

No. 778,759.

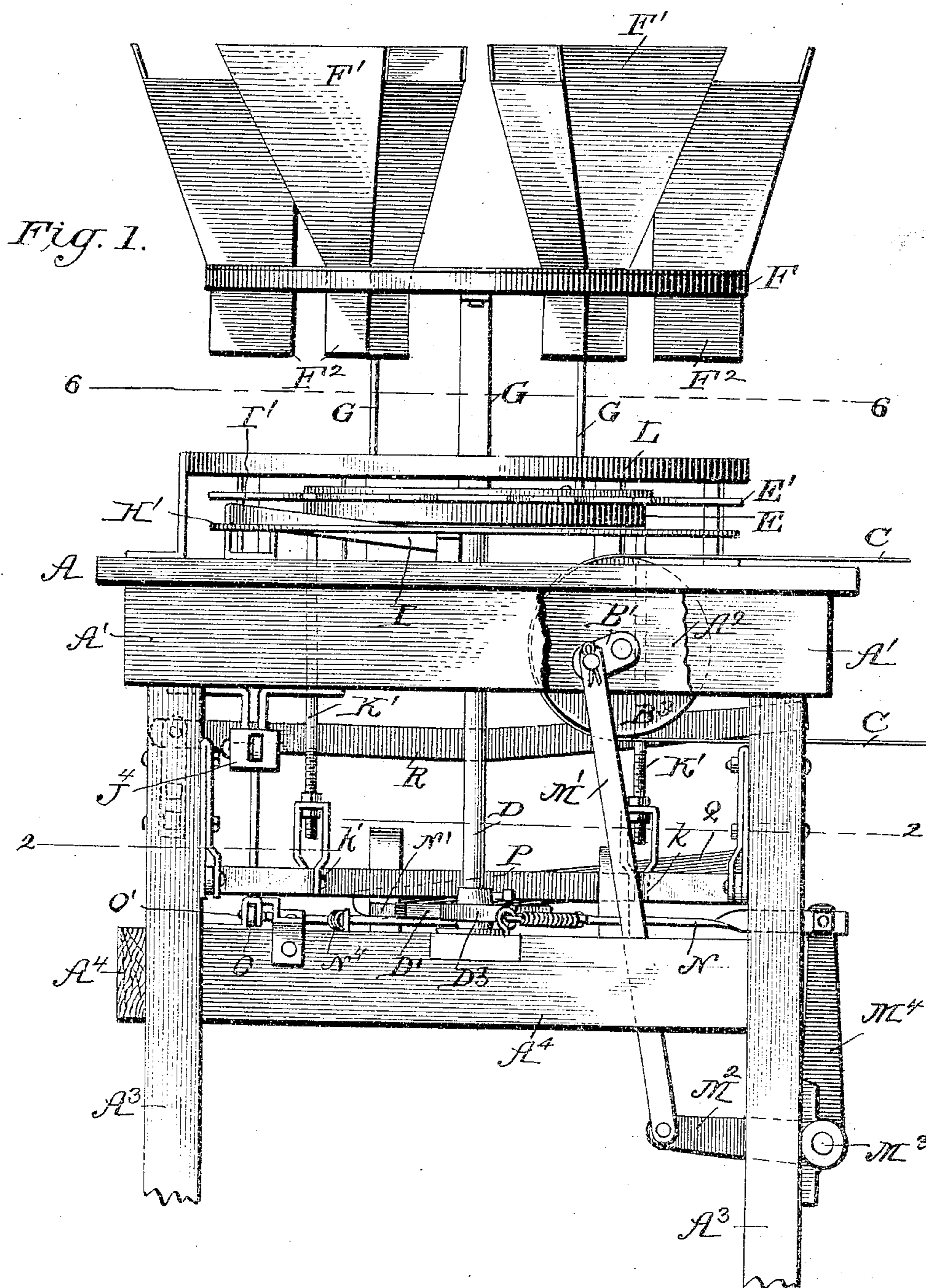
PATENTED DEC. 27, 1904.

A. & J. H. McLEOD.

AUTOMATIC PACKAGING MACHINE.

APPLICATION FILED JULY 26, 1902.

6 SHEETS—SHEET 1.



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6 SHEETS—SHEET 2.

Fig. 2.

