

No. 772,705.

PATENTED OCT. 18, 1904.

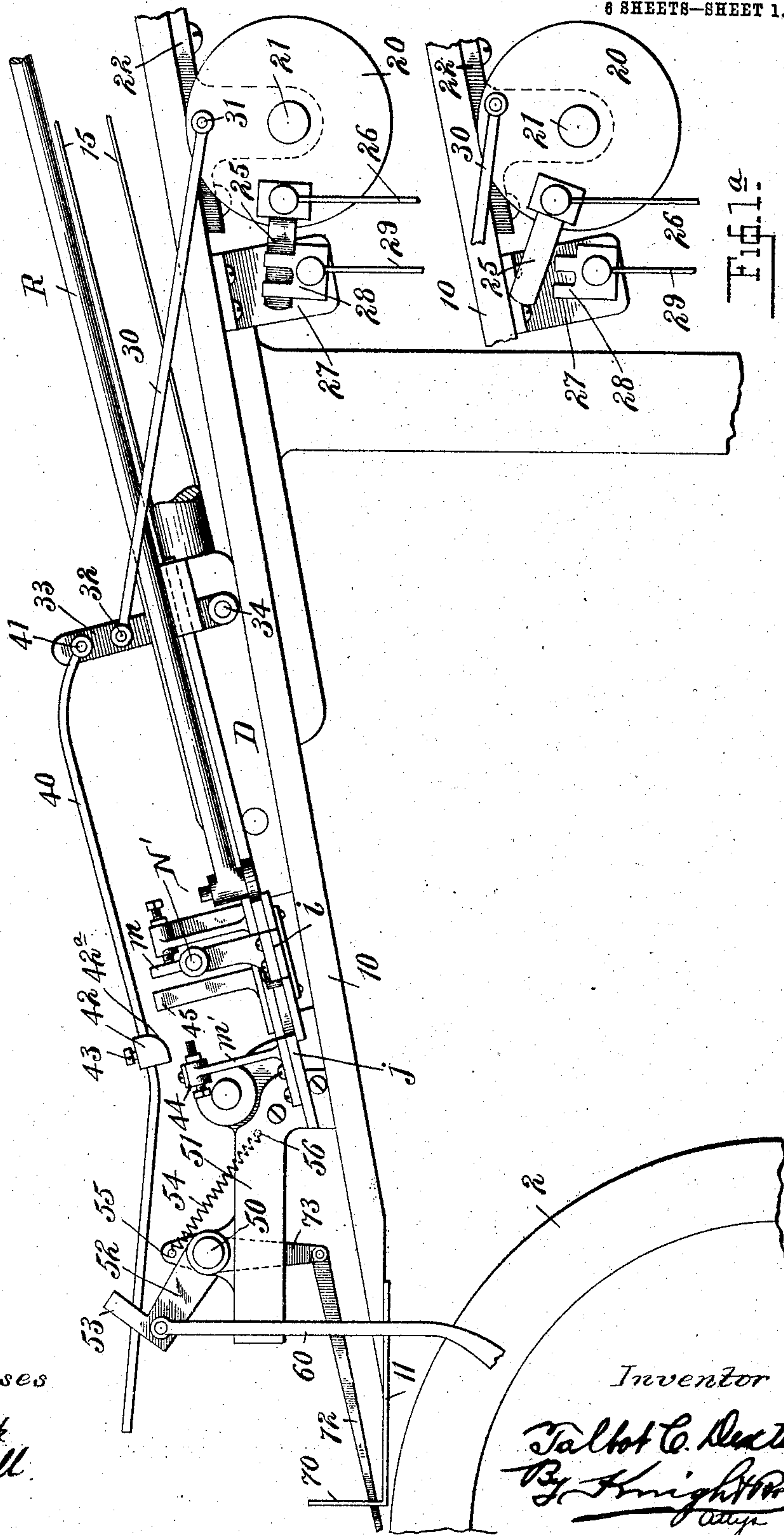
T. C. DEXTER.

THROW-OUT MECHANISM FOR PRINTING PRESSES.

APPLICATION FILED SEPT. 27, 1901.

NO MODEL.

6 SHEETS—SHEET 1.



Witnesses

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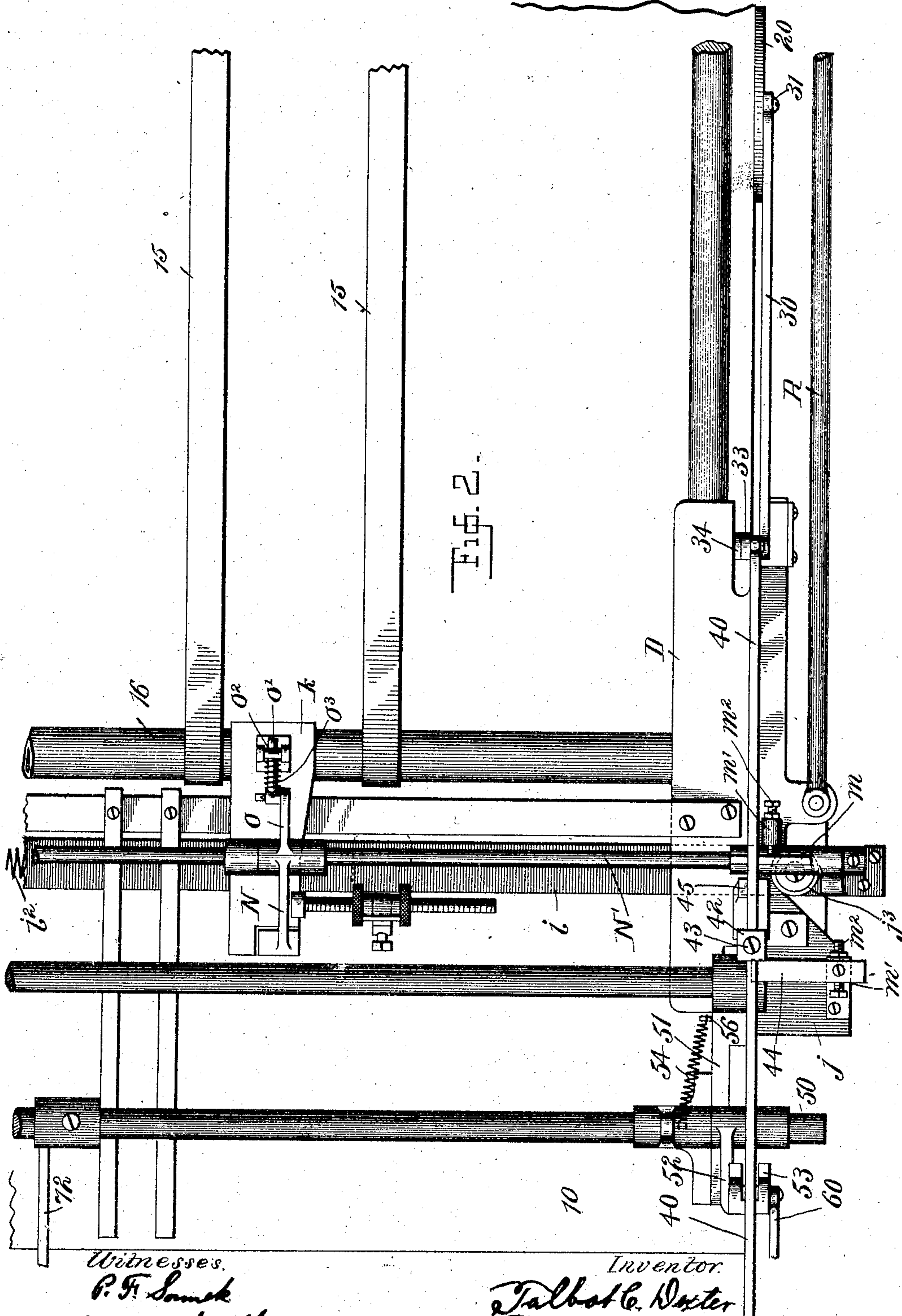
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NO MODEL.

