

No. 617,404.

Patented Jan. 10, 1899.

J. F. McNUTT.
FEEDER FOR PRINTING PRESSES.

(Application filed Aug. 11, 1897.)

(No Model.)

7 Sheets—Sheet 1.

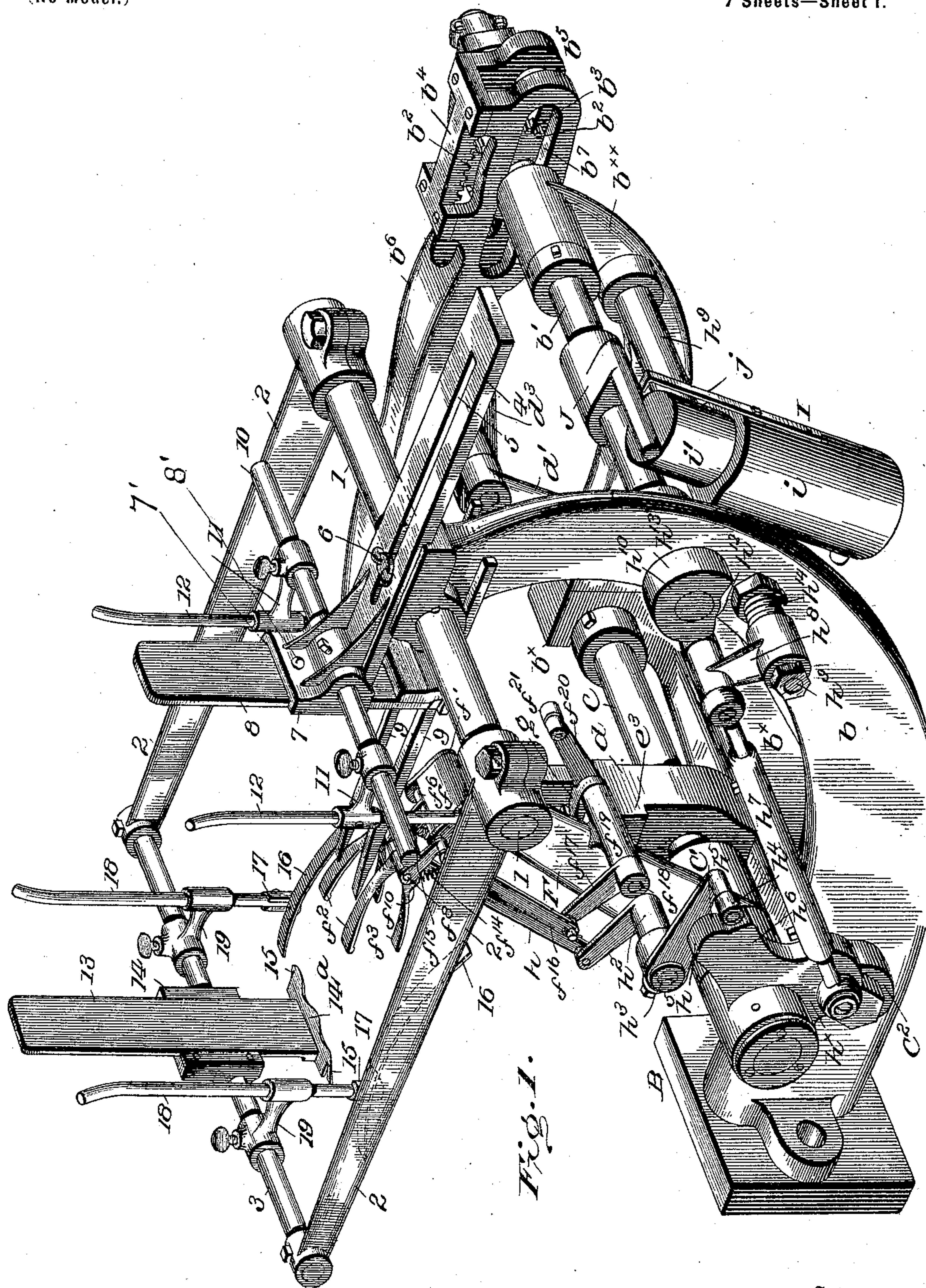


Fig. 1.