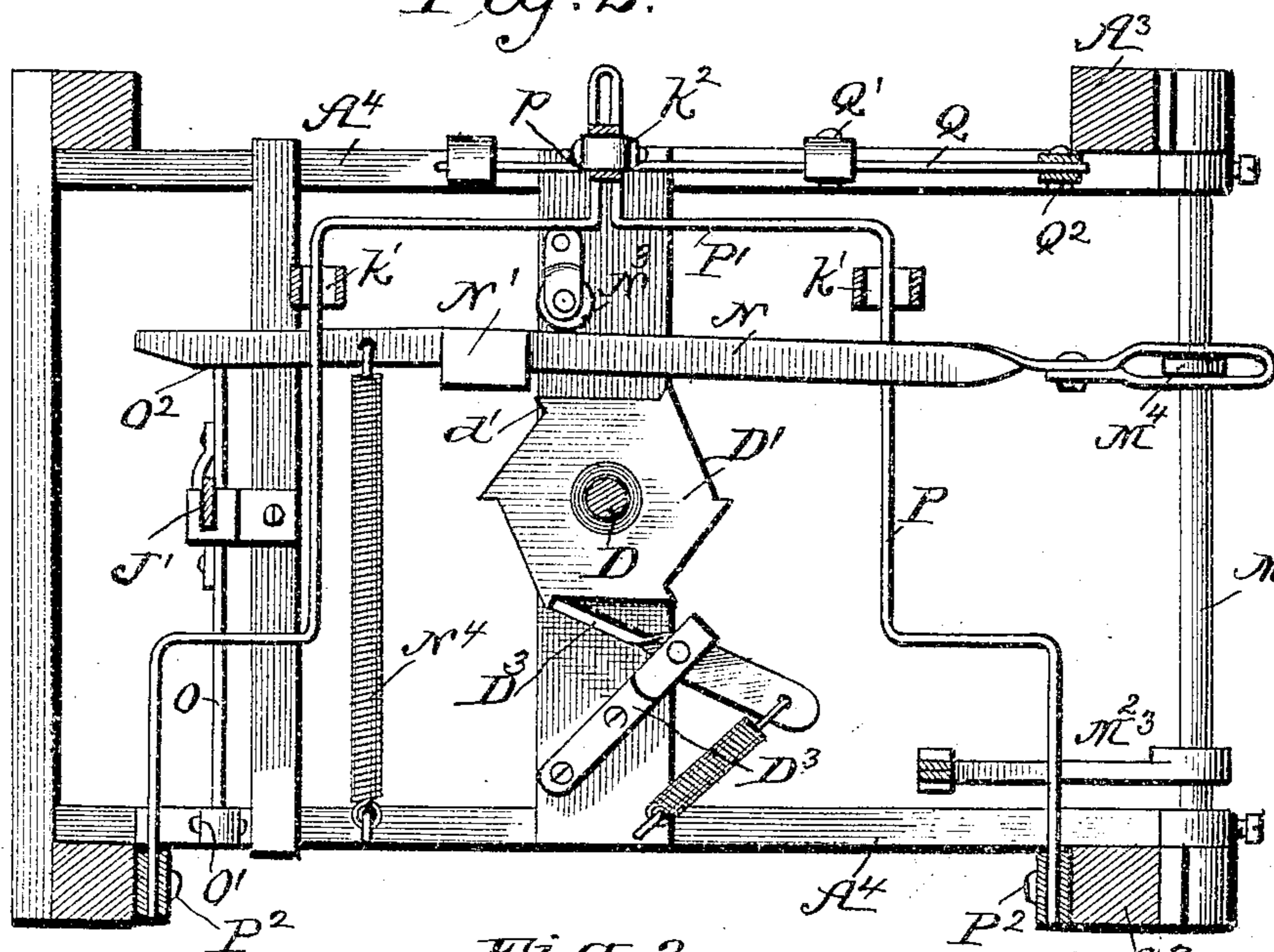
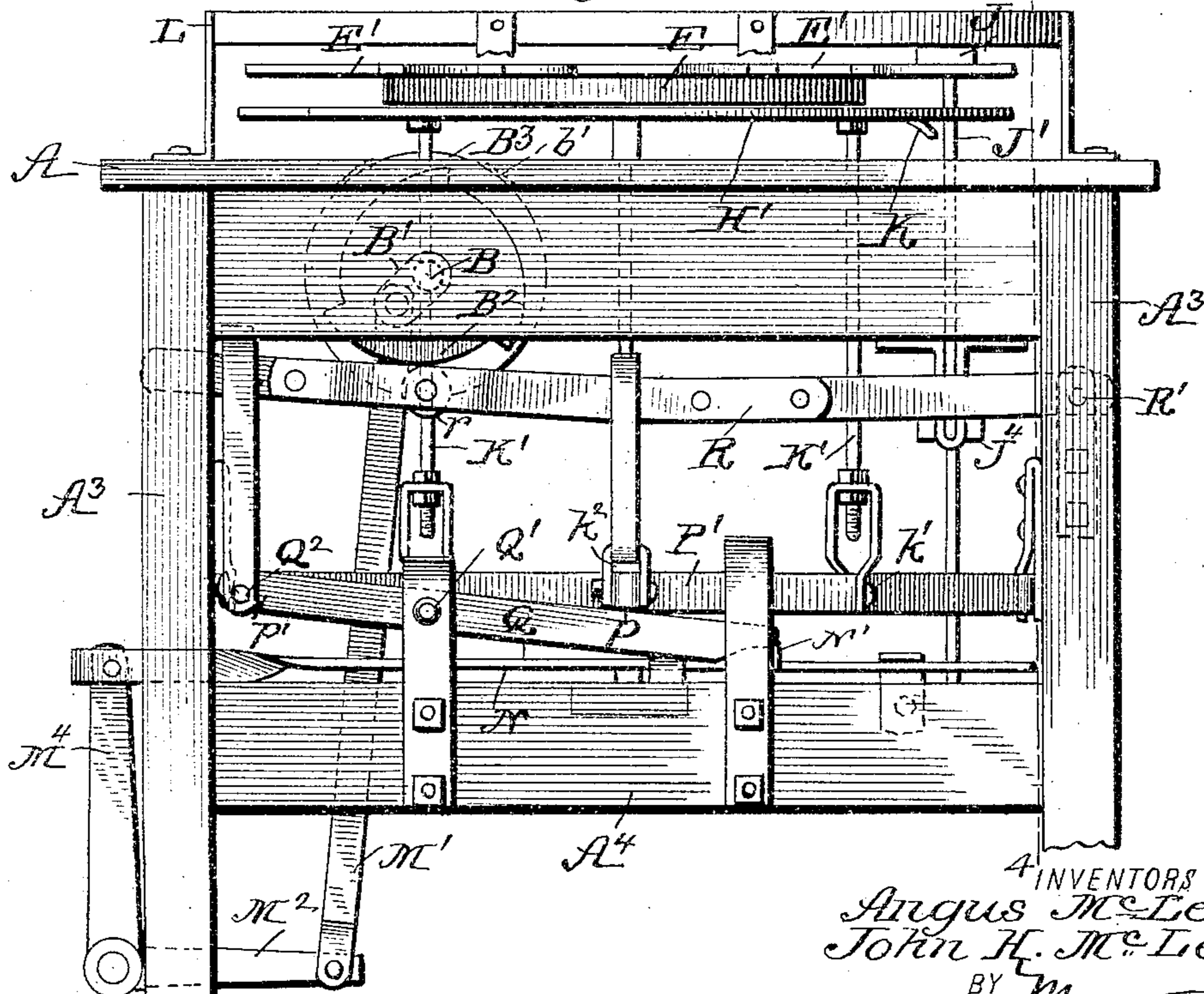


Fig. 3.



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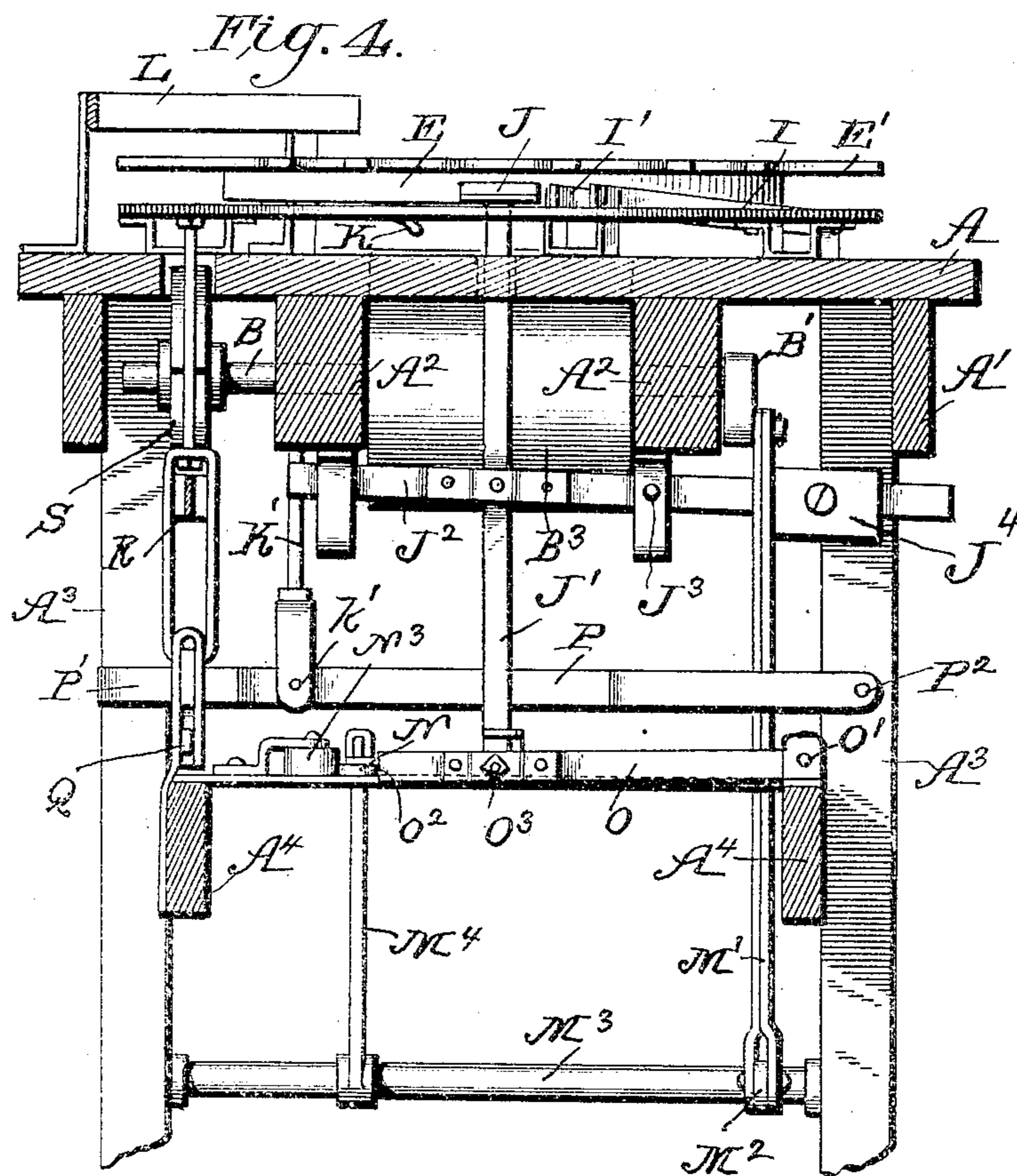


Fig. 5.