6 SHEETS—SHEET 2.



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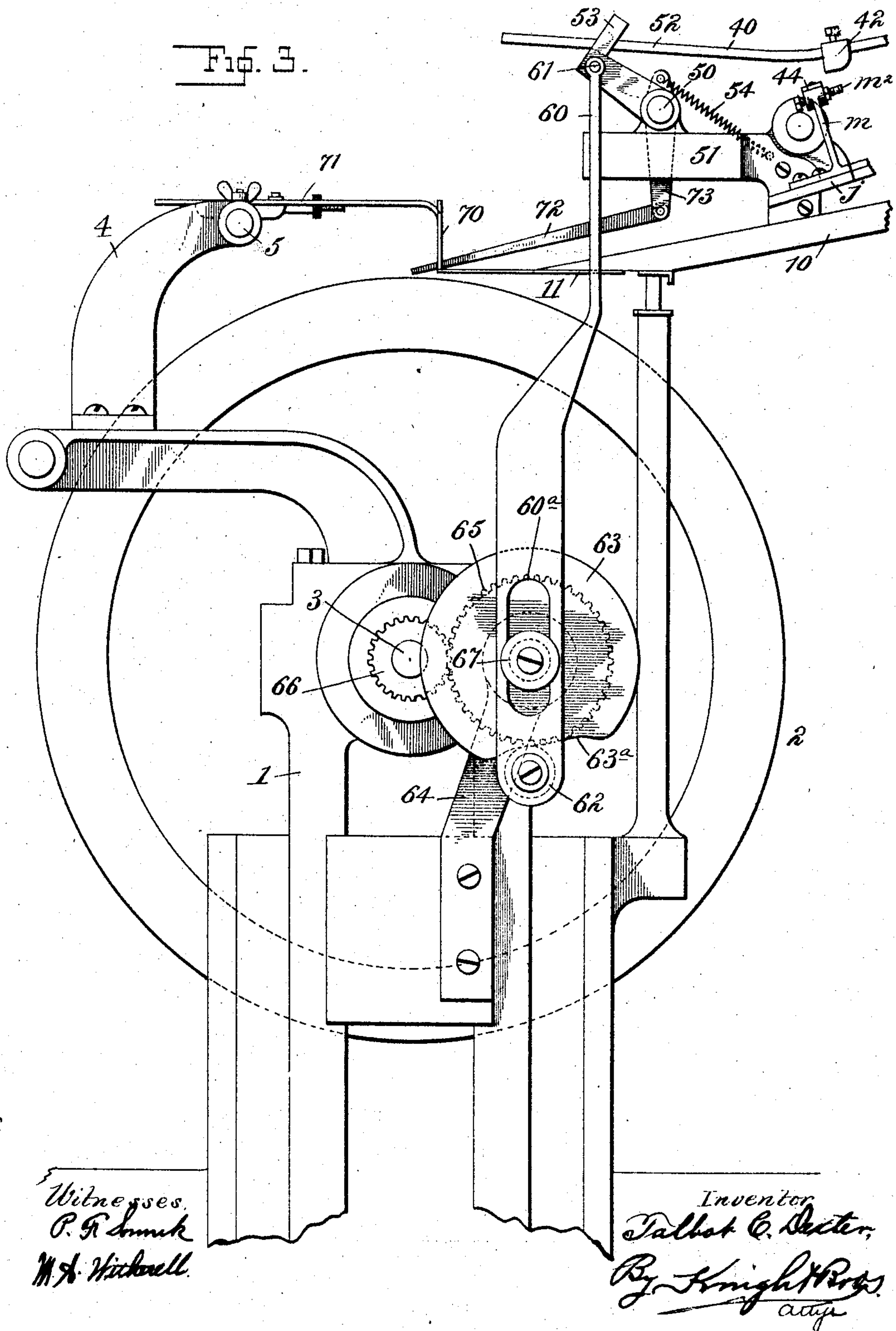
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6 SHEETS—SHEET 3.



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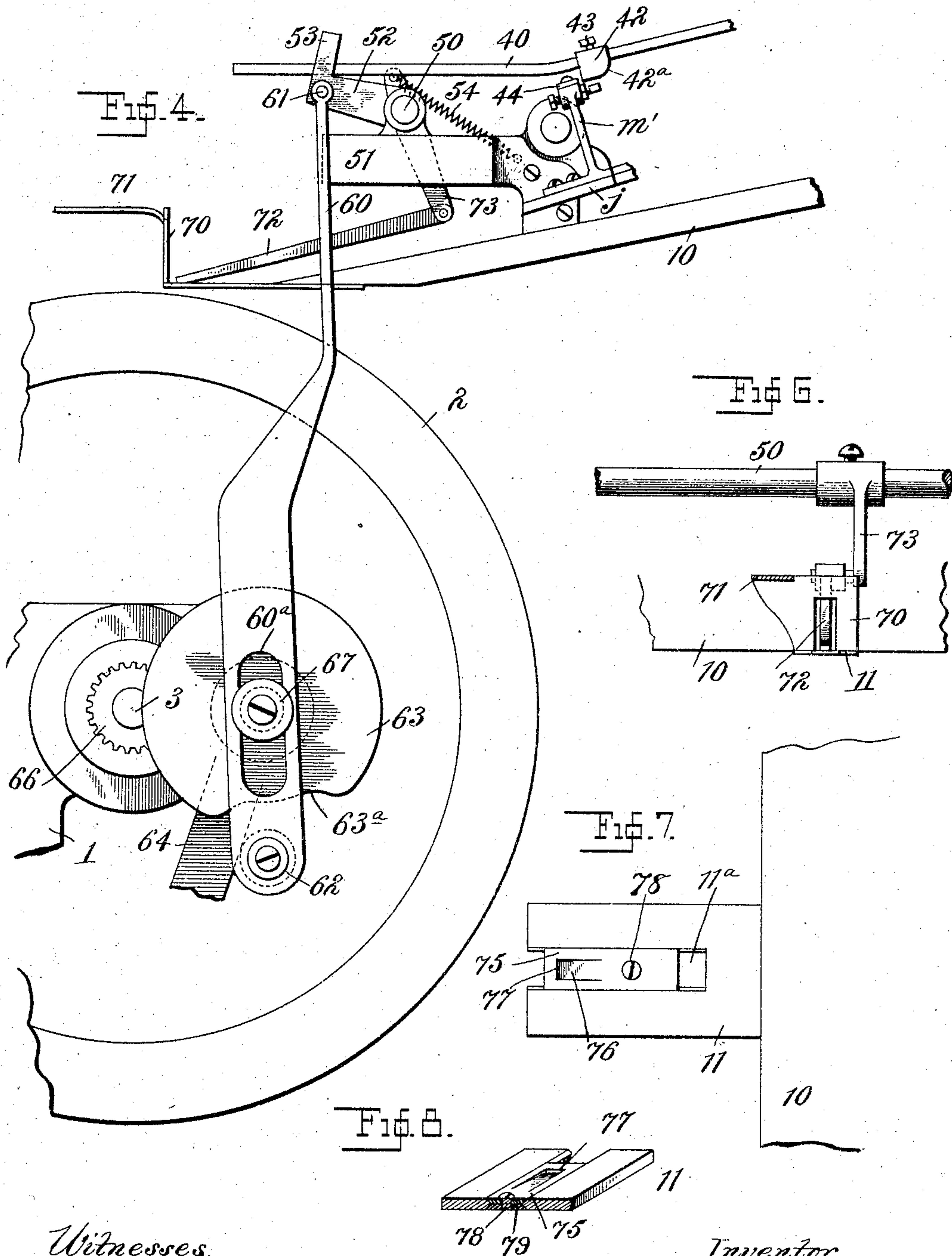
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NO MODEL.