Witnesses

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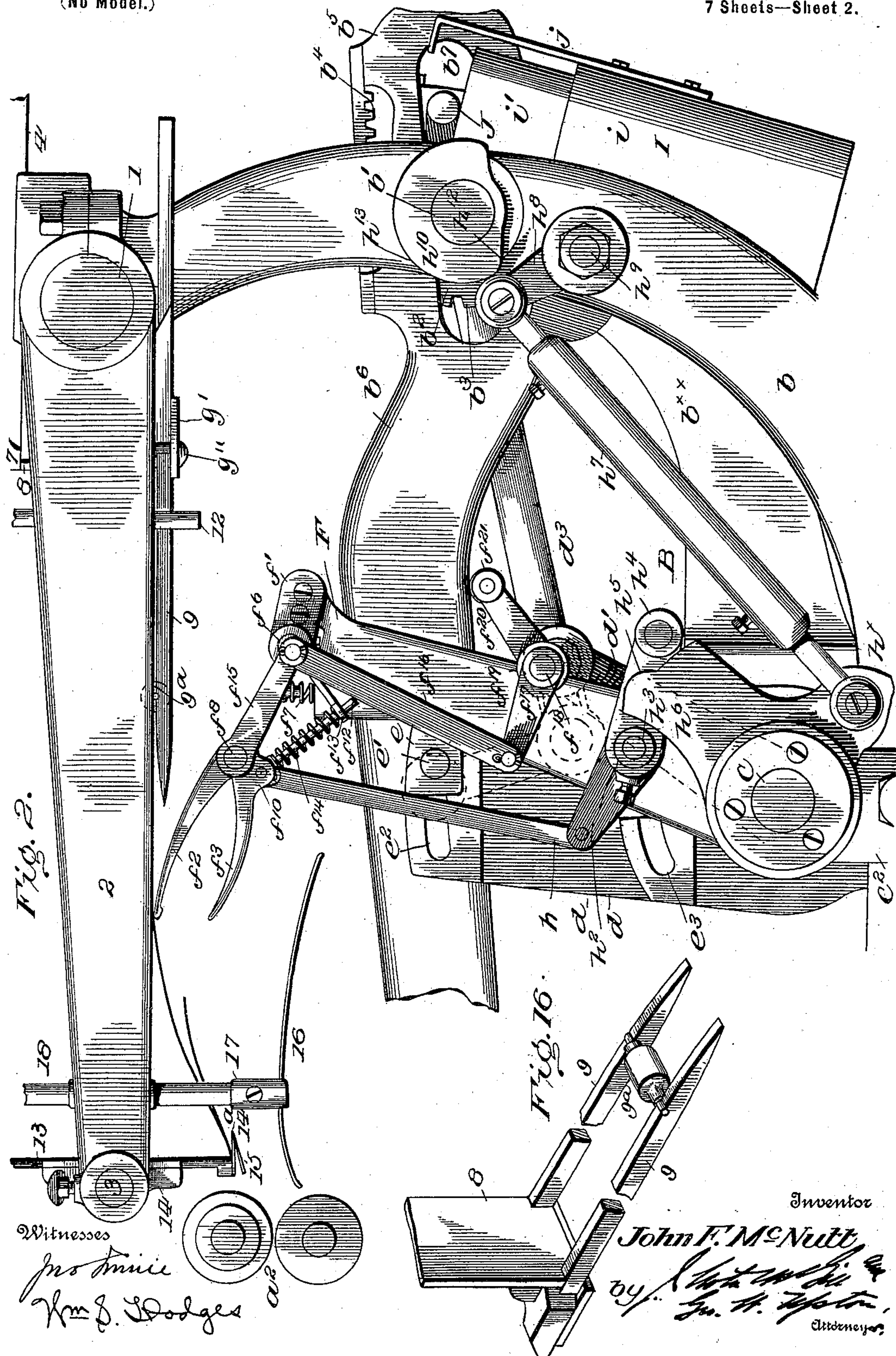
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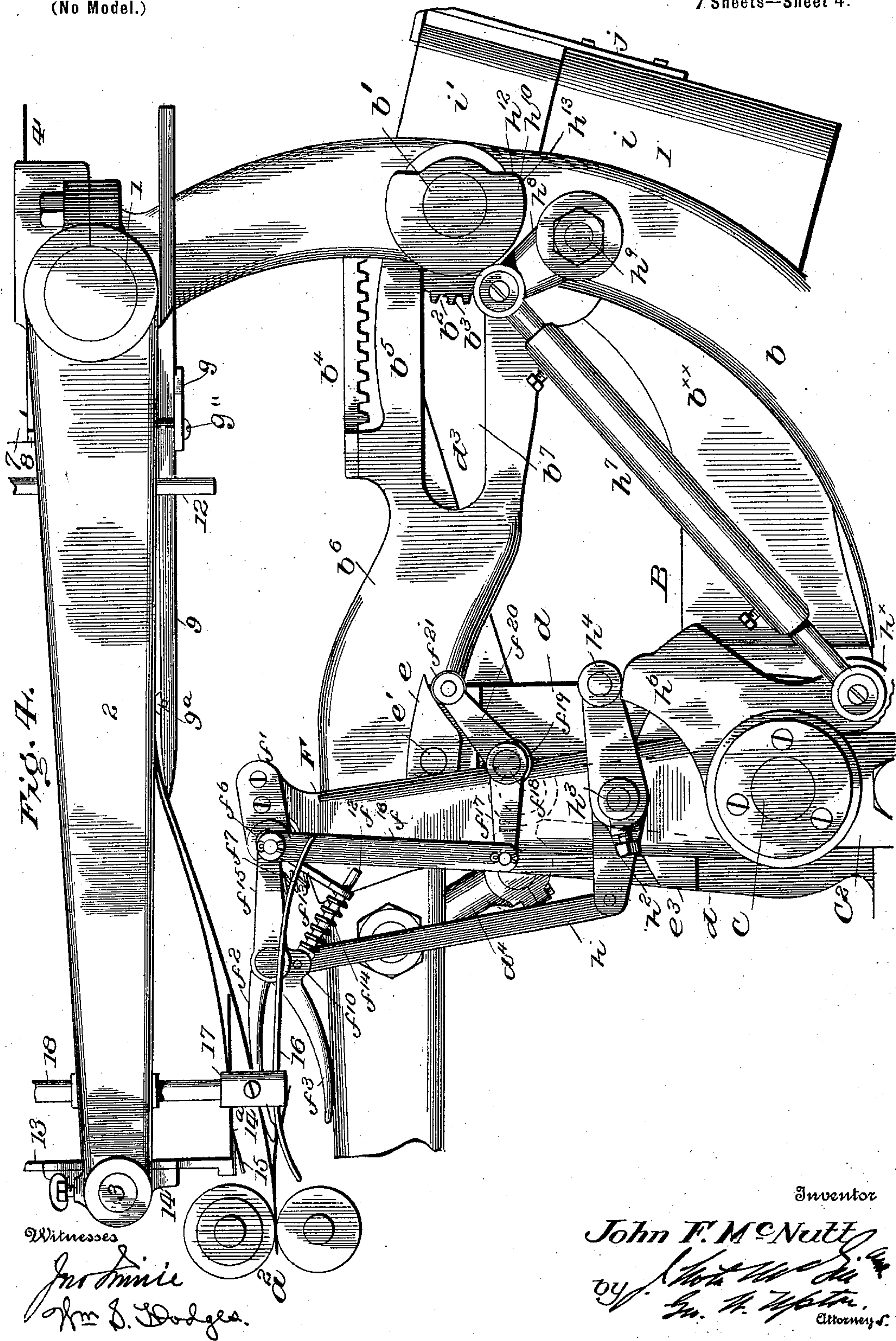
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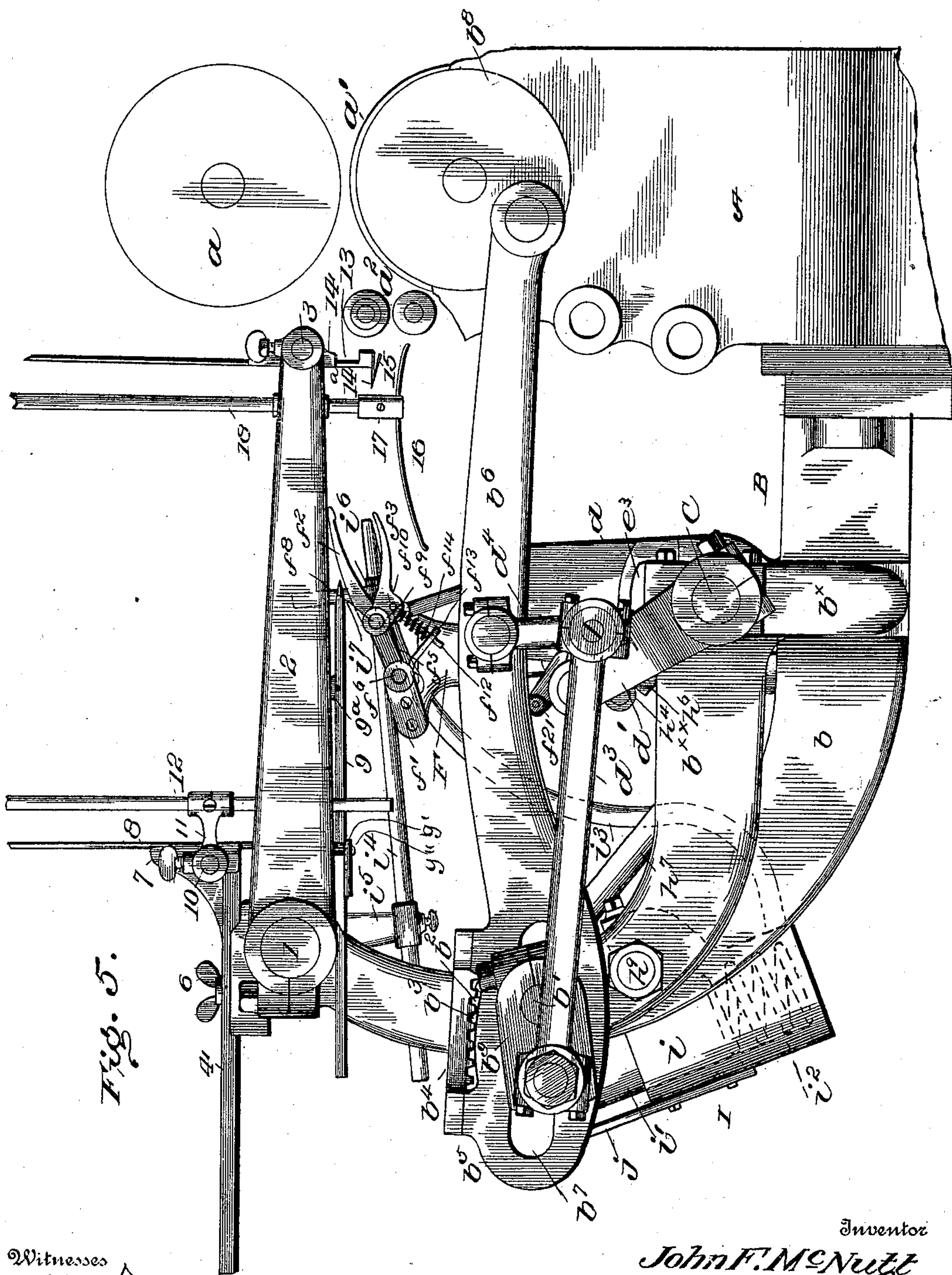


Fig. 5.