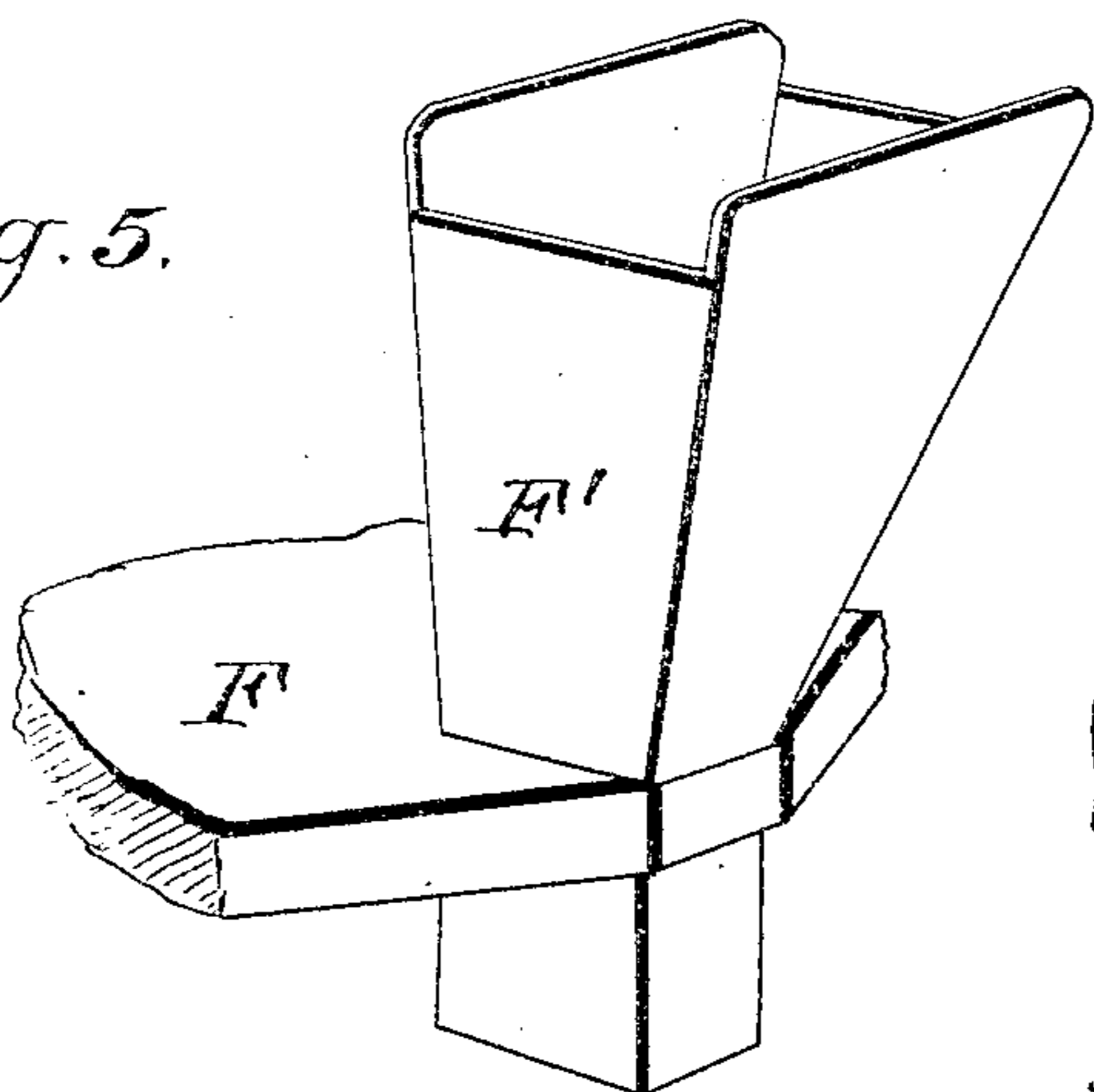
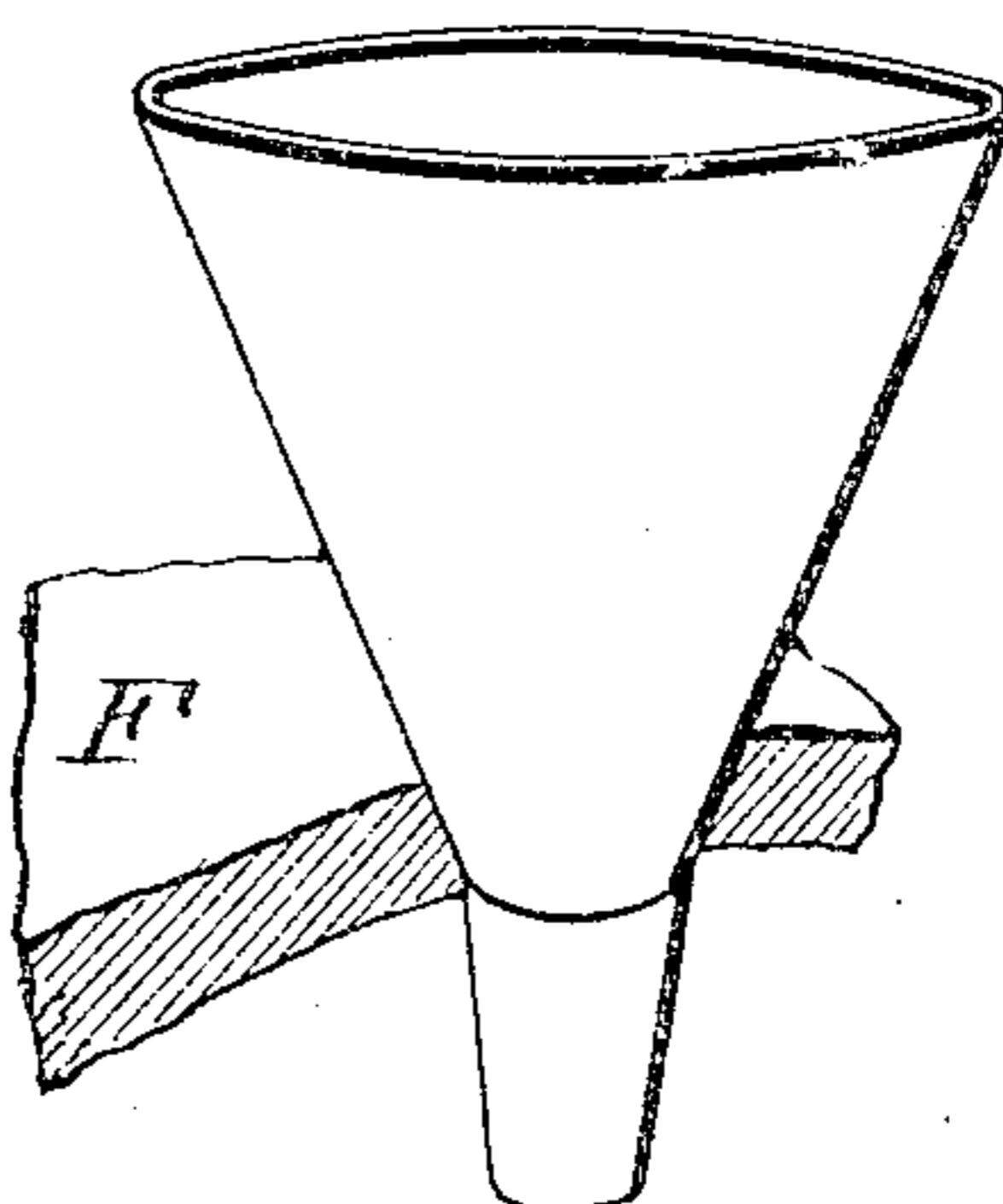


Fig. 5a



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Fig. 6.