6 SHEETS—SHEET 4.



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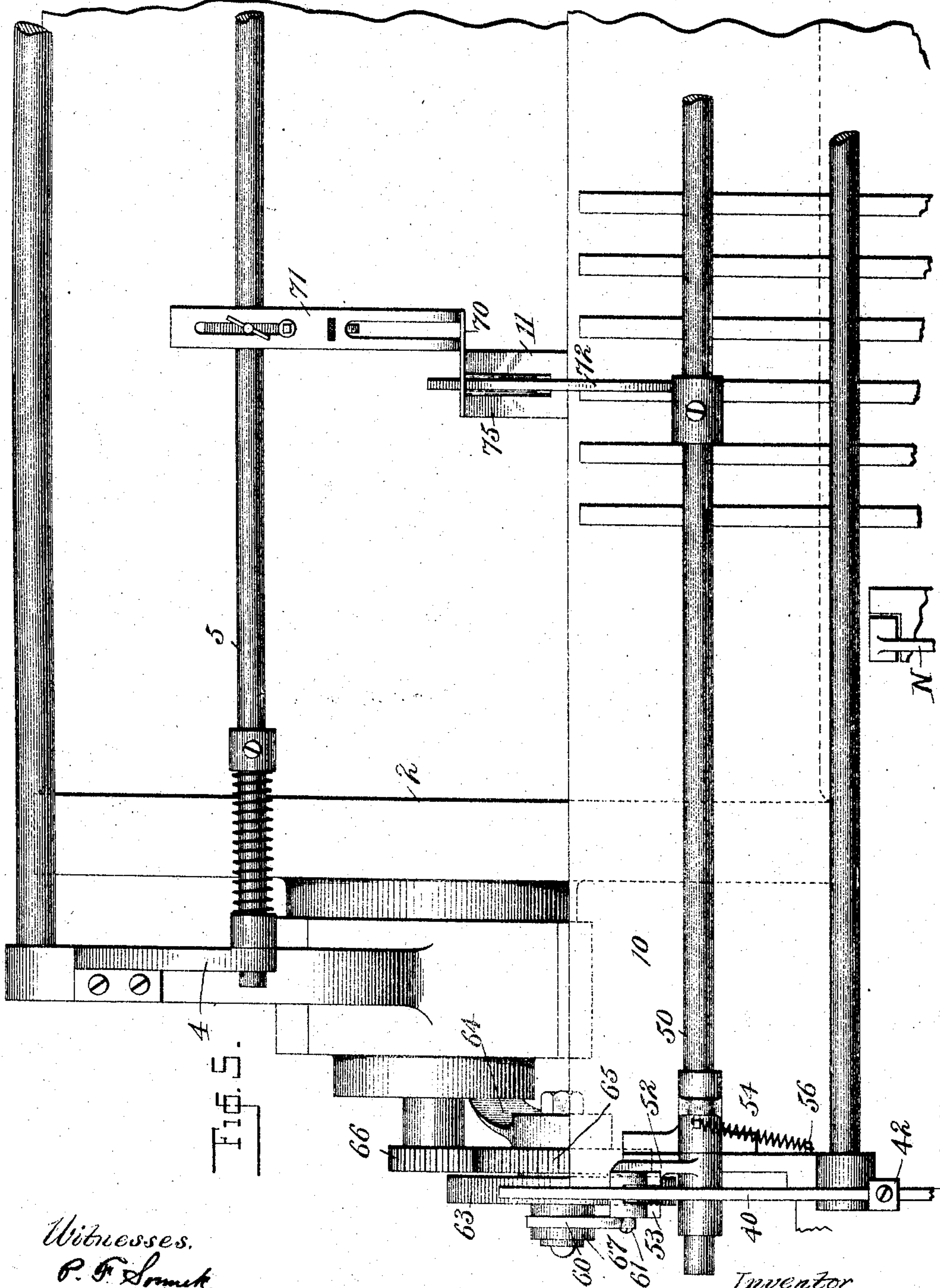
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APPLICATION FILED SEPT. 27, 1901.

NO MODEL.

