

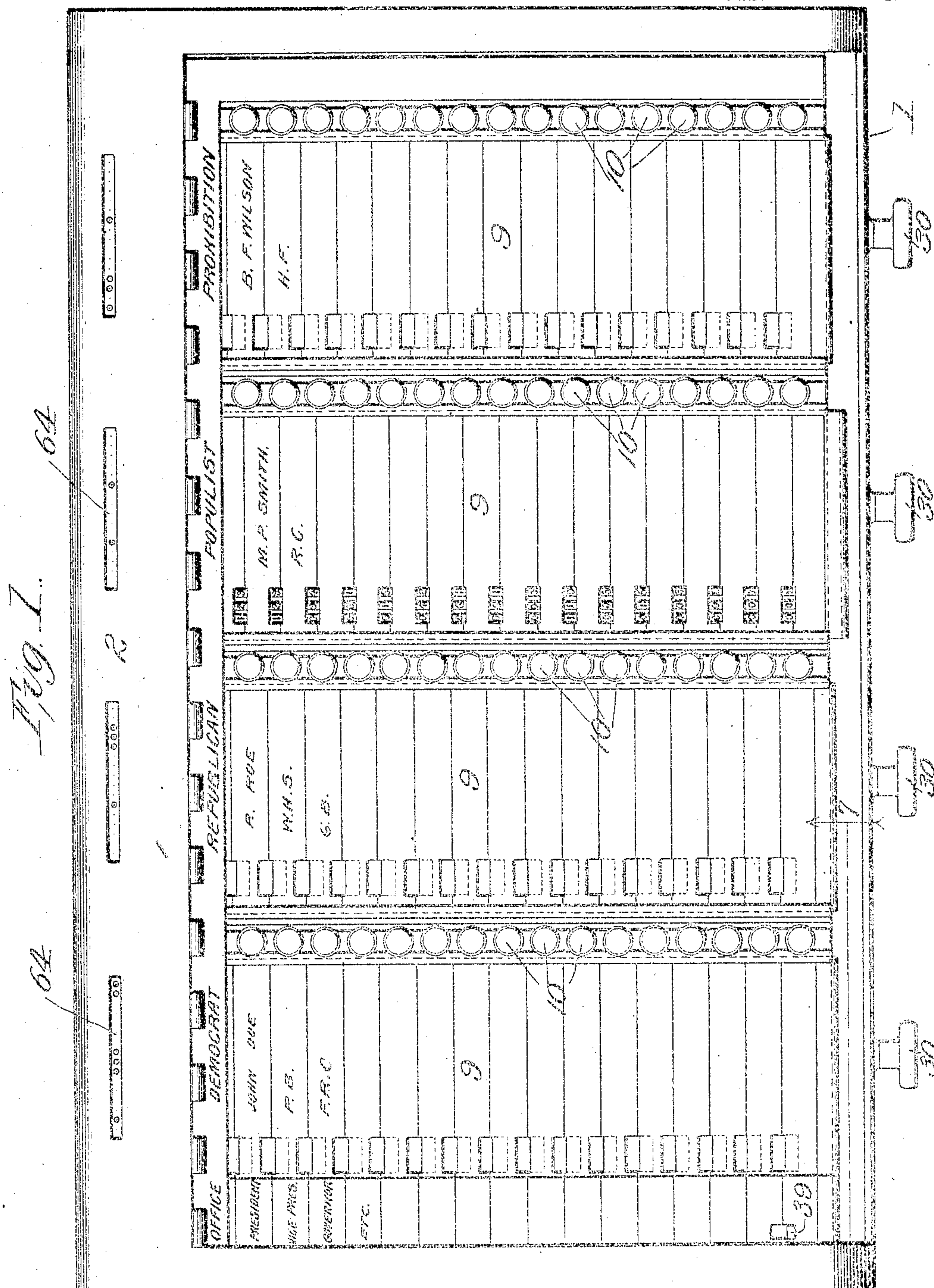
No. 786,897.

PATENTED APR. 11, 1905.

J. I. HAYNES.
VOTING MACHINE.

APPLICATION FILED MAY 18, 1901.

7 SHEETS—SHEET 1.



Attest:
 [Signature]
 Ralph Walsh

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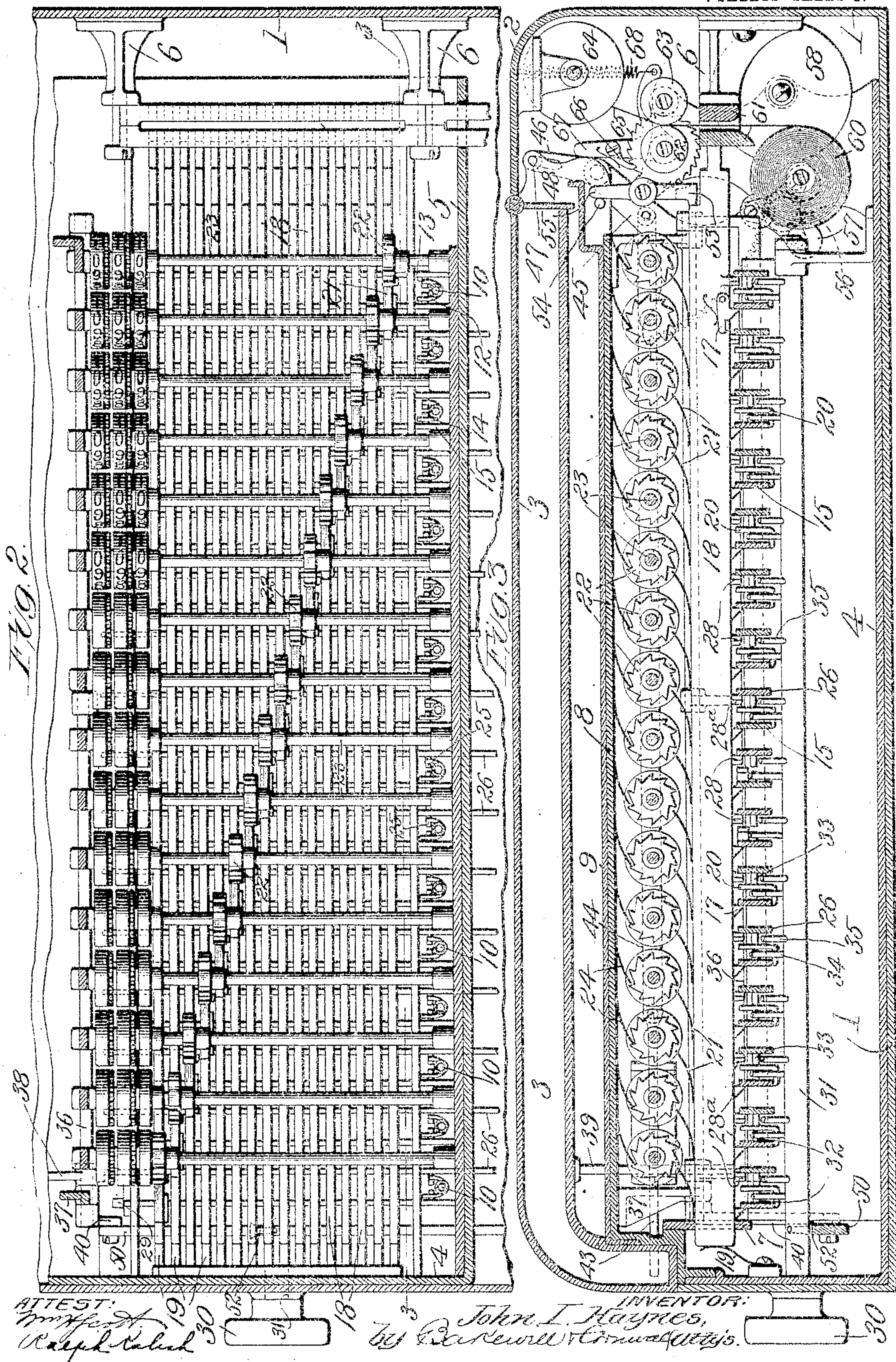
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7 SHEETS—SHEET 3.

Fig. 5.

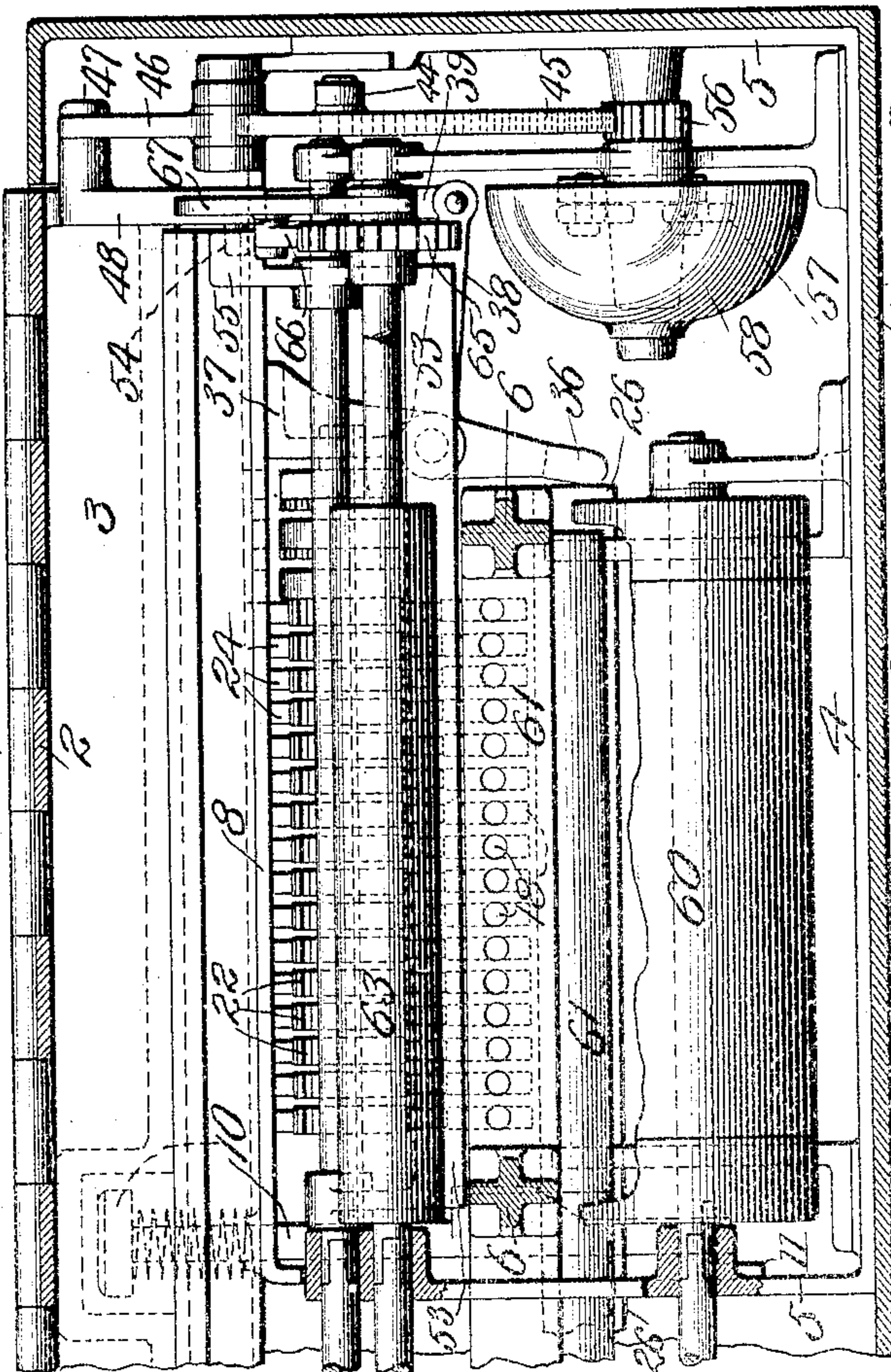


Fig. 6.

