

(No Model.)

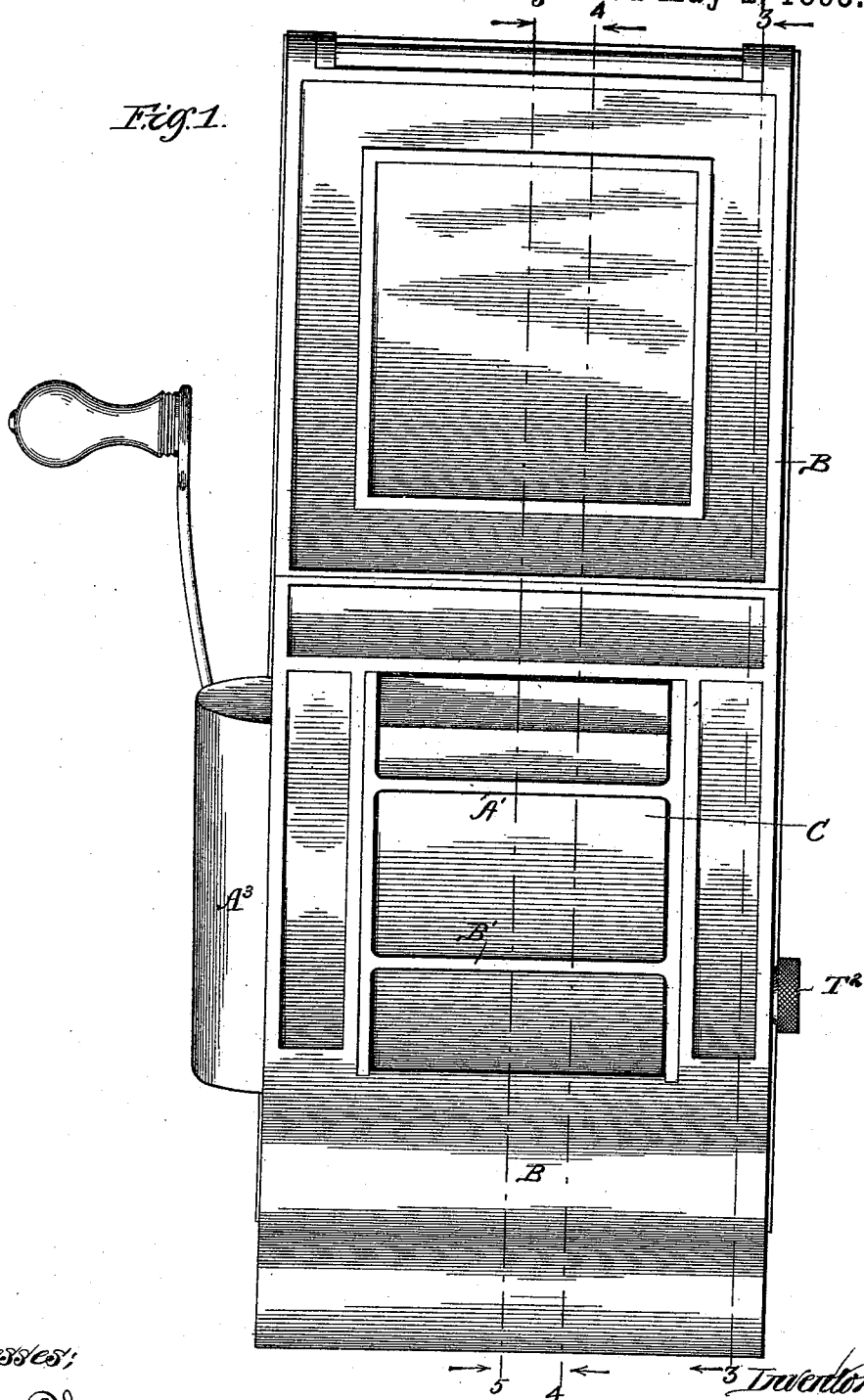
6 Sheets—Sheet 1.

J. PFEIFER.
AUTOGRAPHIC REGISTER.

No. 496,535.

Patented May 2, 1893.

Fig. 1.



