

(Model.)

4 Sheets--Sheet 1.

C. A. BALDWIN.
Combined Elevator, Carrier, and Dump.

No. 232,433.

Patented Sept. 21, 1880.

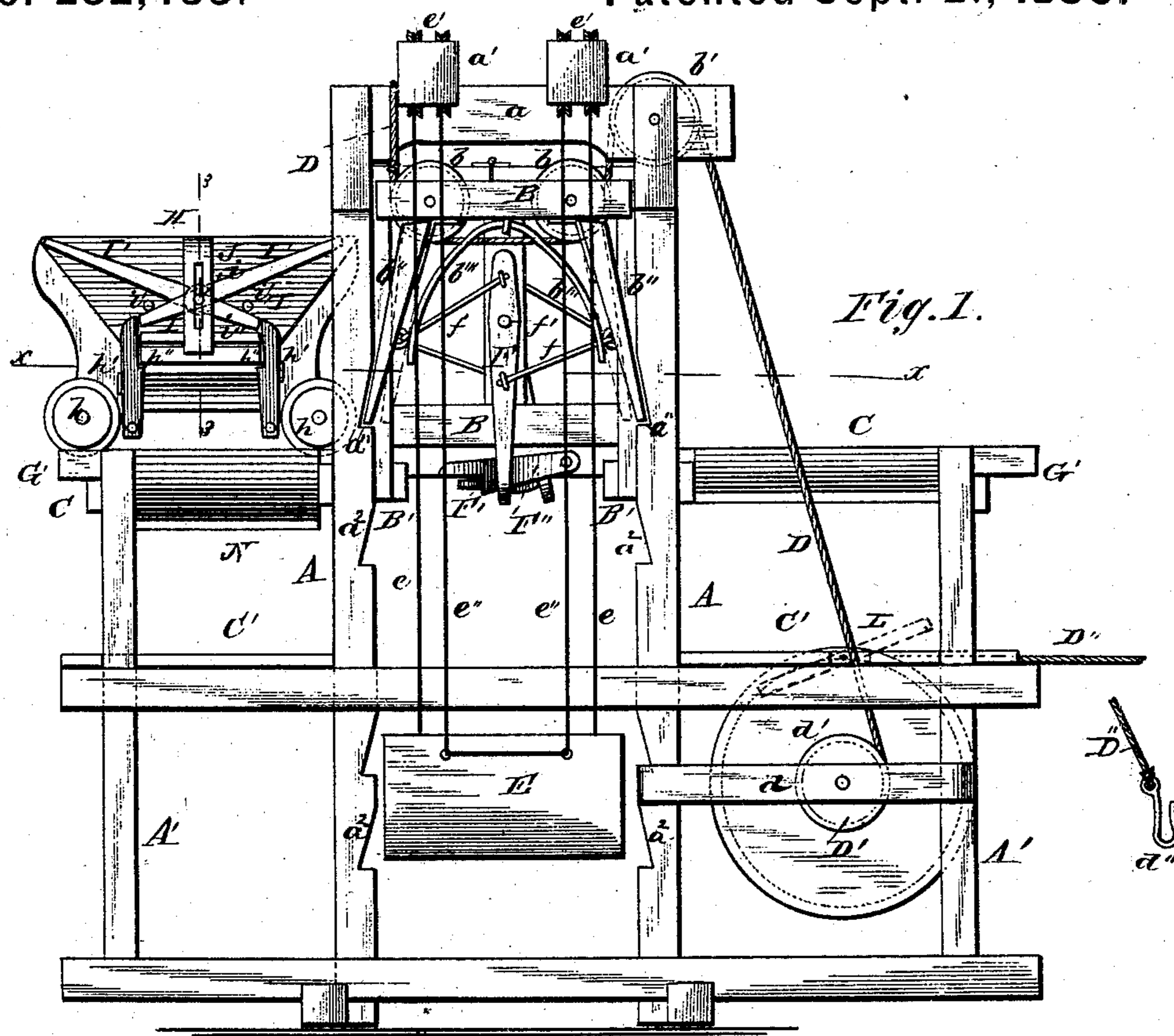
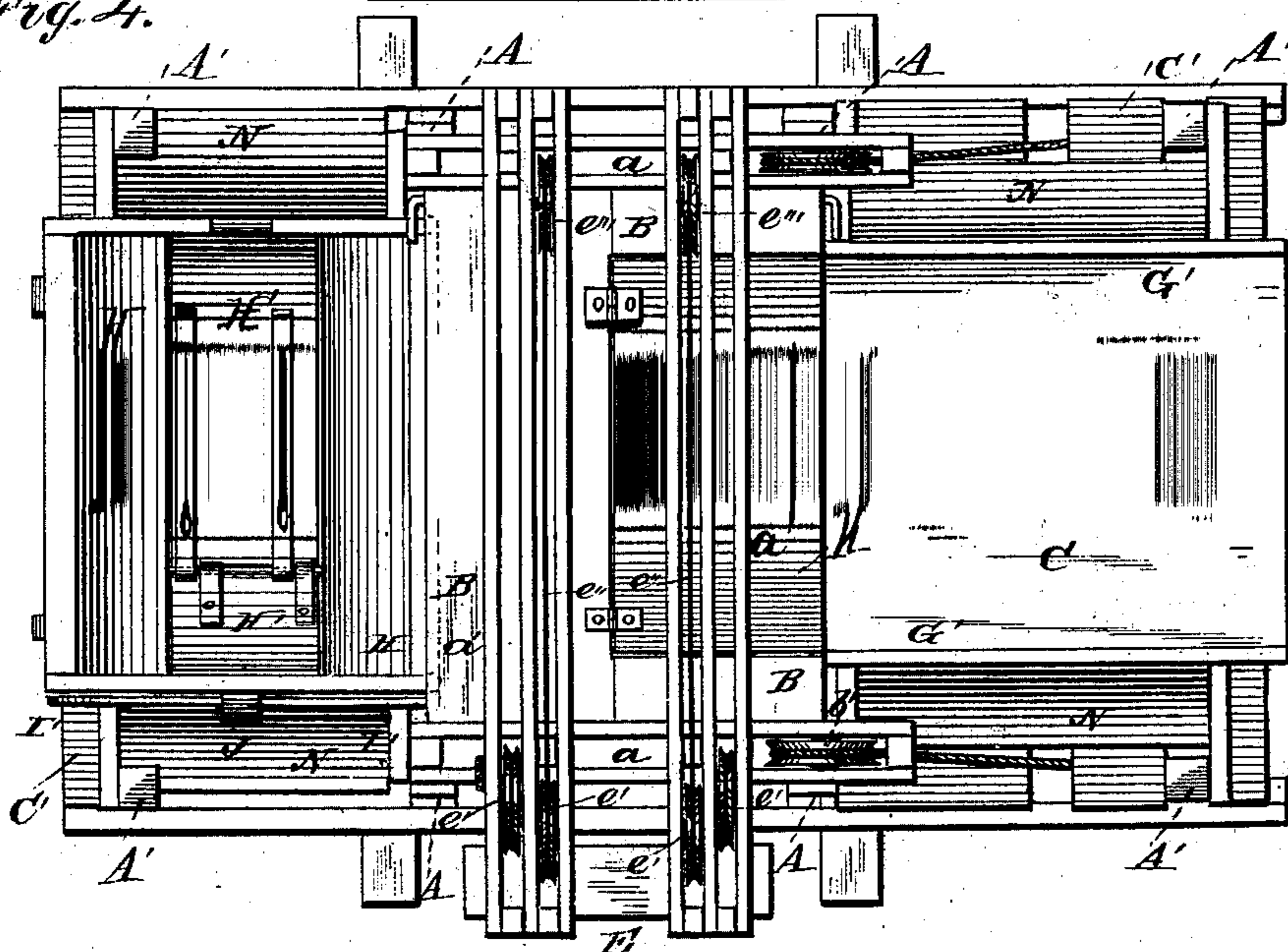