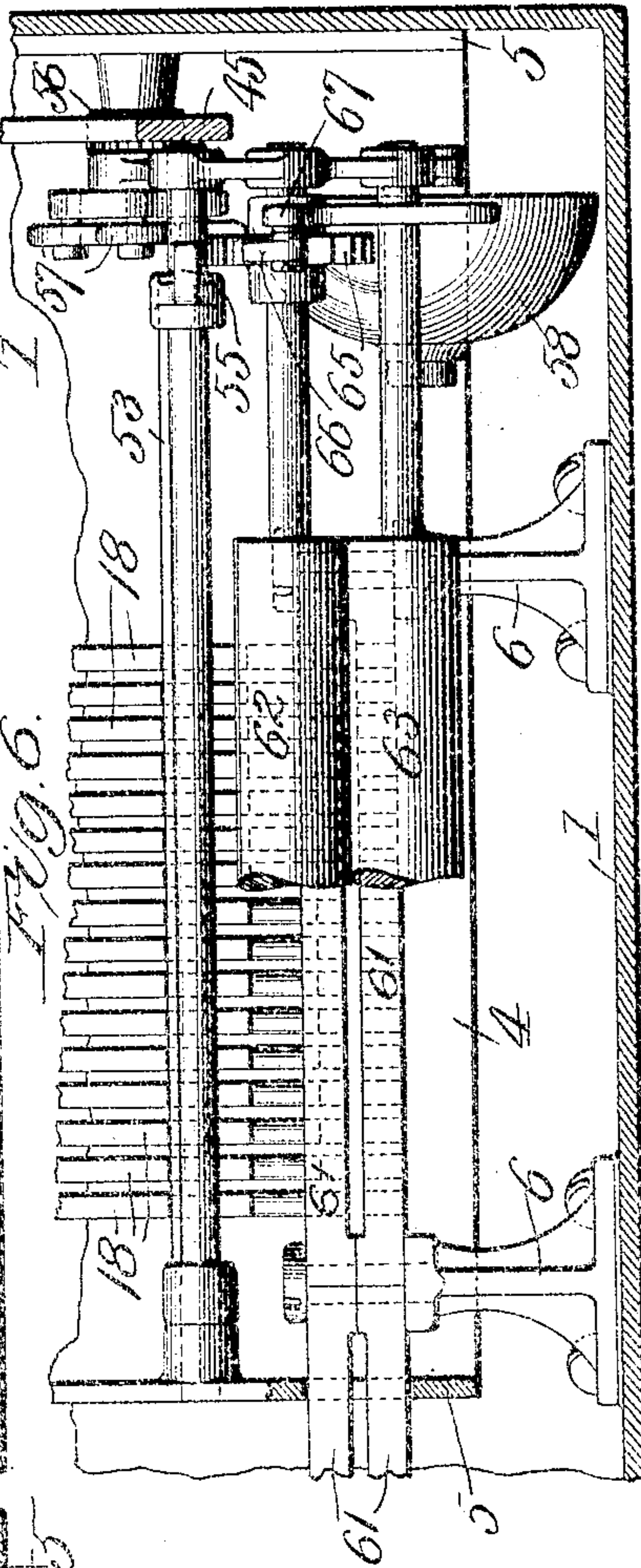
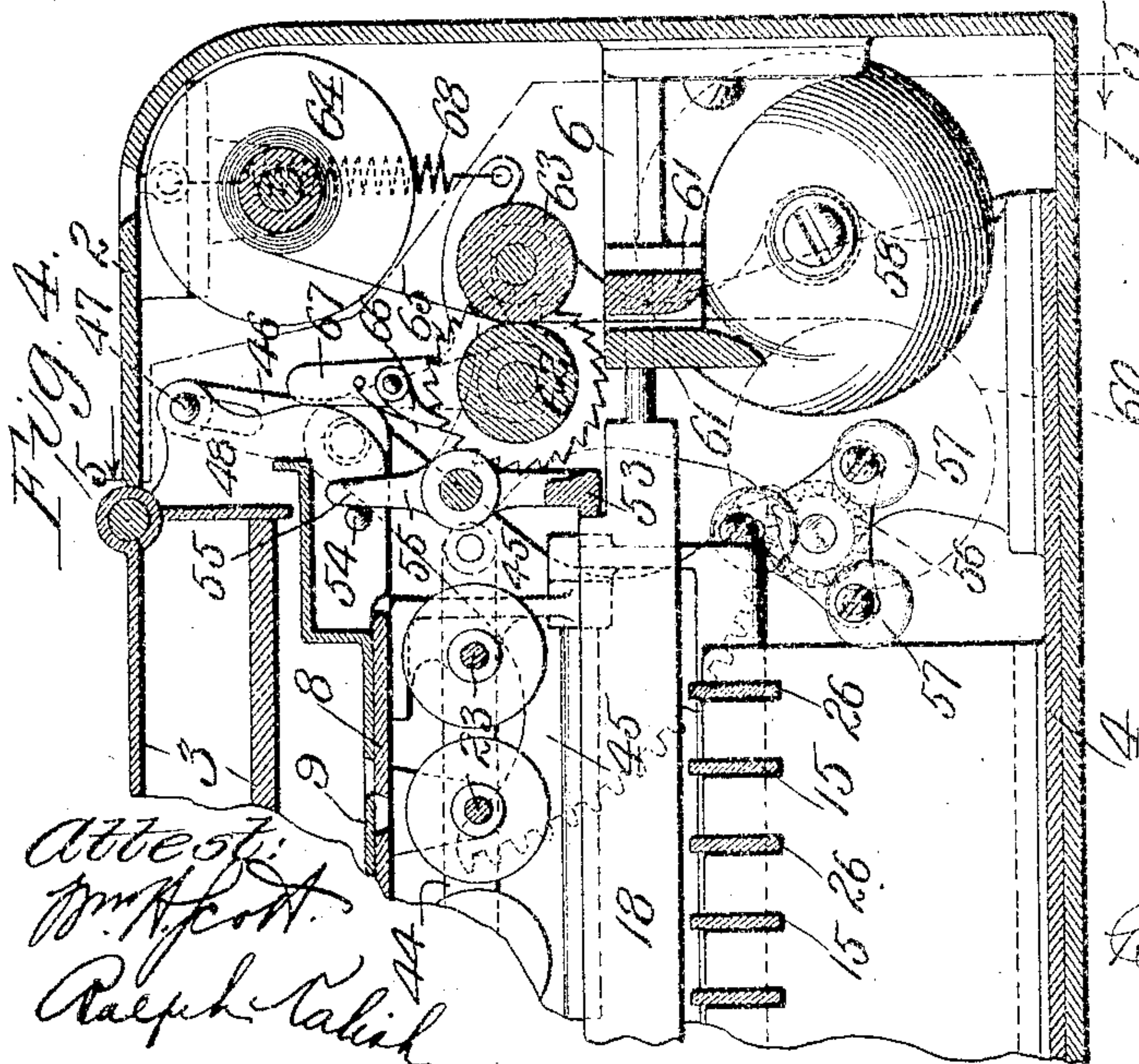


Fig. 4.

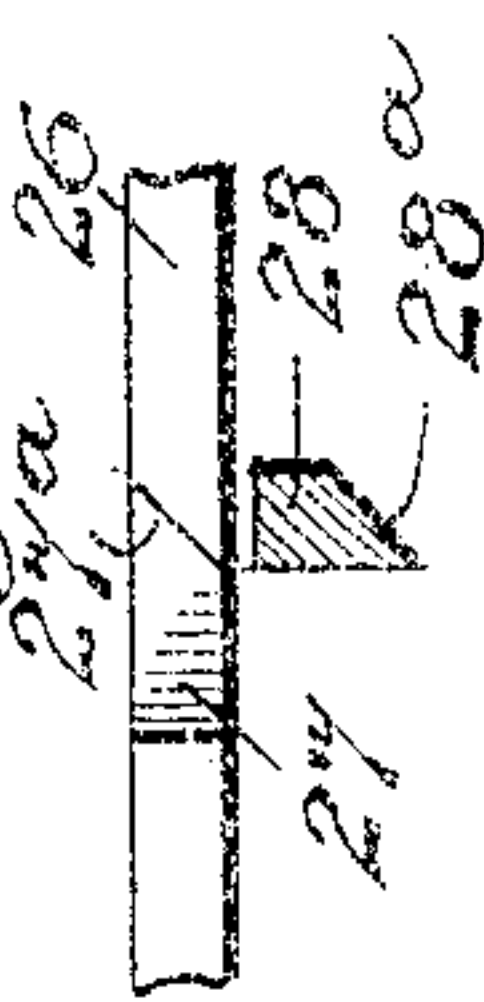


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Fig. 19.



Fig. 20.

