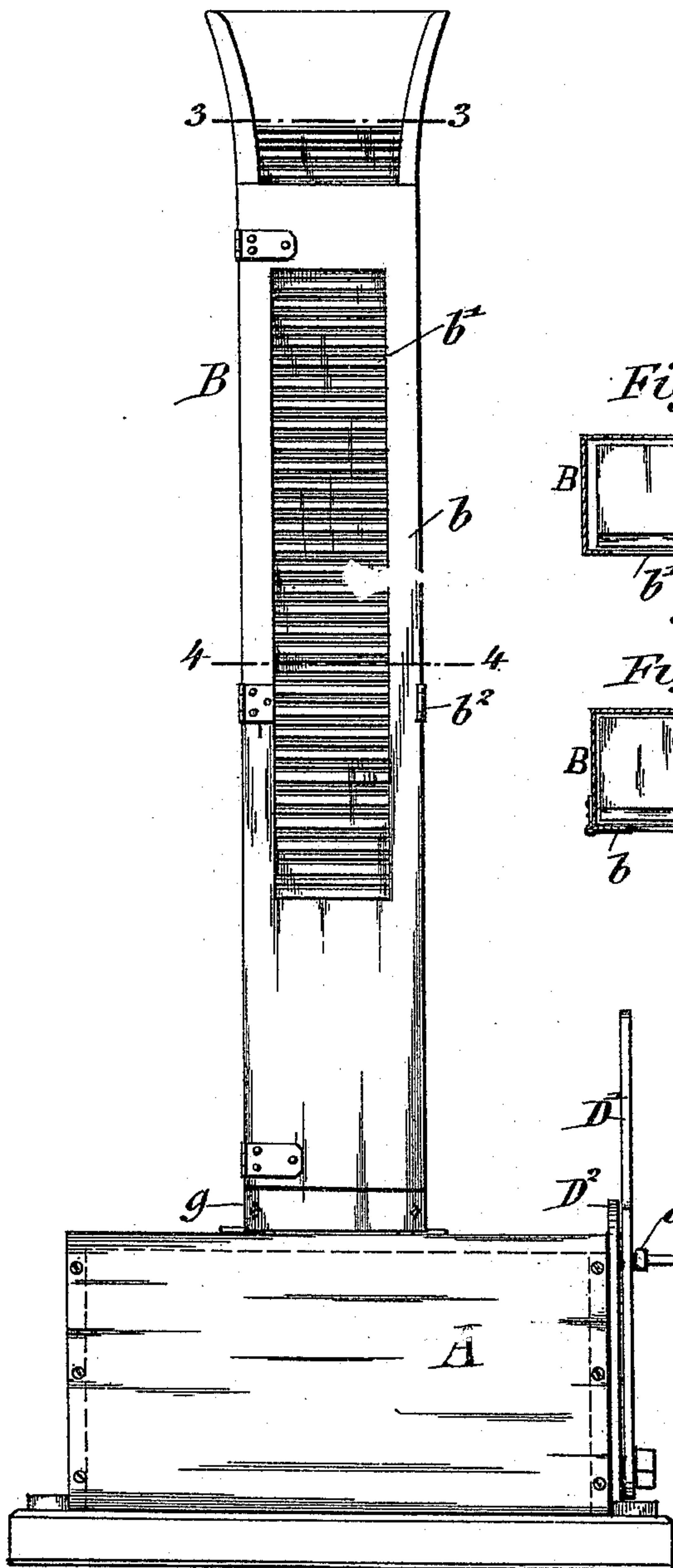


Fig: 2.