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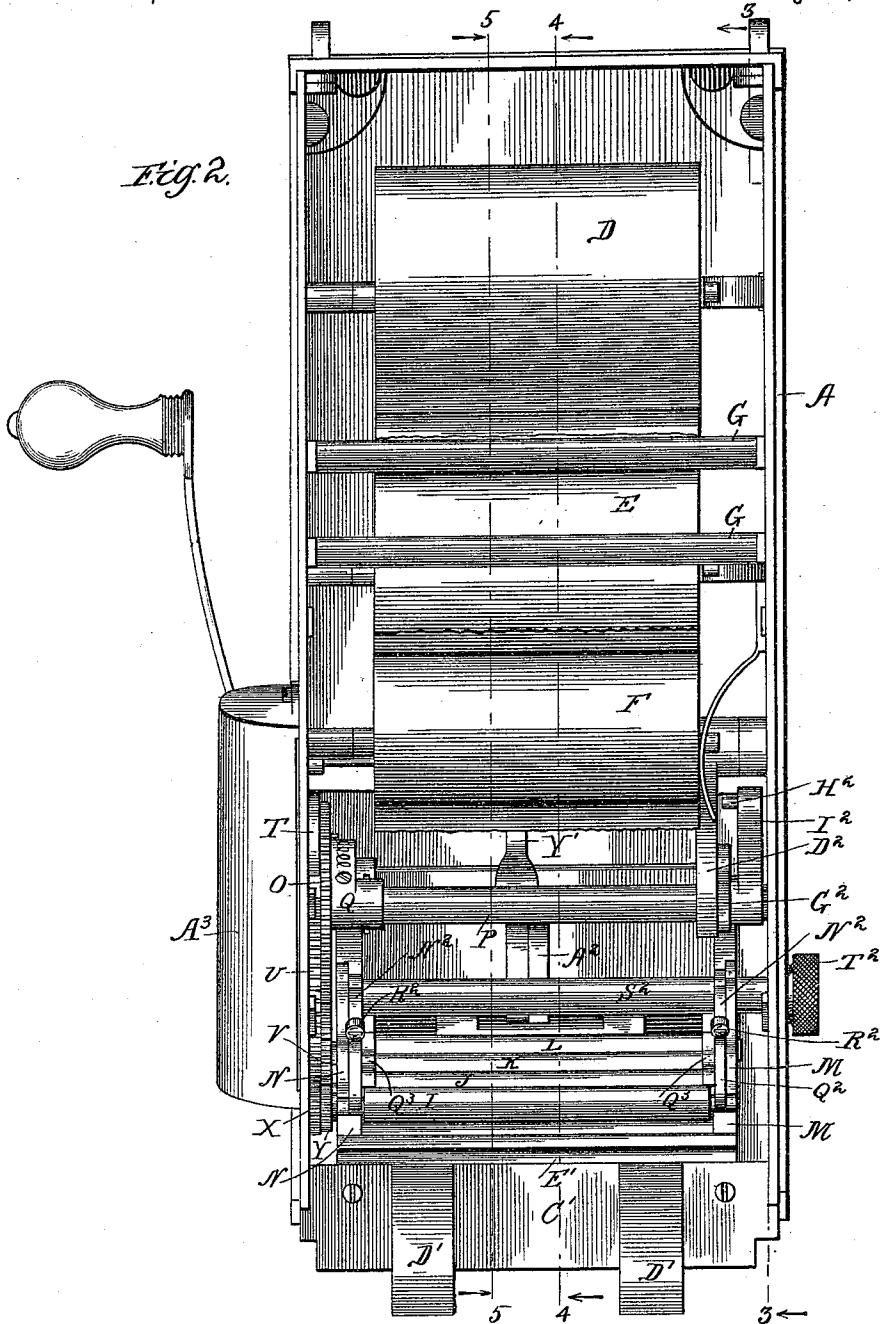
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