Fig. 4.



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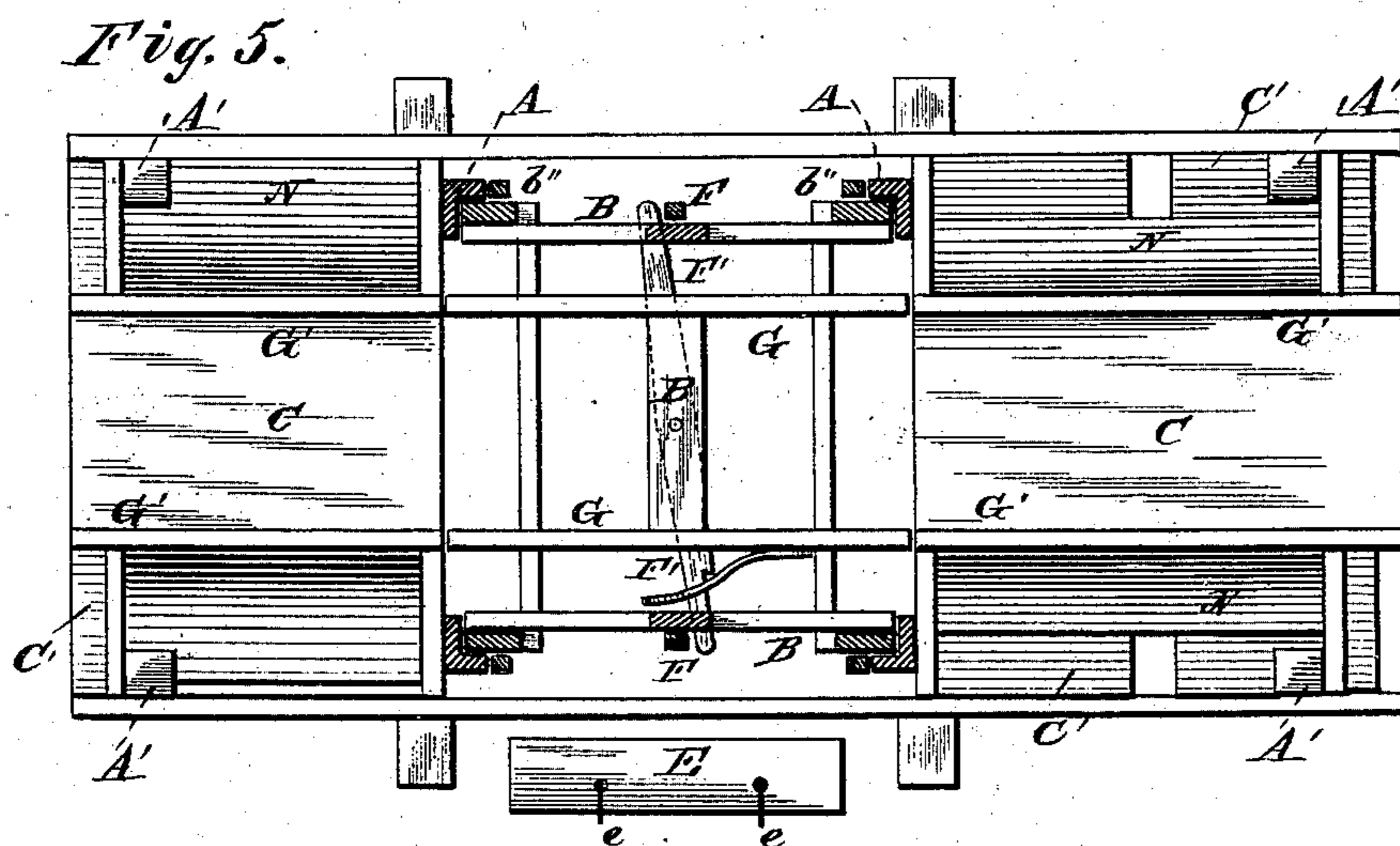
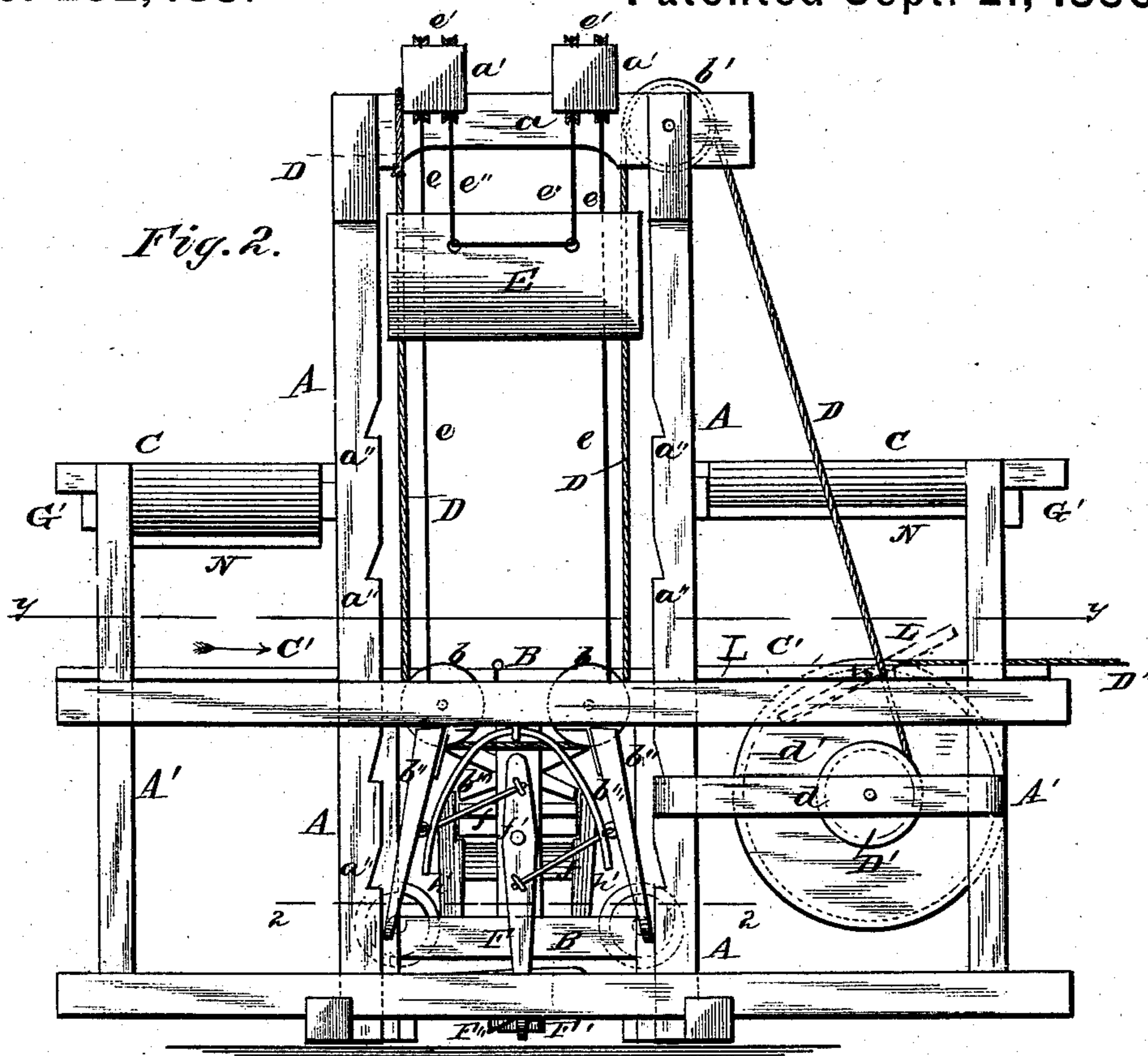
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Fig. 3.