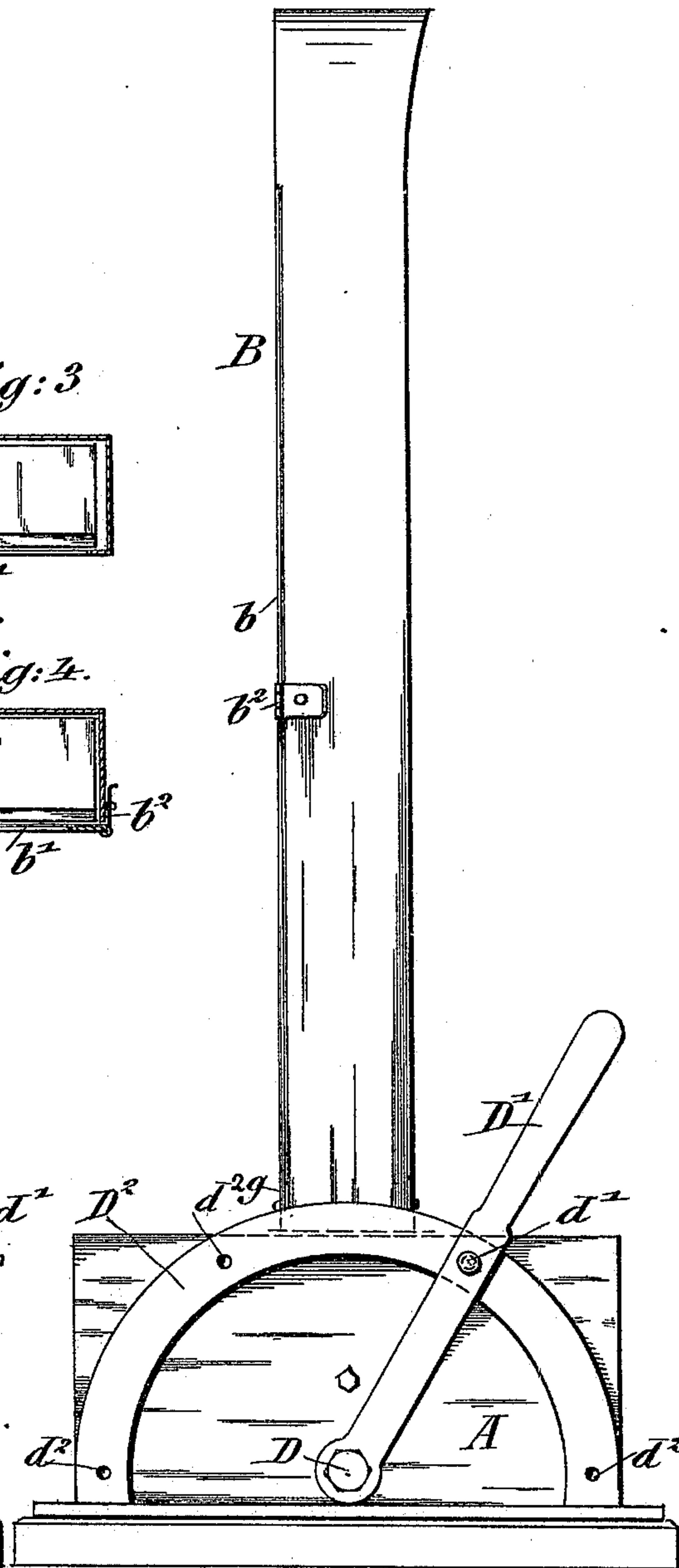


Fig: 3.

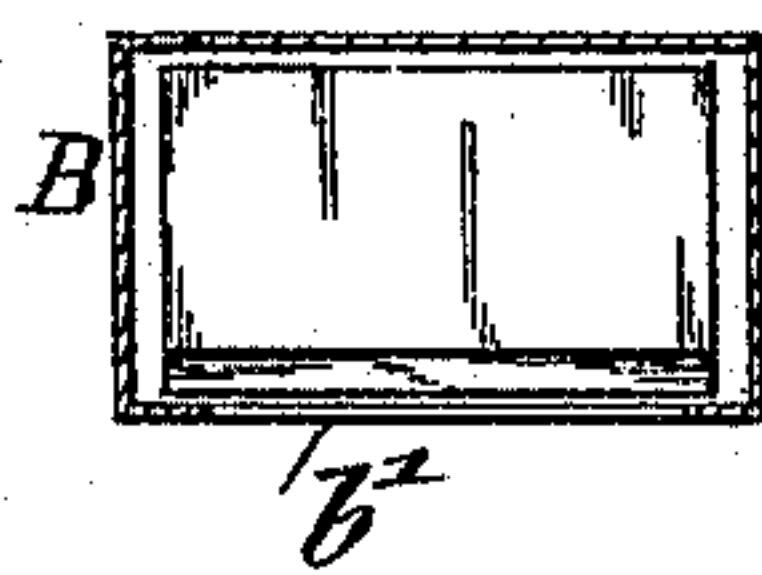
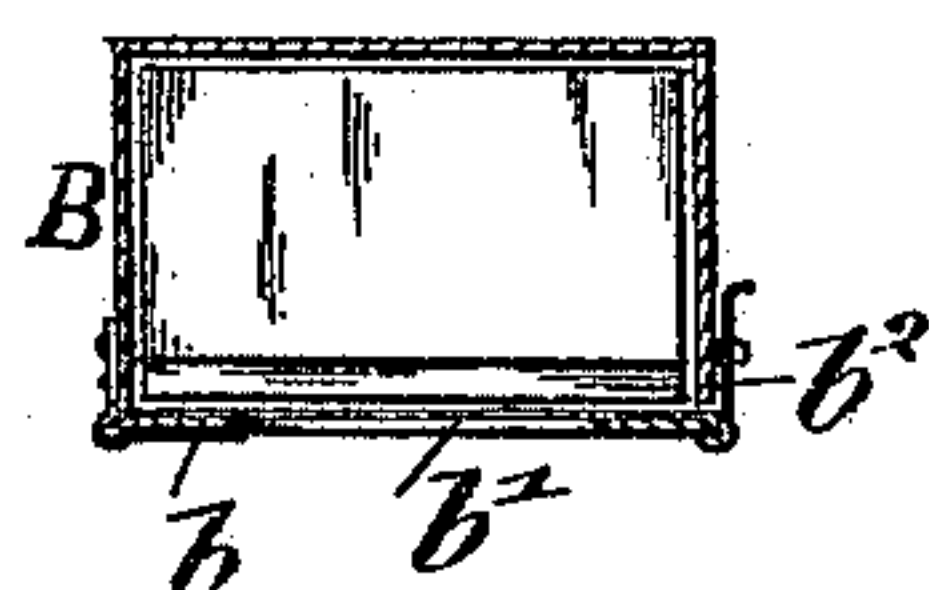