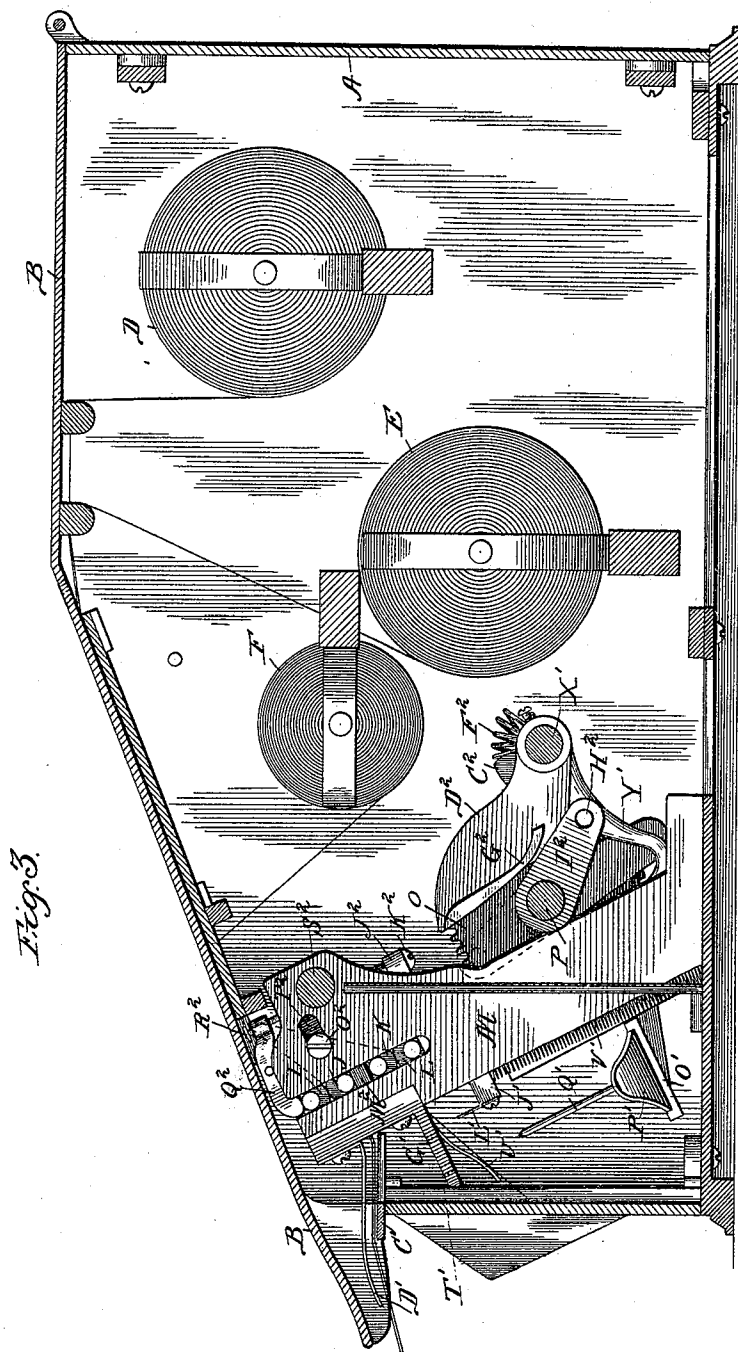
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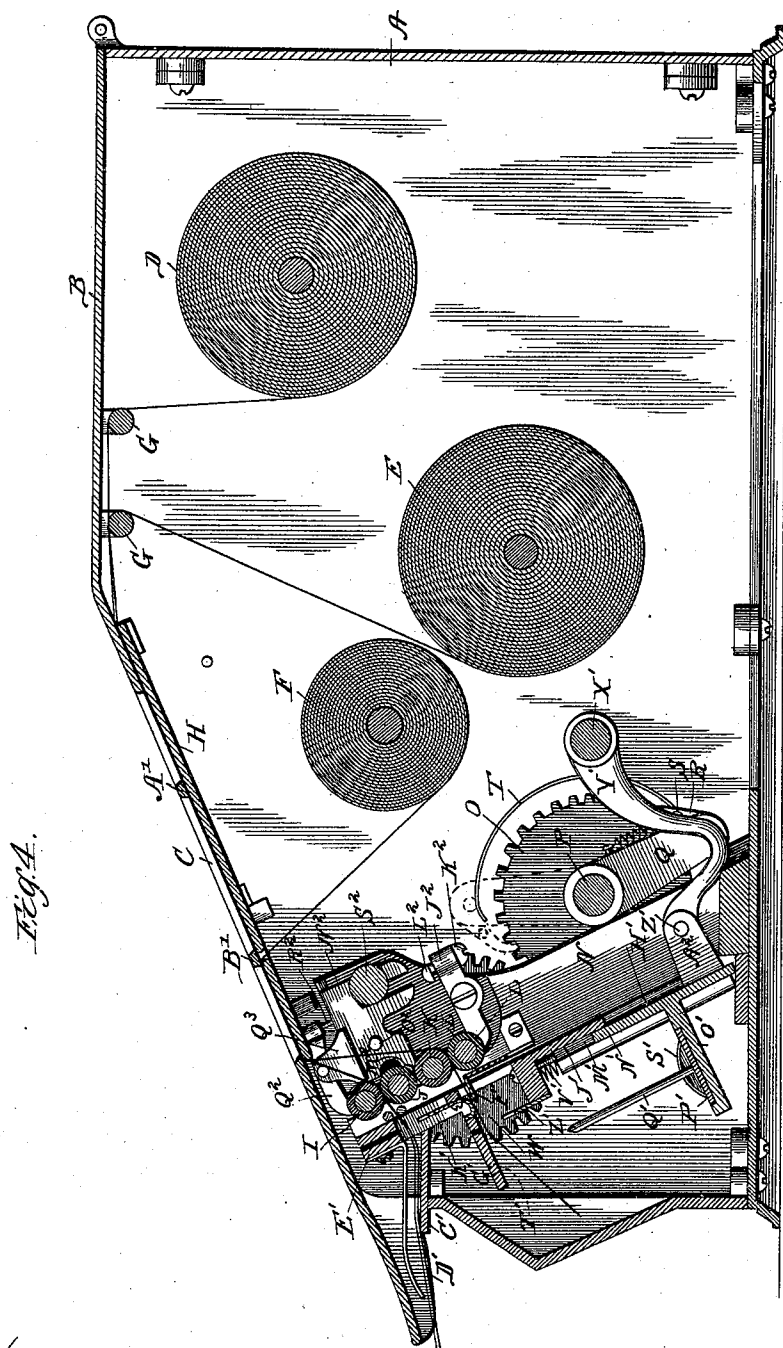