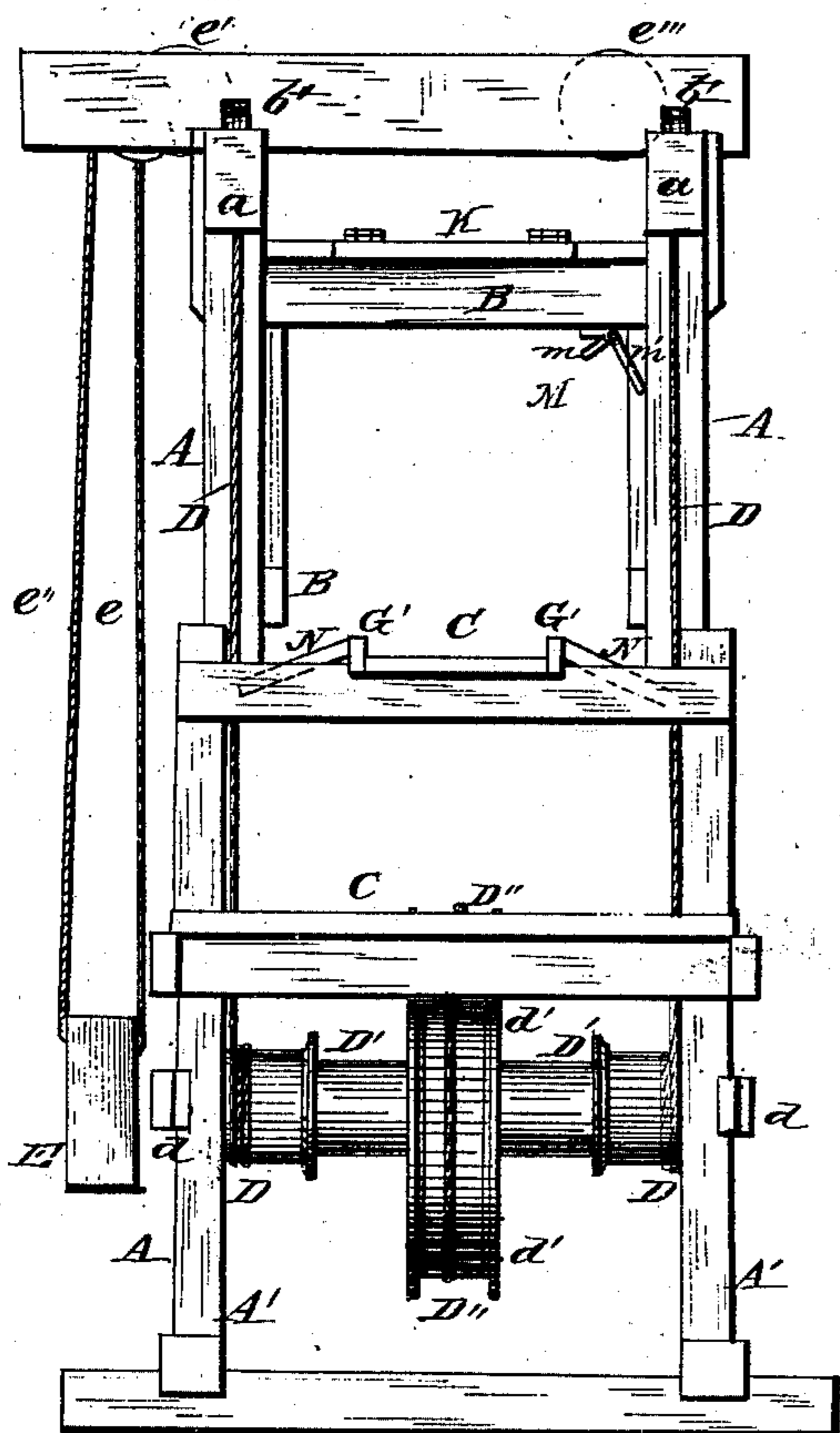


Fig. 10.