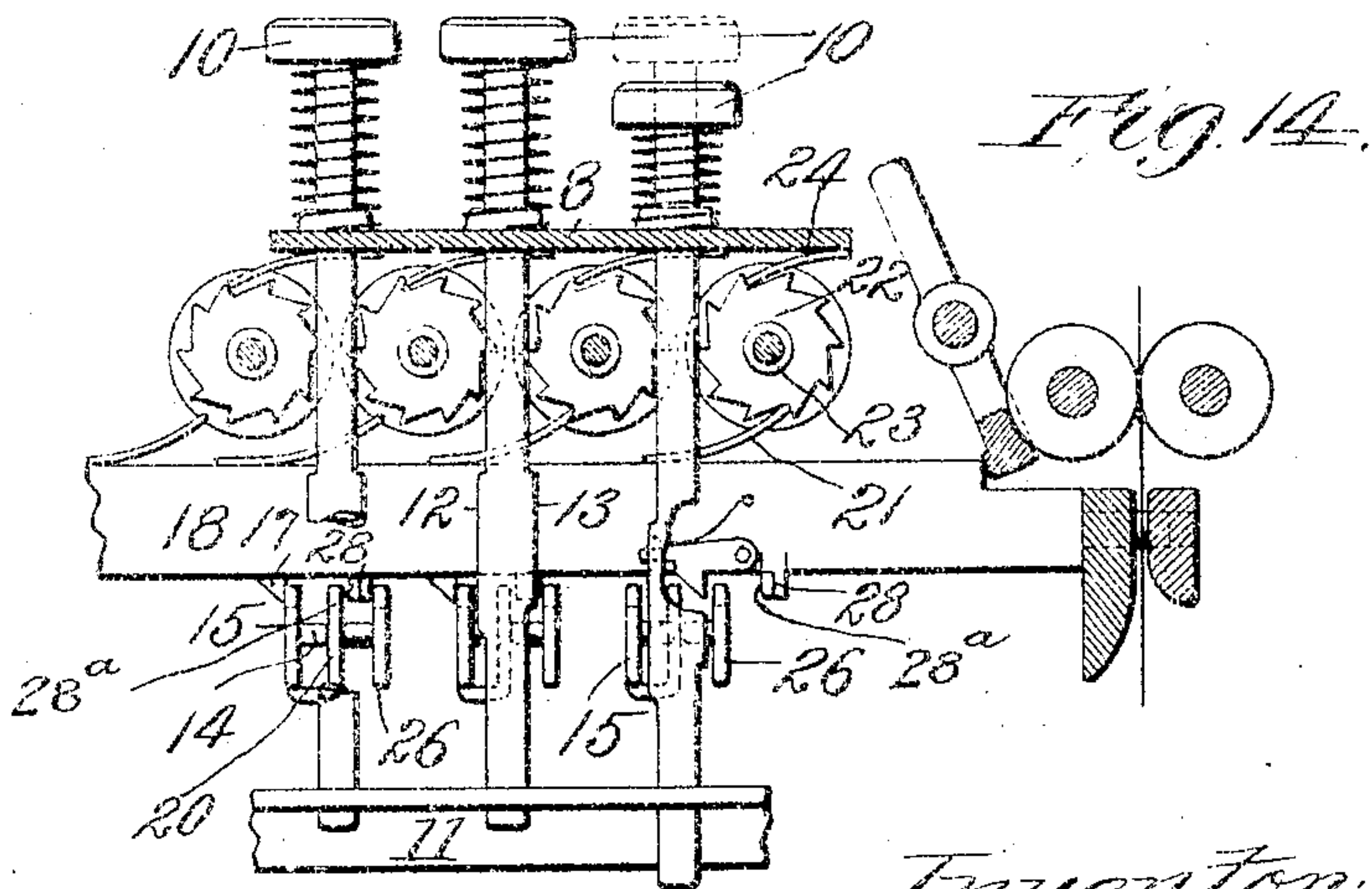
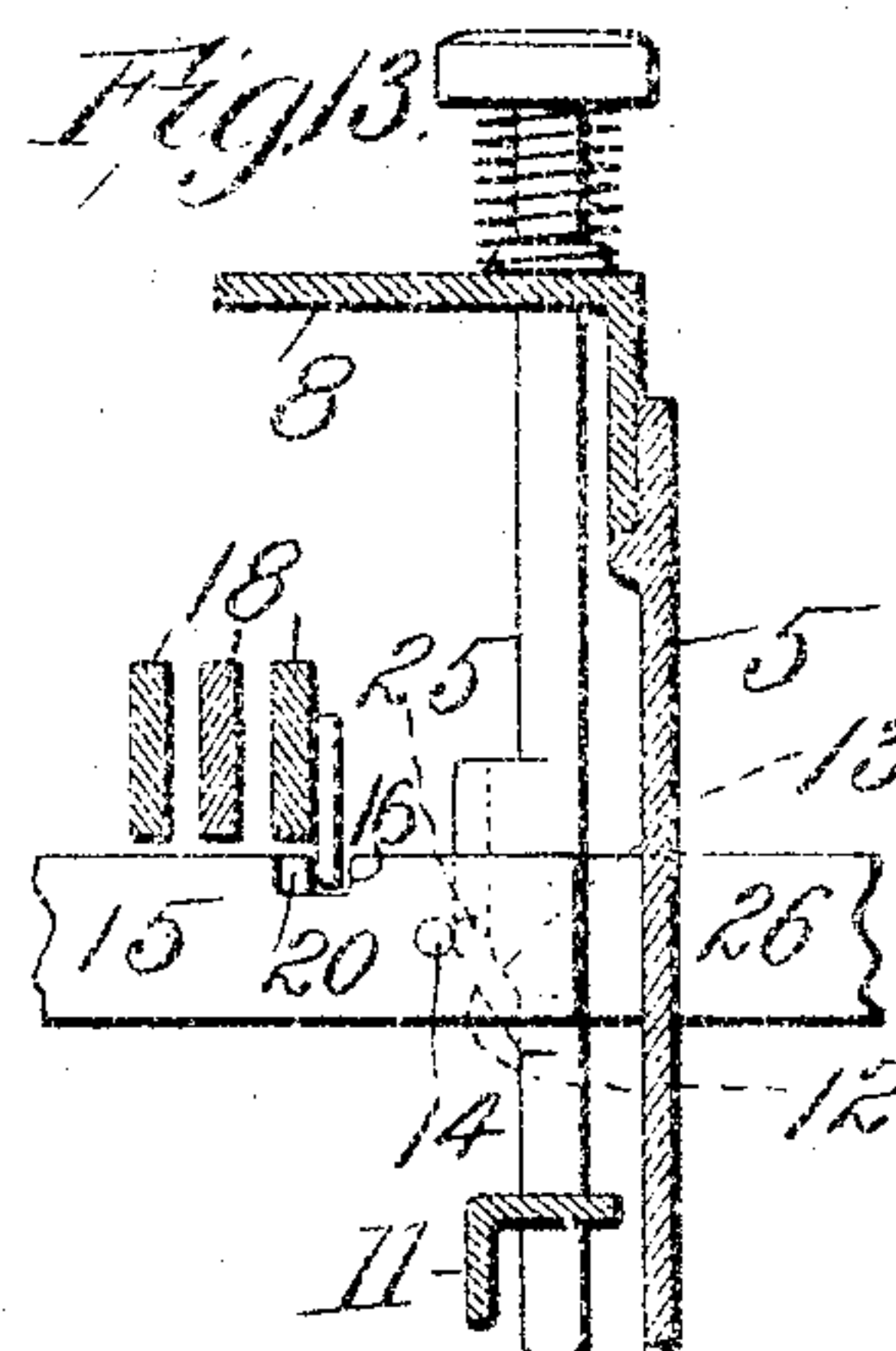
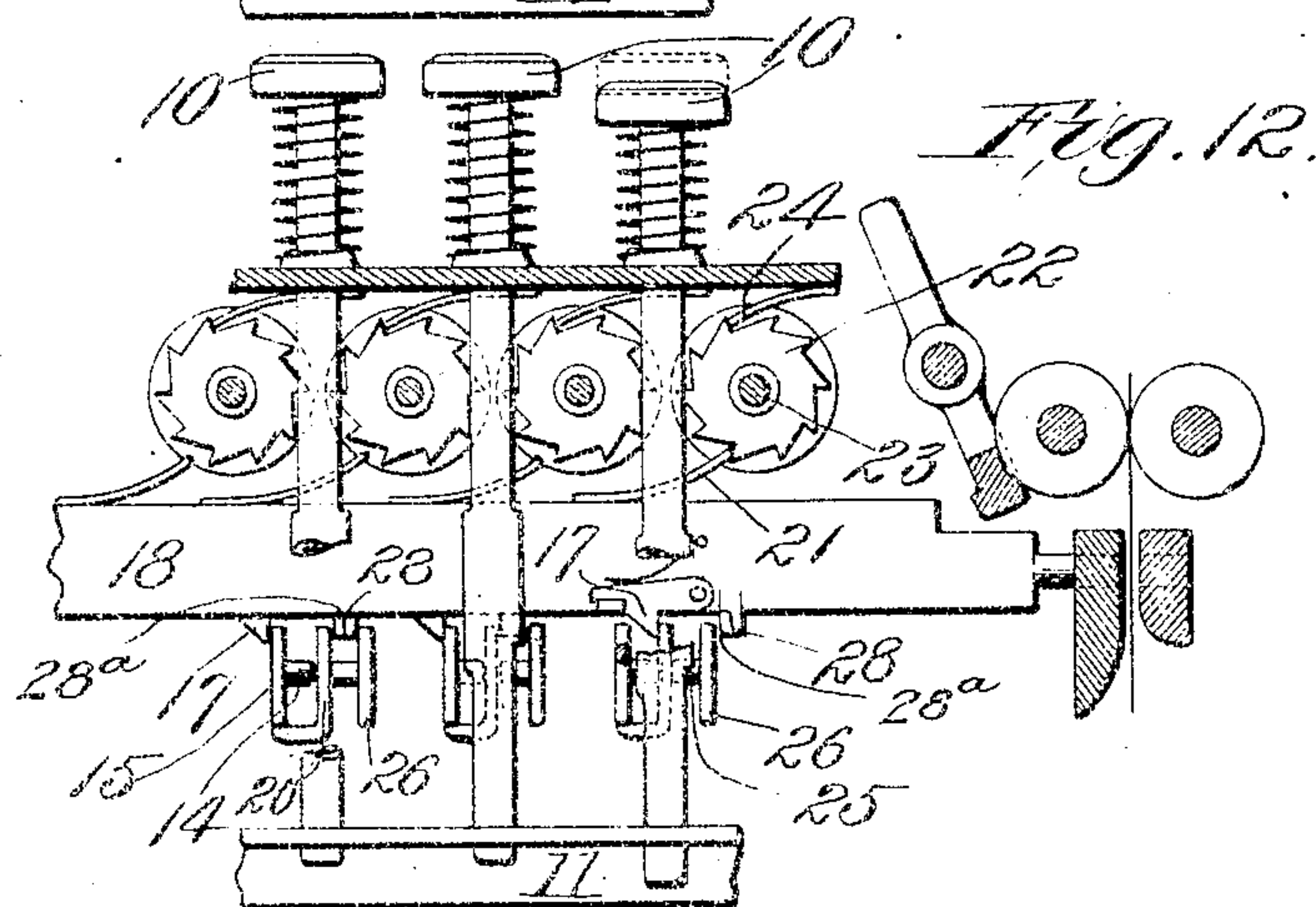