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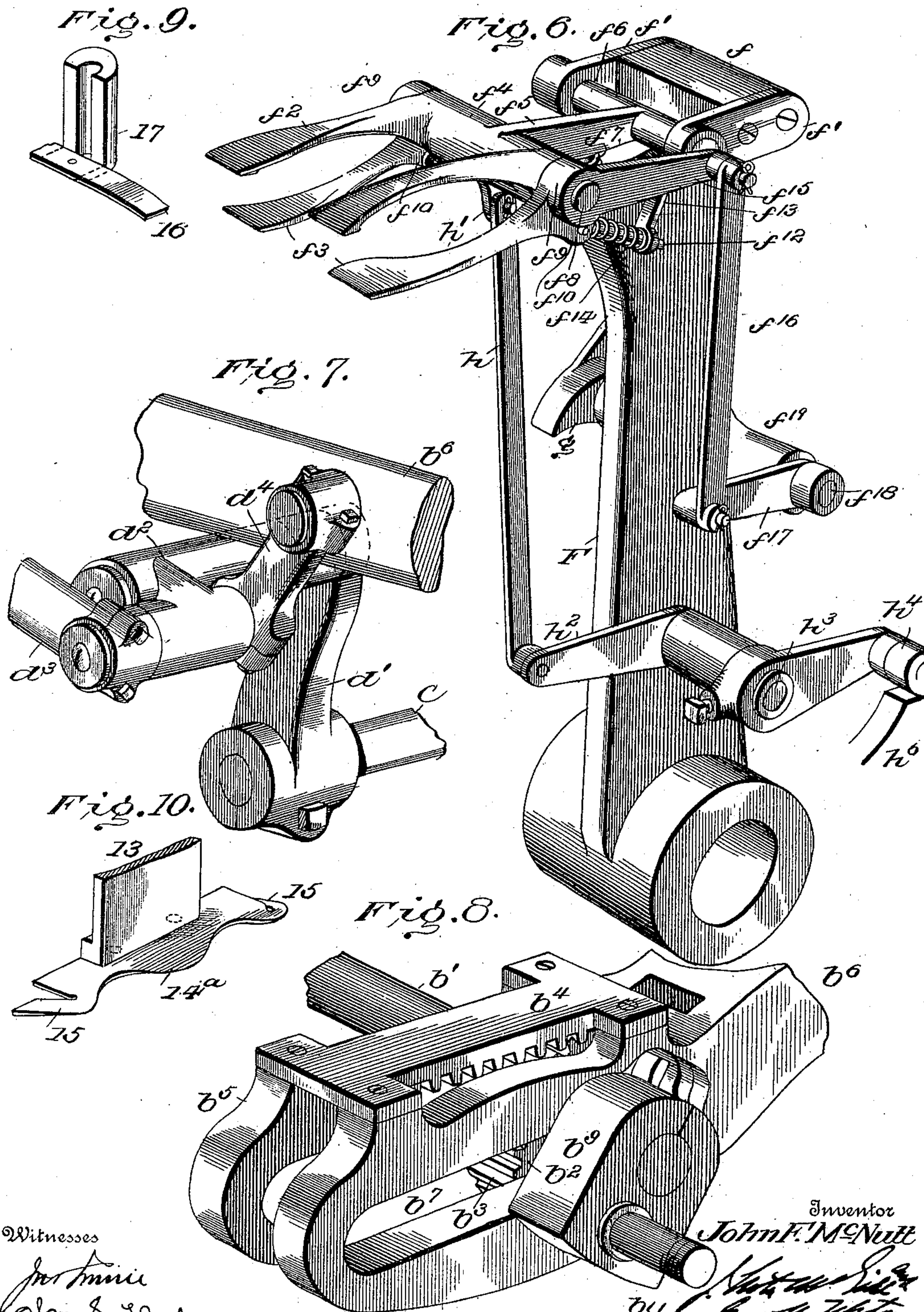
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(No Model.)

7 Sheets—Sheet 6.



Witnesses

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Fig. 11.

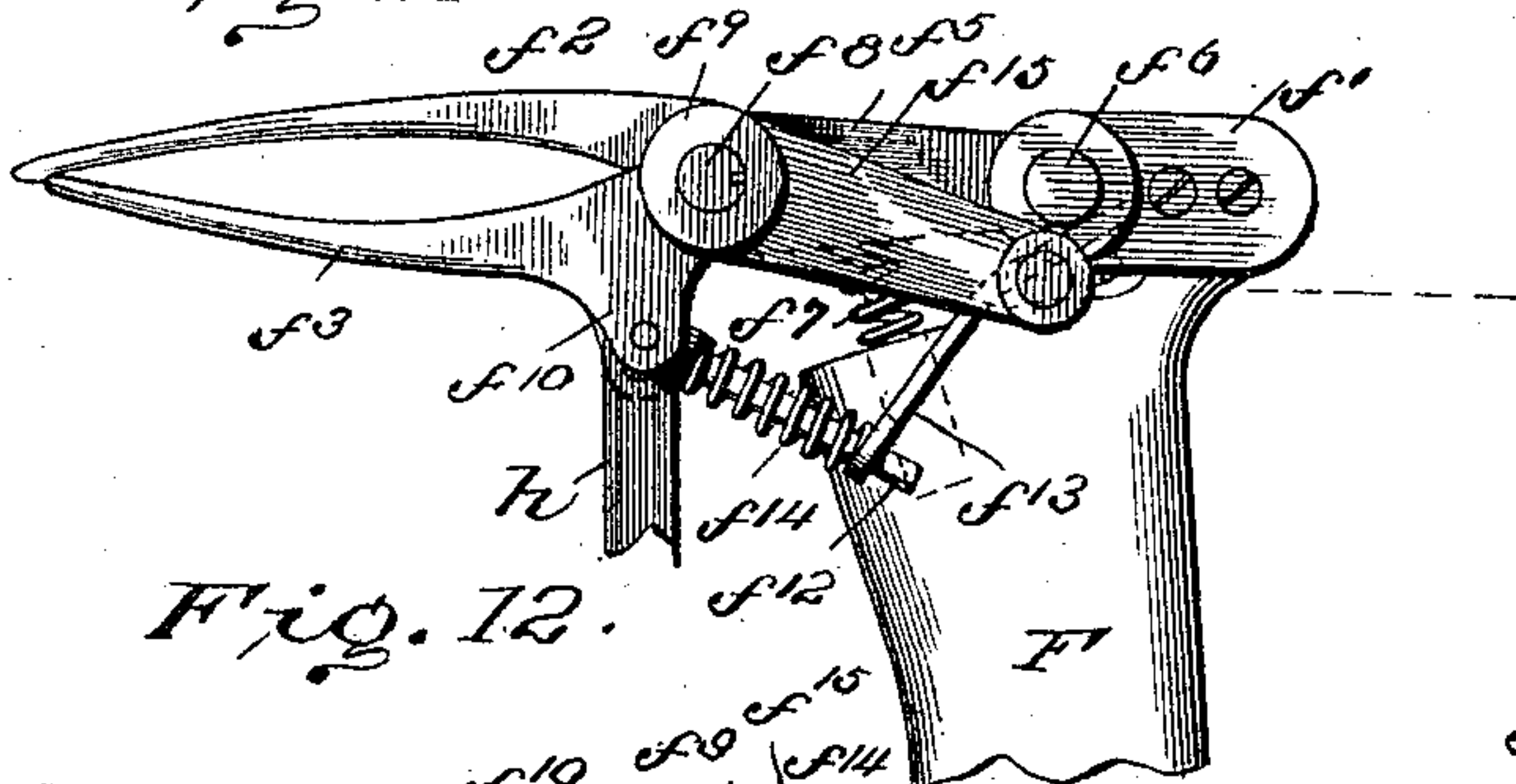


Fig. 12.