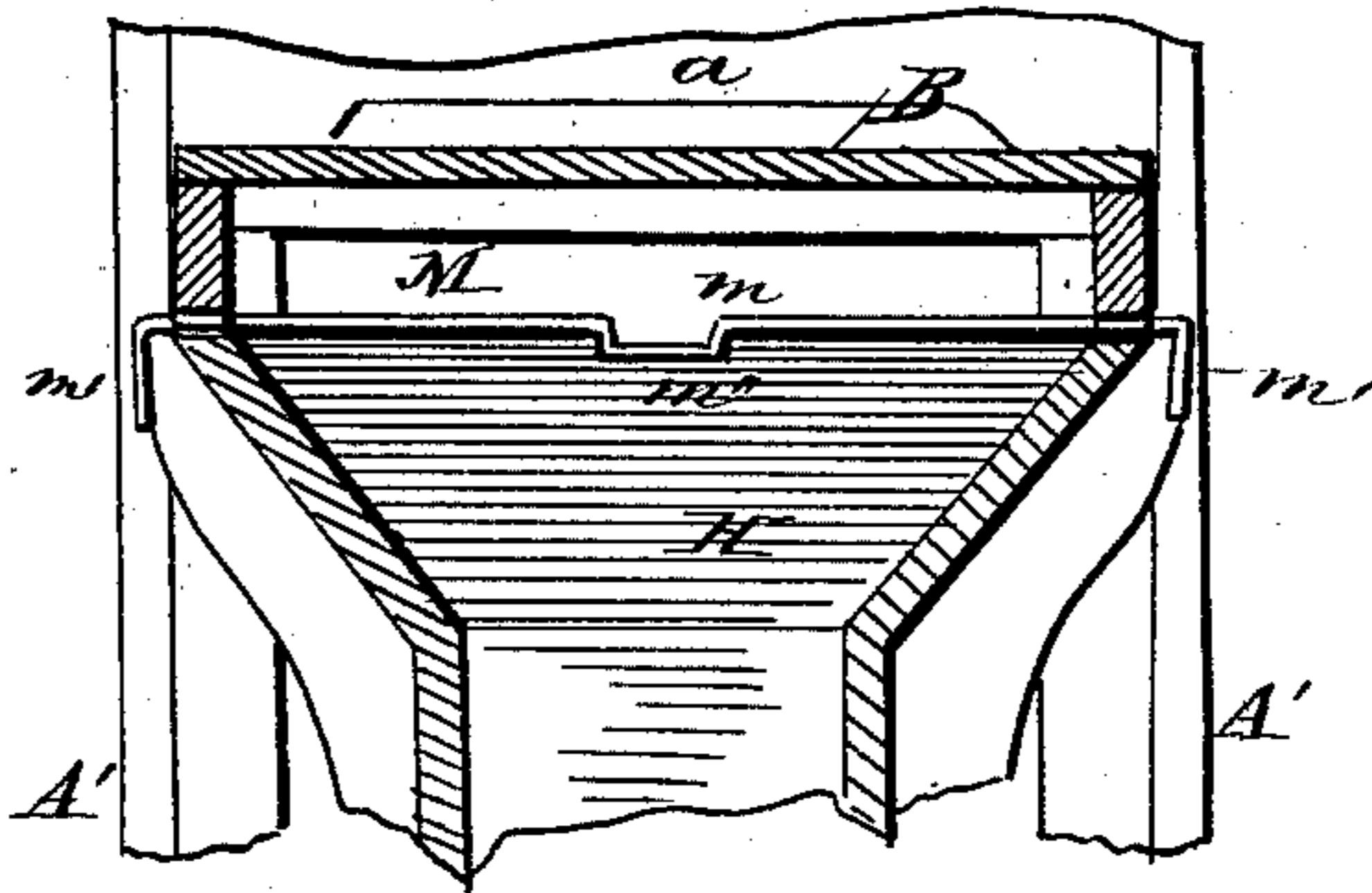


Fig. 11.