6 SHEETS—SHEET 5.



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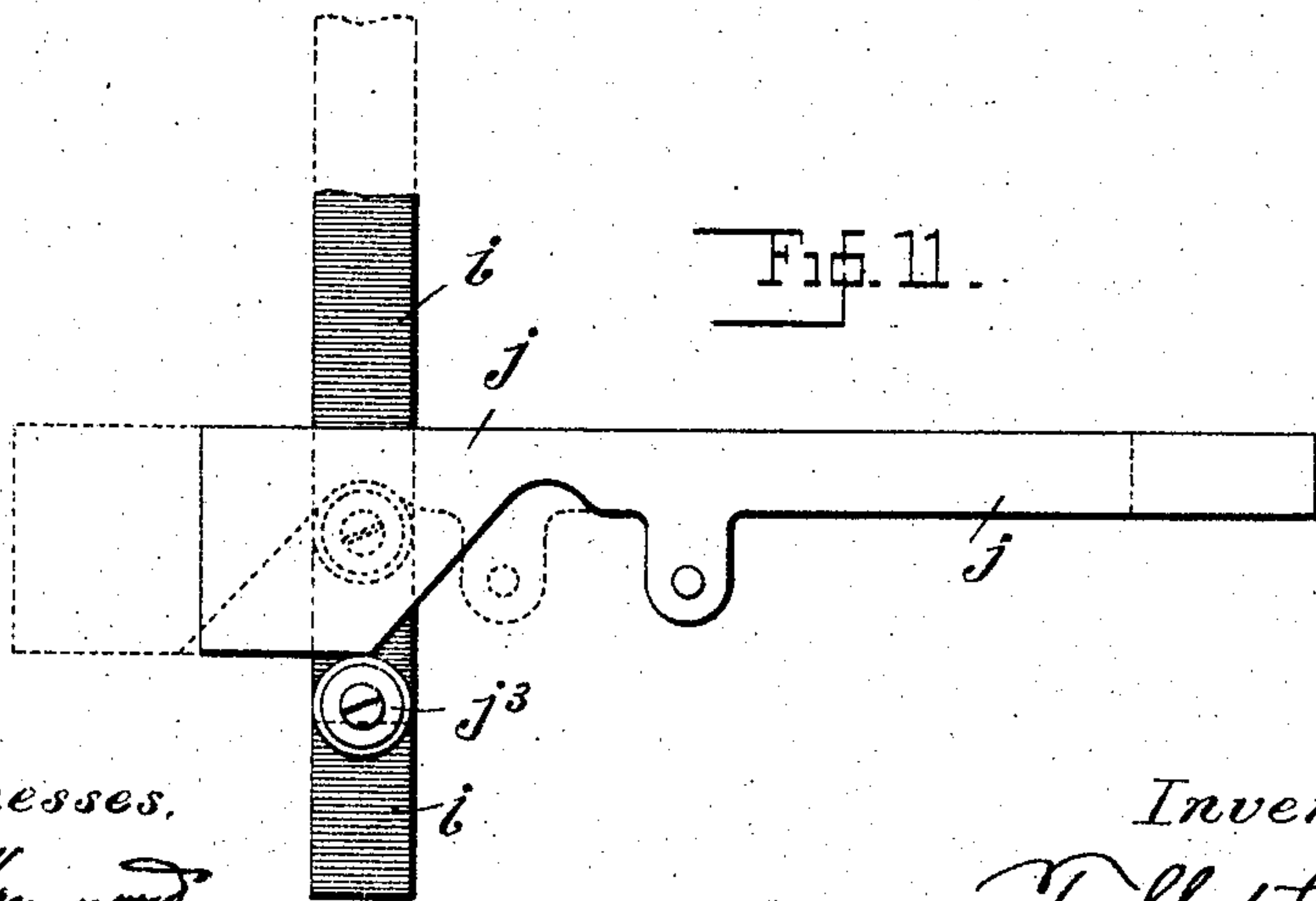
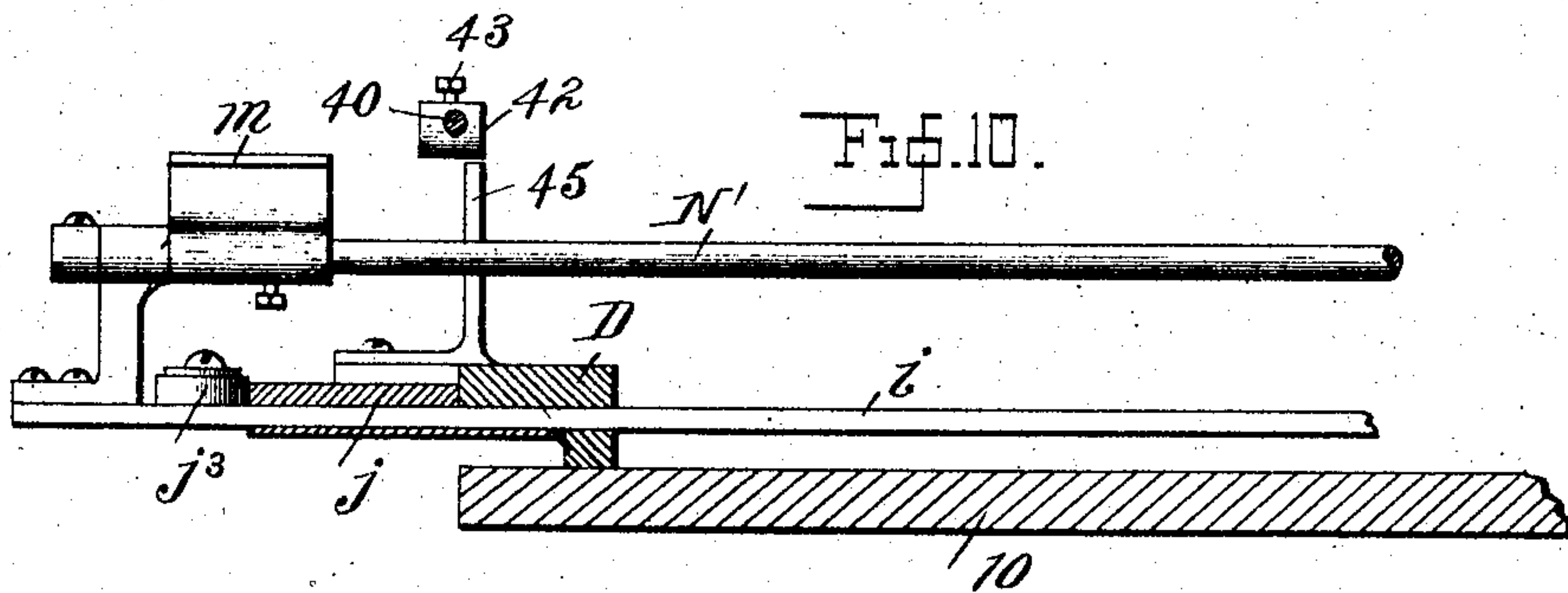
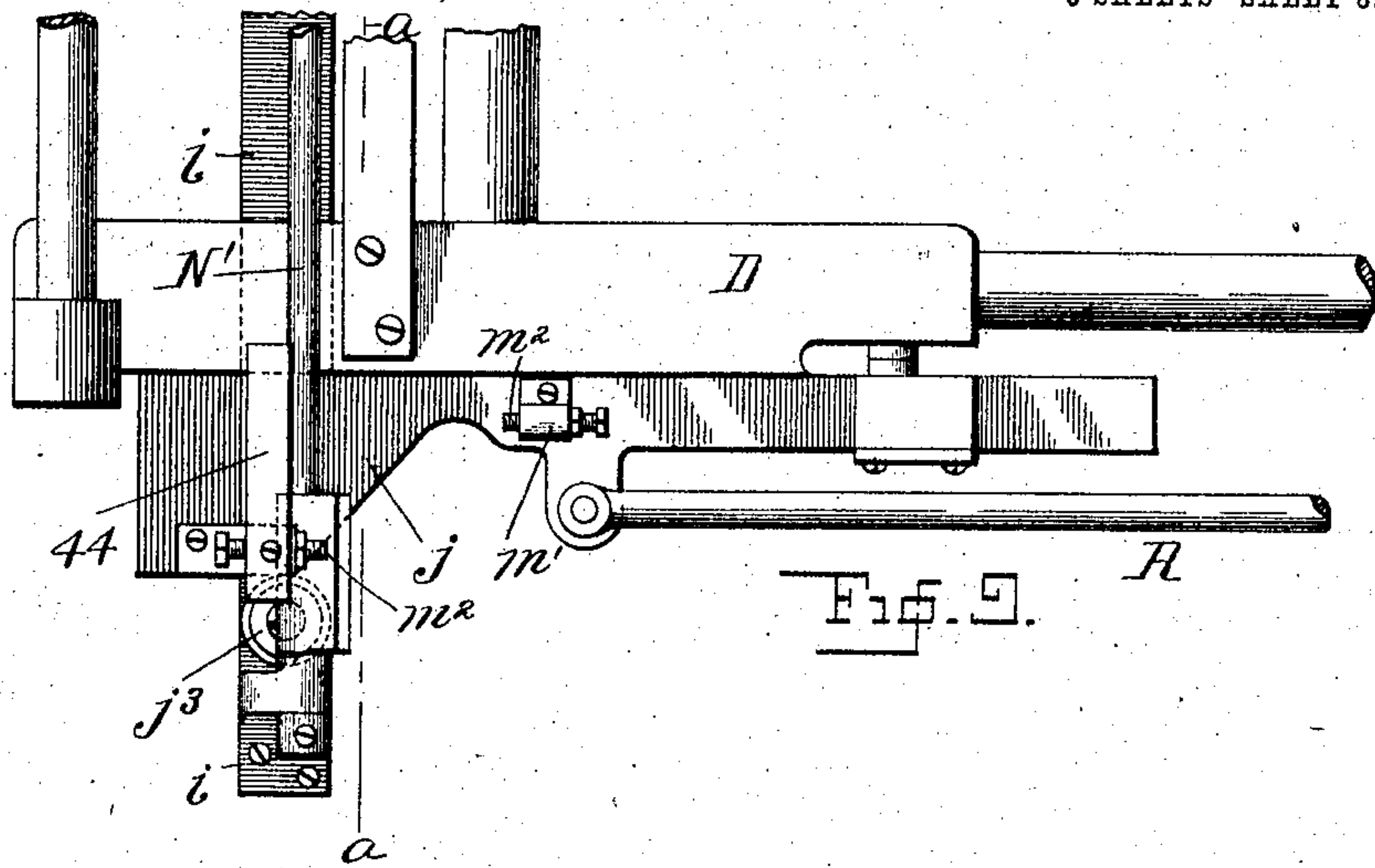
T. C. DEXTER.