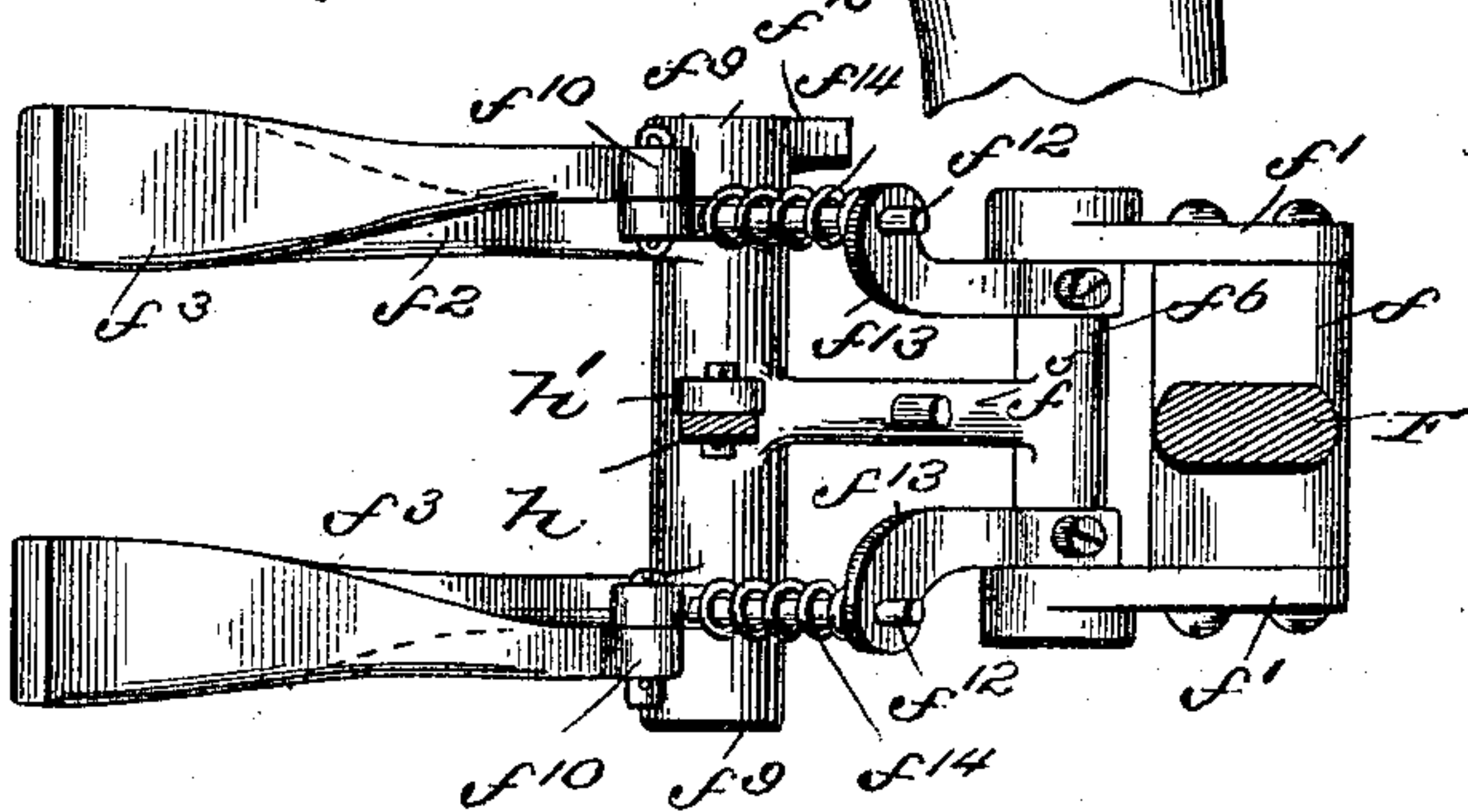


Fig. 13.

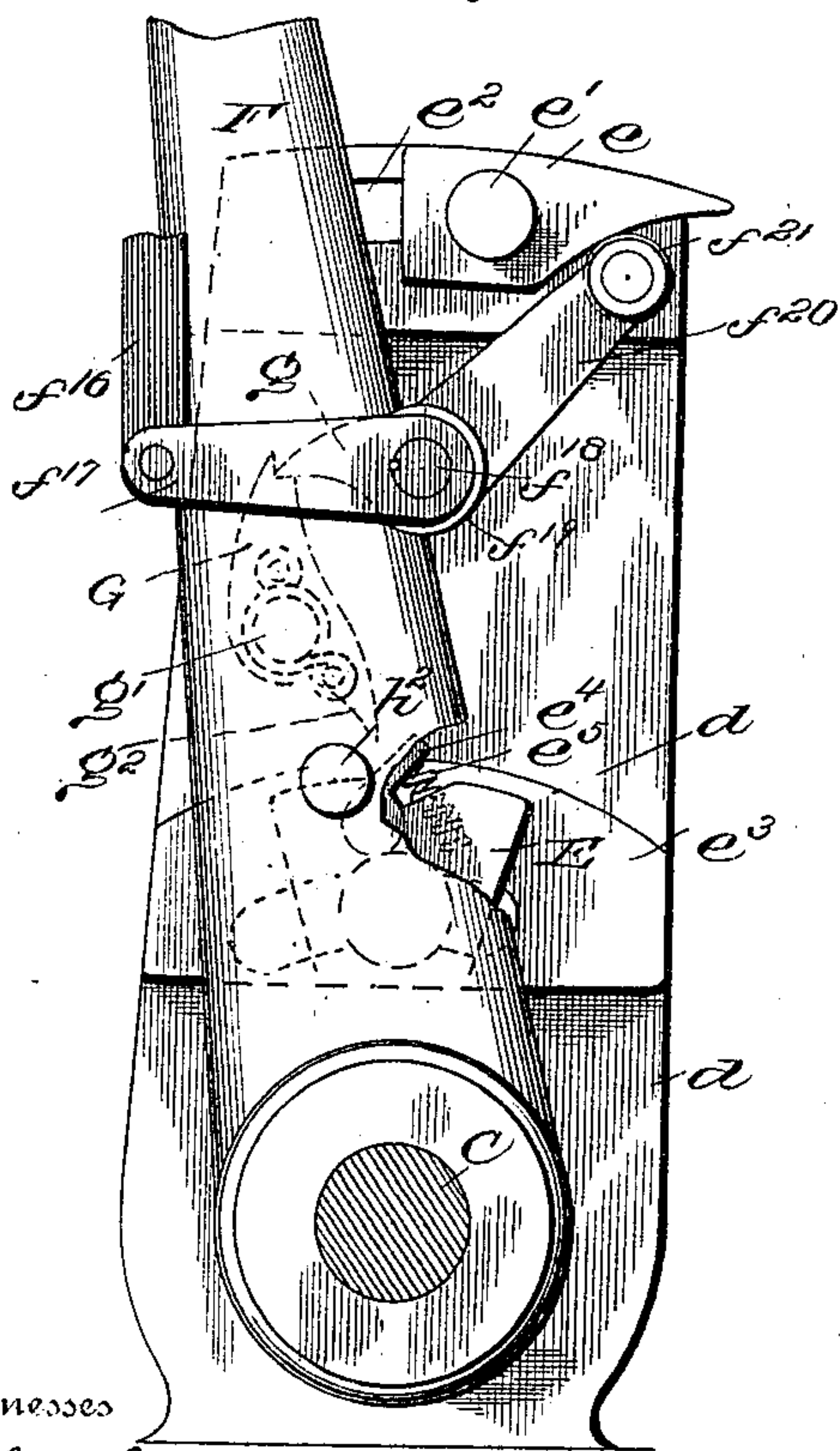


Fig. 15.