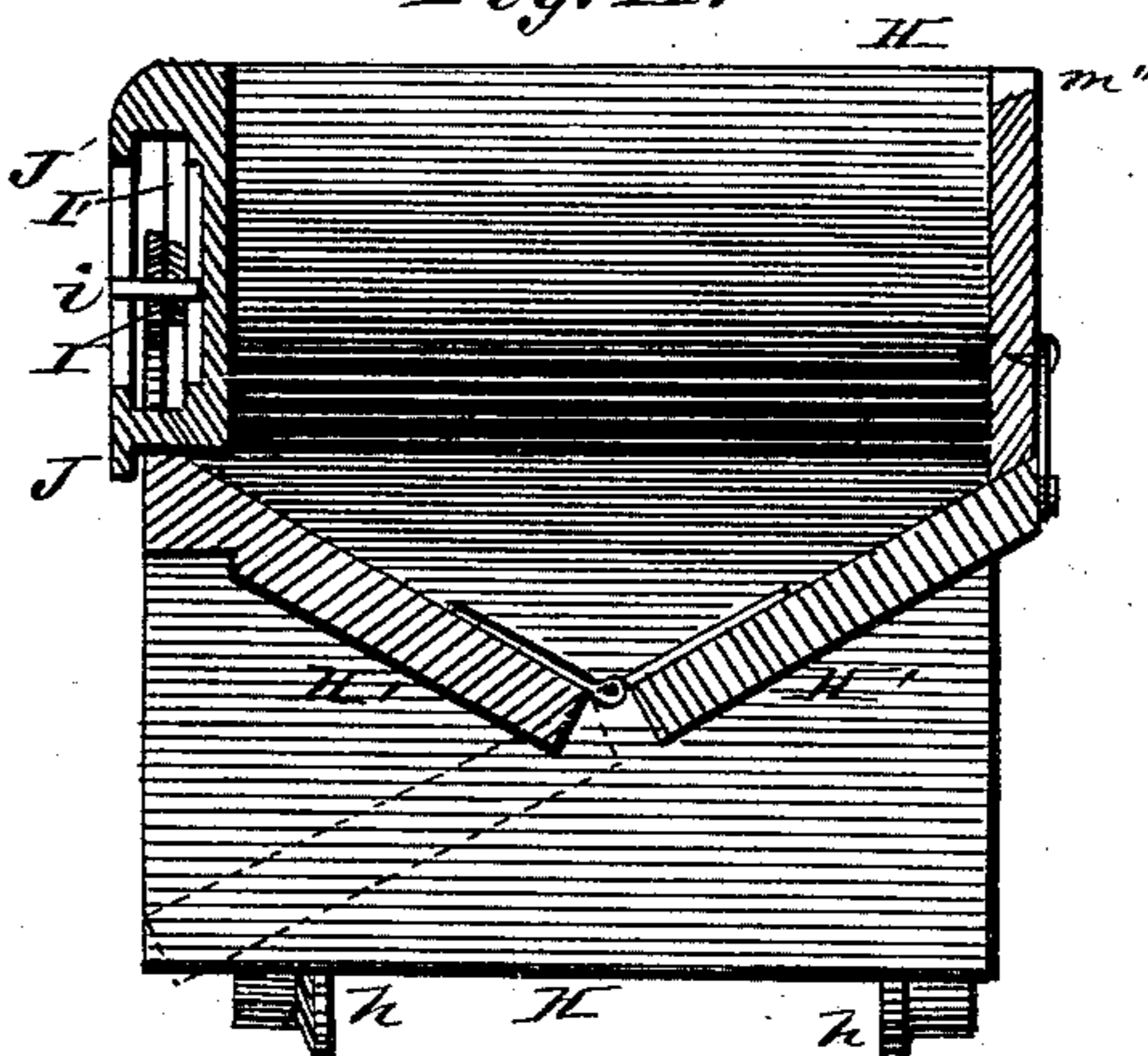
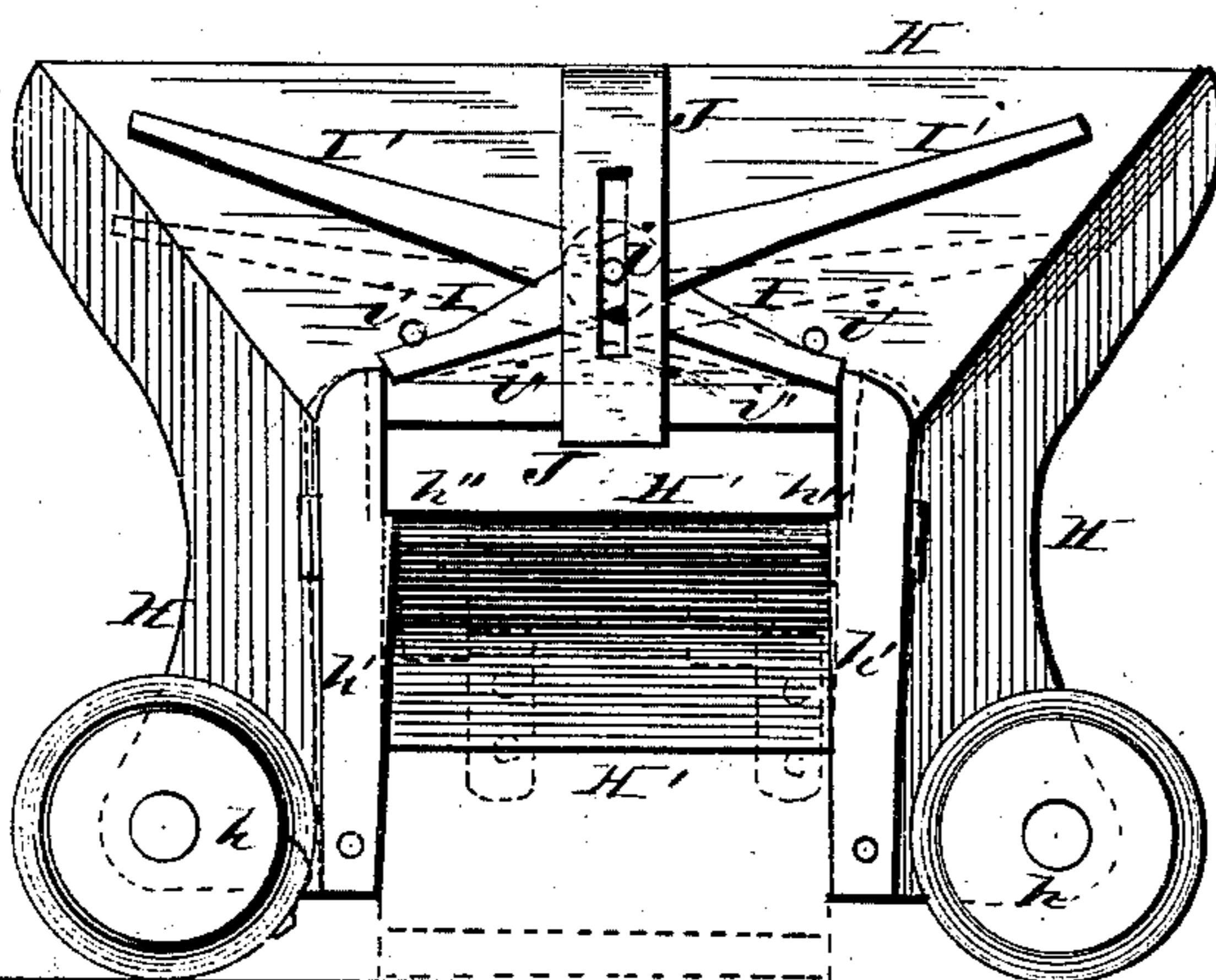


Fig. 9.



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Fig. 6.