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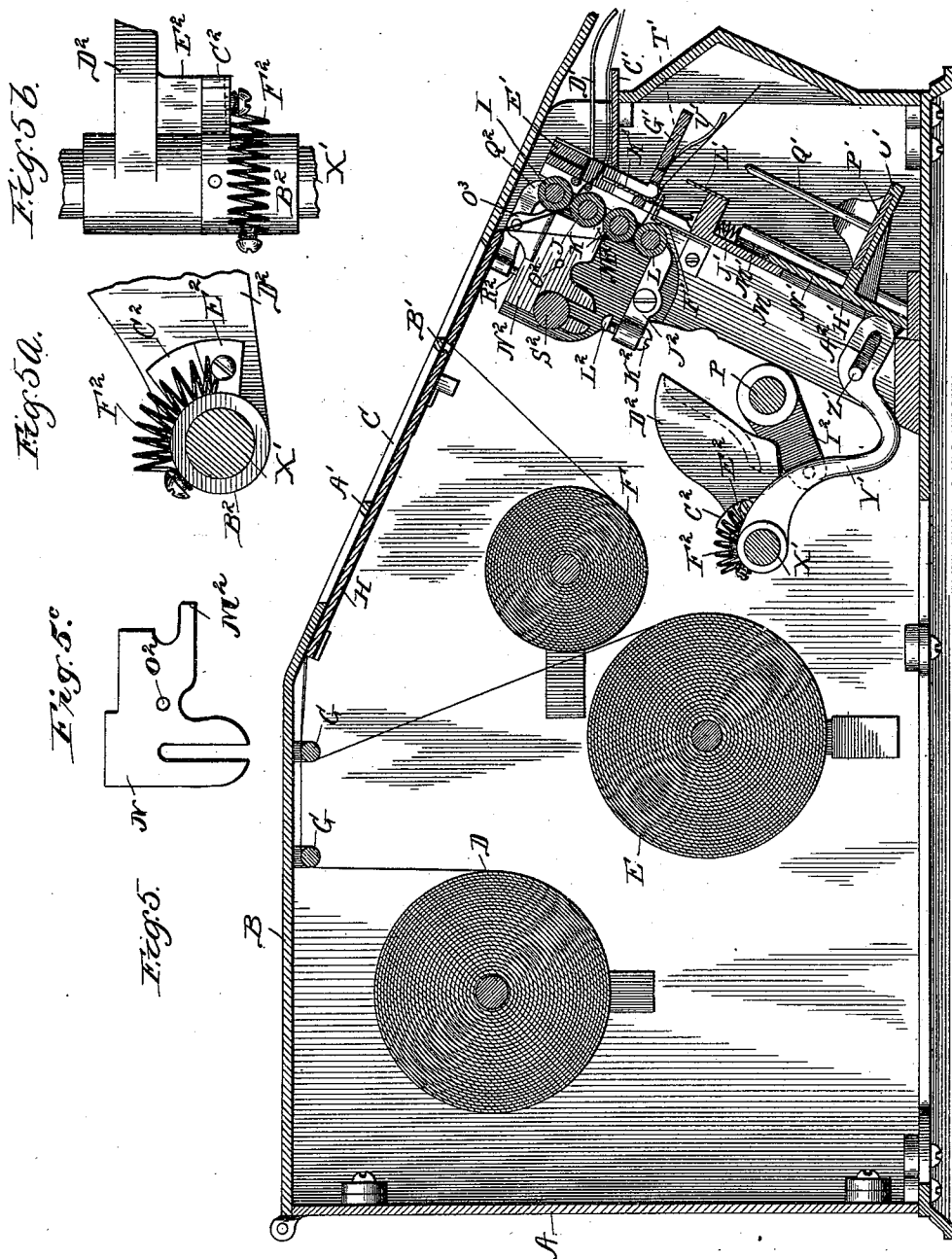
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(No Model.)