Fig: 4.



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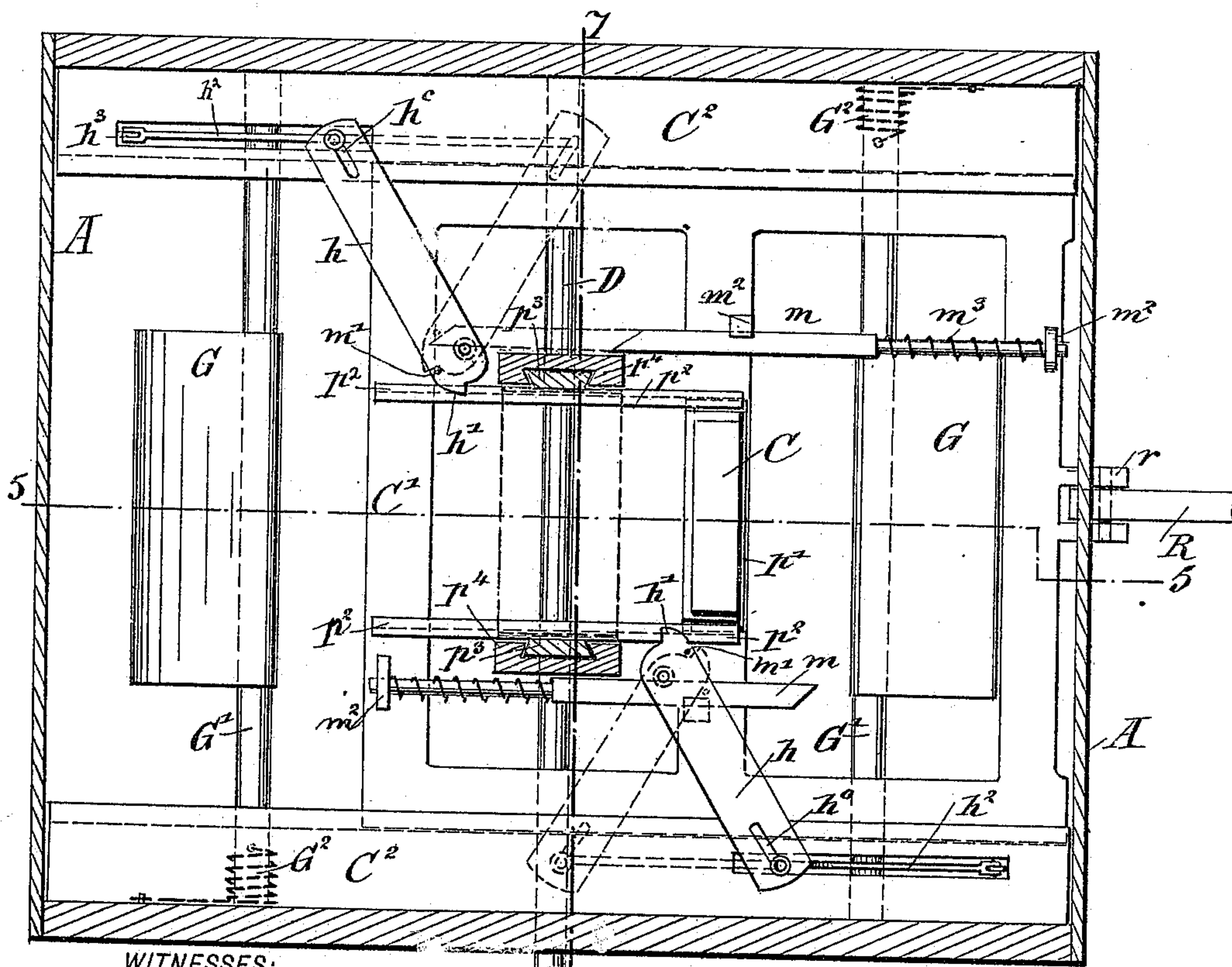