THROW-OUT MECHANISM FOR PRINTING PRESSES.

APPLICATION FILED SEPT. 27, 1901.

NO MODEL.

6 SHEETS—SHEET 6.



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UNITED STATES PATENT OFFICE.

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THROW-OUT MECHANISM FOR PRINTING-PRESSES.

SPECIFICATION forming part of Letters Patent No. 772,705, dated October 18, 1904.

Application filed September 27, 1901. Serial No. 76,728. (No model.)

To all whom it may concern:

Be it known that I, TALBOT C. DEXTER, a citizen of the United States, residing at Pearl River, in the county of Rockland and State of New York, have invented certain new and useful Improvements in Throw-Out Mechanism for Printing-Presses, of which the following is a specification.

The object of my invention is to produce a simple and effective mechanism for arresting the operation of a printing-press or other machine under the automatic control of the successive sheets of paper which are operated upon by the printing-press or other machine.

In feeding sheets of paper to a printing-press or other machine the successive sheets which are to be operated upon are placed upon the feed-board of the printing-press or other machine in engagement with the front guides of the machine and then registered laterally by some suitable side-registering device to properly position the sheets with respect to the printing mechanism or other mechanism which is to operate upon the sheets.

The main feature of novelty in my present invention consists in the construction and arrangement of the press throw-out mechanism in combination with suitable side-registering mechanism and a sheet-actuated controlling device, whereby the throw-out mechanism under the control of the sheet-actuated controlling device will be operated by the side-registering mechanism. In addition to this main feature my present invention comprises an improved construction of sheet-actuated tripping device for controlling the throw-out mechanism and other features of construction of the combined devices for producing the desired result in a simple and effective manner.

In order that my invention may be fully understood, I will first describe the same with reference to the accompanying drawings and afterward point out the novelty with more particularity in the annexed claims.

In the accompanying drawings, Figure 1 is a detail side elevation of my improved automatically-controlled throw-out mechanism applied to the feed-board of a printing-press. Fig. 1^a is a detail side elevation of the controller-disk, showing it in shifted position

with the electric circuit broken. Fig. 2 is a detail plan view of the mechanism shown in Fig. 1. Fig. 3 is a detail side elevation of part of the mechanism shown in Fig. 1, representing the operating connection between the tripping device and impression-cylinder of the press. Fig. 4 is a view similar to Fig. 3, showing the parts in tripped position. Fig. 5 is a detail plan view of the parts shown in Fig. 3. Fig. 6 is a detail transverse sectional view showing the press front guides and the tripping device in position shown in Fig. 4. Fig. 7 is a detail plan view of one of the press under guides and the adjustable stop-plate of the tripping device mounted therein. Fig. 8 is a detail sectional perspective view of the same. Fig. 9 is a detail plan view representing part of the side-registering mechanism. Fig. 10 is a detail transverse sectional view taken on the line *a a* of Fig. 9. Fig. 11 is a detail plan view of parts of the side-registering device and its operating cam-bar.

1 is part of one of the side frames of a printing-press of any suitable construction. 2 represents the impression-cylinder of the press, journaled in the side frames 1 upon the trunnions 3. Journaled in the bracket-arms 4, extending up from the side frames 1 of the press, is a rock-shaft 5, upon which are mounted the front guides of the press. Any suitable device may be employed for rocking the shaft 5 for the purpose of throwing the front guides down into gaging position and raising them into inoperative position at proper points in the operation of the press. This mechanism is very common and well understood in the art and has not been illustrated. The front guides and cooperating devices will be hereinafter referred to.

I have shown my improvements applied to a two-revolution press; but it will be clear to those skilled in the art that my invention is applicable to any form of printing-press or other machine designed to operate upon successive sheets of paper in which it is desired to control the operation of the machine by the correct positioning of the successive sheets.

10 is a feed-board of ordinary construction

suitably mounted in proper relation to the impression-cylinder 2 of the printing-press. Projecting forwardly from the inner end of the feed-board 10 are the under guide-fingers 5 11, which will be hereinafter more fully referred to. A series of conveyer bands or tapes 15, passing over a roller 16, suitably journaled above the upper face of the feed-board 10, are arranged to convey successive 10 sheets of paper from an automatic feeding-machine (not shown) to the printing-press. These bands or tapes 15 deposit the sheet upon the feed-board with its forward edge in contact with the printing-press front guides 15 in readiness for the operation of the side-registering mechanism. This latter mechanism will now be described.

The specific construction of the side-registering mechanism forms no part of my present invention, and any suitable side-registering mechanism may be employed in combination with the other devices hereinafter referred to. For the purpose of illustrating my invention I have shown in the drawings 20 and will now describe in a general way the side-registering mechanism covered by my Patent No. 669,724, granted March 12, 1901, for improvements in sheet-conveyer frames. The mechanism set forth in this patent comprises two laterally-operating paper-shifting grippers disposed in reverse positions in relation to each other and adjacent to the opposite sides of the feed-board. The operating devices are constructed so that either one 35 of the side-registering grippers may be employed, so that the sheets can be registered from either side. I have shown but one of the side-registering devices. i is one of the reciprocating transverse bars having a spring 40 i^2 for moving it inwardly and supported in suitable guides on the brackets. The outward movement of the bar i is effected by means of a longitudinally-movable cam-plate j , mounted in suitable guides. The cam-plate 45 j is adapted to engage a roller j^3 , carried by the bar i , for moving the bar i outwardly. A rod R is connected with the cam-plate j and reciprocated by any suitable cam mechanism, (not shown,) which may be operated from the 50 feeding-machine. k denotes the gripper-shoe, which is formed with a longitudinal passage to receive the marginal portion of the sheet of paper. This gripper-shoe is adjustably mounted upon the bar i in any suitable manner, such as set forth in my above-named patent, No. 669,724. N denotes the gripper-finger, which is fastened to a transverse shaft N', suitably journaled upon top of the gripper-shoe and in a bracket mounted upon the 60 bar i . To the other end of the shaft N' is rigidly secured a radially-projecting lug m , and in front and rear of said portion of said shaft are posts m' , projecting up from the face of the cam-plate j , in which are adjustably mounted studs or tappets m^2 , disposed to

strike the lug m alternately upon opposite sides during the reciprocating movement of the cam-plate j . The gripper-finger N has a rearwardly-extending arm O, and pivotally 70 connected to the free end of said arm is a rod O', which passes diametrically through a barrel O², pivotally supported upon the gripper-shoe k . A spring O³, surrounding the rod O', bears with its opposite ends on the arm O and barrel O² to cause the gripper-finger to be thrown 75 quickly past the center of its motion to produce a snap action, so as to quickly and firmly grip the paper in the shoe or quickly release the paper. The operation of this side-registering mechanism will be more clearly understood after referring to my above-named patent, No. 669,724, the corresponding parts of the 80 structure being indicated in my present case by the same reference-characters that are used in said patent. 85

20 is a controller-disk journaled at 21 upon a suitable bracket 22, secured beneath the feed-board 10. The controller-disk 20 carries an electric contact-arm 25, from which extends a circuit-wire 26. Mounted upon a bracket 27 is 90 a spring contact 28, from which extends another circuit-wire, 29. The contacts 25 and 28 constitute an electric switch which controls the electric circuit of any suitable electric motor which operates the printing-press 95 or other machine which is to be controlled, or, if preferred, the electric switch may control any suitable electric device which is independent of the motive power of the press or other machine and serves the purpose solely of 100 throwing the press or other machine into and out of operation. The specific form of the controlling mechanism is immaterial to my present invention, and, in fact, it is not essential whether the controlling mechanism is me- 105 chanical or electrical, it being well understood in the art that the controller-disk 20 may be connected in various ways, either electrically or mechanically, with any suitable controlling mechanism for producing the desired result. 110