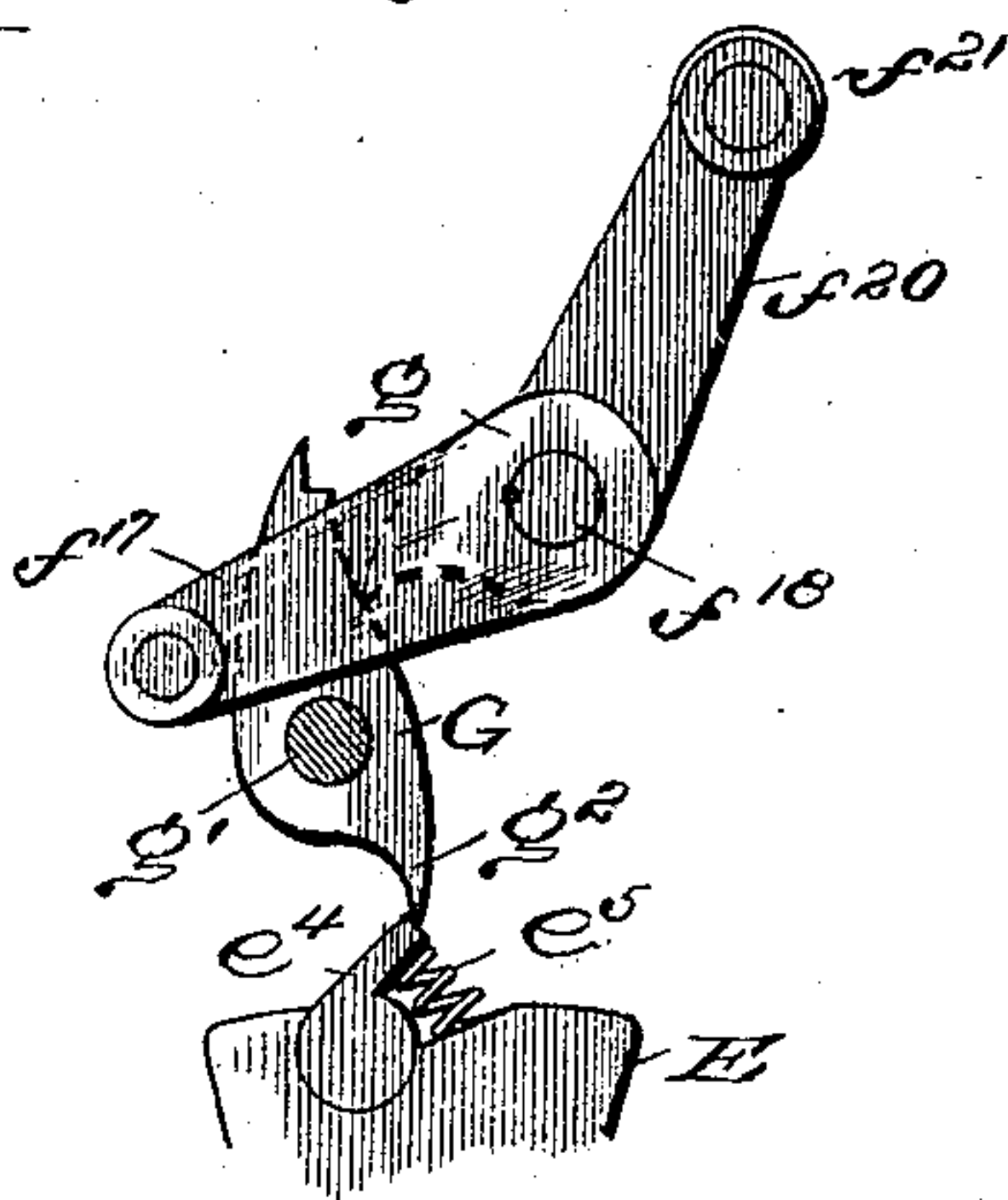
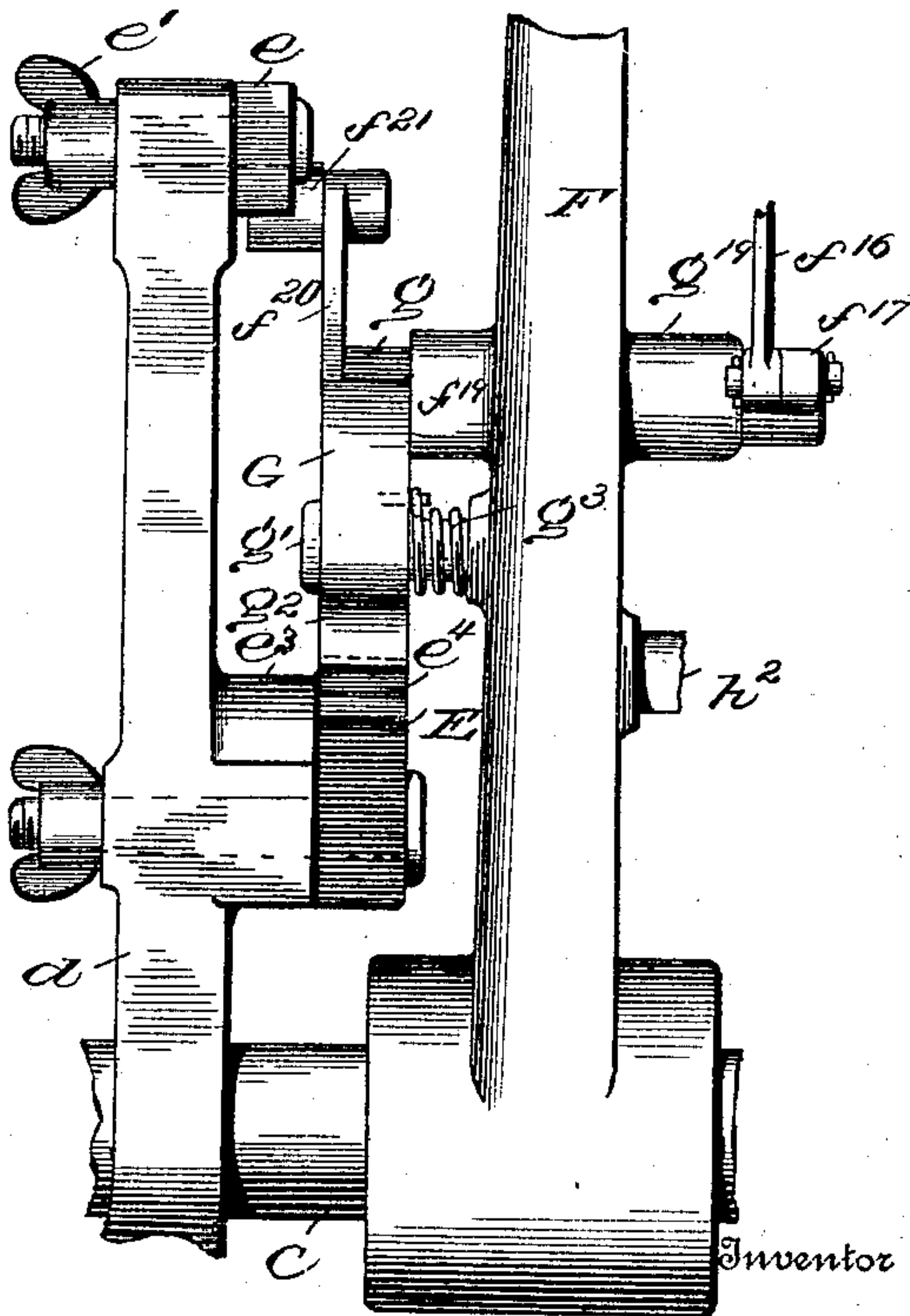


Fig. 14.



Witnesses

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UNITED STATES PATENT OFFICE.

JOHN F. McNUTT, OF WARREN, OHIO, ASSIGNOR TO THE HARRIS
AUTOMATIC PRESS COMPANY, OF NILES, OHIO.

FEEDER FOR PRINTING-PRESSES.

SPECIFICATION forming part of Letters Patent No. 617,404, dated January 10, 1899.

Application filed August 11, 1897. Serial No. 647,786. (No model.)

To all whom it may concern:

Be it known that I, JOHN F. McNUTT, of Warren, in the county of Trumbull and State of Ohio, have invented certain new and useful Improvements in Feeders for Printing-Presses; 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.

This invention contemplates certain new and useful improvements in feeders for printing-presses and the like.

The object of the invention is to provide mechanism for successively feeding separate articles, especially paper bags, to a printing-press. This I accomplish by so mounting a pile or stack of bags that a carrier moving back and forth beneath such stack can be made to grasp the lowermost bag and, after withdrawing first one end from the elevated rest or support, feed the bag forward to a printing-press or the like, whereupon the carrier releases the bag and is withdrawn, so as to engage the next bag of the stack now at the bottom of the latter. A flap of the lowermost bag is freed or separated, so as to be easily engaged by means of a jet of air ejected by a pneumatic attachment.

The invention will be hereinafter fully set forth, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in perspective of my improved feeder. Fig. 2 is a side elevation showing the position of the gripper immediately before engaging a bag. Fig. 3 is a similar view showing the gripper in engagement with the bag. Fig. 4 is also a side elevation showing the position of the gripper as the bag is engaged by the feed-rolls. Fig. 5 is a side elevation similar to Fig. 2 from the opposite side of the feeder. Fig. 6 is an enlarged view in perspective of the carrier and gripper. Fig. 7 is an enlarged view with parts broken away of the links by which the necessary movements are imparted to the carrier. Fig. 8 is an enlarged perspective view of the rear end of the main operating-pitman. Figs. 9 and 10 are details. Fig. 11 is a side view of the gripper. Fig. 12 is a bottom plan view thereof. Fig.

13 is an enlarged view of portion of the carrier, showing the mechanism for operating the gripper. Fig. 14 is a front edge view thereof. Fig. 15 is an enlarged detail of said mechanism. Fig. 16 is a view in perspective of a portion of the support for the stack of bags. Fig. 17 is an inverted view in perspective of the folded end or bottom of a bag.

Referring to the drawings, A designates a portion of the frame of a printing-press, a the type-carrying and impression cylinders, and a^2 the feed-rollers by which the stock is fed to the press after the manner shown and described in Letters Patent of the United States Nos. 577,299 and 577,381, both issued February 16, 1897, on applications of Charles G. Harris.