6 Sheets—Sheet 6.

J. PFEIFER
AUTOGRAPHIC REGISTER.

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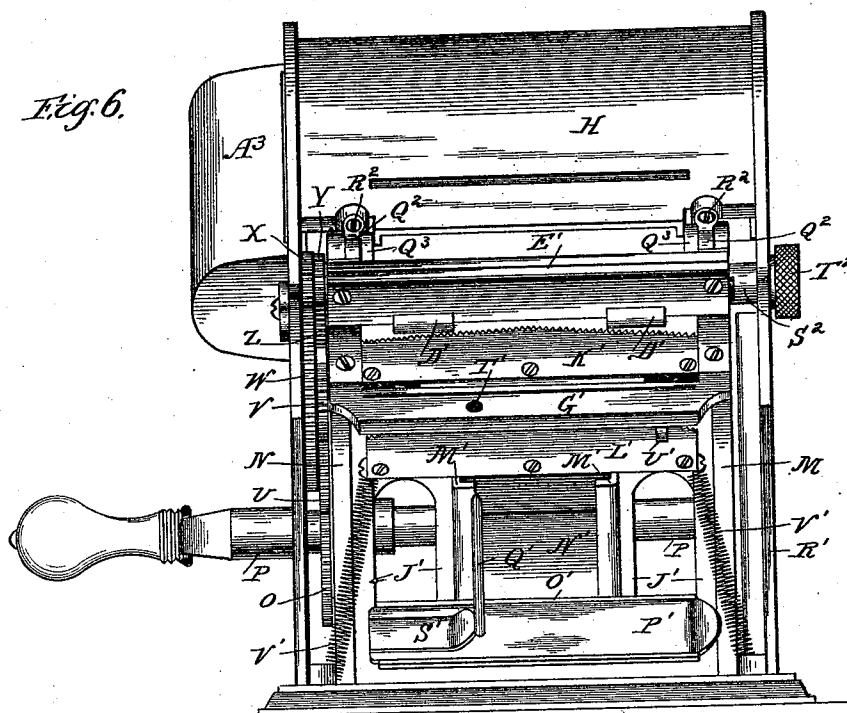


Fig. 7.

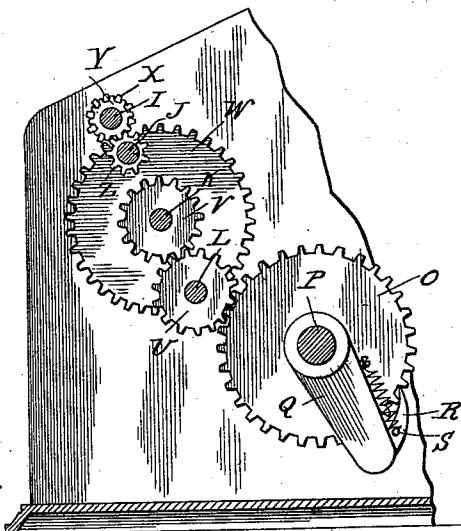
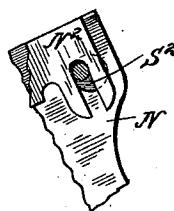


Fig. 8.



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UNITED STATES PATENT OFFICE.

JOHN PFEIFER, OF DAYTON, OHIO, ASSIGNOR TO THE NATIONAL CASH REGISTER COMPANY, OF SAME PLACE.

AUTOGRAPHIC REGISTER.

SPECIFICATION forming part of Letters Patent No. 496,535, dated May 2, 1893.

Application filed May 3, 1892. Serial No. 431,630. (No model.)

To all whom it may concern:

Be it known that I, JOHN PFEIFER, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have

5 invented certain new and useful Improvements in Autographic Registers, of which the following is a description, reference being had to the accompanying drawings, forming part of this specification.

10 My present invention consists in certain improvements upon the machine shown and described in my pending application, Serial No. 423,641, filed March 3, 1891, and its novelty will be herein set forth and specifically

15 pointed out in the claims.

In the accompanying drawings Figure 1 represents a top plan view of the machine; Fig. 2 a similar view with the lid of the casing and writing tablet removed; Figs. 3, 4 and 20 5 vertical sections on the lines 3—3, 4—4, and 5—5, respectively, of Fig. 1; Figs. 5^a and 5^b enlarged details of parts of the operating devices for the cutting and filing frames; Fig. 5^c a detail of one of the locking plates for the feed-rollers; Fig. 6 a front elevation of the machine with the front wall of the casing and the lid removed; Fig. 7 a detail view of the driving gears; and Fig. 8 a detail of the eccentric shaft for operating the locking plates

25 which hold the feed rollers in position.

The same letters of reference are used to indicate identical parts in all the figures.