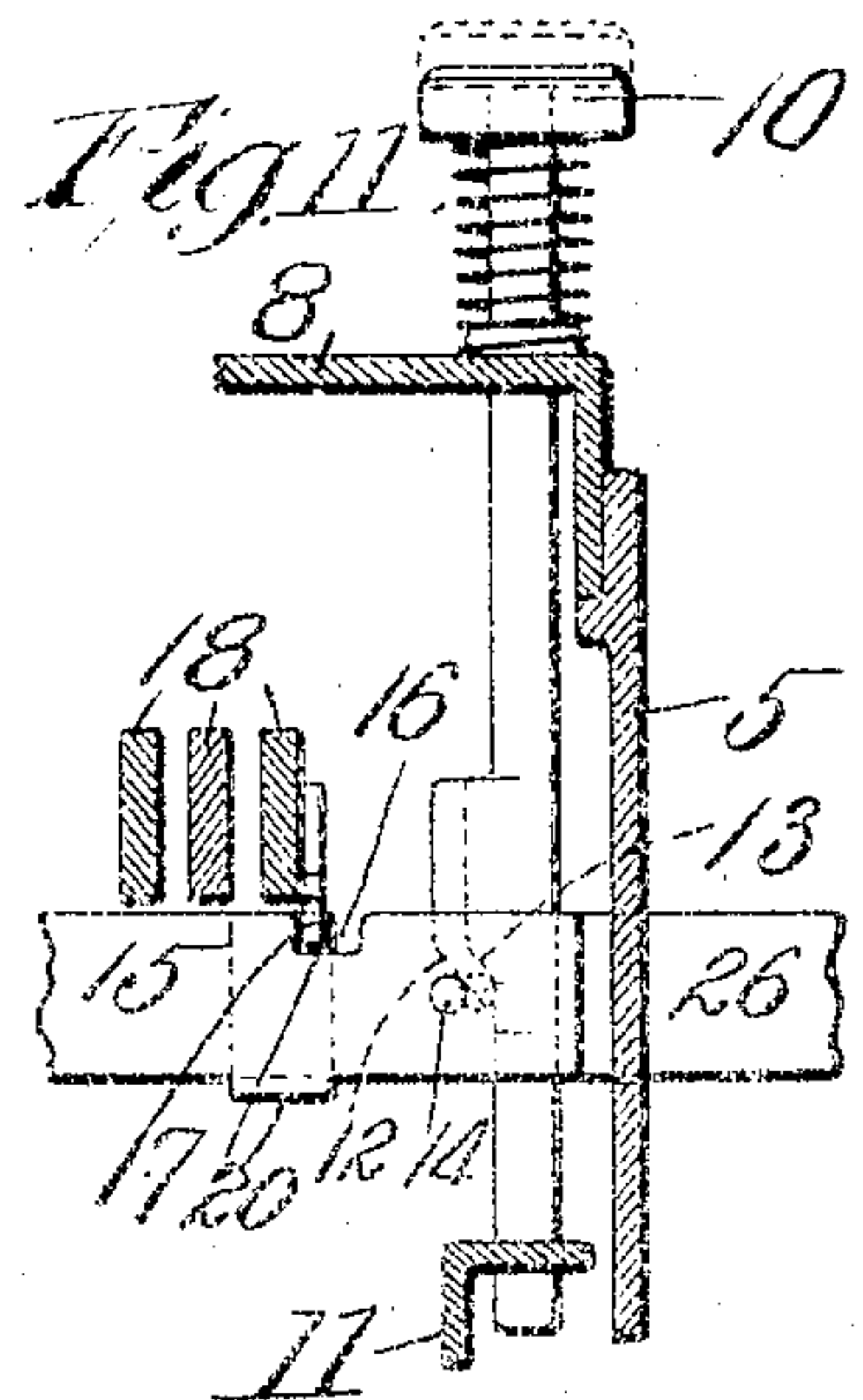
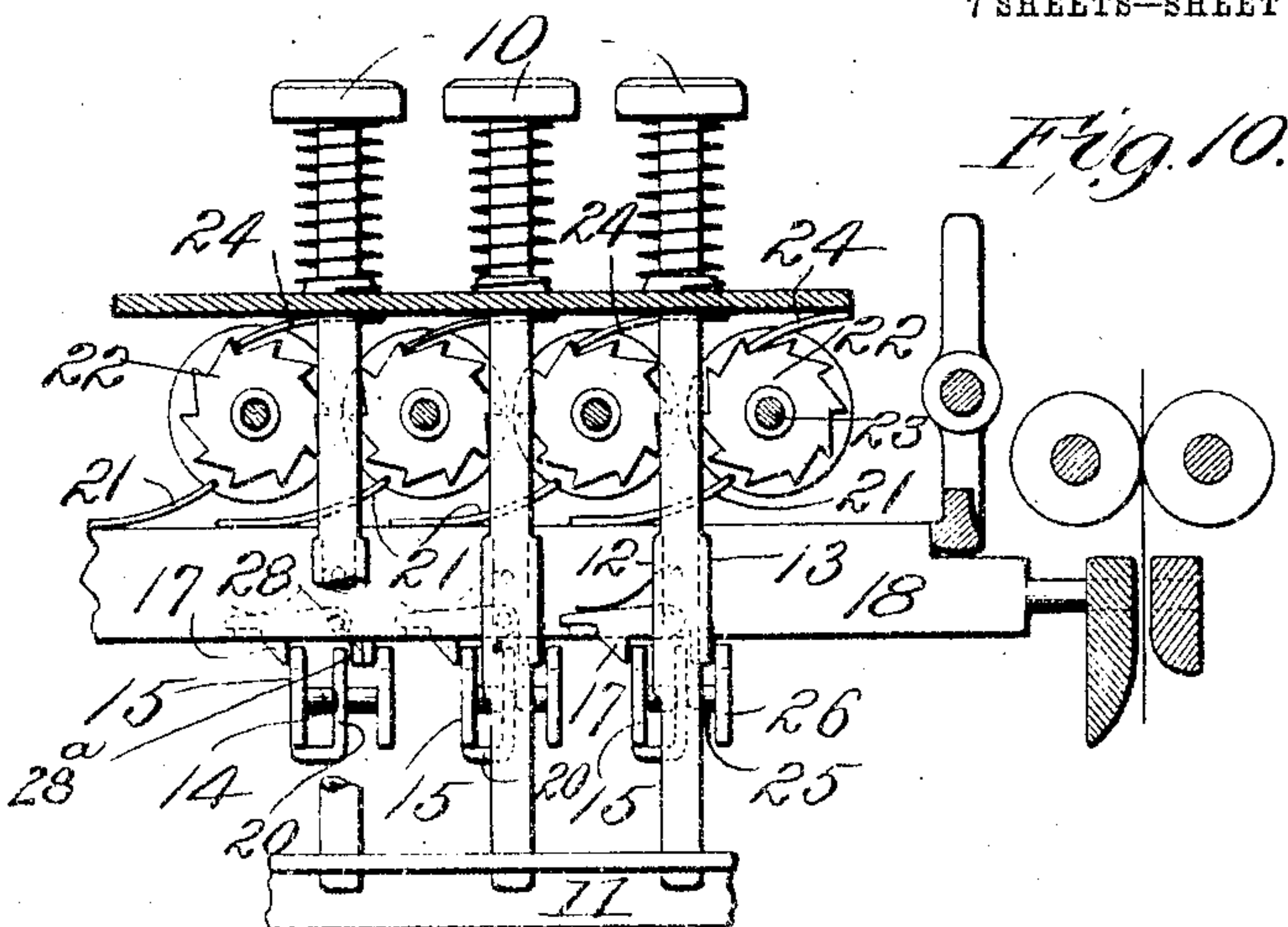
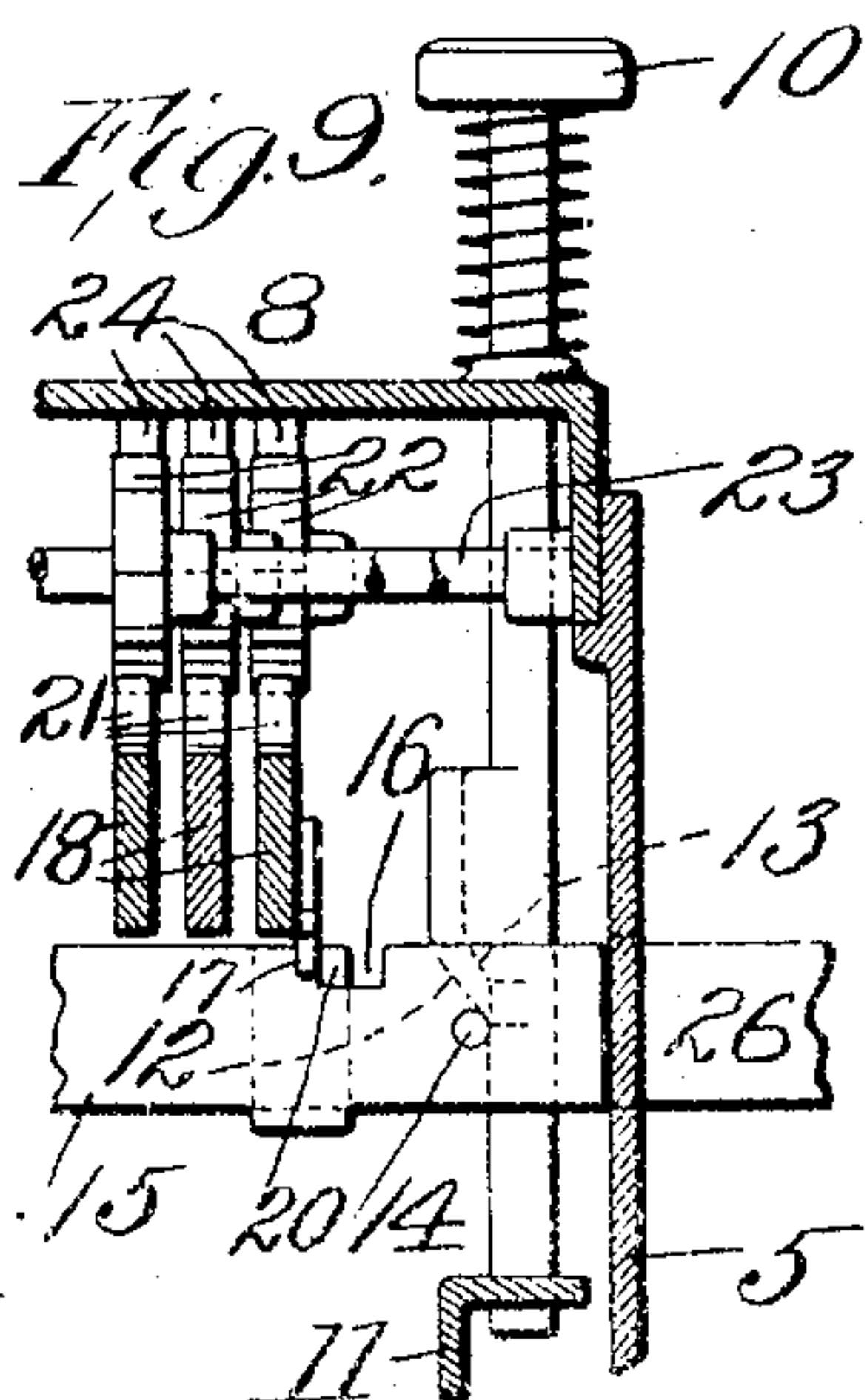