B is a supplemental frame attached to press-frame A and having a central outwardly-extended arm b , a lateral arm b^x , and a side arm b^{xx} . This latter arm and arm b support a shaft b' , whereon is keyed a wheel b^2 , having a segmental toothed portion b^3 , which meshes with an upper rack-bar b^4 of a yoke b^5 , carried by a pitman b^6 . This yoke has a longitudinal opening b^7 in its two parallel sides, through which extends the shaft b' , the latter forming a guide and support for the yoke. The other end of the pitman b^6 is connected to a wheel b^8 , keyed on one of the journals of the impression-cylinder a' . On the extreme outer end of shaft b' is a crank-arm b^9 , which is given a back-and-forth swinging movement by the engagement of the rack-bar and toothed segment of wheel b^2 . The arm b is elongated upwardly and sustains the outer end of the rest or support for a pile or stack of bags, all of which have their bottom ends folded (see Fig. 17) and resting one upon the other in such manner that one flap of this folded end will always be presented rearward away from the press. The extended arm b supports a rod 1, to the ends of which are secured the outer ends of two parallel arms 2, the inner ends thereof supporting a transverse rod 3. The extreme top of arm b is grooved to accommodate a horizontally-adjustable plate 4, having a longitudinal slot 5, through which extends a screw 6. With the inner end of this plate 4 is formed a perpendicular grooved plate 7, in the groove 7' of which is fitted a

vertically-disposed plate 8. This plate can be adjusted on plate 7 and is held in place by any suitable means, such as a screw 8'. At its lower end plate 8 supports two horizontal rods 9, forming a rest for the open ends of the bags piled or stacked in position. These rods are capable of sliding adjustment, being secured to plate 8 by a lower horizontal plate g' , held by screws g'' . A small roller 9^a is located between and supported by rods 9. This latter roller enables the body portions of the bags to be easily drawn from their support. To a cross-rod 10, supported by plate 7, are adjustably secured arms 11, which carry upright rods 12, forming guides for holding the pile or stack of bags in position. A vertically-adjustable plate 13 is held by a block 14, mounted centrally on rod 3. To the lower end of this plate is secured a horizontal plate 14^a, which supports the folded ends of the bags. An intervening space is left between the ends of rods 9 and plate 14^a. The extreme ends of this plate 14^a are formed into downwardly-inclined tongues 15, which serve to direct the travel of the folded ends of the bags (after being grasped by the gripper) downward toward the feed-rolls a^2 . The bags are additionally supported and guided by longitudinally-bowed plates 16, attached to blocks 17, secured on the lower ends of upright rods 18, carried by arms 19, adjustably secured on rod 3. Blocks 17 have grooves to accommodate the rods 18, (see Fig. 9,) so that a smooth inner surface will be presented. By bowing or curving each plate 16 longitudinally of the length thereof a guide or support is provided for any depending portion of a bag, and at the same time the latter is not crowded to an extent to interfere with the feeding thereof to a press or the like.

C is a shaft supported at its outer end by an upturned portion of arm b^x of frame B, and at its inner end this shaft rests in a cylindrical bearing C', a depending portion C² of which is supported by frame-arm b . (See Fig. 1.) The shaft is passed through an opening in an arm d , extending perpendicularly from arm b^x . On the outer end of this shaft is an arm d' , to the upper end of which is pivotally connected one end of a link d^2 , and to the other end of the latter is connected one end of a second pitman d^3 , and also to this end of said link is connected the lower end of a second link d^4 . The pitman d^3 is secured at its rear end to crank-arm b^9 , while the upper end of link d^4 is jointed to pitman b^6 . The arm d is, as stated, perpendicular to its base and extends upwardly some distance. Against one side thereof is adjustably held a block e , a binding-screw e' thereof extending through a slot e^2 in said arm. This lug at one end is tapered or inclined, such taper being adjacent to the rear vertical edge of arm d . Against a slotted boss e^3 of this arm, near the base thereof, is held a block E, which is capable of adjustment. This block supports a pivoted dog e^4 , which is normally held raised

by a spring e^5 , said dog being located at about the vertical center of arm d .

F is an arm which constitutes the carrier for feeding the bags. It is keyed at its lower end on shaft C and carries at its upper end a gripper designed to engage one bag at a time and feed the same forward to the feed-rolls of the press. The upper end f of this arm is widened laterally, and to the ends of said widened portion are secured parallel plates f' .

The gripper is composed of an upper jaw f^2 and a lower jaw f^3 , each being composed of two oar-blade-like plates. The plates of the upper jaw f^2 at their inner ends are preferably integral with a hollow sleeve f^4 , from the center of which projects an arm f^5 , having at its outer end trunnions f^6 , which loosely fit in holes in plates f' . A small coil-spring f^7 , set down in a recess in arm F, presses upwardly against arm f^5 , tending to elevate the gripper. Through sleeve f^4 extends a shaft f^8 , on the projecting ends of which are keyed the hub ends f^9 of the plates of the lower jaw. This shaft is capable of being partly rotated, so as to move the lower jaw toward or away from the upper jaw. To depending bosses f^{10} of the lower-jaw plates are pivotally connected rods f^{12} , which are projected through openings in the lower ends of arms f^{13} , which are secured at their upper ends to the under sides of trunnions f^6 . Coil-springs f^{14} , encircling these rods and bearings against arms f^{13} , tend to hold the lower jaw closed against the upper jaw. From the hub end of one of the lower-jaw plates extends a short arm f^{15} . To the outer end of this arm is pivotally connected the upper end of a link f^{16} , which at its lower end is connected to an arm f^{17} of a short shaft f^{18} , which extends through and is supported by a hollow hub f^{19} of arm F. On the other end of this shaft is a second arm f^{20} , which projects rearwardly and carries at its free end a roller f^{21} , which is designed to engage the tapered end of block e . When this engagement occurs, the rocking of shaft f^{18} (as arm F is reaching the end of the forward stroke) will, through link f^{16} and arm f^{15} , effect the lowering of the lower jaw away from the upper member, as against the tension of the spring f^{14} . The rod f^{12} being brought nearly into a straight line between the hinge of the lower jaw and the ends of arms f^{13} , the pressure is toward said hinge and the jaw is easily maintained in its opened position. This avoids all binding of parts. As the lower jaw is opened by the rocking of shaft f^{18} a short arm g on the latter is engaged by the upper shouldered end of a spring-held dog G, carried on a boss g' of arm F, the lower end of said dog being in the form of a nose g^2 . As the arm F is moved rearward the nose g^2 depresses the spring-held dog e^4 without any other result; but as the arm F moves forward on its first short stroke the end of dog e^4 being raised by its spring into the line of travel of the dog G the nose thereof will engage said

dog e^4 , and the dog G being turned on its pivot, as against its spring g^3 , will trip shaft f^{18} and allow the lower jaw of the gripper to close up against the upper member, grasping and holding the flap of a bag between them. In this short movement of arm F the roller f^{21} will not engage block e .

In the initial forward stroke of arm F (see Fig. 2) the upper gripper-jaw travels against the bottom of the stack of bags to a point beyond the free end of the disengaged flap of the lowermost bag or up to the fold thereof, the spring f^7 tending to elevate the gripper. At this point the gripper is closed, holding the flap between the jaws. (See Fig. 3.) This is effected by the tripping of shaft f^{18} . Then as the arm F is moved rearward a short distance the folded end or bottom of the bag is entirely disengaged from the plate 14^a , and in the full forward stroke of said arm as the folded end of the bag—that is, the flap thereof not engaged by the grippers—passes between and is taken up by the feed-rolls the gripper releases its hold, (see Fig. 4,) the lower jaw being opened by the arm f^{20} of shaft f^{18} engaging block e . During this movement of the folded end of the bag and up to the time the same is securely grasped between the feed-rolls the other end of said bag is supported by the rods 9, preventing it from dropping downward.