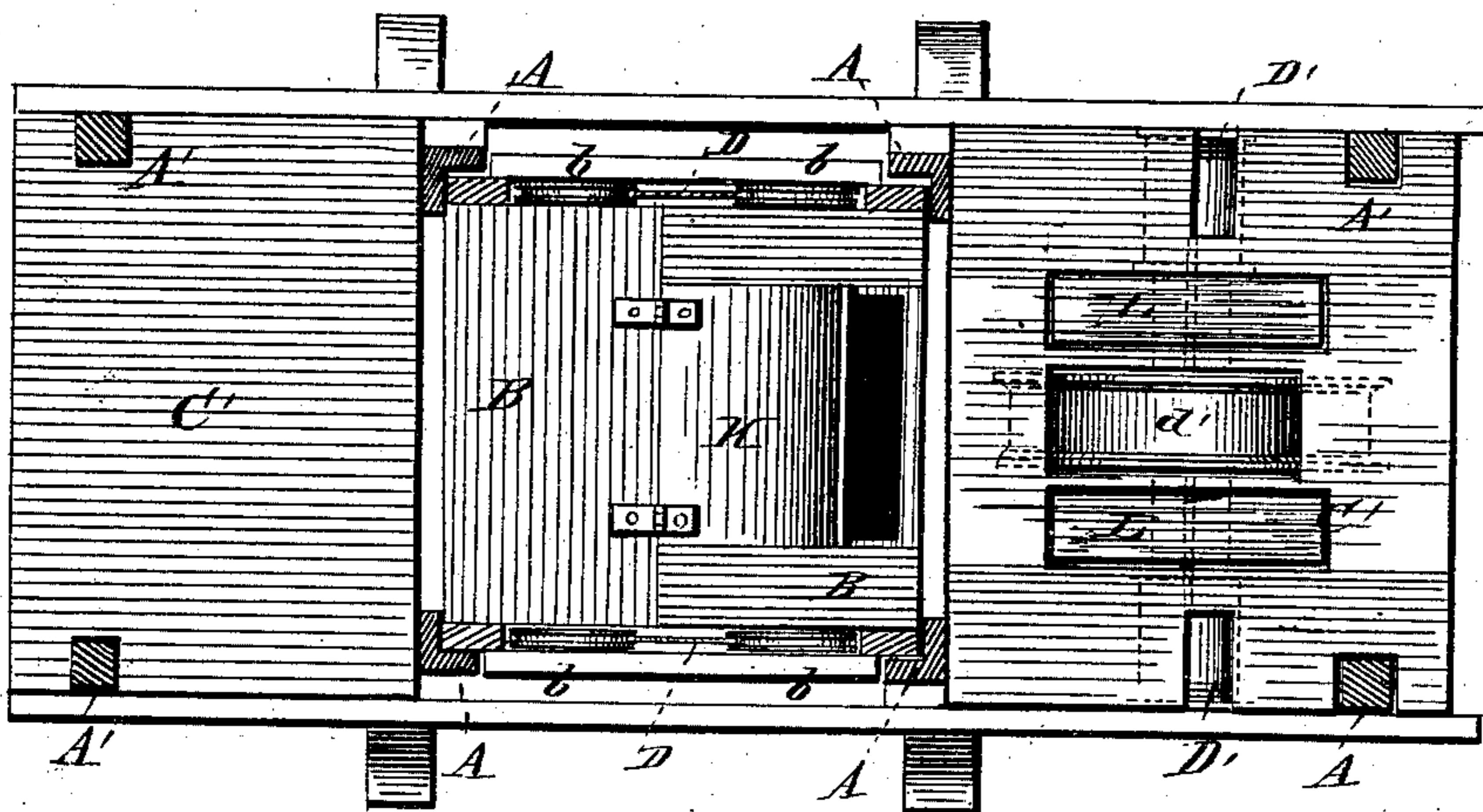


Fig. 7.

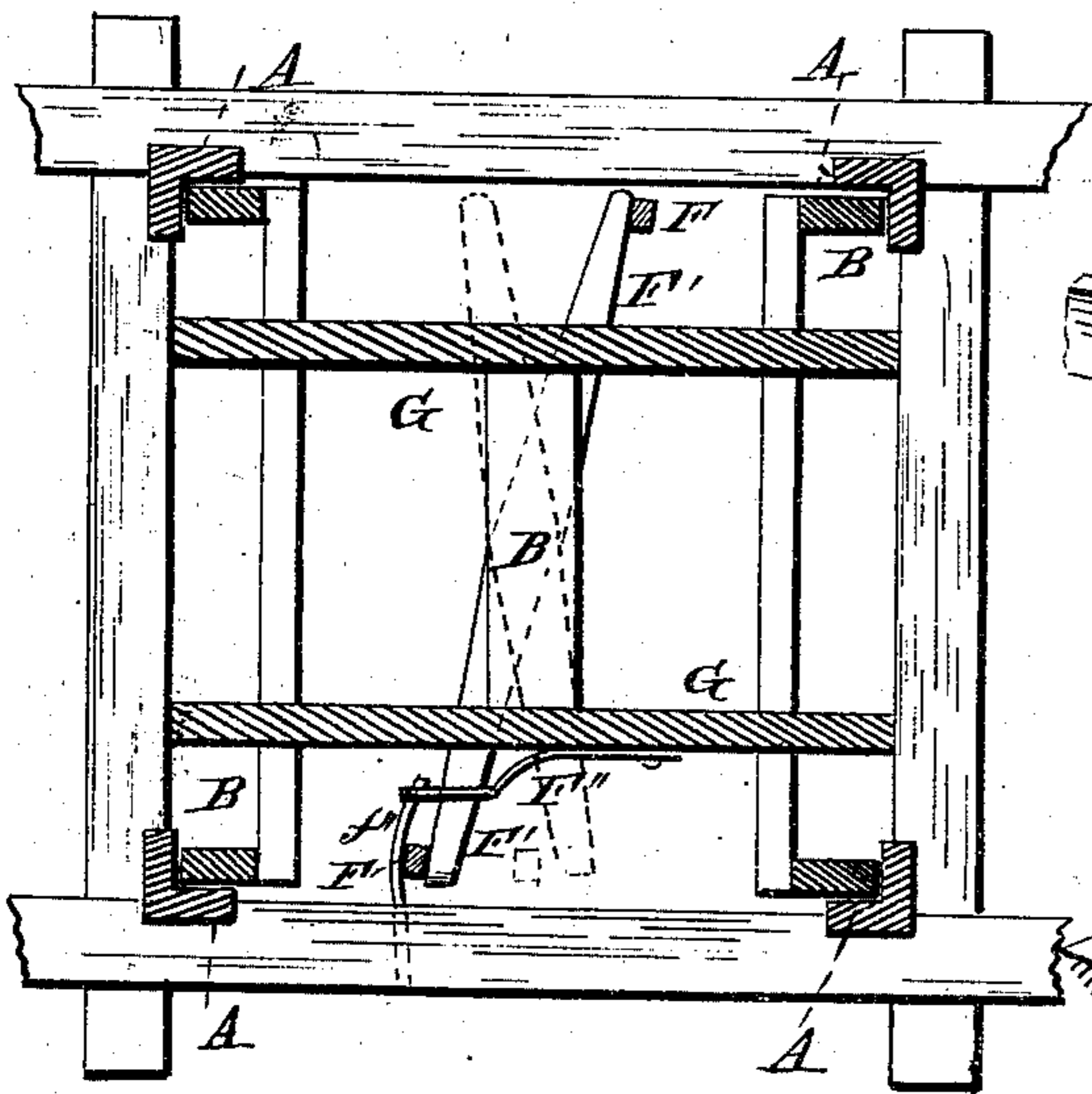
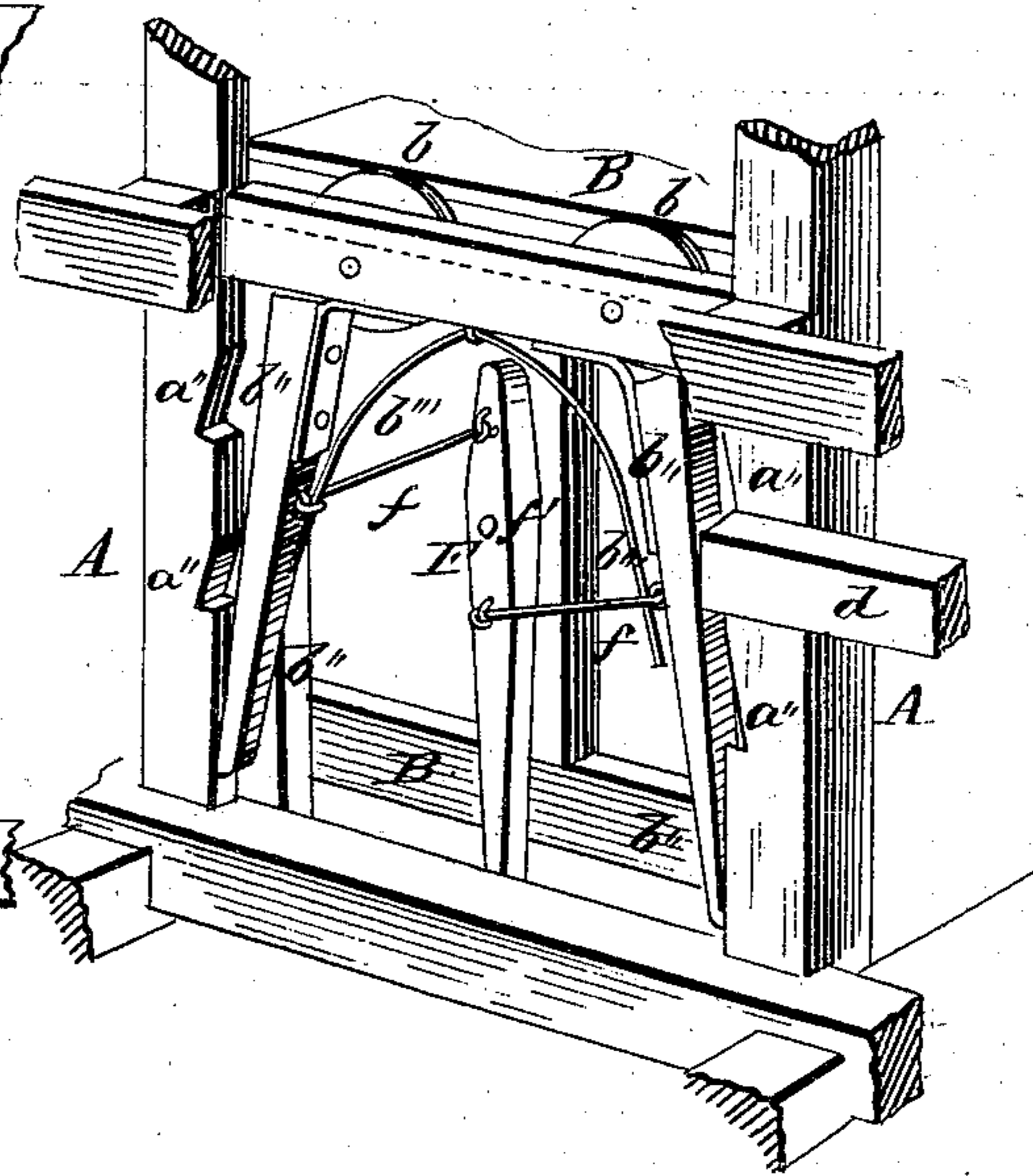