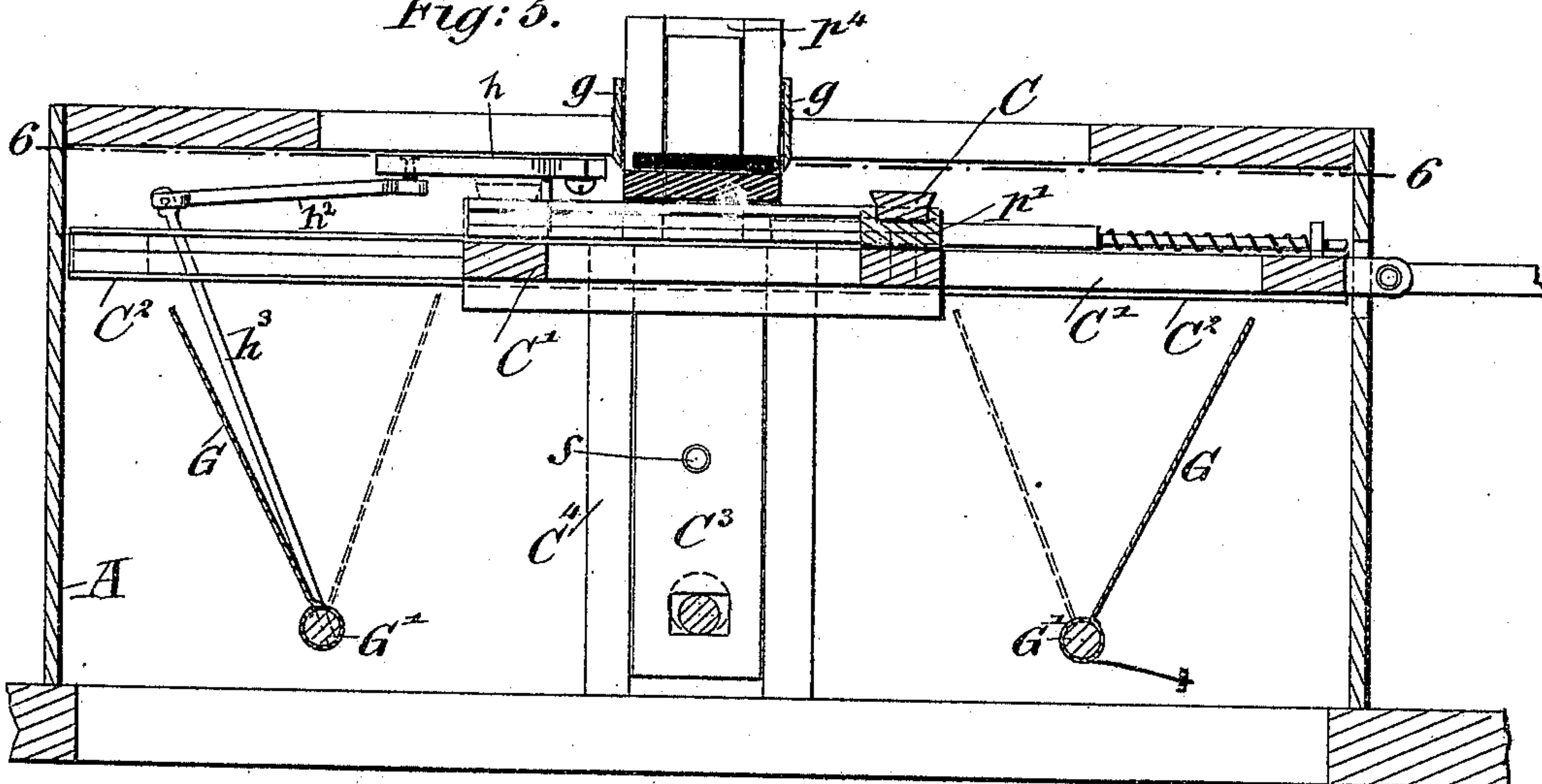
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Fig: 5.