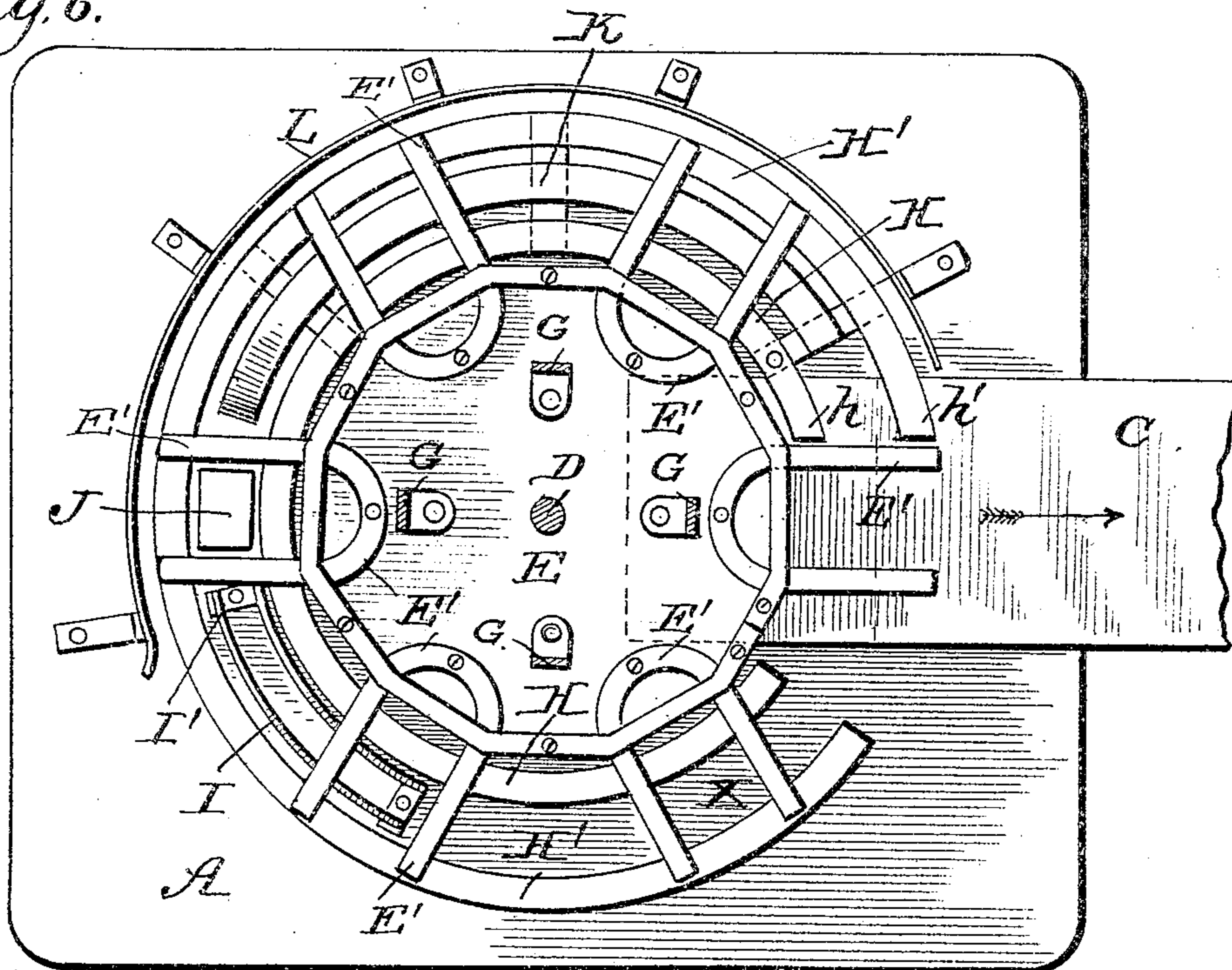
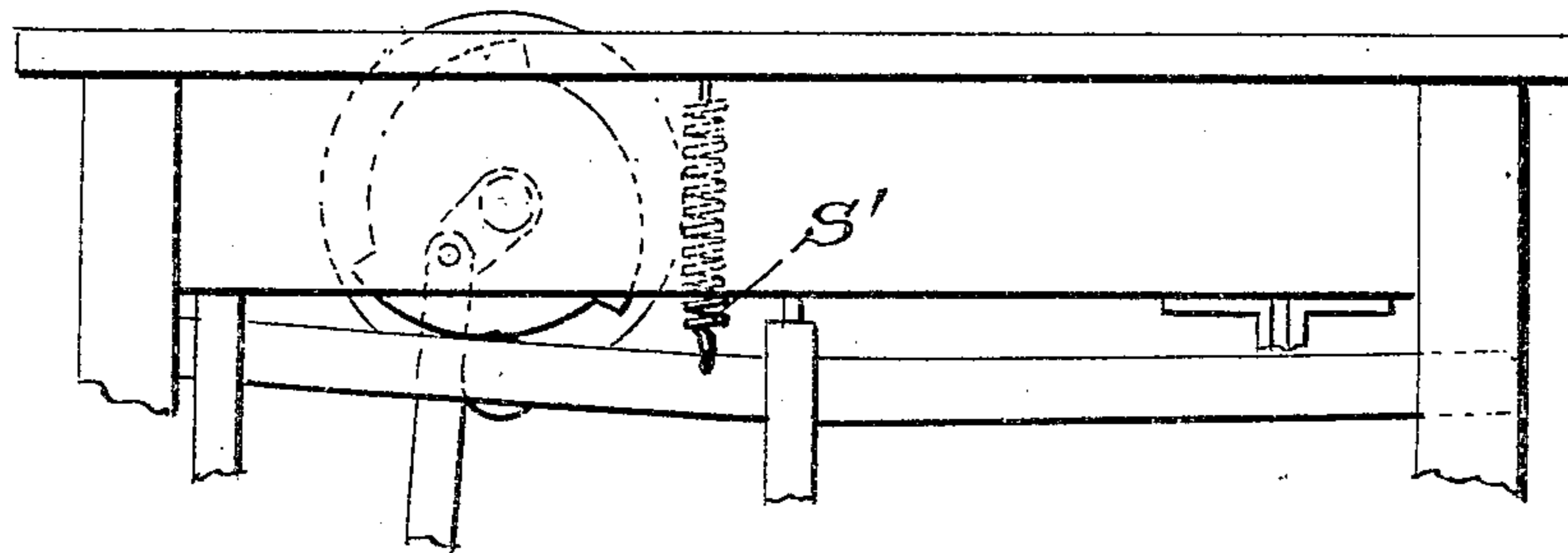