Fig. 8.



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UNITED STATES PATENT OFFICE.

CADWELL A. BALDWIN, OF BUSHNELL, ILLINOIS, ASSIGNOR OF ONE-HALF OF HIS RIGHT TO STEPHEN A. HENDEE AND SAMUEL M. BURTIS, OF SAME PLACE, ONE-FOURTH TO EACH.

COMBINED ELEVATOR, CARRIER, AND DUMP.

SPECIFICATION forming part of Letters Patent No. 232,433, dated September 21, 1880.

Application filed April 13, 1880. (Model.)

To all whom it may concern:

Be it known that I, CADWELL A. BALDWIN, a citizen of the United States, residing at Bushnell, in the county of McDonough and State of Illinois, have invented certain new and useful Improvements in Combined Grain Elevator, Carrier, and Dump; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification, in which—

Figure 1 is a side elevation of the entire device, showing the grain-car in position for unloading and the cage at its highest position. Fig. 2 is a side elevation, showing the grain-car in position for loading and the cage at its lowermost position. Fig. 3 is an end elevation. Fig. 4 is a top plan of Fig. 1. Fig. 5 is a horizontal section in the line *xx* in Fig. 1. Fig. 6 is a horizontal section in the line *yy* in Fig. 2. Fig. 7 is a horizontal section in the line 2 2 in Fig. 2. Fig. 8 is a detail perspective, hereinafter referred to. Fig. 9 is an enlarged side elevation of the grain-car. Fig. 10 is a detail view, hereinafter referred to. Fig. 11 is a transverse vertical section of the car and chute in the line 3 3 in Fig. 1.

My invention relates to a combined grain elevator, carrier, and dump; and it consists in constructions and combinations herein described and set forth in the claims hereto annexed.

Referring to the drawings by letters, the same letter indicating the same part in the different figures, letters A A' represent posts for supporting the working parts. There are four of the posts A, which, in addition to acting as supports, also act as guides, in which the cage B is raised and lowered. The posts A' may be increased in number as required to lengthen any portion of the device.

The posts A A' support two platforms, C C', as shown in the drawings, and the posts A have fixed to their upper ends single-slotted bars *a* and double-slotted transverse bars *a'*.

At each side of the cage B a cord, D, is secured at one end to one of the bars *a*, which cord passes beneath pulleys *b b* at the side of the cage, thence upward and over a pulley, *b'*, in the slot of a bar, *a*, and thence downward, one cord to each end of a shaft, D', which is journaled in bars *d*, below the platform C'.

The central part of the shaft D' has a pulley, *d'*, fixed thereto, to which one end of a draft-cord, D'', is secured, so that by pulling on the cord D'', the cords D will be wound upon the shaft D' and thereby raise the cage B. By slacking the cord D'' the cage will be lowered and be prevented from descending too rapidly by a counterbalance-weight, E, from which cords *e e* extend over pulleys *e' e'* in the bars *a*, to one side of the cage, and cords *e'' e''* extend over pulleys *e''' e'''* to the other side of the cage.

Jaws *b'' b''* are hinged at their upper ends to the sides of the cage B, the lower ends of which are pressed outward by springs *b'''*, so as to engage with notches *a''* in the posts A when the cage is in the position shown at Fig. 1, and thereby hold it in its elevated position, and with its bottom B' in the same horizontal plane as the upper platform, C.