A rod 30 is journaled at 31 to the controller-disk 20 and at 32 to a rock-arm 33, which is in turn journaled at 34 to the bracket D. By rocking the arm 33 rearwardly and forwardly the controller-disk 20 is rotated upon its journal 115 21 to break and make the contact of the electric circuit for arresting and starting the operation of the machine. Projecting forwardly from the rock-arm 33 is a rod 40, which is journaled to the rock-arm at 41 and carries 120 an adjustable block or tappet 42 formed with a rear curved or cam face 42^a, and secured in the desired adjusted position upon the rod 40 by any suitable means, such as a set-screw 43. The rod 40 is controlled by the mechanism 125 presently to be described. When the rod is in its lowermost position and the cam-plate j is moved rearwardly, a plate 44, projecting from the forward post m' , will engage the tappet 42, forcing the rock-arm 33 rearwardly 130

to operate the controller-disk 20 and cause it to break the electric circuit. If, on the other hand, the rod 40 is in its raised position, the tappet 42 will not be engaged by the plate 44, and the controlling mechanism will therefore not be operated. An upright post 45 is mounted on a stationary part of the frame to one side of the line of travel of end of plate 44 and in the path of tappet 42. When the tappet 42, engaged by plate 44, is forced rearwardly for operating the throw-out mechanism, the cam-face 42^a engages the post 45 and lifts the tappet 42 out of engagement with the plate 44, thereby stopping the movement of bar 40 and allowing cam-plate *j* to complete its stroke.

50 is a rock-shaft suitably journaled in bracket-arms 51 above the forward edge of the feed-board 10. The rock-shaft 50 extends transversely of the machine. Keyed to the rock-shaft 50 is a rock-arm formed with a bifurcated or forked finger 53, in which rests the free end of the rod 40. The fork of finger 53 guides the rod 40, whereas the up-and-down movement of rock-arm 52 raises and lowers the tappet 42 with respect to the plate 44, carried by the post *m*'. A spring 54 connects an arm or lug 55 of rock-shaft 50 with a stationary pin 56 for imparting to the rock-shaft 50 and its connected parts a spring tendency to move in one direction. A rod 60 is journaled at 61 to the rock-arm 52 and extends downwardly therefrom and carries at its lower end an antifriction-roller 62, which runs upon the periphery of a cam 63, journaled upon a supporting-arm 64 and having secured to it a gear 65, which is in constant mesh with a smaller gear 66, keyed to the axle 3 of the impression-cylinder. The gears 65 and 66 are in the proportion of two to one, so that the cam 63 will make but one revolution for every two revolutions of the impression-cylinder of the press. The rod 60 is formed adjacent to its lower end with an elongated guiding-slot 60^a, which works upon the journal of the cam 63, a washer 67 confining the rod 60 against the face of the cam. The cam 63 has a cut-out or low portion 63^a, which allows the spring 54 to raise rod 60 and rock-arm 52 once in every revolution of the cam 63. The high portion of the cam depresses the rod 60 and rock-arm 52 and holds them in depressed or lowered position against the tendency of spring 54 for the greater part of the revolution of cam 63. 70 represents the front guides of the printing-press adjustably mounted upon the arm 71, which are secured upon the rock-shaft 5, above referred to. Each front guide 70 is centrally cut out at 71 to allow the free passage of the tripping-arm 72, which is freely journaled upon the lower end of the rock-arm 73, depending from and keyed to the rock-shaft 50.

Each of the front guides 70 rests, when in gaging position, upon one of the under guides

11. The under guides are constructed, as shown in Figs. 6, 7, and 8 of the drawings, with the longitudinal slot 11^a, in which is mounted an adjustable stop-plate 75, formed with a tapered depression 76, having a shoulder 77. The stop-plate 75 is adjustably secured in the slot of the under guide by means of a countersunk set-screw 78, which passes through the stop-plate 75 and is threaded into a lower plate 79. The walls of the slot 11^a are beveled, as shown, and the edges of stop-plate 75 and lower plate 79 are correspondingly beveled, so as to be supported flush with the surfaces of the under guide. The purpose of stop-plate 77, which is mounted in the same vertical plane as the tripping-arm 72, is to engage the end of the tripping-arm to prevent its forward movement over the under guide when a sheet is not in proper position for feeding to the press.

The operation of my improved sheet-controlled throw-out mechanism will be clear from the following explanation: The successive sheets of paper to be printed are fed by an automatic feed-machine to bring their forward edges in contact with the front guides of the press, which are in lowered position at such times. If a sheet reaches the proper registered position against the front guides, it is registered laterally by the side-registering mechanism above described in the manner fully set forth in my above-named patent, No. 669,724. While the sheet is being fed into registered position against the front guides the tripping-arms 72 are held in their rearmost position by reason of the fact that the high part of the cam 63 will be in engagement with the antifriction-roller 62, carried by rod 60. Immediately after the sheet has reached the front guides 70 the low portion 63^a of cam 63 reaches antifriction-roller 62 and allows spring 54 to move the tripping-fingers 72 forwardly. The sheet being in registered position, it will be clear that the forward ends of the tripping-fingers will slide upon the sheet and pass over the shoulders 77 in the stop-plates 75. The movement of the rock-shaft 50, under action of spring 54, to cause the tripping-fingers 72 to move forwardly also effects the raising of the rock-arm 50, which in turn lifts the rod 40 to cause it to move tappet 42 out of the path of the arm 44, carried by the post *m*'. The sheet is then registered laterally, and the throw-out mechanism will not operate. If, however, a sheet fails to reach the registered position at the moment that rock-shaft 50 is moved by spring 54, it will be clear that the forward end of one of the tripping-fingers 72 will slide into engagement with shoulder 77 of the stop-plate and prevent the further movement of shaft 50. This will hold the rock-arm 52 in its lowered position, which will allow the throw-out-operating rod 40 to also remain in lowered position, so that when the slide *j* of the side-

registering mechanism moves rearwardly the arm 44 will engage the tappet 42 and force the rock-arm 33 rearwardly, which will in turn move the controller-plate 20 upon its bearing, with the result that the circuit will be broken at contacts 25 and 28, and the machine will be thrown out of operation, as above explained.

While I have shown in the drawings and specifically described one of the sheet-actuated tripping devices for controlling the throw-out mechanism, I would have it understood that two of such devices are employed, one at each side of the line of feed of the sheets in the vertical planes of the usual under guides and front guides with which printing-presses are equipped. Both of these tripping devices control the throw-out mechanism, so that the press will be tripped when the sheet fails to reach registered position at either side. Thus when a sheet is fed at an angle to the front guides only one of the tripping devices would be actuated, and the press would be thrown out.

I desire to claim, broadly, an automatically-controlled throw-out mechanism for a printing-press or other machine designed to operate upon sheets of paper passed through it in combination with a side-registering mechanism, operating means for the side-registering mechanism adapted to also operate the throw-out mechanism, and a sheet-controlled tripping device adapted to operatively connect and disconnect the stop mechanism and the operating means of the side-registering mechanism. I also desire to claim the specific form of sheet-actuated tripping device and the means for operating it, as above described.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. In combination with a machine designed to operate upon sheets of paper passed through it, and stop mechanism adapted to automatically arrest the operation of said machine, suitable side-registering mechanism for the sheets, means engaged and operated by the side-registering mechanism for actuating the stop mechanism, and a suitable sheet-actuated tripping device controlling the engagement of the actuating means of the stop mechanism by the side-registering mechanism, substantially as set forth.