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Fig: 6.

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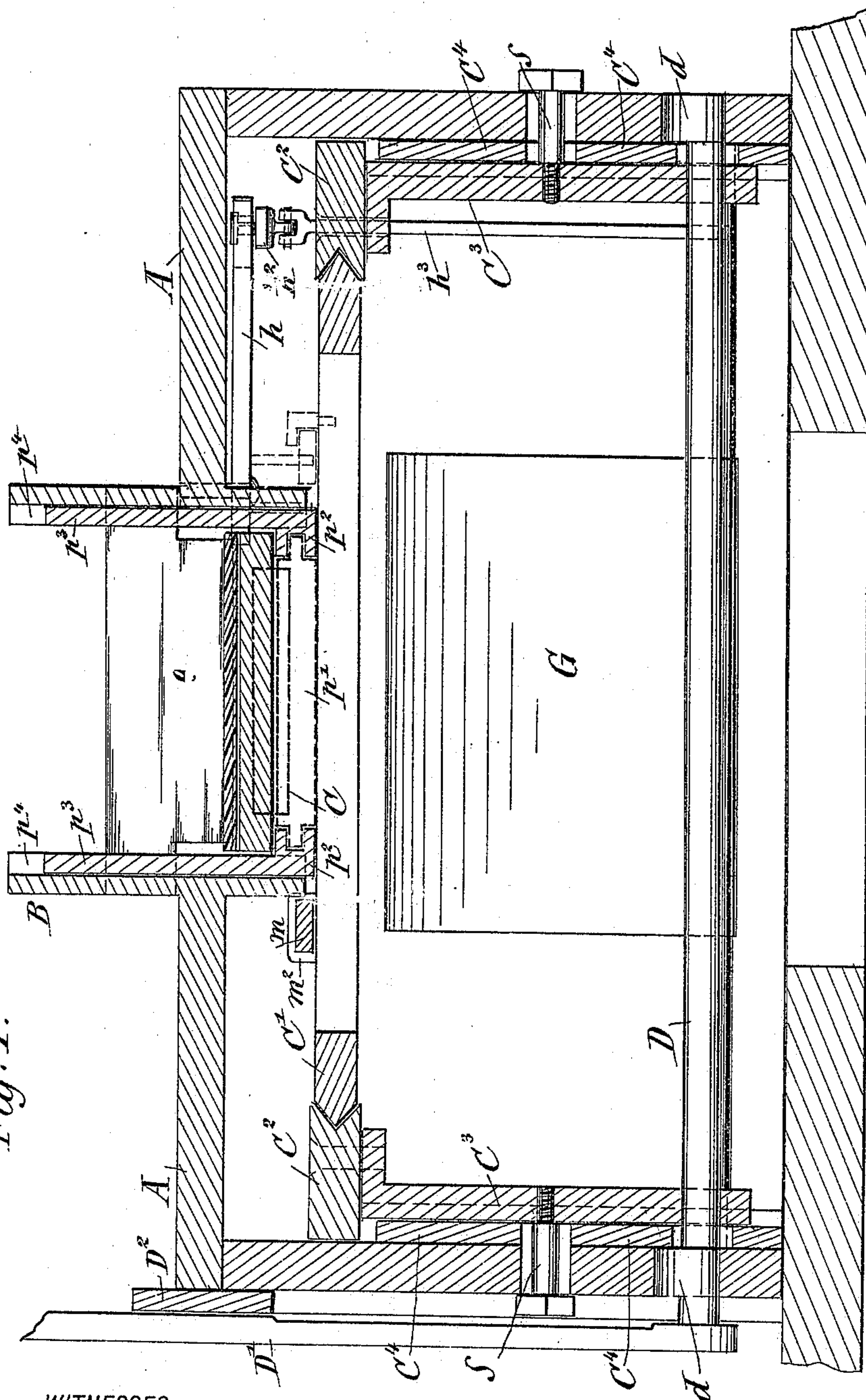
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UNLEADING-MACHINE FOR LINOTYPE MATTER.