To effect the lowering of the gripper after it has grasped the bag-flap and then maintain it in a lowered position, so that it will travel on a nearly horizontal path toward the feed-rolls, I provide a pitman h , pivotally connected at its upper end to a short arm h' , depending from the center of the sleeve f^4 . This pitman at its lower end is connected to an arm of a crank-shaft h^2 , mounted on a stud h^3 on one side of arm F. The other arm of this crank-shaft has a roller h^4 , which is designed to be engaged by the inclined and shouldered end h^5 of a cam h^6 , loose on a boss of bearing C' . This cam imparts to the shaft h^2 the proper movements to insure the lowering of the gripper. To an arm h^x of this cam is connected an adjustable rod h^7 , the other end thereof being connected to an arm h^8 , loose on a cross-rod h^9 , supported by arms b and b^x . With arm h^8 is designed to engage a cam h^{10} , fast on shaft b' , said cam having a flat surface h^{12} and a rounded surface h^{13} . A spring h^{14} on rod h^9 tends to hold arm h^8 in its normal raised position. As the cam h^{10} strikes against the arm h^8 in the forward rotation of shaft b' said arm will be depressed and through rod h^7 cam h^6 is turned on its bearing, so that the incline thereof will elevate the engaged end of crank-shaft h^2 , which through pitman h will draw the gripper downward. This occurs just as the fold of the bag is being withdrawn by the closed gripper. This lowered position is maintained by the cam h^6 acting on crank-shaft h^2 . The cam is held depressed by rod h^7 during nearly the full rearward stroke of arm F, but fully re-

sumes its normal position under the tension of spring h^{14} before the short or initial forward movement of said arm, the spring f^7 elevating the gripper against the bottom of the stack during the latter part of the full rearward stroke. The roller h^4 during the latter part of the full rearward stroke drops to the lower portion of cam-surface h^5 , and as the cam is moved forward or raised at the same time that arm F makes its short forward stroke the roller h^4 does not engage the surface h^5 until arm F makes short rearward stroke after a bag is gripped, at which time cam h^6 is again depressed by cam h^{10} engaging arm h^8 .

It will be noticed that the arm F, carrying the gripper, has the following movements imparted to it through the agency of the segmental wheel, the rack-bar, the pitman d^3 , arm d' , and the links d^2 d^4 —that is to say, a bag having been delivered to the feed-rolls and the gripper-jaws opened the arm F is started on its rearward stroke. As the gripper passes beyond or is free of the flap of the lowermost bag it is raised by spring f^7 , the cam h^6 allowing crank-shaft h^2 to turn. This raising of the gripper against the under side of the pile occurs as the arm F approaches the limit of its full rearward stroke. The arm F is then given a short initiatory forward movement sufficient to sandwich the flap between the two jaws. Simultaneous therewith the two jaws are closed together, grasping the flap, and the gripper is pulled downward through the agency of crank-shaft h^2 and cam h^6 as the arm F is given a short rearward movement sufficient to disengage the folded end of the bag from contact with and entirely free of the forward support of the rest. Thereupon the arm F is given its full forward stroke, presenting the folded end of the bag directly in line between the two feed-rolls. As this occurs the gripper is opened, releasing the bag, which is fed to the press, and as the arm F starts on its rearward stroke with the gripper opened the latter is held depressed until the arm approaches the full limit of its rearward stroke, when the gripper will be raised, as before, into engagement with the under side of the now lowermost bag, and the operation is repeated as before.

Thus it will be seen that the means described impart to the arm F an irregular forward movement—that is, the arm after being moved forward a short distance sufficient to sandwich the flap of a bag between the gripper-jaws is moved rearward a short distance and then forward to the full limit of the forward or delivery stroke.

To insure the free or unsupported flap of the lowermost bag being moved away from the body portion, so as to allow the upper gripper-jaw to pass between it and the body portion, I provide a pneumatic device I. (See Figs 1 and 5.) This comprises a cylinder i , rigidly attached to cross-rod h^9 , and a piston i' , fitted in said cylinder and normally held raised by a coil-spring i^2 . To a lower outlet-

opening is connected one end of a hose or tubing i^3 , which is extended so that its discharge, when the piston is depressed, will be directly against the under side of the lowermost bag on line with the end of the disengaged flap. Thus the air will force said flap downward, and as the opened jaw-gripper approaches said flap the latter will be free to be engaged thereby. To avoid confusion in the other figures in the drawings, this tube is shown only in Fig. 5, in which figure I have indicated a support for the outer end of the tube. This support comprises a rod i^4 , supported by an arm i^5 , depending from rod 1. The end of the tube is extended through a sleeve i^6 , adjustable on rod i^4 and having an upwardly-extended handle-rod i^7 . The piston is depressed by a cam J, fast on shaft b' and so positioned that air will be ejected just as the arm F reaches the limit of its rearward stroke and preparatory to the gripper engaging the flap of the lowermost bag. The upward movement of the piston is limited by a stop-bar j .

From what has been said it will be seen that I have produced simple and highly efficient mechanism for feeding bags from a pile or stack thereof to a printing or other press, one bag being fed at a time.

It will of course be understood that I do not confine myself to the construction and arrangement of parts herein described.

Various changes may be made without departing from the scope of my invention, the essential feature of which is a carrier traveling back and forth beneath a pile or stack of bags or other articles, with the lowermost member of which such carrier is designed to engage, whereby one bag or other article at a time will be freed first at one end and then mechanically fed to the press.

I claim as my invention—

1. In combination with an elevated rest for a pile of articles, such rest having supports for the ends of said pile, a carrier movable longitudinally of said pile and having means for engaging one of said articles, and means for imparting to said carrier, first, a short forward movement, second, a short rearward movement, third, a full forward stroke, and, fourth, a full rearward stroke, substantially as set forth.

2. In combination with an elevated rest for a pile of articles, such rest having supports for the ends of said pile, a carrier movable longitudinally of said pile and having means for engaging one of said articles, operating means for imparting to said carrier a short forward movement, means for causing said engaging means to then engage one of said articles, said operating means then imparting a short rearward movement to said carrier, then a full forward stroke, and then a full rearward stroke, said engaging means being released at the end of said full forward movement, substantially as set forth.

3. The combination with an elevated rest

for a pile of articles, such rest having opposite horizontal supports for the ends of said pile, of a carrier movable longitudinally beneath said pile and having means for engaging the lowermost article thereof, and means for imparting to said carrier, first, a short forward movement, second, a short rearward movement whereby said article is withdrawn from one of its supports, third, a full forward movement whereby such article is withdrawn from the other one of said supports, and fourth, a full rearward movement, substantially as set forth.

4. The combination with an elevated rest for a pile of articles, such rest having opposite horizontal supports for the ends of said pile, of a carrier movable longitudinally beneath said pile, a gripper carried by said carrier for engaging the lowermost article of such pile, means for imparting to said carrier, first, a short forward movement, second, a short rearward movement, third, a full forward stroke, and fourth, a full rearward stroke, and means for operating said gripper, substantially as set forth.

5. The combination with an elevated rest for a pile of articles, such rest having opposite horizontal supports for the ends of said pile, of a carrier movable longitudinally beneath said pile, a gripper carried by said carrier for engaging the lowermost article of such pile, means for imparting to said carrier, first, a short forward movement, second, a short rearward movement, third, a full forward stroke, and fourth, a full rearward stroke, and means for closing said gripper at the end of said short forward movement, and opening the same at the end of said full forward stroke, substantially as set forth.

6. The combination with an elevated rest for a pile of articles, such rest having opposite horizontal supports for the ends of said pile, of a carrier movable longitudinally beneath said pile, a gripper carried by said carrier for engaging the lowermost article of such pile, means for imparting to said carrier, first, a short forward movement, second, a short rearward movement, third, a full forward stroke, and fourth, a full rearward stroke, means for opening and closing said gripper, and means for raising and lowering the same, substantially as set forth.

7. The combination with an elevated rest for a pile of articles, such rest having opposite horizontal supports for the ends of said pile, of a carrier movable longitudinally beneath said pile, a gripper carried by said carrier for engaging the lowermost article of such pile, means for imparting to said carrier, first, a short forward movement, second, a short rearward movement, third, a full forward stroke, and fourth, a full rearward stroke, means for closing said gripper at the end of said short forward movement and opening the same at the end of said full forward stroke, and means for raising said gripper during said full rearward stroke and

lowering the same during said short rearward movement, substantially as set forth.

8. The combination with an elevated rest, of a shaft, an upwardly-extended arm carried by said shaft and movable beneath said rest, a gripper on the upper end of said arm, means carried by said arm for opening and closing said gripper, and a stationary member by engagement with which said means is operated, substantially as set forth.

9. The combination with an elevated rest, of a shaft, an upwardly-extended arm carried by said shaft and movable beneath said rest, a gripper on the upper end of said arm, a movable member carried by said arm and connected to said gripper, and means with which said member is designed to engage for opening and closing said gripper, substantially as set forth.