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J. I. HAYNES.
VOTING MACHINE.

APPLICATION FILED MAY 18, 1901.

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No. 786,897.

PATENTED APR. 11, 1905.

J. I. HAYNES.
VOTING MACHINE.

APPLICATION FILED MAY 18, 1901.

7 SHEETS--SHEET 6.

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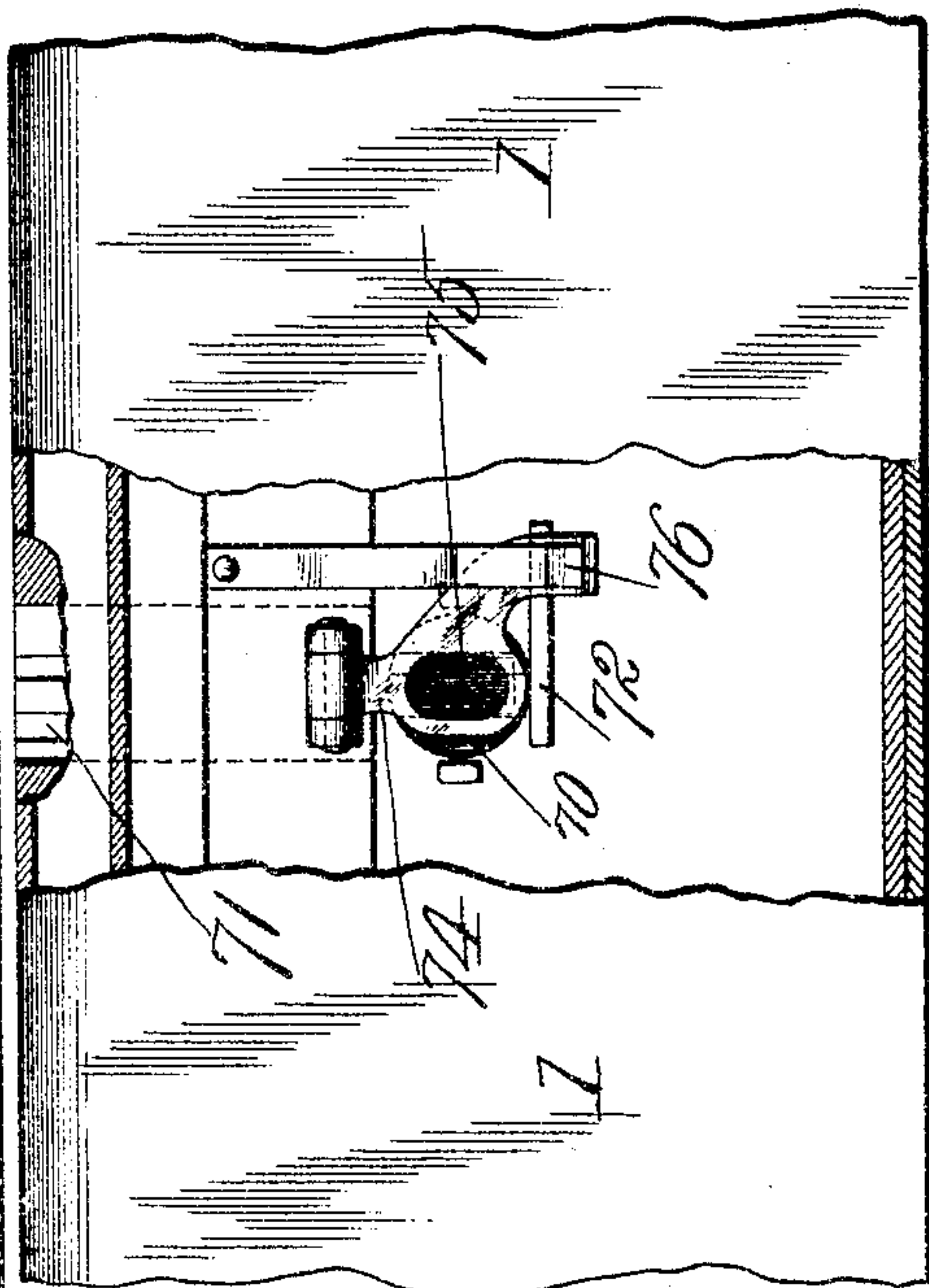
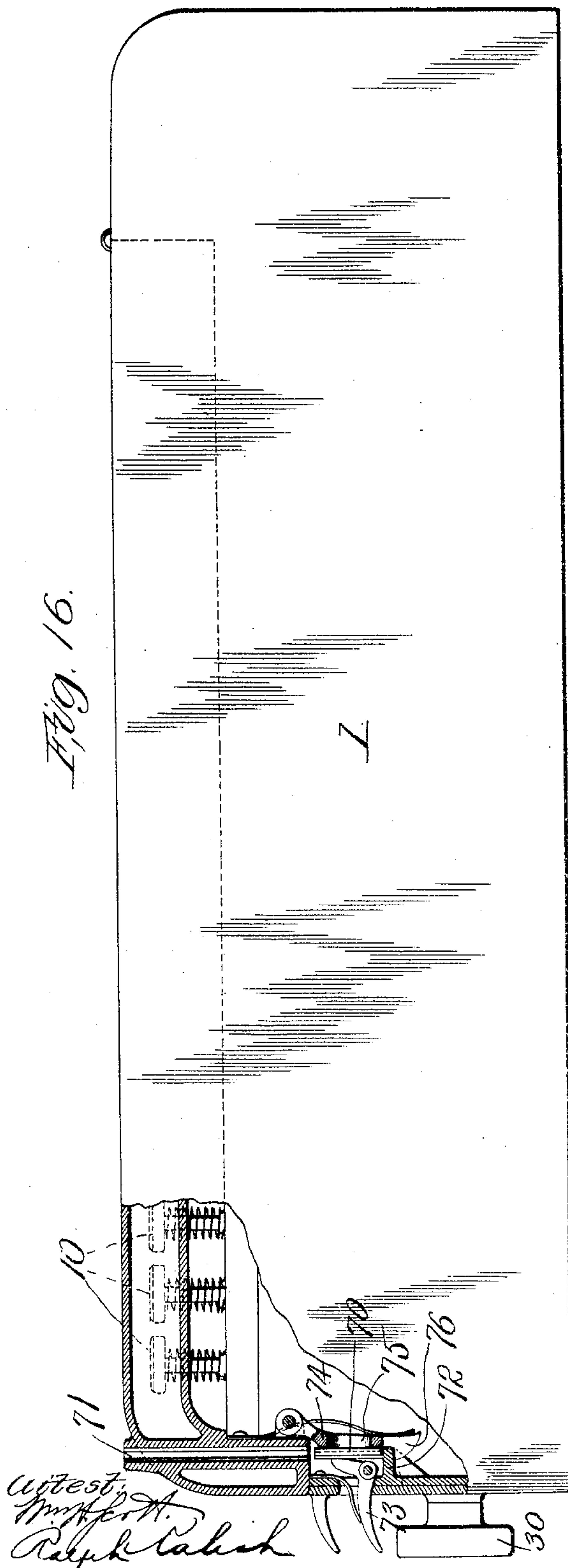
No. 786,897.

PATENTED APR. 11, 1905.

J. I. HAYNES.
VOTING MACHINE.

APPLICATION FILED MAY 18, 1901.

7 SHEETS—SHEET 7.



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UNITED STATES PATENT OFFICE.

JOHN I. HAYNES, OF ST. LOUIS, MISSOURI.

VOTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 786,897, dated April 11, 1905.

Application filed May 18, 1901. Serial No. 60,867.

To all whom it may concern:

Be it known that I, JOHN I. HAYNES, a citizen of the United States, residing at the city of St. Louis, in the State of Missouri, have
 5 invented a certain new and useful Improvement in Voting-Machines, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same,
 10 reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a top plan view of my improved voting-machine, the cover being removed.
 15 Fig. 2 is a top plan view of one section of the machine enlarged, showing the interior mechanism thereof. Fig. 3 is a vertical cross-sectional view through one of the sections of the machine. Fig. 4 is a similar view enlarged,
 20 the plane of section being taken near the left-hand end of the machine. Fig. 5 is a sectional view on line 5 5, Fig. 4. Fig. 6 is a top plan view of part of the mechanism shown in Fig. 5. Fig. 7 is a vertical longitudinal sectional view on line 7 7, Fig. 1. Fig.
 25 8 is a horizontal sectional view on line 8 8, Fig. 7. Figs. 9 to 14 are detail elevational views showing the positions of the bars controlled by the keys. Fig. 15 is a detail view
 30 of the ballot-sheet. Figs. 16 and 17 are detail views of an improved form of lock used in connection with the operating-cover of my voting-machine. Fig. 18 is a detail view of a slug designed to be used in connection with
 35 said lock. Fig. 19 is a detail view showing the manner of restoring the actuated bars of the machine without interference, and Fig. 20 is a similar view showing the parts in normal position.

40 This invention relates to a new and useful improvement in voting-machines, the object being to construct a simple, cheap, and easily-operated machine of the character described and one which contains within itself means to
 45 prevent the fraudulent manipulation thereof and means for preventing duplicate voting for different persons running for the same office.