Fig. 7.^a



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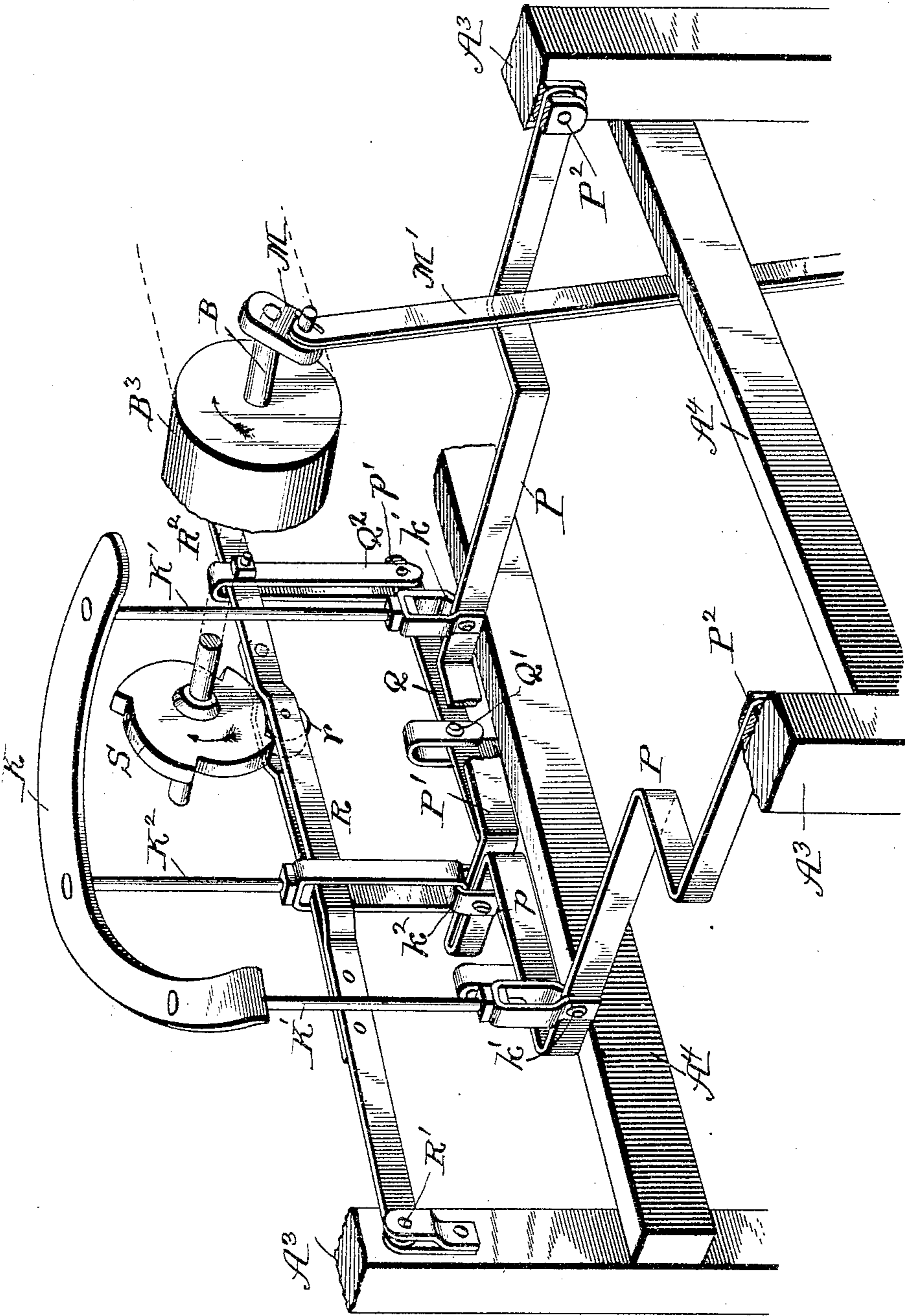
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6 SHEETS—SHEET 5.

Fig. 7



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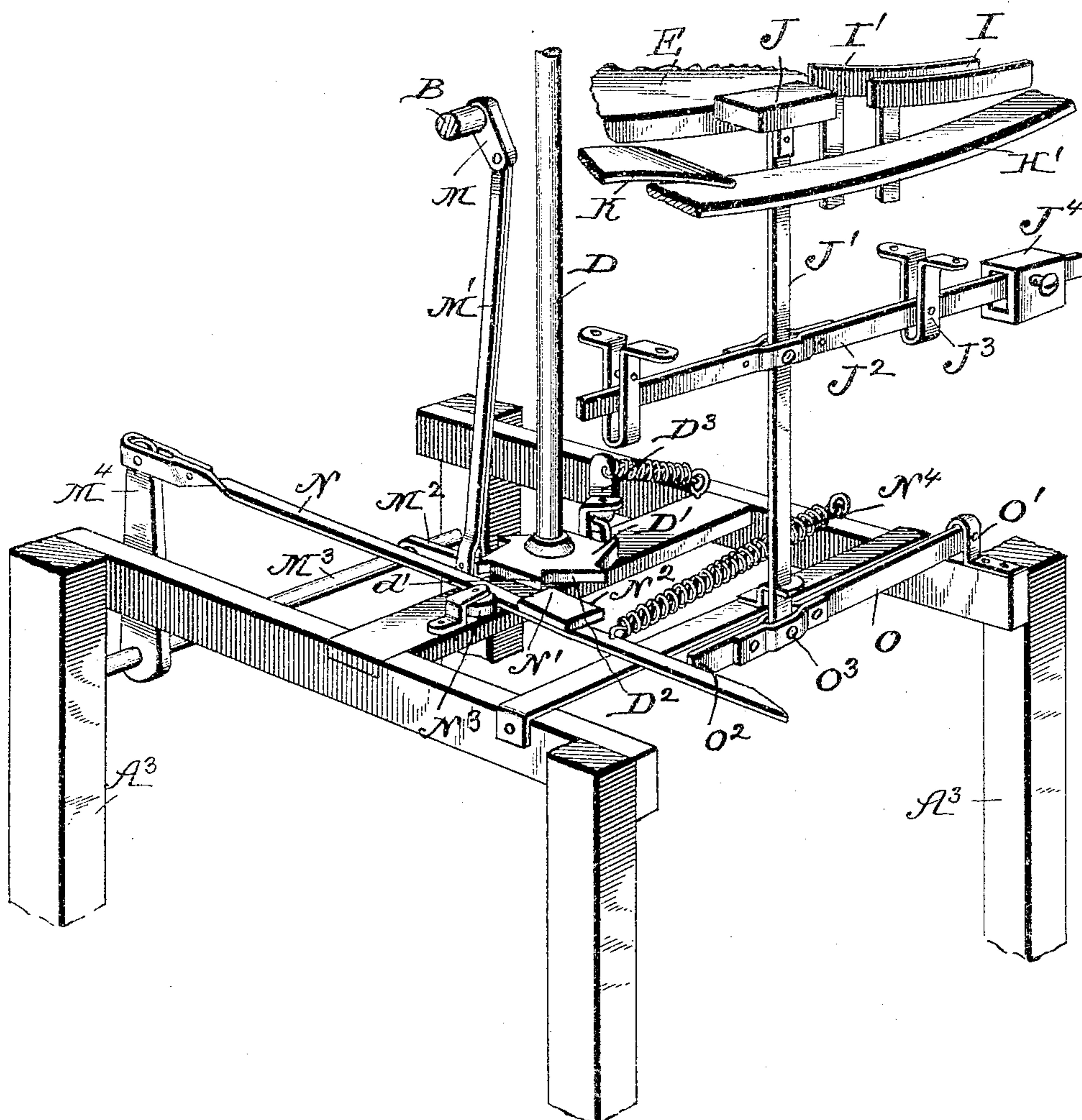
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6 SHEETS—SHEET 6.

Fig. 8.



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ANGUS McLEOD AND JOHN H. McLEOD, OF MARIETTA, KANSAS.

AUTOMATIC PACKAGING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 778,759, dated December 27, 1904.

Application filed July 26, 1902. Serial No. 117,144.

To all whom it may concern:

Be it known that we, ANGUS McLEOD and JOHN H. McLEOD, citizens of the United States, and residents of Marietta, in the county of Marshall and State of Kansas, have made certain new and useful Improvements in Automatic Packaging-Machines, of which the following is a specification.

This invention is an improvement in automatic packaging-machines having for an object to provide a novel construction whereby the filled packages will be taken from one point in the machine to another point, being shaken or agitated in the meantime to settle their contents, the package being delivered prior to such shaking operation upon a platform of a tripper, which will release the step-by-step mechanism for feeding the packages, and the filled and shaken packages will be delivered by their own gravity on an offtake-belt, dropping onto said belt and clear of the funnels or hoppers through which the material is supplied to the packages; and the invention consists in certain novel constructions and combinations of parts, as will be hereinafter described and claimed.