SPECIFICATION forming part of Letters Patent No. 547,448, dated October 8, 1895.

Application filed October 31, 1894. Serial No. 527,501. (No model.)

To all whom it may concern:

Be it known that I, FRANK PETERHANSL, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Unleading-Machines for Linotype Matter, of which the following is a specification.

This invention relates to an improved machine for unleading linotype matter, so that the leads required for spacing the linotypes are separated from the latter in a quick and effective manner by means of a power-driven machine, so as to save the time consumed in the hand separation of the same.

The invention consists of a machine for unleading linotype matter, which comprises a vertical hopper having an interior cross-section the size of the linotypes, and in which they are placed with the leads, a separating-box below the hopper, provided with oscillating gates, one at each side of the hopper, a horizontally-reciprocating pusher-frame, guides for said frame, means for raising or lowering said guides, so as to set the pusher-frame to the different sizes of linotypes to be separated, and means operated by the linotypes, so as to tilt the gates and conduct thereby the linotypes into a separate receptacle from the leads.

The invention consists, further, of means by which the gates are held in the position into which they are tilted until the pusher-frame is moved in an opposite direction, after which the gates are returned into their normal position by the action of helical springs applied to the pivot-shafts.

The invention consists, further, of certain details of construction, which will be fully described hereinafter, and finally pointed out in the claims.

In the accompanying drawings, Figure 1 represents a front elevation of my improved machine for unleading linotype matter. Fig. 2 is a side elevation of same. Figs. 3 and 4 are horizontal sections, respectively, on lines 3 3 and 4 4, Fig. 1. Fig. 5 is a vertical longitudinal section on line 5 5, Fig. 6, drawn on a larger scale. Fig. 6 is a horizontal section on line 6 6, Fig. 5; and Fig. 7 is a vertical transverse section of the machine on line 7 7, Fig. 6, drawn on a still larger scale.

Similar letters of reference indicate corresponding parts.

My improved unleading-machine for linotype matter is constructed of a rectangular separating-box A, which is open at the bottom and which is provided at its top with a central hopper B, which is made slightly flaring at its upper end, so as to permit the ready insertion of the linotype matter to be unled. The front of the hopper B is closed by means of a hinged door *b*, which is provided with a glass-covered opening *b'* and with a suitable locking-catch *b²*, said opening serving for the purpose of observing the downward motion of the linotype matter in the hopper, and the door for getting at the matter whenever the same is not fed in regular manner into the separating-box. The separating-box is constructed of two symmetrical portions having in each portion a duplicate of the mechanism of the other portion, so as to permit the double action of the machine and produce the separation of either a lead or a linotype at each forward or backward motion of a horizontally-reciprocating pusher C, which is supported at one end of an oblong pusher-frame C'. A connecting-rod R is pivoted to lugs *r* of the pusher-frame, which lugs pass through an opening in the separating-box, said connecting-rod being reciprocated from a crank-shaft (not shown) driven by a suitable power mechanism, so as to reciprocate the pusher-frame. The pusher-frame C' is guided in horizontal ways C², which are supported on vertical standards C³, longitudinally movable at the inner sides of the side walls of the separating-box A, said standards being guided in fixed guide-pieces C⁴ and being acted upon by a transverse oscillating shaft D, which passes through openings in the lower part of the same and which is provided with eccentrics *d*, that are supported in the openings of the side walls of the separating-box. The oscillating shaft D is extended through one side of the box and connected with a hand-lever D', which is set by means of a locking-pin *d'*, that enters a hole in the same along a semicircular guide D², that is permanently attached to said side of the separating-box A and provided with four or more holes *d²*, into which holes the locking-pin *d'* may be inserted, so as to retain thereby the hand-lever D' in different posi-

tions on the guide D^2 and permit thereby the adjustment of the pusher C to the different thicknesses of linotypes which are in use. As ordinarily four different thicknesses of linotypes are employed, according as different styles of type are set up, the four different positions of the lever-handle correspond to the four different thicknesses of linotype and permit thereby the quick adjustment of the machine to the size of linotype to be unleaded.