With these objects in view the invention consists in the construction, arrangement, and

combination of the several parts, all as will
 hereinafter be described and afterward pointed out in the claims.

In the drawings, 1 indicates a suitable housing, preferably made of cast metal, said housing being in the shape of a box having an
 55 overhanging top wall 2, to which is hinged a cover 3 for closing the opening in the top of the box. As this cover is relied upon to operate certain mechanism in its opening and
 60 closing movements, it is preferably made of double thickness, so as to give it weight and at the same time a substantial appearance.

The mechanisms employed for enabling votes to be cast for different candidates, said mechanisms locking when operated all similar
 65 mechanisms in the machine to prevent duplicate voting for different persons for the same office, and the mechanism for enabling any one ticket to be voted straight are preferably so constructed that they are arranged
 70 as separable units, whereby when tickets are to be voted for the proper number of units or mechanisms may be assembled in one box, and the voter will then have his choice of all of the tickets in the field. In the accompanying
 75 drawings I have illustrated a voting-machine having a capacity for four tickets; but it is obvious that the box may be enlarged for the addition of units as tickets are to be added and voted for, and, as will hereinafter
 80 appear, one or more of the four units shown may be removed from the box, so that but two or three tickets will be presented to the voter. In this manner it is only necessary
 85 for election commissioners or those in charge of elections to employ in any one machine the same number of units as there are tickets in the field. Thus it will be seen that a machine capable of being so expanded or con-
 90 tracted to meet the actual demands will be economical and at the same time avoid confusing voters.

I will state that in order to preserve the assemblage of the different mechanisms as contained in the several units I prefer to employ
 95 subsidiary housings or boxes 4, designed to fit in the main housing 1. These boxes 4 each carry supports for the several shafts and bars

constituting a unit, and means are provided at the ends of the individual shafts or bars for interlocking the same with their companions in the next adjacent section. I will add that
 5 as seldom less than two tickets are in the field to be voted for the first two sections at the right-hand side of the machine may be permanent fixtures in the box 1, while the other sections at the right may be removable. However,
 10 ever, this is unimportant. I consider it necessary to state, though, that the section at the extreme left contains mechanism which, being designed to cooperate with the cover for controlling the remaining sections, is made
 15 slightly wider than said remaining sections. I will now describe one of these removable sections, the following description applying to practically all of the individual sections in the machine.

20 The side walls 5 of the subsidiary boxes 4 provide supports or guideways for laterally-extending plates or bars, while brackets 6, secured to the back wall of box 1, and a plate 7, depending from the forward edge of the subsidiary boxes, afford supports and guideways
 25 for what might be termed the "adding" and "punch" bars, which move backwardly and forwardly in the operations of the machine.

8 indicates the top plate of the box, which
 30 is provided with suitable sight-openings arranged over several adding-wheels. This plate is also provided with depending flanges which engage and are supported by the side walls of the subsidiary boxes. (See Fig. 7.)

35 9 indicates a slide mounted in suitable guideways on top of the plate 8, said slide being provided with openings designed in one position of the slide to register with the sight-openings in the plate 8 and in another position
 40 in the slide to close the openings in the plate 8. This slide-plate 9 also provides spaces for the names of the several candidates to be voted for. (See Fig. 1.)

Arranged in the plate 8, preferably to one
 45 side of the slide-plate 9, are a series of keys 10, said keys being opposite the several names of the candidates to be voted for. These keys are guided in their vertical movements by the plate 8 aforesaid and by an angle 11, secured
 50 to the side wall 5 of the subsidiary box. A light coiled spring is arranged under the head of each key for the purpose of holding the same in an elevated position, but permitting said keys to be depressed. The key-shanks of
 55 these keys carry cam-faces 12 and 13, the former of which cooperates with a laterally-movable bar for releasing the adding and punch bars, which move forwardly and backwardly, while the latter cam-face cooperates
 60 with a laterally-movable locking-bar employed to lock all keys and their associate mechanism common to other candidates on other tickets for the same office. Referring now to Figs. 9 to 14, wherein are illustrated three
 65 keys and their associate mechanism, said keys

being arranged opposite the names of candidates for different offices, Figs. 9 and 10 show all of the keys in their normal positions. In Fig. 11 one of the keys has been depressed,
 70 so that the cam-face 12 has engaged a pin 14 and moved what may be designated as the "sectional release-bar" 15 longitudinally toward the left. This bar 15 is provided with
 75 a notch 16, which in the normal position of said bar was out of registration to the right of a yielding projection 17, carried by the adding or punch bar 18, which latter is controlled
 80 by the bar 15 in question. Each key is common to one of the sectional release-bars 15, and each of these sectional release-bars cooperates with one of the bars 18.

Referring to Figs. 3 and 8, it will be observed that the bar 18 is pressed rearwardly by a spring 19, and when the notch 16 registers with the yielding projection 17 the bar 18
 85 is permitted to move rearwardly until the projection 17 comes in contact with and is arrested by a stop-plate 20, carried by the bar 15. When the parts are in this position, the bar 18 under consideration has moved rear-
 90 wardly, so that the yielding pawl 21, carried thereby, is in a position ready to actuate the ratchet-wheel 22 of the adding mechanism. This adding mechanism is arranged on a shaft
 95 23, which shaft extends across all of the bars 18 of the unit, the ratchet-wheel to be operated by the spring-pressed pawl of any of these bars 18 being preferably located over the particular bar common to it, as shown in Fig. 2.
 100 The units, tens, and hundreds (and thousands and tens of thousands, if necessary) wheels of the adding mechanism are preferably grouped or nested together at one end of the shafts 23, suitable transferring devices being employed
 105 in connection therewith for operating the tens-wheel whenever the units-wheel has made a complete revolution, &c. It is deemed unnecessary to describe in detail any particular form of transferring device as above described,
 110 as the same are well known and understood in the art.

24 indicates a detaining-pawl arranged on the under side of the plate 8 and cooperating with the ratchets 22, there being one of such
 115 detaining-pawls for each ratchet. The purpose of these detaining-pawls is to prevent backward rotation of the ratchets by unauthorized persons.

I have stated before that the initial movement in pressing the key 10 under consideration moved the bar 15 laterally and permitted
 120 the yielding projection on the bar 18 to pass through the notch 16 and against the stop-plate 20. This position of the parts is illustrated in Figs. 11 and 12, and in this connection it will be noticed that the cam 12 has
 125 moved but a portion of its stroke. Continued pressure on the key 10 in a downward direction will, through the cam-face 12, move the bar 15 farther to the left, so as to carry the
 130

stop-plate 20 out of the path of the yielding projection 17, permitting the bar 18 to continue its rearward movement under the impelling power of its spring 19. This final movement of the bar 18 causes the ratchet-wheel, which is preferably provided with ten teeth, to move the distance of one tooth, and consequently the units-wheel of the adding mechanism is rotated one-tenth of a revolution, exhibiting through the sight-opening in the machine a number exceeding by one that which was previously exhibited. Coincidentally with the final depression of the key and the final movement of the bar 15 to the left the cam-face 13, which at the commencement of said final movement was in engagement with the pin or projection 25 on a locking-bar 26, moves said locking-bar to the left. This locking-bar is provided with a series of notches 27, which in the normal position of said bar register with fixed projections 28, arranged on the adding or punching bar 18. The initial depression of the key in actuating the release-bar 15, so as to free the bar 18 and permit its rearward movement, resulted in the projection 28 on the bar 18 passing through the registering notch 27 on the locking-bar 26, as shown in Fig. 12, and the final movement of the key, when it moved the stop-plate 20 out of the path of the yielding projection and permitted the bar 18 to complete its final movement, also caused the bar 26 to be moved laterally, so as to carry the notch 27 therein out of registration with the projection 28. This, of course, will lock the bar 18 in its rearward position, which is of no practical importance, because said bar has accomplished its work in actuating the adding mechanism. However, bar 26 contains as many notches 27 as there are units in the machine, the notches in said bar coöperating with projections 28 on all bars controlled by the several keys which are to be actuated in voting for different candidates for the same office. Thus in voting a scratched ticket where a key is depressed to vote for a candidate for an office the locking-bar 26 is moved to the left, so that its notches 27 are out of registration with the projections 28 of all of the other bars 18 controlled by keys opposite the names of different candidates on different tickets for the same office. If, when any of the bars 18 are locked against rearward movement, the projections 28 being arranged directly in advance of the locking-bars 26, (there being sufficient clearance to permit free movement of the locking-bar,) it will make no difference whether or not a voter attempts to press any other keys opposite the names of different candidates for the same office after one of such keys has been operated. The second key operated under the above conditions will simply result in idly vibrating the releasing-bar 15.

All of the releasing-bars controlled by the

several keys are independently movable and are contained within their respective unit-boxes, while the locking-bars are preferably continuous and extend throughout the series of unit-boxes. Each of the releasing-bars 15 is provided with a spring 29 for returning a releasing-bar to its normal position when the key controlling said bar is permitted to rise. The locking-bars 27 have no springs and stay in the positions in which they are placed by the cam-faces 13, being the locked position, or by the restoring mechanism hereinafter to be described, being the free position.

The yielding projection 17 is held in its lowered position by a suitable spring or by gravity, such lowered position being determined by a suitable stop. Thus when the release-bar 15 is restored by its spring and the yielding projection 17 is behind the plate 20 (see Fig. 14) the restoration of the bars 18 will cause the yielding projections 17 to ride over the plate 20 on the bar 15, the said projection dropping in front of the bar 15, as shown in Fig. 10, for holding the bar 18 in its forward position.

In the above I have described the manner of casting separate votes for candidates for the different offices, and it will be obvious that all of the individual operable keys in a single unit can be operated, which will result in voting the straight ticket set forth in that unit, or keys in different units can be operated to vote for candidates for different offices if the voter desires to vote a mixed ticket. Whenever any candidate on any ticket for an office is voted for, no other candidate for the same office on any other ticket can be voted for.

I will now describe how it is possible to vote a straight ticket by the manipulation of a single key or to vote for candidates on one ticket where candidates for certain offices on other tickets have been voted for.

Referring to Figs. 1, 3, 7, and 8, it will be observed that knobs 30 are arranged exteriorly the box 1, there being one of such knobs preferably centrally located opposite the respective units in the box. These knobs are mounted upon the ends of rods 31, which for the sake of distinction can be termed "controlling" or "master" shafts. These master-shafts are preferably located beneath the release and locking bars, they finding suitable bearings in the front and back walls of the subsidiary boxes. All of the release-bars 15 are provided with pins or projections 32, preferably over the shaft 31, and all of the locking-bars 26 are provided with pins or projections 33, likewise preferably over the shaft 31. The shaft 31 is provided with fingers or arms 34, designed to coöperate with the projections on the release-bars, and fingers or arms 35, designed to coöperate with the projections on the locking-bars. In the construction shown in the drawings the shaft 31 is designed to be rotated to

the left to vote a straight ticket or the unvoted portion of any ticket, and the initial movement of said shaft operates all of the release-bars in the unit to which said shaft is common.