In the drawings, Figure 1 is a side elevation of the machine, the framing being partly broken away to show the main shaft with the crank for operating the rocker of the step-by-step mechanism for turning the package-carrier. Fig. 2 is a horizontal section on about line 2 2 of Fig. 1. Fig. 3 is a side elevation of the machine. Fig. 4 is a vertical cross-section on about line 4 4 of Fig. 3. Fig. 5 is a detail perspective view of a portion of the top plate of the package-carrier with one of the hoppers thereof. Fig. 6 is a sectional plan on about line 6 6 of Fig. 1. Fig. 7 is a detail perspective view of the package-shaking mechanism detached from the other parts of the apparatus. Fig. 8 is a detail perspective view of the tripping and step-by-step mechanism for turning the carrier detached from the other mechanism, and Figs. 5^a and 7^a show modified constructions.

By our invention we provide means whereby material—such as flour, sugar, starch, or tobacco, or other like material—delivered from a machine—such, for instance, as that

shown in our application for patent, Serial No. 72,375, filed August 17, 1901, for automatic weigher—may be delivered to cartons, bags, or other packages, passed through a shaking mechanism to settle the contents of the packages, and then be discharged where they may be sealed, tied, or otherwise closed.

In carrying out our invention we provide a suitable framing, which may have a top A, side boards A', beams A², having bearings for the main shaft, legs A³, and lower beams A⁴, secured to the legs and supporting parts of the operating mechanism. The main shaft B is provided with a broad roller or pulley B³, which operates at its upper side in the opening b' in the top A, and such shaft B is also provided with a crank B' for operating the step-by-step mechanism and with a cam-wheel B² for operating the shaking mechanism in the manner presently described. The offtake-belt C passes around the pulley B³ and delivers the packages of material from the machine. Manifestly in operation the belt C may drive the main shaft, or the main shaft may be otherwise suitably driven and in turn give motion to the belt C without departing from any of the principles of our invention.

The carrier for the packages and for the hoppers for filling same revolves about the table A, being carried on a shaft D, which is journaled vertically in bearings in the frame and is provided with a ratchet-wheel D', forming a part of the step-by-step mechanism by which the carrier is given a step-by-step movement in the operation of the invention. The carrier has a lower section E and an upper section F, the upper section being in the form of a plate provided at intervals with hoppers F', whose discharge-tubes F² extend below the plate F, and the lower section E being provided at intervals corresponding with those of the hoppers F' with a series of holders E' for the packages, such holders E' being in the form of yokes providing recesses at the outer edge of the lower section E, which recesses open outwardly, as best shown in Fig. 6. It will be understood that in practice the upper and lower sections E and F of the carrier are secured rigidly together and to the shaft D, it being preferred to provide

connecting-bars G, which extend between the upper and lower sections F and E and are secured to both said parts in such manner as to hold them rigidly together. It will be understood from the previous description that the holders E' correspond with the hoppers F', and it should also be understood that the holders E' are arranged directly below their respective hoppers, so that a bag or carton fitted at its upper open end around the discharge-tube F² of the hopper will rest at its lower end within the opening provided by the holder E' directly below such hopper, so that a carton or bag when so applied and filled will be held at its upper end around the discharge-tube F² of its hopper and at its lower end in the opening of the holder arranged below such hopper, so that as the carrier is revolved it will take the filled carton or bag with it. To support the package as it is being conveyed from the point where it is fed into the machine to the point where it is discharged, we provide on the table A rails or bars H H', forming a track on which the package is moved from the receiving to the discharge point presently described.

In operation the bags or cartons or other form of package is fed to the carrier at a point about X in Fig. 6 and is then carried by the carrier around to the offtake, which is shown in the form of a belt C, which moves in the direction indicated by the arrow in Fig. 6 and delivers the packages outwardly from the holders E' of the carrier. The package as delivered at X to the holder travels thence on the rails H and H' for a short distance and then passes onto the lower ends of inclines I, which are arranged between the inner and outer rails H and H' and deliver the packages at their upper ends I' onto a platform J of a tripper for the step-by-step mechanism for turning the carrier. This platform J is in the form of a block at the upper end of an upright J', whose operation will be more fully described hereinafter, and the said platform J when it is depressed sets the step-by-step mechanism into operation by releasing the pawl-bar presently described, so the same can engage with the ratchet on the shaft of the carrier. The purpose of this construction is to enable the carrier to be turned one step for each package fed to said carrier. From the platform J the package passes onto the rails H and H' and is next operated on by the shaker-bar K. This shaker-bar, as shown in Fig. 6, is in the form of a segmental plate arranged between the inner and outer rails H and H' and extending for a considerable distance and, in fact, extending almost the full distance between the platform J and the discharge ends h and h' of the rails H and H'. This shaker-bar K operates upon the lower end of the packages in such manner as to agitate the same, so their contents will be settled in the packages, as desired, and is especially advantageous in the packaging of granular

material. This shaker-bar is operated by constructions hereinafter described.

As before suggested, the package-holders E' on the lower section E of the carrier are open at their bottoms and outer ends, so the said holders will operate to move the packages along the tracks provided therefor and yet will permit the packages to rest by gravity on said tracks and also drop onto the offtake-belt in order that the packages may be delivered from the apparatus. This permits of the packages operating the tripping-platform and also permits the operation on said packages of the shaker before described, and in order to prevent the packages from moving radially out from their holders by centrifugal action or otherwise in advance of the delivery-point of the carrier we provide a guard-rail L, which extends around the edge of the path of the carrier from a point in advance of the platform J to a point adjacent to the offtake-belt C, such guard-rail extending throughout the full length of the shaker K, as best shown in Fig. 6. This guard-rail holds the packages from outward movement and is especially advantageous in connection with the shaker, as the shaking operation tends to aid centrifugal action in causing the packages to move outward as they are being directed between the tripper J and the offtake-belt C.

In the operation of the described construction it will be noticed the packages are fed to the holders—say at X in Fig. 6—with the upper ends of the bags encircling the discharge-tubes F² of the hoppers and the bags or cartons resting at their lower ends within the holders E' and upon the track afforded in the construction shown by the rails H and H'. The carrier being given a step-by-step movement, each package is brought in turn on the tripper J, operates such tripper to set the step-by-step mechanism into operation, and is thence carried onto the shaker K and well agitated thereby, and finally passes off the ends of the rails H and H' at h and h' and drops by gravity onto the offtake-belt C. As it drops by gravity onto the offtake-belt C its upper end drops off of and clear of the discharge-tube F² so the offtake-belt C can carry the package in the direction indicated by the arrow in Fig. 6 out of the holder. By the step-by-step movement there is a period of movement and a period of rest, the period of rest occurring when the holders E' are above and directly in line with the belt C, so there is nothing to interfere with the movement of the offtake-belt operating to carry the package out of the open outer end of the holder E'.

We will now proceed to a description of the step-by-step mechanism for moving the carrier and then to a description of the mechanism for operating the shaker-bar K, before described.