The principal working parts of the machine are inclosed in a casing A having a hinged 35 lid B provided with an opening C in its forward inclined portion, through which opening the memoranda is entered upon the paper strips. These strips, three in number, are carried in three rolls, D, E and F, whose spindles are suitably journaled at their left hand ends in bearings on the side of the casing and at their right hand ends in sheet metal springs secured to lugs upon the sides of the casing and bearing against the ends of the rolls. 40 The two check strips are led from the rolls D E up over guide rollers G, thence forward over the writing tablet H, and thence downward between two feed-rollers, I, J, and out of the machine. The record strip is led from 45 the roll F up through a transverse slot in the

plate H, thence forward over the front end of the said plate, and thence downward between a second pair of feed-rollers, K, L, into the filing compartment. The spindles of these four feed-rollers are journaled at their ends 55 in inclined slots in forwardly inclined supporting plates or bars M N secured at their lower ends to the base of the casing, one at each side of the machine. These rollers are driven by a train of gears shown in detail in 60 Fig. 7, of which the primary gear O is loosely mounted upon a rock-shaft P journaled in the sides of the casing and having an operating handle secured to its left hand end, which projects without the casing. An arm Q fast 65 upon this shaft carries a pawl R spring-pressed into engagement with the teeth of the gear O, by which the gear is turned when the shaft is rocked forward and remains stationary while it is rocked backward. One 70 end of a pin S passed through the pawl R co-operates with a curved spring T, Fig. 4, secured along its edge to the inner face of the left hand side of the casing. During the forward movement of the rock-shaft and arm Q 75 this pin travels along the inner side of the curved spring and the pawl turns the gear. The extreme upper end of the spring is bent inward toward the axis of revolution of the parts, and when the pin S reaches this end of 80 the spring it presses it outward as it clears it and the end of the spring springs back within the path of travel of the pin, so that in the backward movement of the parts the pin will ride up over this end of the spring and travel 85 back along its outer side, thereby holding the pawl entirely out of engagement with the teeth of the gear, instead of permitting it to slip backward over them. When the pin reaches and clears the lower end of the spring, 90 the coiled spring connected to the pawl pulls it back into engagement with the teeth of the gear, carrying the pin S inside the circle in whose arc the curved spring is located, so that at the next forward movement of the 95 parts the pawl will turn the gear and the pin will travel along the inner side of the spring. The gear O meshes with a pinion U upon the spindle of the lower feed roller L, which pinion in turn meshes with a pinion V fast upon 100

the spindle of the roller K which co-operates with the roller L. Also fast upon the spindle of the roller K, beside the pinion V, is a large pinion or gear W which meshes with a pinion X fast upon the spindle of the upper feed roller I. The spindle of this roller has fast upon it, beside the pinion X, a pinion Y which meshes with a pinion Z fast upon the spindle of the roller J. Owing to this arrangement the two pairs of feed-rollers are driven at different speeds, the rollers I J making several revolutions to each revolution of the rollers K L, with the result that at each forward stroke of the rock-shaft P and operating handle, a length of the check strips about equal to the full length of the tablet plate, or opening above it in the lid of the machine, is advanced by the rollers I J, while a much shorter portion of the record strip is advanced by the rollers K L. Two transverse bars A' B' extend across the opening C in the lid of the machine, above the tablet plate H, and it is intended that the various items of a sale shall be written upon the outer check-strip through the portion of the opening C above and in rear of the lower forward one, B', of these bars, and that simply the footing or total of the items shall be written upon said strip in front of said cross-bar B', with perhaps the number of the check and date or other memoranda desired to be preserved on the record strip. Thus only the matter written upon the check strip forward of this bar B' will be duplicated upon the record strip, and at each operation of the machine the feed rollers K L will draw forward a length of the record strip about equal to the width of the space between the bar B' and the lower end of the opening C. In this manner the full length checks, bearing all the items of the sale and other memoranda, are fed out of the machine at each operation, while the use of the record strip is economized by entering upon it only part of the matter written upon the check strips and feeding forward a proportionately less length of it each time. The usual strips of carbon paper are carried in a roll within a receptacle A³ secured upon the left hand side of the casing, and are led across the writing tablet H between the respective strips of paper so that the memoranda written upon the outer strip will be duplicated upon those beneath it. This much of the machine is substantially the same as that shown and described in my aforesaid pending application.

The novel mechanism I have provided for cutting off all of the strips and for filing the record slip on a pin within the machine may now be described as follows: As the check strips are delivered from the feed-rollers I J they pass out of the machine over a shelf or cross-plate C' carried by the front wall of the casing. A pair of sheet metal guide plates D' secured to and projecting forward from a cross-bar E' connecting the upper ends of the inclined supports M N prevent the ends of