5 The fingers or projections 35 are circumferentially displaced on said shaft with respect to the fingers or projections 34, so that the fingers 35 will not engage and operate the locking-bars until after the initial movement

10 of the release-bars has been effected. The final movement of the shaft 31 actuates all of the locking-bars and prevents any other ticket or a portion thereof from being voted until the locking-bars are restored. As each release-

15 bar is provided with a spring, these springs serve to restore the shaft 31 to its normal position after actuation. The mechanism for restoring the locking-bars is actuated by the cover of the machine and consists of a frame

20 36, pivotally mounted in brackets 37, secured to the top plate 8. This frame is preferably located at the left-hand side of the machine and serves to limit the movement of the locking-bars toward the left. 38 indicates an

25 arm extending from one end of the frame, said arm carrying a bar 39 at its outer end, which bar extends up through suitable openings in the plates 8 and 9 and into the path of the lid or cover. An extension 40 on the

30 frame 36 has a spring 41 connected to it, whereby when the cover is raised the pivoted frame 36 is swung to the left out of contact with the locking-bars 26, permitting said bars to be actuated. When the cover is lowered,

35 it contacts with the bar 39, depressing the same and rocking the arm 36 to the right, so as to restore all of the locking-bars to their normal positions. To prevent operation of the frame 36 through any instrumentality

40 save the cover, I provide a projection 42 on the bar 39, with which coöperates a shouldered plate 43, slidable backwardly and forwardly in appropriate guideways. This plate is operated by a link 44, connected at its rear

45 end, for the sake of convenience, to a segment 45, said segment having a slotted extension 46 in engagement with a pin 47, secured to a plate 48, fixed to the cover. (See Fig. 4.) Assuming the cover to be down and the parts

50 in the position shown in Figs. 4, 7, and 8, the first movement in raising the cover will permit the frame 36 to move to the left and the bar 39 to rise until its projection 42 occupies a plane above the shouldered locking-plate 43.

55 The pin 47 while the above is transpiring idly moves through the slot in the arm 46. When the pin reaches the bottom of the slot, the segment 45, which for the purpose of the plate 43 serves as a lever of the first order,

60 will be moved rearwardly, causing the plate 43 to move rearwardly until its shoulder passes under the projection 42, locking the bar 39 in its elevated position. When the voter casts his vote, he cannot by depressing the bar 39

65 restore the locking-bars, which is necessary

before another vote is cast. Thus it is absolutely necessary to close the lid or cover to release the bar 39, the lid or cover finally actuating the pivoted frame 36 to restore the locking-bars. When the cover is closed, if

70 any of the knobs 30 were operated they would accomplish nothing, because the frame 36 would prevent the movement of the locking-bars, which movement of the locking-bars is practically coincident with the final release of

75 the bars 18 by the stop-plates 20, and thus no vote can be registered or recorded. I prefer, however, to lock the shafts 31 against rotation when the cover is closed in order that the several parts of the machine may be in

80 their normal position when the cover is raised and a vote is to be cast.

Referring to Fig. 7, a bar or plate 50 is pivotally connected to the end of the arm 40 which extends downwardly from the frame

85 36, this bar, extending practically throughout the several units in the machine, being notched, as at 51, near the several shafts 31. Immediately above the bar 50 each shaft 31 is provided with a projection 52, which when the

90 cover is lowered and the bar 50 moved in a position to the right rests upon the upper edge of said bar, preventing the shafts 31 from being rotated to the left. When the cover is raised and the frame 36 swung to the

95 left, the bar 50 is also moved to the left, so that its recesses 51 register with the projections 52 and permit the shafts 31 being operated.

The bars 18, before described, are moved rearwardly by springs, and the release-bars must of course be restored before another vote can be cast. To accomplish this, I arrange a swinging frame 53 in the back of the machine, which frame at its lower end coöperates with shoulders formed on the upper edges of the rear

100 ends of the bars 18. This frame 53 is preferably suspended from its pivot-rod and is free to swing rearwardly with any of the bars 18 which may be actuated. To positively rock

105 the frame 53 forwardly to restore the bars 18 when the locking-bars have been restored and their notches register with the projections 28, I provide a pin or projection 54 on the plate 48, which is fixed to the cover, which pin coöperates with a projection or arm 55, extend-

110 ing up from the frame 53. As before stated, the release-bars 15 are restored by separate springs, the yielding projections 17 riding thereover when the bars 18 are restored. Of

115 course the notches 27 in the locking-bars are made sufficiently wide to admit of the restoration of the bars 18 during the final movement in restoring the bars 27. In Figs. 19 and 20 I have illustrated detail views in which the lugs

120 28 on the punching-bars 18 are beveled, as at 28^a, and one edge, 27^a, of the notch 27 in the locking-bar 26 is correspondingly beveled, so that there will be no interference in the move-

125 ment of the punching and locking bars while

130

being restored to their home position. Fig. 19 illustrates the lug 28 in the position it occupies after the punching-bar has been actuated, and Fig. 20 represents the lug in its normal position, but in this view the locking-bar 26 has been actuated and occupies an abnormal position; so as to prevent the actuation of the punching-bar 18, carrying the particular lug 28 shown.

10 An audible signal is operated whenever the cover is being raised or lowered to indicate that a vote is about to be cast or that a voter has cast his vote. The segment 45, before referred to, which is operated when the cover is raised and lowered, meshes with a pinion 56, 15 (see Fig. 4,) to which is conjoined a plate carrying weights 57, said weights being thrown out of centrifugal force and striking a bell 58.

In addition to registering the votes for each 20 candidate in the adding mechanism before referred to I prefer also to record the votes as cast, so that in the event of a contest or for any other reason it is desired to ascertain how each voter voted the individual votes can be 25 examined. Mounted in suitable brackets in the back portion of the machine are reels of paper 60, the spindles of which are connected by key-and-socket joints, so that the paper from all of the reels is paid out uniformly. 30 As shown in the drawings, there is a reel of paper for each unit in the machine; but it is obvious that there may be but a single reel containing one strip for all of the units. This paper from the reel passes upwardly 35 through guides 61, secured to the brackets 6, between feed-rollers 62 and 63, one of which is idle and the other driven, and onto a spool 64, mounted in suitable brackets under the overhanging top wall 2. The spindles of the 40 feed-rollers and spools are connected by key-and-socket joints, as shown in Fig. 5, for the purpose of enabling the removal or insertion of units. It is obvious that these feed-rollers, as well as the spools, may be continuous 45 throughout the machine, whereby the key-and-socket joints between the several spindles thereof can be dispensed with. Where this is done, a strip of paper would also issue from a single reel and be of such width as to in- 50 clude as many units as there were tickets to be voted for. The receiving-spool is preferably in the form of a spring-roller, tending to wind up the slack of the strip or strips of paper; but, if preferred, this spring-roller 55 can be dispensed with and the strip or strips received in a suitable receptacle. To drive the feed-rollers, I provide a ratchet-wheel 65 at one end of the driving feed-roller, with which ratchet-wheel coöperates a spring-pressed pawl 66, mounted on an arm 67, whose 60 axis of rotation is preferably coincident with that of the driving-roller. This arm 67 is in the path of the plate 48, so that when the cover is lowered the arm 67 is forced rearwardly, enabling the pawl to ride over a tooth

or teeth of the ratchet, as will be well understood. A spring 68 is secured to an extension of the arm 67 for the purpose of forcing the driving-roller to make a partial rotation 70 whenever permitted to do so by the manipulation of the cover and its carried plate 48. Suitable brakes may be employed in connection with the paper-feed rollers to prevent the spring-roller-receiving spool from drawing up more than the slack in the paper as 75 created by the paper-feed rollers. The bars 18 at their rear ends are formed with punches fitting in suitable openings in the paper-guide, and when said bars are moved backwardly by their springs they puncture the paper. In Fig. 80 15 I have shown a sheet of paper punctured as above described on my improved machine, in which it will be observed that under the different headings corresponding to the tickets to be voted for as represented in the respec- 85 tive units there are perforations or openings in the sheet of paper corresponding to the votes cast by the several voters. The dotted lines *a* indicate the points of severance in the sheet in the event that separate reels of pa- 90 per were used for the individual units.

In operating the machine we will assume that the cover is closed and the adding mechanisms exhibit "0" through the sight-openings and that the space marked "1" on the 95 sheet of paper will be moved opposite the punches when the cover is raised. The first voter as he is given access to the machine has the number of his vote placed opposite his name, which number should correspond with 100 the space in the strip of paper to be punched. Voter No. 1 is marked "No. 1" and for the purpose of illustration, we will assume, raises the cover of the machine to place the space marked "1" opposite the punch-bars and by 105 turning the handle 30 of the Democratic ticket to the left votes the ticket straight. All the bars 18 in this unit are released and punch a row of punches in the column for all the candidates on the Democratic ticket. After his 110 vote is cast no other ticket or candidate can be voted for and the cover has to be lowered, which will sound a signal indicating that the voter has cast his vote. Voter No. 2 when 115 given access to the machine raises the cover and in so doing places a space marked "2" opposite the punch-bars and, we will say, votes for the presidential electors on the Republican ticket by depressing the proper keys 120 and for the State ticket, including the governor, &c., votes the straight Populist ticket. After voting for the Republican presidential electors the operator turns the knob 30 in the Populist unit and lowers the lid. The condi- 125 tion of the adding mechanisms in the three tickets voted will indicate "1" in the units-wheels opposite the names of the persons voted for. Voter No. 3 when given access to the machine, we will say, after raising the lid votes for the presidential electors on the Dem- 130

ocratic ticket, for a Republican governor, and a mixed Populist and Prohibition ticket for the rest of the candidates for the State offices. The above is simply illustrative of the manner in which straight or mixed tickets can be voted. After the voting or at any time during the holding of the votes the judges of the election can by pulling forward the slides 9 expose the sight-openings of the adding mechanisms and at a glance determine the number of votes cast for each candidate. When the voting is completed, these numbers as indicated by the adding mechanism can be certified to the proper authorities and the record of the individual votes transmitted with the certificate. A suitable lock or locks may be employed in connection with the slide-plates 9, so that none but authorized persons will have access to information as to the number of votes cast.