The main shaft B is provided with a crank

B', which is connected by a pitman M' with a crank M² on a rock-shaft M³, which rock-shaft has a crank-arm M⁴, to which is connected one end of the pawl-bar N, which is provided with a pawl-point N' for engagement with the ratchet-wheel D' on the carrier-shaft D, so the turning of the shaft B will operate to reciprocate the pawl-bar N, and such bar N when its point N' is engaged with the ratchet-wheel D' will operate upon the ratchet-wheel D' to turn the shaft D. The ratchet-wheel D' is of a special construction, having the flat faces D², and the pawl N' has the broad flat face N², corresponding with the face D² of the ratchet-wheel, so the pawl when it is moved to the full length of its operating stroke will by its broad face N² resting against the flat face D² of the ratchet-wheel hold said ratchet-wheel from any further movement, a detent D³ being provided to prevent any return movement of the ratchet-wheel. A roller N³ is arranged back of the bar N and guides the movement thereof. On its backward movement the bar N adjusts the pawl N' to a point in rear of the tooth of the ratchet-wheel D', and the spring N⁴ operates upon the bar N to press it into position to engage with the ratchet-wheel when the said mechanism, presently described, is released through the operation of the operating platform J, previously referred to. This stop includes a stop-bar O, pivoted at O' to the framing, arranged at its free end O² to move into the path of the pawl-bar N and hold the same clear of engagement with the pawl-tooth connected between its ends at O³ with the lower end of the tripping-bar J', whose upper end supports the platform J, as shown in Fig. 8. By preference the tripping-bar J' connects with a lever J², which is pivoted at J³ and has an adjustable weight J⁴, so it can be set to correspond with the weight of the packages and enable the operation of the tripper only by a package weighing up to the amount desired. In the operation of the described construction it will be noticed that when the parts are in the position shown in Fig. 8 the bar N as it reciprocates moves along the outer free end O² of the stop-bar O and is held thereby from engagement with the next succeeding tooth d' of the ratchet-wheel D'. If now the package of the desired weight be delivered from the inclines I onto the platform J, it will depress said platform and through the tripping-bar J' depress the end O² of the stop-bar, and the spring N⁴ will draw the pawl-bar N over into position to permit the engagement of the pawl N' with the tooth d' and operate the ratchet-wheel D' when so set. As the pawl N' adjusts from the rear position shown in Fig. 8 to its foremost position by the rocking shaft M³ the pawl-bar N will be adjusted at its rear free end by the ratchet-wheel D' against the action of the spring N⁴ laterally, so the stop-bar O as it is readjusted by the weight J⁴ after the package has left the platform J will pass

again to the position shown in Fig. 8 and form a guide-stop for holding the reciprocating pawl-bar N clear of engagement with the ratchet-wheel D' until another package passes onto and depresses the platform J in the operation of the machine. By the described construction the carrier is turned with a step-by-step motion under the control of the packages passing through the machine.

As before described, the shaker is in the form of a curved or segmental bar K, operating between the inner and outer rails H and H' of the package-track. In the special construction shown and best illustrated in Fig. 7 we support this shaker on the upper ends of rods K' and K², which are connected at their lower ends at k' and k² with the swinging end P' of a rocking frame P, which is pivoted at P² to the framing and has its swinging end P' resting at p upon one end of a lever Q, which lever is pivoted at Q' to the framing and is connected at its end opposite p' by a link Q² with one end of a lever R, which lever is pivoted at its opposite end R' to the framing and is arranged adjacent to its end R², which connects with link Q², for operation by the cam-wheel S on the main shaft B, being provided at s' with an antifriction-roller for engagement by the wiper-sections of the cam S, as shown. By this construction the shaker K is given an up-and-down movement by the operation of the cam-wheel S, which depresses the moving end of the lever R at intervals, such lever R depressing the outer end of the lever Q, whose inner end bears beneath and lifts the swinging end of the rocking frame P, the reverse movement being effected by the gravity of the parts, as will be understood on reference to Fig. 7. Manifestly the cam-wheel S may operate differently to secure the reciprocating movement of the frame K, and, if desired, the construction shown in Fig. 7^a may be employed, in which the cam-wheel forces the swinging end of the rocking frame P downward and the return or upward movement of said frame is effected by spring S'; but we prefer the construction as shown in Fig. 7 and as before described.

While, as shown, the hopper in Fig. 5 is adapted for filling bags and angular cartons for use with granular and powdered materials, it will be understood that the machine may be employed in packaging liquids, in which case the hopper may be adapted to fill bottles by forming it somewhat in funnel shape, as shown in Fig. 5^a of the drawings.

It will be understood that in operation the packer of our machines lifts and drops a package about twenty times while it is being filled. As the package drops the rolled oats or other flaked material will flow under the edges of the tubes F², and when the package is next raised said tubes will pack the material and by the time the package reaches the

discharge or offtake its contents will be well packed, and it will be understood that in this connection the thickness of the tubes F² may be increased when used on flaky material, such as rolled oats, they being made thicker for such use than when designed for use with powdered material that will shake down.

Having thus described our invention, what we claim is new, and desire to secure by Letters Patent, is—

1. In a packaging apparatus a rotating carrier comprising an upper and a lower section connected together, the upper section being provided with hoppers having depending tubes and the lower section being provided immediately below their respective hoppers with holders for the packages such holders being open at their bottoms and outer ends whereby the packages may drop therefrom onto an offtake device and be carried thereby out through the open end of the holder substantially as set forth.

2. In a packaging apparatus a rotating carrier having an upper section provided with hoppers having depending discharge-tubes, and a lower section having holders for the packages arranged below their respective discharge-tubes and adapted to permit the packages to drop through such holders to clear at their upper ends the discharge-tubes of the hoppers substantially as set forth.

3. In a packaging-machine a rotating carrier provided with holders for the lower ends of the packages, such holders being in the form of yokes open at their outer ends whereby the packages may be discharged outwardly from said yokes, substantially as set forth.

4. In a packaging-machine a carrier provided with holders for the lower portions of the packages said holders being open at their bottoms and outer ends whereby the packages may drop from said holders onto an offtake device and be carried thereby radially through the outer open ends of the holders and the offtake device substantially as set forth.

5. In a packaging-machine the combination with a rotating carrier having hoppers and provided below the same with package-holders open at their outer ends, of a guard-rail extending along the outer edge of the path of said holders whereby to prevent the packages from discharging outwardly in advance of the desired discharge-point substantially as set forth.

6. The combination in a packaging-machine of a rotating carrier having a series of hoppers and provided below the same with package-holders open at their outer ends, rails for supporting the packages and extending beneath said holders, and a guard-rail extending along the outer edge of the path of the holders for a portion of the extent of movement thereof whereby to prevent the packages from discharging outwardly in advance of the de-

sired discharge-point substantially as set forth.

7. The combination with the rotating carrier and the table of the offtake-belt having a portion operating above the table and beneath a portion of the carrier, the latter being provided with holders movable across the offtake-belt and open at their outer ends whereby the offtake-belt can feed the packages out of the holders, the rails for supporting the packages in their passage toward the offtake-belt and terminating adjacent to said belt whereby to permit the packages to drop within their holders onto the belt, and the guard-rail extending around the outer side of the rails and terminating adjacent to the offtake-belt whereby the packages will be prevented from moving out of the holders until they are discharged onto the offtake-belt substantially as set forth.

8. The combination of the rotating carrier having an upper section provided with hoppers having depending discharge-tubes and a lower section having package-holders which open at their bottoms and outer ends and are arranged below their respective hoppers, the offtake-belt extending below the lower section of the carrier, devices for supporting the packages within their holders in advance of the offtake-belt and terminating above said belt whereby to permit the packages to discharge by gravity onto the offtake-belt and clear themselves at their upper ends of the discharge-tubes of the hoppers substantially as set forth.

9. The combination in a packaging-machine of a carrier for the packages having a package-holder open at its bottom whereby the package may drop by gravity from said holder onto an offtake device, and an offtake device operating below said carrier in position to receive the packages dropped therefrom, substantially as set forth.

10. In a packaging apparatus the combination of a rotating carrier, mechanism for turning the carrier step by step, and a tripper whereby said step-by-step mechanism may be thrown into operation, said tripper being arranged for operation by the weight of the packages held in the carrier substantially as set forth.

11. The combination with the rotating carrier having package-holders of a mechanism for rotating said carrier step by step and a tripper by which the step-by-step mechanism may be thrown into operation said tripper being provided with a platform in the path of the holder whereby the holders may deliver their packages to operate by gravity on said platform substantially as set forth.

12. The combination of the carrier having holders for the packages, mechanism for turning said carrier step by step, a tripping device by which the step-by-step mechanism may

be thrown into operation, said tripping device having a platform arranged in the path of the package-holders, and an incline up which the packages may pass and be directed onto the tripping-platform substantially as set forth.