2. In combination with a machine designed to operate upon sheets of paper passed through it, and stop mechanism adapted to automatically arrest the action of said machine, suitable side-registering mechanism for the sheets, a reciprocating slide adapted to operate the registering mechanism, a part connected with the stop mechanism adapted to be engaged and operated by said reciprocating slide to actuate the stop mechanism, and automatically-controlled means for moving

said part into and out of operative relation with said slide, substantially as set forth.

3. In combination with a machine designed to operate upon sheets of paper passed through it, and stop mechanism adapted to automatically arrest the operation of said machine, suitable side-registering mechanism for the sheets, a part connected with the stop mechanism adapted to be engaged by the side-registering mechanism for actuating the stop mechanism, and automatically-controlled means for moving said part into and out of operative relation with the side-registering mechanism, substantially as set forth.

4. In combination with a machine designed to operate upon sheets of paper passed through it, and stop mechanism adapted to automatically arrest the operation of said machine, suitable side-registering mechanism for the sheets, operating means for the side-registering mechanism, and a suitable sheet-controlled tripping device adapted to operatively connect and disconnect said stop mechanism and said operating means, substantially as set forth.

5. In combination with a machine designed to operate upon sheets of paper passed through it, and stop mechanism adapted to automatically arrest the operation of said machine, suitable side-registering mechanism for the sheets, operating means for the side-registering mechanism adapted to also actuate the stop mechanism, a shiftable part interposed between said operating means and said stop mechanism, and a suitable sheet-controlled tripping device constructed and arranged to control said shiftable part to connect or disconnect the stop mechanism and operating means, substantially as set forth.

6. In combination with a machine designed to operate upon sheets of paper passed through it, and stop mechanism adapted to automatically arrest the operation of said machine, suitable side-registering mechanism for the sheets, a part connected with the stop mechanism adapted to be engaged by the side-registering mechanism for actuating the stop mechanism, means for moving said part into and out of operative relation with the registering mechanism, and a sheet-actuated tripping device adapted to retain said part in its operative relation with the registering mechanism, substantially as set forth.

7. In combination with a machine designed to operate upon sheets of paper passed through it, and stop mechanism adapted to automatically arrest the action of said machine, suitable side-registering mechanism for the sheets, a part connected with the stop mechanism and adapted to be engaged and operated by the said registering mechanism, a spring-actuated device adapted to move said part out of engagement with the registering mechanism and hold it normally in said disengaged position, means for operating said spring-act-

tuated device to cause said part of the stop mechanism to move into operative relation with the registering mechanism, and a sheet-actuated tripping device arranged to normally prevent the operation of said spring-actuated device, substantially as set forth.

8. In combination with a machine designed to operate upon sheets of paper passed through it, and stop mechanism adapted to automatically arrest the action of said machine, suitable side-registering mechanism for the sheets, a part connected with the stop mechanism and adapted to be engaged and operated by the said registering mechanism, a spring-actuated device adapted to move said part out of engagement with the registering mechanism and hold it normally in position, means for operating said spring-actuated device to cause said part of the stop mechanism to move into operative relation with the registering mechanism, a sheet-controlled tripping-finger suitably connected with said spring-actuated device and adapted to restrain said spring-actuated device to allow the throw-out to operate, and a device with which said tripping-finger is adapted to engage in the absence of a sheet, substantially as set forth.

9. In combination with a machine designed to operate upon sheets of paper passed through it, and stop mechanism adapted to automatically arrest the action of said machine, suitable side-registering mechanism for the sheets, a part connected with the stop mechanism and adapted to be engaged and operated by the said registering mechanism, a device adapted to automatically move said part out of engagement with the registering mechanism and hold it normally in said disengaged position, means for operating said device to cause said part of the stop mechanism to move into operative relation with the registering mechanism, and a sheet-actuated tripping device arranged to normally prevent the operation of said device, substantially as set forth.

10. In combination with a machine designed to operate upon sheets of paper passed through it, and stop mechanism adapted to automatically arrest the action of said machine, suitable side-registering mechanism for the sheets, a part connected with the stop mechanism and adapted to be engaged and operated by the said registering mechanism, a device adapted to automatically move said part out of engagement with the registering mechanism and hold it normally in position, means for operating said device to cause said part of the stop mechanism to move into operative relation with the registering mechanism, a sheet-controlled tripping-finger suitably connected with said device and adapted to restrain said device to allow the throw-out to operate, and a device with which said tripping-finger is adapted to engage in the absence of a sheet, substantially as set forth.

11. In a mechanism of the character de-

scribed, the combination of suitable throw-out mechanism, including an operating-arm, a reciprocatory bar with which said arm is adapted to engage, a tappet carried by said operating-arm, means for moving said operating-arm to bring said tappet into and out of operative relation with the operating-bar, and means for automatically disengaging the tappet from said operating-bar, substantially as set forth.

12. In a mechanism of the character described, the combination of suitable throw-out mechanism, including an operating-arm, a reciprocatory bar with which said arm is adapted to engage, a tappet carried by said operating-arm, means for moving said operating-arm to bring said tappet into and out of operative relation with the operating-bar, means for maintaining said arm in its operative position, and means for automatically disengaging the tappet from said operating-bar, substantially as set forth.

13. In a mechanism of the character described, the combination of suitable throw-out mechanism, an operating-bar, an operating-arm engaging with the throw-out mechanism, a tappet mounted upon said operating-arm and adapted to be engaged by said operating-bar, said tappet being formed with a rearwardly-presented cam-face, a stationary post adapted to engage the cam-face of said tappet to disengage it from the operating-bar, means for moving said arm into and out of operative relation with the operating-bar, and a sheet-actuated tripping device adapted to maintain said arm in its operative position, substantially as set forth.

14. In combination with a machine designed to operate upon sheets of paper passed through it, stop mechanism adapted to automatically arrest the operation of said machine, means for operating said stop mechanism, and a part connected with the stop mechanism and adapted to be moved into and out of operative relation with the operating means, with a spring-actuated rock-shaft, an arm upon said rock-shaft adapted to move said part of the stop mechanism into and out of operative relation with said operating means, a sheet-actuated tripping device adapted to retain said rock-shaft and its arm in position to cause the operation of the stop mechanism, and means upon the controlled machine through which the sheets are fed for moving said rock-shaft and arm into position to cause the operation of the stop mechanism, substantially as set forth.

15. In combination with a machine designed to operate upon sheets of paper passed through it, suitable stop mechanism including an operating rod or bar adapted to automatically arrest the operation of said machine, and means for operating the stop mechanism through said rod or bar, with a rock-shaft carrying a rock-arm which is adapted to engage said rod or bar, a spring actuating said rock-shaft and arm adapted to support said operating rod or

bar out of operative relation with said operating means, suitable cam mechanism upon the controlled machine through which the sheets of paper are passed, suitable connection
5 between said cam mechanism and rock-shaft for moving said rock-arm against the action of said spring into position to allow said rod or bar to rest in operative relation with said operating means, and a sheet-actuated tripping device adapted to retain said operating
10 rod or bar in said operative position, substantially as set forth.

16. In combination with a controlled machine designed to operate upon sheets of paper
15 passed through it, suitable stop mechanism adapted to automatically arrest the operation of said machine, means for operating said stop mechanism, and a rod or bar connected with said stop mechanism and adapted to be moved
20 into and out of operative relation with said operating means, with a spring-actuated device adapted to move said rod or bar into its inoperative position, means upon the controlled machine through which the sheets are passed
25 adapted to move said spring-actuated device against the action of its spring to allow said rod or bar to rest in operative relation with the said operating means, and a sheet-actuated tripping device adapted to retain said spring-
30 actuated device in position to allow the operation of the stop mechanism, substantially as set forth.