the strips curling upward and direct them out of the machine. The record strip F passes from the feed-rollers K L over a cross plate F' and beneath a cross plate G', both secured at their opposite ends to the supports M N, and thence into what may be called the filing compartment of the machine, being the space between the forward sides of the supports M N and parts carried thereby, and the front wall of the casing. Mounted at its edges in longitudinal grooves H' in the inclined supports M N is a knife-carrying frame J', Figs. 4, 5 and 6, carrying two serrated knives or cutters K' L', the former adapted to pass through a slot in the cross-bar E' when the frame is lifted, and thereby sever the two check strips, and the latter adapted to pass through a slot in the plate G', to sever the record strip. Fitted to slide in guides M' formed upon the forward side of the knife-carrying frame J' is a filing frame consisting of an inclined plate N' fitting at its edges in the grooved guideways and a plate O' secured to or formed integral therewith and projecting forwardly at right angles therefrom. Fitting in a longitudinal recess in the plate O' is a sliding plate P' carrying a filing pin Q' and provided at its right hand end with an upwardly curved finger-piece by which it may be withdrawn through a door way in the casing at R', Fig. 6. At its left hand end the plate P' fits under a spring clip S' which yieldingly holds it in position. The upper end of the pin Q' is adapted to pass through the forwardly projecting end of the record strip and through a hole T' in the plate G' when the filing frame is lifted. Under the construction described, when the filing frame is lifted it moves independently of the knife-carrying frame J' until the upper end of the plate N' of the filing frame strikes the cross-bar of the frame J' to which the lower cutter L' is secured, whereupon the filing frame will pick up the knife-carrying frame and both will move upward together, the cutters K' L' respectively severing the check strips and the record strip, in the manner before described, and the filing pin Q' passing through the record strip and thereby filing the latter upon the pin. A curved spring U' secured to the under side of the plate G' near its right hand end co-operates with the right hand ends of the slips as they are filed, pressing them downward as their left hand ends are drawn downward by the return of the filing pin. Springs V' at each side of the knife-carrying frame, secured at their upper ends to said frame and at their lower ends to the base plate of the machine, assist in resetting the parts.

The means for lifting the filing and cutting frames at each operation of the machine may be described as follows: In rear of the rock-shaft P, heretofore described, is a second rock-shaft X' journaled at its ends in bearings upon the sides of the casing. Fast upon this rock-shaft X', near its middle, is a forwardly extending arm Y' having a slot in its forward

end, in which slot fits a stud Z' projecting from the side of a lug A^2 formed upon the rear side of the plate N' of the filing frame. Fast upon the shaft X' near its right hand end, Figs. 5^a and 5^b, is a collar B^2 provided with an upwardly and forwardly projecting lug C^2 . Loose upon the shaft X' beside the collar B^2 is a forwardly projecting plate D^2 . A lug E^2 projects laterally from the side of this plate beneath the lug C^2 on the collar B^2 , and a coiled spring F^2 connected at one end to the lug E^2 and at its other to a pin or screw upon the rear side of the collar B^2 , pulls the plate D^2 upward and rearward, its movement in that direction being limited by the engagement of its lug E^2 with the lug C^2 . Formed upon the right side of the plate D^2 , Fig. 3, is a cam G^2 with which co-operates a pin or stud H^2 projecting from the left side of an arm I^2 fast upon the rock-shaft P . When the shaft P is rocked forward to its limit of stroke by means of the operating handle upon its left hand end, as heretofore described, the arm I^2 will be carried upward and forward to the position shown by the dotted lines in Fig. 3. In moving to this position the stud H^2 will engage the rear side of the cam G^2 near its upper end and rock the plate D^2 slightly forward against the stress of the spring F^2 , as the stud clears the end of the cam. The spring F^2 will then re-set the plate and carry the cam back into the path of the stud, so that when the shaft P is rocked backward by the return stroke of the operating handle the stud H^2 will engage the forward side of the cam and force the plate D^2 upward and rearward. Inasmuch as the lug E^2 upon the side of the plate D^2 is held in engagement with the lug C^2 upon the collar B^2 fast upon the shaft X' , as before explained, the plate D^2 in its upward and backward movement will rock the shaft X' and cause the arm Y' heretofore described to lift the filing and cutting frames. The length and shape of the cam G^2 and proportion of the parts are such that the cutting and filing frames will be lifted the proper distance to sever the several strips and file the record slip upon the pin, in the manner before described, before the stud H^2 clears the lower end of the cam. When it escapes the cam the springs applied to the cutting frame immediately re-set the parts to the positions shown in the drawings.

The spindle of the lower feed-roller L is supported at its ends upon the forward ends of short levers J^2 pivoted near their middles to the supports $M N$ respectively. The forward ends of these levers may be raised and lowered, to regulate the pressure of the lower two feed-rollers against each other, by means of set screws K^2 passed upward through their rear ends and bearing at their upper ends against lugs or other projections L^2 upon the supports $M N$. The rollers $J K$, of the upper and lower pairs, respectively, are separated and the roller K held in position by fingers M^2 projecting forward from plates N^2 , Fig. 5^a.