13. The combination in a packaging apparatus of the carrier having package-holders open at their bottoms and outer ends, the inner and outer rails extending beneath said holders, the incline between said rails for directing the packages onto the tripping-platform, the tripping-platform arranged between the inner and outer rails in position to receive the packages from the upper end of the incline, the mechanism for turning the carrier step by step and arranged for operation by the tripping-platform, the guard-rail extending around and along the outer edge of the path of the carrier and the offtake devices operating beneath the carrier, substantially as set forth.

14. The combination in a packaging apparatus of the carrier having an upper section provided with the hoppers having depending discharge-tubes, and the lower section having the holders in the form of yokes open at their bottoms and outer ends, means securing the upper and lower sections together with the holders below their respective hoppers, rails for supporting the packages held within the holders, a tripping-platform arranged between said rails, an incline between the rails by which to direct the packages onto the tripping-platform, a mechanism for turning the carrier step by step and arranged for operation by the tripping-platform, a shaking device operating between the inner and outer rails in rear of the tripping-platform, and a guard-rail extending along the outer side of the supporting-rails throughout the length of the shaking device substantially as set forth.

15. In a packaging apparatus the combination with a rotating carrier having holders for the packages, of a shaker supporting and operating upon the packages beneath said holders whereby to settle the contents of the packages as they are being carried by the holders substantially as set forth.

16. The combination in a packaging apparatus with the rotating carrier having holders open at their bottoms and outer ends of a shaking device operating below said holders, and a guard device extending along the outer edge of the path of the holders, substantially as set forth.

17. The combination in a packaging-machine of a rotating carrier having holders for the packages, a track in the arc of a circle below said holders, and a shaking device also curved in the arc of a circle and extending beneath the holders substantially as set forth.

18. A packaging apparatus having a rotating carrier, a bar or rail along which the package is moved by said carrier and means for

shaking the said bar or rail during the movement of the packages therealong by the carrier substantially as set forth.

19. A packaging apparatus comprising a carrier having holders for the packages, an offtake device leading from said carrier, and a shaking device extending beneath the carrier in advance of the offtake device, substantially as set forth.

20. The combination with a rotating carrier having a package-holder open at its outer end, of an offtake device leading outwardly from the said holder and a mechanism for turning the carrier step by step, whereby the carrier is operated with a period of movement and a period of rest, the rest occurring when the holder is over the offtake, whereby the latter may freely move the package out of the open end of the holder, substantially as set forth.

21. The combination in a packaging apparatus, of a rotating carrier for the packages, a mechanism for turning said carrier step by step, and the tripping mechanism arranged for operation by the packages, whereby to control the movement of the step-by-step mechanism, substantially as set forth.

22. The combination in a packaging apparatus, of the rotating carrier, a mechanism for operating said carrier step by step and including a pawl-bar, a stop-bar movable into and out of position to hold the pawl-bar clear of the part it operates, and a tripper for said stop-bar having means whereby it is operated by the package to release the stop-bar, and means for readjusting the tripper and stop-bar, substantially as set forth.

23. In a packaging apparatus, the combination of the carrier, a mechanism for turning the carrier step by step including a pawl-bar, a stop-bar movable into and out of position to hold the pawl-bar clear of the part it operates, a tripper connected with the stop-bar and having means for operation by the package held by the carrier, and a weight and connecting devices for controlling the operation of the tripper and for readjusting the same and the stop-bar, substantially as set forth.

24. The combination in a packaging apparatus of the carrier, its shaft, a ratchet-wheel on the shaft having flat faces adjacent to its teeth, the longitudinally and laterally movable pawl-bar having a pawl-point to engage the teeth of the ratchet, and a flat face adjacent to said pawl-point and corresponding to the flat faces of the ratchet-wheel, a spring for pressing the pawl into engagement with the ratchet-wheel, a stop-bar operating to hold the pawl-bar against the action of said spring and clear of its ratchet-wheel, and tripping mechanism for releasing said locking-bar, substantially as set forth.

25. The combination with the main shaft having a crank, of the rock-shaft having a crank connected with the crank of the main

shaft, a second crank on the rock-shaft, a pawl-bar connected with said second crank, the carrier having its shaft provided with a ratchet-wheel for engagement by the pawl-bar, a locking-bar for holding the pawl-bar clear of its ratchet-wheel, a tripper for releasing the locking-bar from engagement with the pawl-bar, and readjusting devices for the tripper and lock-bar, substantially as set forth.

26. The combination in a packaging-machine, of the carrier, a shaking-bar forming a rail or support for the packages and arranged to operate upon the packages as they are moved by said carrier along the bar, and means for imparting up-and-down movement to said shaking-bar, substantially as set forth.

27. The combination in a packaging-machine with supports for the carton or package, of a shaking-bar, a rocking frame supporting said bar, and means for operating said frame, whereby to secure an up-and-down movement of the shaking-bar, and means for moving the carton or package along its support, substantially as set forth.

28. The combination in a packaging-machine with supports for the carton or package, of a shaking-bar, a rocking frame supporting said bar, a lever by which the rocking frame may be operated, and means for rocking said lever, and means for moving the carton or package along its support, substantially as set forth.

29. In a packaging apparatus, the combination of a shaker, a rocking frame supporting the shaker, a support for the package or carton independent of said shaker, a shaft provided with a cam, and intermediate devices whereby the cam may operate the rocking frame, and means for moving the carton or package along its support, substantially as set forth.

30. In a packaging apparatus, the combination of the shaker, a support for the package or carton independent of said shaker, a lever, intermediate devices between the lever and the shaker, whereby the movement of the lever may operate the shaker, and means for operating the lever, and means for moving the carton or package along its support, substantially as set forth.

31. In a packaging apparatus, the combination of the shaker, a support for the package or carton independent of said shaker, a lever, intermediate devices whereby the lever may operate the shaker, and the revolving cam-wheel operating upon the lever, and means for moving the carton or package along its support, substantially as set forth.

32. The combination in a packaging apparatus, of the shaking-bar, the rocking frame, means for supporting the shaking-bar from the rocking frame, a lever pivoted between its ends and arranged at one end to operate the

rocking frame, a second lever, connections between said second lever and first lever, and a cam-wheel operating upon said second lever, substantially as and for the purposes set forth.

33. In a packaging apparatus, substantially as described, the combination of the rotating carrier, a mechanism for turning said carrier step by step, a main shaft connected with said step-by-step mechanism, a shaker arranged to operate upon the packages held by the carrier, and intermediate devices between said shaker and the main shaft, whereby the same may operate the shaker, substantially as and for the purposes set forth.

34. A packaging apparatus comprising a rotating carrier, provided with hoppers having depending tubes to fit within the open ends of the packages, holders below said tubes for supporting the packages, and means whereby said holders may be caused to rise and fall, the holders and tubes of the hoppers being so arranged relatively that the packages will fit at their upper ends around the hopper-tubes and the contents of said packages will be packed by pressing against the tubes when the packages are raised from their lower ends substantially as set forth.

35. In a packaging apparatus, a carrier turning step by step having an upper section provided with hoppers, the lower ends of which are so constructed to fit the packages, and of uniform size for a sufficient depth to hold the surplus of the quantity required to be put in the packages, and a lower section having arms for moving the lower ends of the packages, and adapted to permit the packages to drop so as to clear at their upper ends the lower ends of the hoppers.

36. In a packaging-machine, a carrier moving step by step provided with arms for moving the lower ends of the packages, and a shaking bar or rail forming a slide along which the packages are moved by said arms, substantially as set forth.

37. The combination in a packaging-machine, of supports for a carton or package, means for moving the carton or package along such supports, and a shaker operating upon the carton or package as it is moved along its supports, substantially as set forth.

38. In a packaging-machine, the combination of bars or rails along which a carton or package may be moved, and a shaker arranged between the bars or rails and adapted to operate upon the carton or package as it moves along said bars or rails, substantially as set forth.

ANGUS McLEOD.
JOHN H. McLEOD.

Witnesses:

SOLON C. KEMON,
PERRY B. TURPIN.