In Figs. 16 and 17 I have shown an improved form of lock designed particularly for use in connection with the cover of my voting-machine. This cover, as will be understood from the foregoing description, serves as a power-lever to drive or operate the several mechanisms in the machine, and while an audible signal is sounded upon the actuation of the cover it is desirable that additional precautions be taken against unauthorized operation of the machine. I therefore propose arranging a lock in connection with the cover, which lock is automatic in its action, for preventing the cover being elevated, said lock being capable of manipulation to release the cover only upon the introduction of a key-slug. These key-slugs are substantially of the type illustrated in Fig. 18 and marked 70 and are preferably numbered according to the number placed opposite the name of the voter when the vote is to be cast and are originally in the possession of the judges or clerks of the election, one of such slugs being issued to each voter after he has qualified to vote and before he casts his vote. The voter upon receiving the slug introduces it into an opening in the cover and then operates the lock to release the cover. Upon the introduction of the slug the lock can be manipulated, the cover raised, and the vote cast, after which the voter lowers the cover and the cover is again locked and cannot be raised nor another vote cast until another slug is introduced. These slugs, as shown in Fig. 18, are preferably grooved or provided with ribs, or both grooved and ribbed, to fit in the correspondingly-shaped opening 71 in the cover, so that only the slug made for that specially-shaped opening can be used. The shape of the slug and the contour of the opening designed to receive the same can be changed for different elections. Upon the introduction of the proper slug through the opening it rests upon a shelf 72 and between a bell-crank lever 73 and a spring-pressed pivoted locking-bolt 74, which locking-bolt is provided with

an opening or recess 75 opposite the bell-crank lever 73 and is also provided with a hook 76, designed to engage the shelf 72. When the cover is lowered, the pivoted locking-bolt is automatic in its action and locks the cover in its home position. Any actuation of the bell-crank lever 73 will be idle as the inner end of said lever will pass through the opening or recess 75 in the pivoted bolt. It will of course be understood that one end of this bell-crank lever 73 projects through the casing, so as to be manipulated by the voter. However, when a slug is introduced it falls onto the shelf 72 and in front of the bell-crank lever 73. As the slug is larger than the opening or recess 75, it follows that when the bell-crank lever is manipulated the slug engages the pivoted bolt and forces the hook from under the shelf 72 and unlocks the cover. At the same time the slug is forced off of the shelf 72 and falls into the casing of the voting-machine. The hook on the pivoted locking-bolt is preferably located to one side, as shown in Fig. 17, so as to be out of the path of the falling slug when the slug is pushed off of the shelf 72. The cover can now be raised and the voter can cast his vote as before described.

I am aware that minor changes in the arrangement, construction, and combination of the several parts of my device can be made and substituted for those herein shown and described without in the least departing from the nature and principle of my invention.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a voting-machine, the combination with a keyboard, of independently-operable releasing-bars, bars 18 which are individually controlled by said releasing-bars, locking-bars common to a transverse series of keys, restoring mechanism for said locking-bars, and restoring mechanism for said bars 18, and means for operating said restoring mechanisms simultaneously; substantially as described.

2. In a voting-machine, the combination with a keyboard, of releasing-bars which are operated by the several keys, locking-bars which are likewise operated by said keys to lock all other keys in a transverse series against movement, master-shafts for operating the releasing and locking bars independently of keys, means for restoring the locking-bars, and devices for locking the master-shafts against rotation while the restoring mechanism of the locking-bars is in an operative position; substantially as described.

3. In a voting-machine, the combination with a casing, of a keyboard containing independently-operable keys, devices operated by the keys for preventing the operation of another key identified with a different candidate for the same office, punch-bars controlled by the keys, adding mechanisms operated by the punch-bars, and master-shafts for operating

the punch-bars independently of the keys whereby a straight ticket can be voted; substantially as described.

4. In a voting-machine, the combination
5 with a casing, of a keyboard comprising inde-
pendently-depressible keys arranged opposite
the names of the several candidates to be voted
for, master-shafts common to the several
mechanisms for simultaneously registering
10 votes for candidates for different offices, a
cover hinged to the casing and designed to
cover a keyboard when in its lowered position,
and mechanism connected to and operated by
the cover for restoring the actuated parts in
15 the machine, and for locking the master-shafts
against rotation when the cover is in its low-
ered position; substantially as described.

5. In a voting-machine, the combination
with a depressible key provided with a cam,
20 of a releasing-bar operated by said cam, and
a bar 18 provided with a projection designed
to pass through a notch in the releasing-bar
when a key is depressed; substantially as de-
scribed.

25 6. In a voting-machine, the combination
with a depressible key, of a notched releasing-
bar operated thereby, a stop-plate secured to
the releasing-bar and overlapping the notch
therein, and a bar 18 provided with a projec-
30 tion designed to pass through the notch in the
releasing-bar and coöperate with the stop-
plate; substantially as described.

7. In a voting-machine, the combination
with a depressible key, of a releasing-bar op-
35 erated by said key, a bar 18, and a yielding
projection on said bar 18 for coöperating with
the releasing-bar; substantially as described.

8. In a voting-machine, the combination
with a transverse series of keys, of a notched
40 locking-bar common to said series, a series of
independently-movable bars 18 provided with
projections normally in registration with the
notches of said locking-bar, and means on the
key for operating said locking-bar upon the
45 depression of the key so that the notches of
said bar are moved out of registration with
the projections on the bars 18; substantially
as described.

9. In a voting-machine, the combination
50 with depressible keys, of releasing-bars de-
signed to be operated by the initial movement
of each key, locking-bars which are operated
upon the final movement of each key, said lock-
ing-bars being common to a transverse series
55 of keys, and bars 18 provided with projections
which are designed to pass through notches in
the releasing and locking bars; substantially
as described.

10. In a voting-machine, the combination
60 with a key, of a notched releasing-bar, a
notched locking-bar, a bar 18 provided with
projections for coöperating with the notches
in the releasing and locking bars, the projec-
tion which coöperates with the releasing-bar
65 being out of registration with the notch there-

in, while the projection which coöperates with
the notch in the locking-bar is in registration
with the notch therein when the parts are in
their normal position, and means for moving
the releasing and locking bars laterally upon 70
the depression of said key, the initial move-
ment of the key moving the releasing-bar so
that its notch registers with the projection on
the bar 18, releasing said bar and permitting
the projection thereon which is in registration 75
with the notch in the locking-bar to pass
through said notch, the final movement of the
key moving the locking-bar laterally; substan-
tially as described.

11. In a voting-machine, the combination 80
with a depressible key, of releasing and lock-
ing bars operated by said key successively, a
bar 18 provided with projections coöperating
with notches in said releasing and locking bars,
and an adding mechanism which is actuated 85
by said bar 18; substantially as described.

12. In a voting-machine, the combination
with restoring devices for the locking-bars, of
a cover for actuating said restoring devices,
and means connected to the cover for locking 90
the restoring devices in a retracted position,
when the cover is elevated, which means in-
cludes a slot-and-pin connection with the cover,
whereby the cover is permitted a certain
amount of idle travel independently of said 95
locking mechanism; substantially as described.

13. In a voting-machine, the combination
with the master-shafts carrying projections, of
a notched bar whose recesses are designed to
be thrown into and out of registration with 100
the projections on said master-shafts, and a
cover for operating said notched bar; substan-
tially as described.

14. In a voting-machine, the combination
with the master-shafts, of a cover, and means 105
for locking said master-shafts against rotation
when the cover is in its lower position; sub-
stantially as described.

15. In a voting-machine, the combination
with the master-shafts carrying projections, of 110
a notched bar whose recesses are designed to
be thrown into and out of registration with
said projections, a cover for moving said
notched bar so that its recesses are out of reg-
istration with the projections on the master- 115
shafts, and a spring for returning the notched
bar and permitting the operation of the mas-
ter-shafts when the cover is elevated; substan-
tially as described.

16. In a voting-machine, the combination 120
with keys, of locking-bars coöperating there-
with, restoring mechanisms for said locking-
bars, a vertically-swinging cover for housing
in the keys, master-shafts, connections be-
tween the cover and the restoring mechanism 125
for operating the latter upon the final move-
ment of the former, and locking devices which
are operated by the restoring mechanism to
lock the master-shafts against rotation; sub-
stantially as described. 130

17. In a voting-machine, the combination with a casing, of a keyboard provided with keys opposite the names of the different candidates to be voted for, adding mechanisms, punch-bars for operating said adding mechanisms, said punch-bars being controlled by the keys, and means for locking adjacent adding mechanisms and punch-bars when any key of a series is depressed; substantially as described.

18. In a voting-machine, the combination with a keyboard having keys opposite the names of the candidates to be voted for, punch-bars arranged in transverse series and operated upon the depression of a key, means for locking all punch-bars in each transverse series against movement upon the depression of any key in that series, and a web of paper which is punctured or pierced by the punch-bar; substantially as described.

19. In a voting-machine, the combination with the keyboard having keys opposite the names of candidates to be voted for, punch-bars common to their respective keys, a web of paper which traverses the punch-bars, releasing-bars common to the respective keys and interposed therebetween and the punch-bars, and locking-bars common to a transverse series of keys; substantially as described.

20. In a voting-machine, the combination with a keyboard having depressible keys, of alined punch-bars, a web of paper traversing said punch-bars, an adding mechanism which is actuated by each punch-bar, a releasing-bar controlled by the keys for effecting the release of the individual punch-bars, and a locking-bar common to a transverse series of keys,

which locking-bar is capable of being operated by the first depressed key of its series; substantially as described.

21. In a voting-machine, the combination with alined punch-bars, mechanism for operating said punch-bars, and puncturing a web of paper, a supply reel or spool for said web of paper, a receiving reel or spool, adding mechanisms operated by the punch-bars, and a cover for the machine for operating the paper-feed roller; substantially as described.

22. In a voting-machine, the combination with releasing and locking bars designed to be operated successively, means for operating said bars, a bar 18 which is controlled by said releasing and locking bars, an adding mechanism which is actuated by said bar 18, and an apertured bar through which one end of the bar 18 is designed to pass when it is operated and puncture a web of paper; substantially as described.

23. In a voting-machine, the combination with perforated bars, between which a web of paper passes, mechanism for moving said web of paper step by step between said bars, punch-bars operating in said perforations for puncturing the web of paper between said bars, adding mechanisms operated by the punch-bars, and means for operating said punch-bars; substantially as described.

In testimony whereof I hereunto affix my signature, in the presence of two witnesses, this 15th day of May, 1901.

JOHN I. HAYNES.

Witnesses:

GEORGE BAKEWELL,
ANNA GRAY.