The upright standards C^3 are, as shown in Figs. 5 and 7, firmly connected to the separating-box by screws S , the shanks of which pass through openings in the side walls of the separating-box to the outside of the same, so that by turning the exterior heads of the screws the standards may be rigidly clamped into position after adjustment, whereby the rigid and reliable position of the horizontal ways C^2 is obtained.

To the lower end of the hopper B at its front and back walls are applied gage-blades g , which permit the linotypes or leads that are at the lower end of the hopper to be retained in longitudinal direction against the action of the pusher C , while the linotype or lead which is below the lower edge of the gage-blades can be taken up by the pusher and moved in one or the opposite direction by the same, according to the motion of the pusher.

The pusher C is preferably made of steel and applied to a transverse bar p' , which is attached to the pusher-frame C' and guided in ways p^2 , which are provided with central vertical standards p^3 , of dovetail cross-section, that are guided in corresponding ways p^4 in the side walls of the hopper, as shown in Figs. 6 and 7.

The pusher C is reciprocated by its reciprocating frame C' in the guideways p^2 , onto which latter the linotype matter is fed from the lower end of the hopper, the pusher carrying along either a linotype or a lead, as the case may be, and moving the same over either end of the guideways p^2 , according to the direction of motion of the pusher, into the open space at either end of the separating-box A and onto one of the gates G , which are each applied to a transverse pivot-shaft G' , that is acted upon by one end of a spiral spring that is attached to the shaft, while its opposite end is attached to the side wall of the separating-box, as shown in Fig. 6. Below the separating-box are placed three receptacles, (not shown,) one for the leads and two for the linotypes, the one for leads being located between the gates and the ones for linotypes being located between the gates and the ends of the separating-box. As the gates G are held by their spiral springs G^2 in normal position away from the ends of the ways p^2 , a tilting mechanism is required by which the gates are moved over into the position shown in dotted lines in Fig. 5. This tilting mechanism is operated whenever a linotype is delivered onto the ways p^2 and into the path of the pusher C ,

so that the linotypes are fed into their corresponding receptacles along the tilted gates G .

The mechanism by which the gates G are tilted over consists, at each end of the machine, of an actuator or swinging bar h , which is pivoted to the under side of the top of the separating-box, and which is provided with a nose h' , that projects into the path of the linotypes, said actuator-bar being attached by a slot-and-pin connection h^0 to a connecting-rod h^2 , which in turn is pivotally connected with an arm h^3 , that is attached at its lower end to the pivot-shaft of the gate, as shown in Figs. 5 and 6. These tilting mechanisms are connected with the respective gates, so that when by the pusher C a linotype is moved in either direction on the ways p^2 the linotype engages the nose h' of the actuator-bar h and moves the same into the position shown in dotted lines in Fig. 5, whereby the linotype as it is pushed over the ends of the ways p^2 is dropped along the gate into the receptacle for the same. As soon as the linotype is dropped and the motion of the pusher in the opposite direction commences the gate and its tilting mechanism are returned by the action of the spiral spring on its pivot-shaft into normal position, as shown in full lines in Fig. 5.

In order to hold the tilting gates G in the required position for conducting the linotype until the return motion of the pusher-frame commences, spring-actuated stop-bars $m m$ are arranged at opposite ends of the pusher-frame, the beveled front ends of which engage pins $m' m'$ on the underside of the actuator-bar $h h$, said stop-bars being retained and guided in suitable keepers m^2 and acted upon by spiral springs m^3 , so as to give sufficiently when the beveled ends form contact with the pins m' and prevent thereby the sudden concussions with the same.

Whenever a lead is dropped on the ways p^2 at the lower end of the hopper B , the same is passed below the nose h' of the actuator-bar h by means of the pusher, and owing to its less thickness than the linotypes it does not actuate the tilting mechanism, thus retaining the gates G in their normal position, so that when the lead is dropped over the ends of the ways p^2 it is conducted along the inclined gate, onto which it falls into its proper receptacle. As at each forward or backward motion of the pusher either a linotype or lead is carried along, and as in case of a linotype one of the gates G is tilted, while in the case of a lead the gate remains in its normal position, the leads or linotypes are conducted by the tilting or non-tilting of the gates into the required receptacle, and are thereby separated from each other in a very reliable manner. As the pusher-frame is actuated by a power-shaft, (not shown,) it can be operated quickly, so that in connection with the vertical adjustment of the pusher-frame the different sizes of linotype can be quickly and effectively separated from the leads, whereby

the hand-labor required for doing this work in newspaper and other offices is dispensed with and linotype matter unlead very quickly and effectively in this manner.