In the drawings the jaws *b''* of only one side of the cage are shown. Each pair of jaws *b''* is connected by links *f* with a lever, F, which is pivoted at *f'* to the cage B, and has its lower end extended below the bottom of the cage.

A lever, F', is pivoted at its central part to and extends across the bottom of the cage, and its ends are so arranged that by vibrating it in one direction they will come in contact with the levers F on each side of the cage and vibrate them so as to draw the jaws *b'' b''* toward each other and release them from the notches *a''* in the posts A, as shown by dotted lines at Fig. 1.

When the lever F' is moved to release the jaws *b''*, as last described, a gravitating-latch, F'', will drop behind said lever and hold the jaws inward and allow the cage to descend until it reaches the position shown at Fig. 2, when the latch F'' will be struck and elevated by a pin, *f''*, Fig. 7, and thereby release the

levers F and F' and allow the springs b''' to press the jaws b'' outward, so that when the cage is elevated to the position shown at Fig. 1 the jaws b'' will be forced into the notches a'' and retain it, as hereinbefore described. The lever F' may then be drawn over by hand to engage with the latch F'', and again hold the jaws b'' in position for the descent of the cage.

A series of notches, a^2 , may be formed in the posts A, so that if the elevating-cord should break as the cage is ascending the jaws b'' would engage therewith to prevent the descent of the cage. The jaws b'' , as hereinbefore described, being held inward while the cage is lowered, will not interfere with its descent, and being free while the cage is ascending will enter all of the notches a^2 and finally the notch a'' .

The bottom of the cage B is provided with rails G, which coincide with the rails G' on the platform C when the cage is in the position shown at Fig. 1.

H is a car, with wheels h adapted to run on the rails G G'. The bottom of the car H is formed in two parts, H' H', hinged at their inner ends, so that their outer ends may fall, as shown by dotted lines at Fig. 11. The hinged bottoms H', are held up and closed by spring-arms h' , which have shoulders h'' , on which the outer edges of the bottom rest. The spring-arms h' may be pressed apart, as shown by dotted lines at Fig. 9, to permit the bottom H' to fall, by toggle-arms I, the lower ends of which rest against the free ends of the spring-arms h' and the upper ends of which are extended to form handles I'. The fulcrum-pin i of the toggle-arms I is extended and is journaled in a slotted bar, J, beneath which the toggle-arms are held. Pins i and a guide-ledge, i' , hold the lower ends of the toggle-arms in proper position.

The top of the cage B is covered and provided with a trap-door, K. The platform C', to one side of the cage B, is provided with tilting-bars L, which may be constructed and operated as are the tilting-bars of any ordinary wagon or car dump.

The car H is held in position on the track of the cage B by a rock-shaft, M, which is journaled in the upper side of the cage, and provided at its central part with an arm, m , and at its ends with cranks m' . The cranks m' may be taken hold of to turn the shaft M, so as to cause the arm m to engage with a notch, m'' , in the upper side of the car H, to hold it in position on the cage, and may be turned in an opposite direction to release it.

In operation, the car H being on the cage B and the cage lowered to the position shown at Fig. 2, the top of the cage will be in same plane as the top of the platform C', and a wagon loaded with grain may then be driven up any suitable inclined plane and onto the platform C', in the direction of the arrow shown at Fig. 2.

That part of the device below the platform C' may be located beneath the surface of the wagon approach, and dispense with the incline-plane approaches.

The wagon is driven onto the dump L, when its rear end will be over the trap-door K, which is then raised and the wagon tilted so as to empty its contents by its rear end through the trap-door and into the car H. A hook, d'' , which is carried on the end of the cord D'', may then be secured to any part of the wagon and the wagon driven forward to elevate the cage, as hereinbefore described, to the position shown at Fig. 1, when the rock-shaft M may be oscillated so as to release the car from the cage. The car may now be pushed outward on the track to the position shown at same figure, and the door H' opened, as hereinbefore described, to permit the grain to run down the chute N into any desirable place.

When the car is emptied it may be again run into the cage, secured, and the cage lowered for refilling the car, as hereinbefore described.

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

1. In combination with an elevator-cage adapted to carry a grain-car, and provided with a track to facilitate running the car on and off the cage, a platform, C', provided with a wagon-dump, whereby a wagon may be tilted to discharge its contents through the top of the cage and into the car, substantially as described, and for the purpose specified.

2. In combination with an elevator-cage adapted to carry a grain-car, and provided with a track to facilitate running the car on and off the cage, a platform located so that the cage may be lowered, with its top in the same plane as the platform, so that the wagon may be driven onto the platform and tilted to discharge its contents through the top of the cage into the car.

3. In combination with an elevator-cage adapted to carry a grain-car, and provided with a track to facilitate running the car on and off the cage, and a platform provided with a dump, whereby a wagon may be tilted to load the car, an upper platform, to which the cage and car may be raised by the elevator, and on which the car may be moved away from the elevator, substantially as and for the purpose specified.

4. The combination, with devices for raising and lowering the cage B, of platforms C and C', the first provided with a car-track and the latter with a wagon-dump, substantially as and for the purpose specified.

5. The platform C', in combination with the elevator-cage B, having top and trap door, and adapted for the passage of a wagon over the cage and platform C', substantially as and for the purpose specified.

6. The combination, with the platforms C' C, elevator-cage B, and car H, of a chute, N, attached to the platform C, and adapted to re-

ceive the grain discharged from the car H, substantially as and for the purpose specified.

7. In combination with the cords D D' for raising and lowering the elevator-cage, the counter-weight adapted to prevent too rapid descent of the elevator-cage, substantially as and for the purpose specified.

8. The spring-jaws b'' and lever F, in combination with the elevator-cage and posts A, substantially as and for the purpose specified.

9. The lever F', in combination with the lever F, spring-jaws b'', cage B, and posts A, substantially as and for the purpose specified.

10. The lever F', in combination with the lever F, latch F'', spring-jaws b'', and elevator-cage B, substantially as described, and for the purpose specified.

11. In combination with the levers F F',

spring-jaws b'', posts A, latch F'', and elevator-cage B, the trip-pin f'', substantially as and for the purpose specified.

12. In combination with the elevator-cage and car H, the rock-shaft M, adapted to lock the car in place in the cage and to release it, substantially as and for the purpose specified.

13. In combination with the car H, having hinged bottoms H', the spring-arms h', and toggle-arms I, adapted to spread the arms h' and release the bottoms H', substantially as and for the purpose specified.

In testimony whereof I affix my signature in presence of two witnesses.

CADWELL A. BALDWIN.

Witnesses:

H. A. ALLEN,

P. R. RICHARDS.