These plates are guided to slide backward and forward by means of screws O^2 projecting from their outer sides through slots P^2 in the upper ends of the supports $M N$, as seen in Fig. 3. Arms or levers Q^2 pivoted to ears Q^3 upon the upper sides of these plates co-operate at their front ends with the spindle of the upper feed-roller I , to hold it in position, and may be adjusted, by means of set screws R^2 passed through their rear ends, to regulate the pressure of the roller I upon the roller J beneath. When the plates N^2 are slid rearward the fingers M^2 are withdrawn from between the rollers $J K$ and the arms Q^2 from engagement with the spindle of the roller I . All of the rollers are then free to be removed from the slots in the supports $M N$, to permit the ends of the paper strips to be passed between them when new rolls of paper are placed in the machine, or for any other desired purpose. When the plates N^2 are slid backward the ends of the arms Q^2 are withdrawn from engagement with the spindle of the roller I before the fingers M^2 are withdrawn from between the spindles of the rollers $J K$. The pressure of the rollers $I J$ against each other is thus relieved before that between the rollers $K L$. The purpose of this is, that by sliding the plates N^2 backward only a part of their limit of movement the pressure between the rollers of the upper pair, which advance the check strips, may be relieved while that of the lower pair, which advance the record strip, will be maintained. By placing his hand upon the check strips and holding them from forward movement the proprietor at the end of a day's business may give the operating handle a couple of forward and backward strokes, to feed forward and file the two record slips remaining between the front end of the writing tablet and the cutting point for the record strip, without advancing and cutting off two sets of blank checks as would otherwise be necessary.

The plates N^2 are moved backward and forward when desired by means of eccentrics on a shaft S^2 journaled at its ends in the upper rear corners of the supports $M N$ and provided on its right hand end with a thumb screw T^2 , Fig. 2, for turning it. The eccentrics are formed by grooves cut in the shaft in line with the plates N^2 , as seen in Fig. 8, and the lower ends of the plates are slotted or forked as there shown, to embrace the eccentrics. In the position of the parts shown, when the shaft S^2 is turned rearward by means of the thumb screw T^2 the plates N^2 will be slid rearward, and vice versa. The thumb screw and adjacent face of the casing may, if desired, be provided with co-operating indices by which it may be seen just how far to turn the shaft to move the plates N^2 far enough rearward to disengage the arms Q^2 from the spindle of the upper roller without withdrawing the fingers M^2 from between the rollers $J K$, for the purpose before explained, and how far to move it to completely

release all the rollers, and also the position to which to move it to lock them all in operative position as shown in the drawings.

Having thus fully described my invention,

5 I claim—

1. In an autographic register, the combination of a movable knife-carrying frame, a filing frame carried thereby and having limited movement thereon, and operating means
10 applied to the filing frame for actuating both frames to sever the strips and file the record slip, substantially as described.

2. In an autographic register, the combination of a movable knife-carrying frame, a filing frame mounted to slide in guides thereon, a stop for limiting the independent movement of the filing frame and lifting means
15 applied to the filing frame for lifting both frames, to sever the strips and file the record slip, substantially as described.

3. In an autographic register, the combination of a movable knife-carrying frame, a filing frame mounted to slide in guides thereon, a stop for limiting the independent movement of the filing frame a rock-shaft, an arm
25 fast upon said shaft and connected with the filing frame, for actuating both frames, and means for rocking the shaft, substantially as described.

4. In an autographic register, the combination of the knife-carrying frame J' , the filing frame mounted to slide in guides thereon and carrying the filing pin Q' , a stop for limiting the independent movement of the filing frame
30 the rock-shaft X' , the lifting arm Y' fast thereon and co-operating with the filing frame, the cam plate D^2 loose upon the shaft

X' , the lug C^2 fast thereon, the spring F^2 connecting the two, the rock-shaft P , and the arm I^2 fast thereon and carrying the stud H^2 co-operating with the cam G^2 on the plate D^2 ,
40 substantially as described.

5. In an autographic register, the combination of the reciprocating cutting frame J' , the filing frame mounted to slide thereon and
45 composed of the plate N' and plate O' projecting at substantially a right angle therefrom, the removable plate P' carrying the filing pin Q' and fitting in a longitudinal recess in the plate O' and lifting means applied
50 to the filing frame, substantially as described.

6. In an autographic register, the combination of a pair of feed-rollers for the check strips and a separate pair of feed-rollers for the record strip, and a knife-carrying frame
55 carrying two knives arranged in different cutting planes, one for severing the check strips and the other for severing the record strips, substantially as described.

7. In an autographic register, the combination of the supports M N , the four feed-rollers
60 I , J , K and L journaled in slots therein, means for operating said rollers, the plates N^2 provided with fingers M^2 separating the two pairs of rollers and with arms Q^2 bearing
65 on the spindle of the upper roller, and the shaft S^2 having the eccentrics co-operating with the plates N^2 in the manner and for the purpose described.

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