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

1. In a machine for unleading linotype-matter, the combination of a separating-box, a
10 hopper supported above the box, horizontal ways at the lower end of the hopper, a horizontally-reciprocating pusher-frame located within the box and below said ways, means attached to the pusher-frame for operating
15 the same, a pusher projecting from said frame above the ways, an upwardly-extending tilting gate located in the separating-box below the pusher-frame and extending transversely of the direction of motion of the pusher-frame,
20 an actuator located above the ways at a short distance therefrom so that when the linotypes are moved forward, they will operate said actuator, but when the thinner leads are moved forward they will move under the actuator,
25 and means connecting the actuator with the tilting gate whereby the latter is operated by the former for dropping the linotypes into a suitable receptacle, substantially as set forth.

30 2. In a machine for unleading linotype matter, the combination of a separating-box, a hopper on the same, horizontal guide-ways at the lower end of said hopper for supporting the linotype matter in the same, a horizontally-reciprocating pusher guided in said ways
35 and projecting above the same for pushing forward the linotypes and leads alternately in opposite direction, gates arranged in said box at opposite sides of and below the pusher,
40 said gates extending transversely of the guide-ways and means operated by the linotypes for tilting said gates so as to deposit the linotypes in their proper receptacle as they are moved by the pusher over the ways, substantially
45 as set forth.

3. In a machine for unleading linotype matter, the combination of a separating-box, a hopper for the linotype matter at the top of the same, laterally movable guide-ways at
50 the lower end of the hopper for supporting the linotype matter, a pusher guided in said ways, a horizontally-reciprocating frame attached to said pusher, means for adjusting the guides of the reciprocating-frame and
55 said movable guide-ways into higher or lower position in the separating box, pivoted and spring-actuated gates arranged at opposite ends of the guide-ways of the pusher, and means for tilting said gates by the linotype
60 matter moved forward by the pusher so as to feed the linotypes into separate receptacles from the leads, substantially as set forth.

4. The combination with a separating-box, a hopper for the linotype matter supported
65 on the top of the same, movable guide-ways

at the lower end of the hopper, for supporting the linotype matter, a pusher guided in said guide-ways, a horizontal reciprocating pusher-frame for supporting the pusher, guide-ways
70 for guiding said reciprocating-pusher-frame, means for imparting reciprocating motion to said frame, means for adjusting the guide-ways of the frame together with those of the pusher higher or lower in the separating-box, and means for distributing the linotypes and
75 leads, the same being acted on by the pusher through the medium of the linotypes, substantially as set forth.

5. The combination of a separating-box, a hopper for the linotype matter supported on
80 the top of the same, guide-ways at the lower end of the hopper, a gate at each end of said guide-ways, means for pushing the linotype matter along the guide-ways, means for tilting the gates by the forward motion of the
85 linotype matter, and spring-actuated stop-bars for engaging the tilting mechanism, substantially as set forth.

6. The combination of a separating-box, a hopper for the linotype matter supported on
90 the top of the same, ways at the lower end of said hopper in the separating-box, a horizontally-reciprocating pusher guided between said ways, pivoted and spring-actuated gates arranged at each end of said ways, an actuator or swinging-bar pivoted to the top of the
95 separating box and provided with a nose that projects into the path of the linotypes moved forward by the pusher, and mechanisms connecting said actuator or swinging-bar with
100 the gates so as to tilt the same whenever a linotype is pushed forward but prevent the tilting of the gates when a lead of less thickness is moved by the pusher over the ways, substantially as set forth.
105

7. The combination of a separating-box, a hopper for the linotype matter attached to the top of the same, horizontal guide-ways at the lower end of said hopper, a horizontally-reciprocating pusher guided in said ways, a
110 pivoted and spring-actuated gate arranged at each end of said guide-ways, an actuator or swinging-bar pivoted to the separating-box and projecting into the path of the linotypes at a sufficient distance above the guide-ways,
115 to permit the passage of the thinner leads below the actuator or swinging-bar, a pin on said swinging-bar, and a guided and spring-actuated stop-bar that engages the pin of said actuator or swinging-bar after the gate is
120 tilted, so as to retain the same in position until the linotype has passed over the gate, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.
125

FRANK PETERHANSL.

Witnesses:

GEO. L. WHEELLOCK,
JUAN C. ABEL.