17. In combination with a machine designed to operate upon sheets of paper passed through
35 it, a stop mechanism adapted to automatically arrest the operation of said machine, a reciprocatory operating-bar, and a part connected with the stop mechanism adapted to be moved into and out of operative relation with said
40 operating-bar, with a sheet-actuated tripping device controlling the movements of said part of the stop mechanism and comprising a reciprocating trip-arm mounted above the path of the sheets and a stop-plate mounted be-
45 neath the path of the sheets and formed with a depression in which said trip-finger is adapted to engage in the absence of a sheet, substantially as set forth.

18. In combination with a machine designed
50 to operate upon sheets of paper passed through it, a stop mechanism adapted to automatically arrest the operation of said machine, a reciprocatory operating-bar, and a part connected with the stop mechanism adapted to be moved
55 into and out of operative relation with said operating-bar, with a sheet-actuated tripping device controlling the movements of said part of the stop mechanism and comprising a reciprocating trip-arm mounted above the path
60 of the sheets and a stop-plate mounted beneath the path of the sheets and formed with a depression in which said trip-finger is adapted to engage in the absence of a sheet, said stop-plate being adjustable in the direction of

the reciprocation of the trip-arm, substantially
65 as set forth.

19. In combination with a machine designed to operate upon sheets of paper passed through it, a stop mechanism adapted to automatically
70 arrest the operation of said machine, with a sheet-actuated tripping device controlling the operation of the stop mechanism and comprising a spring-actuated rock-shaft suitably connected with the stop mechanism for control-
75 ling its operation, a rock-arm carried by said rock-shaft, a reciprocating trip-arm pivotally mounted upon said rock-arm above the path of the sheets and adapted to reciprocate in the path of the sheets, and a stop-plate mounted
80 beneath the path of the sheets and formed with a depression in which the end of the trip-arm is adapted to engage in the absence of a sheet, substantially as set forth.

20. In combination with a machine designed to operate upon sheets of paper passed through
85 it, a stop mechanism adapted to arrest the operation of said machine, a support for sheets fed to said machine, a tripper-stop upon the sheet-support, and a trip-arm mounted above the sheet-support and movable back and forth
90 thereover and adapted to engage said tripper-stop in the absence of a sheet between them, and means controlled by said trip-arm for causing the operation of said stop mechanism, substantially as set forth.
95

21. In combination with a machine designed to operate upon sheets of paper passed through it, a stop mechanism adapted to arrest the op-
eration of said machine, a support for sheets fed to said machine, a part upon the sheet-
100 support in the plane of feed formed with a depression and a tripper stop or shoulder, and a trip-arm mounted above the sheet-support and movable back and forth thereover and adapted to enter said depression and engage
105 said tripper-stop in the absence of a sheet between them, and means controlled by said trip-arm for causing the operation of said stop mechanism, substantially as set forth.

22. In combination with a machine designed
110 to operate upon sheets of paper passed through it, a feed-board, front guides adapted to arrest a sheet in registered position with relation to the said machine, a stop-plate mounted upon said feed-board and formed with a de-
115 pression, a reciprocating trip-arm supported above the feed-board and adapted to engage in said depression of the stop-plate in the absence of a sheet between them, suitable stop mechanism adapted to automatically arrest the
120 operation of said machine, and means controlled by said trip-arm for causing the operation of said stop mechanism, substantially as set forth.

23. In combination with a machine designed
125 to operate upon sheets of paper passed through it, a feed-board, under guides projecting from the forward end of said feed-board, front

guides coöperating with said under guides and having slots cut through them, stop-plates mounted upon the under guides and formed with depressions, trip-arms mounted above the feed-board and adapted to reciprocate above the stop-plates and through the slots of the front guides, suitable stop mechanism adapted to automatically arrest the operation of said machine, and means actuated by said trip-arms for controlling the operation of said stop mechanism, substantially as set forth.

24. Mechanism for controlling machines operating upon sheets having in combination, mechanism for throwing the machine out of operation, a moving controller the arrest of which renders said mechanism active, and a fixed stop for said controller so arranged that the engagement of the controller therewith is prevented by the sheet.

25. Mechanism for controlling machines operating upon sheets having in combination, a stop arranged to be covered by the sheet when in proper position, a reciprocating controller-finger arranged to be guided over the stop by the sheet, and stopping mechanism thrown into action by the arrest of said finger.

26. Mechanism for controlling machines operating upon sheets, having in combination, throw-out mechanism for the said machine, operating means for the throw-out mechanism, a shiftable part interposed between said operating means and said throw-out mechanism, a controller for said shiftable part, and a controller-stop so arranged that the engagement of the controller therewith is prevented by the sheet when in proper position, as set forth.

27. Mechanism for controlling machines operating upon sheets, having in combination throw-out mechanism for the said machine, operating means for the throw-out mechanism, a part movable into and out of engaged position interposed between said operating means and said throw-out mechanism, a stop arranged to be covered by the sheet when in proper position, a reciprocating controller-finger arranged to be guided over the stop by the sheet, and a guard-arm connected to and movable with said controller-finger and controlling the action of said interposed movable part, as set forth.

28. In combination with a machine designed to operate upon sheets of paper passed through it, a stop mechanism adapted to automatically arrest the operation of said machine, with a sheet-actuated tripping device controlling the operation of the stop mechanism and comprising a yieldingly-actuated rock-shaft suitably connected with the stop mechanism for controlling its operation, a rock-arm carried by said rock-shaft, a reciprocating trip-arm pivotally mounted upon said rock-arm above the path of the sheets, and a stop-plate mounted beneath the path of the sheets and formed

with a depression in which the end of the trip-arm is adapted to engage in the absence of a sheet, substantially as set forth.

29. Mechanism for controlling machines operating upon sheets, having in combination, normally inactive throw-out mechanism for the said machine, normally active operating means for said throw-out-operating mechanism, a part connected with the stop mechanism adapted to be engaged and operated by said operating means, a yieldingly-actuated device normally preventing the engagement of said part by said operating means, a controlling-finger connected with and actuated by said yieldingly-actuated device, and a stop with which said controlling-finger is adapted to engage to arrest said yieldingly-actuated device and cause the engagement of said part by said operating means, the engagement of said finger with said stop being controlled by the sheet, as set forth.

30. Controlling mechanism for machines designed to operate upon sheets, having in combination a throw-out mechanism for the said machine, operating means for said throw-out mechanism, coacting members connected respectively to the throw-out mechanism and its operating means, one of said coacting members being movable into and out of engagement with the other coacting member for connecting and disconnecting the throw-out mechanism and its operating means, a rock-arm engaging the movable coacting member for holding it out of engagement with the other coacting member, means controlled by the sheet suitably connected with said rock-arm for controlling its operation and determining whether the throw-out mechanism shall operate, substantially as set forth.

31. Controlling mechanism for machines designed to operate upon sheets, having in combination a throw-out mechanism for the said machine, operating means for said throw-out mechanism, coacting members connected respectively to the throw-out mechanism and its operating means, one of said coacting members being movable into and out of engagement with the other coacting member for connecting and disconnecting the throw-out mechanism and its operating means, a yieldingly-actuated device engaging the movable coacting member for holding it out of engagement with the other coacting member, means controlled by the sheet suitably connected with said yieldingly-actuated device for controlling its operation and determining whether the throw-out mechanism shall operate, substantially as set forth.

TALBOT C. DEXTER.

Witnesses:

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WM. E. KNIGHT.