10. The combination with an elevated rest, of a shaft beneath said rest, an upwardly-extended arm carried by said shaft, a gripper on the upper end of said arm, two movable members carried by said arm and connected to said gripper, and means with which said members are designed to engage for opening and closing and raising and lowering said gripper, substantially as set forth.

11. The combination with an elevated rest, of a shaft, an upwardly-extended arm carried by said shaft and movable beneath said rest, a gripper on the upper end of said arm, a trip carried by said arm for operating said gripper, and means for operating said trip, substantially as set forth.

12. The combination with an elevated rest, of a shaft, an upwardly-extended arm carried by said shaft and movable beneath said rest, a gripper on the upper end of said arm, means carried by said arm for closing said gripper, and means for opening said gripper as the said arm reaches the end of its delivery-stroke, substantially as set forth.

13. The combination with an elevated rest, of a shaft, an arm extended upwardly from said shaft, a gripper on the upper end of said arm, having a movable jaw, a rock-shaft on said arm connected to said movable jaw, means for imparting an irregular, forward movement to said arm, and means for tripping and locking said rock-shaft, substantially as set forth.

14. The combination with an elevated rest, of a shaft, an upwardly-extended arm carried by said shaft, a gripper on the upper end of said arm, means carried by said arm for opening and closing said gripper, means for operating said shaft, and means connected to said gripper for holding the same first elevated, and then lowered, substantially as set forth.

15. The herein-described feeder comprising a pivotally-mounted arm, means for operating the same, a gripper mounted on said arm having an upper jaw, and a lower spring-pressed movable jaw normally held against said upper jaw, a rock-shaft mounted on said arm and connected to said movable jaw,

means for operating said rock-shaft for opening said jaws, means for locking said rock-shaft when said jaws are opened and means for tripping said rock-shaft and allowing said jaws to close, substantially as set forth.

16. The herein-described feeder comprising a pivotally-mounted arm, means for operating the same, a gripper having an upper jaw mounted on said arm, and a lower jaw pivoted to said upper jaw, a spring or springs tending to hold said jaws closed, a short shaft to which said lower jaw is connected, an arm connected to said shaft, a rock-shaft mounted on said pivoted arm connected to said arm of said short shaft, means for operating said rock-shaft for opening said jaws, and means for tripping said rock-shaft and allowing said jaws to close, substantially as set forth.

17. The herein-described feeder, comprising a pivotally-mounted arm, means for operating the same, a gripper carried by said arm having a movable jaw, a rock-shaft on said arm connected to said movable jaw, means for operating said rock-shaft for lowering said jaw, a spring-held dog mounted on said arm for engaging said rock-shaft when said jaw is lowered, and a trip for freeing said dog and rock-shaft to allow said jaw to close, substantially as set forth.

18. The herein-described feeder comprising a pivotally-mounted arm, means for operating the same, a gripper having an upper jaw mounted on said arm, and a lower jaw pivoted to said upper jaw, a spring or springs tending to hold said jaws closed, a short shaft to which said lower jaw is connected, an arm connected to said shaft, a rock-shaft mounted on said pivoted arm connected to said arm of said short shaft, means for operating said rock-shaft for opening said jaws, a dog for engaging said rock-shaft and holding said jaws opened, and a second dog for tripping said former dog and releasing said rock-shaft, substantially as set forth.

19. The herein-described feeder comprising a pivotally-mounted arm, means for operating the same, a gripper having an upper jaw mounted on said arm, and a lower jaw pivoted to said upper jaw, a spring or springs tending to hold said jaws closed, a short shaft to which said lower jaw is connected, an arm fast on said shaft, a rock-shaft mounted on said pivoted arm connected to said arm of said short shaft, a stationary arm extended parallel with said pivoted arm and having a projection with which said rock-shaft is designed to engage for opening said jaws, a dog on said pivoted arm for engaging and holding said rock-shaft, and a second dog mounted on said stationary arm and with which said former dog is designed to engage for releasing said rock-shaft and closing said gripper-jaws, substantially as set forth.

20. The herein-described feeder comprising a pivotally-mounted arm, means for operating the same, a gripper carried by said arm, means for opening and closing said gripper,

a crank-shaft mounted on said pivoted arm and connected to said gripper, and means for operating said crank-shaft for raising and lowering said gripper during the movements of said pivoted arm, substantially as set forth.

21. The herein-described feeder comprising a pivotally-mounted arm, means for operating the same, a gripper carried by said arm, means for opening and closing said gripper, a crank-shaft mounted on said pivoted arm, a link connecting said crank-shaft to said gripper, a cam with which said crank-shaft engages, and means for operating said cam, substantially as set forth.

22. The herein-described feeder comprising an upwardly-extended arm, a shaft on which said arm is mounted, a cam mounted concentrically to said shaft, a pivoted arm connected to said cam, a rock-shaft having a cam designed to engage said arm, whereby said former cam will be operated, a gripper carried by said upwardly-extended arm, a crank-shaft on the latter connected to said gripper and designed to be operated by said first-mentioned cam, as and for the purpose set forth.

23. The combination with a carrying-arm, of a gripper mounted thereon comprising an upper jaw having lateral projections at its rear end, a lower jaw pivoted to said upper jaw, arms secured to said projections and extended beneath the pivot of said lower jaw, and springs interposed between said arms and said lower jaw beneath the pivot of the latter, substantially as set forth.

24. The combination with a carrying-arm, of a gripper mounted thereon comprising an upper jaw having a hollow sleeve, a shaft extended through said sleeve, a lower jaw fast on said shaft, arms projecting from said upper jaw, rods pivoted to said lower jaw extended through said arms, springs encircling said rods, and means for opening and closing said jaws, substantially as set forth.

25. The combination with the carrying-arm having parallel portions at its upper end, of the gripper comprising an upper jaw having trunnions pivotally supported by said parallel portions, a lower jaw pivoted to said upper jaw and having depending portions, arms secured to said trunnions, rods pivotally connected to said depending portions and extended through said arms, springs encircling said rods, and means for opening and closing said jaws, substantially as set forth.

26. The combination with an elevated rest, of a carrier mounted below said rest having a gripper, a shaft for imparting motion to said carrier having an arm, a second shaft having a crank, a link and pitman connecting the latter to said arm, a toothed wheel on said second shaft, a main operating-pitman having a rack-bar engaging said toothed wheel, and a link connected to said pitman and to said former link, substantially as set forth.

27. In a feeder of the character herein described, an elevated rest or support compris-

ing, at one end, a vertically-adjustable horizontally-disposed plate, and adjustable rods having lower longitudinally-bowed plates, and, at the other end, horizontally-disposed rods extending toward said former rods, a roll supported by said rods, and an adjustable support for said rods, substantially as set forth.

28. In a feeder of the character described, a rest or support for a pile of bags having at one end a horizontally-disposed plate on which one end of said pile rests, the ends of said plate being inclined downward and forward, whereby an article removed from said plate will be guided downward in its forward movement, as set forth.

29. In a feeder of the character described, a rest or support for a stack of bags having at one end a horizontally-disposed plate, the ends of which are inclined forward, and longitudinally-disposed bowed plates, as and for the purpose set forth.

30. In a feeder of the character herein described, an elevated rest or support comprising, at one end, adjustable rods having bowed plates at their lower ends, and a vertically-adjustable horizontally-disposed plate having inclined ends, and, at the other end, horizontally-disposed rods extending toward said former rods, an adjustable support for said rods, a cross-rod on said support, and a series of guide-rods adjustably secured to said cross-rod, substantially as set forth.

31. The combination with a frame having an upwardly-extended arm, of a rod supported by said arm, two parallel arms connected to said rod, a cross-rod supported by said arms, vertical rods on said cross-rod, flanged blocks on the lower ends of said vertical rods having longitudinally-disposed bowed plates, a vertically-adjustable plate mounted on said cross-rod having a horizontal plate at its lower end formed with inclined ends, a horizontally-adjustable support on said arm of said supplemental frame, a vertically-adjustable plate attached to said support and horizontally-disposed rods supported by said plate and projecting inward toward the press-frame, a roll mounted on said latter rods, and a feeder movable beneath said horizontally-disposed rods, substantially as set forth.

32. The combination with an elevated rest for a pile of bags, of a pneumatic device comprising a piston and cylinder therefor, a spring in said cylinder against which said piston bears, a tube leading from said cylinder, a support, means for adjustably holding said tube to said support, and means for depressing said piston, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

JOHN F. McNUTT.

Witnesses:

W. H. SMILEY,
MARY MCGEE.