

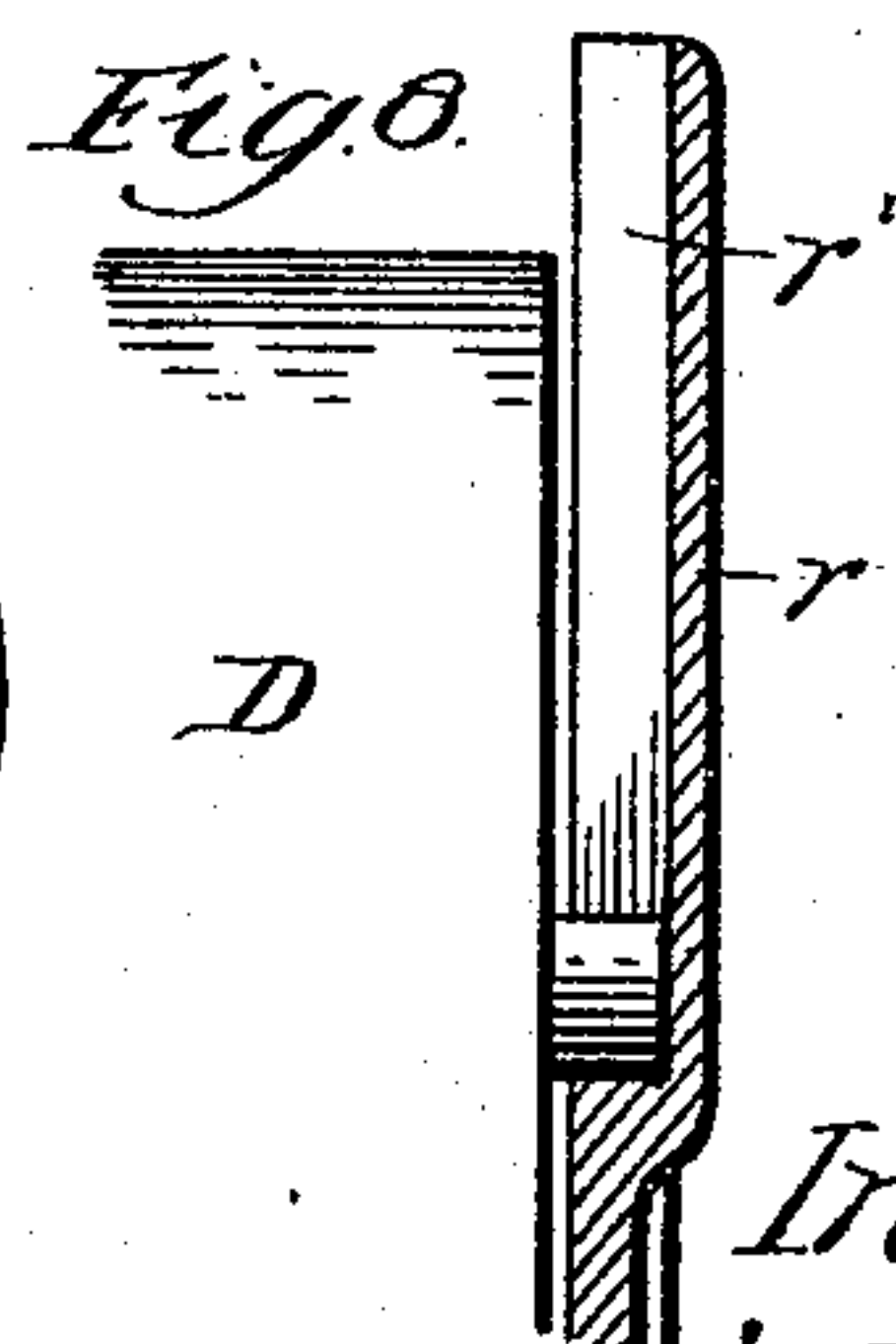
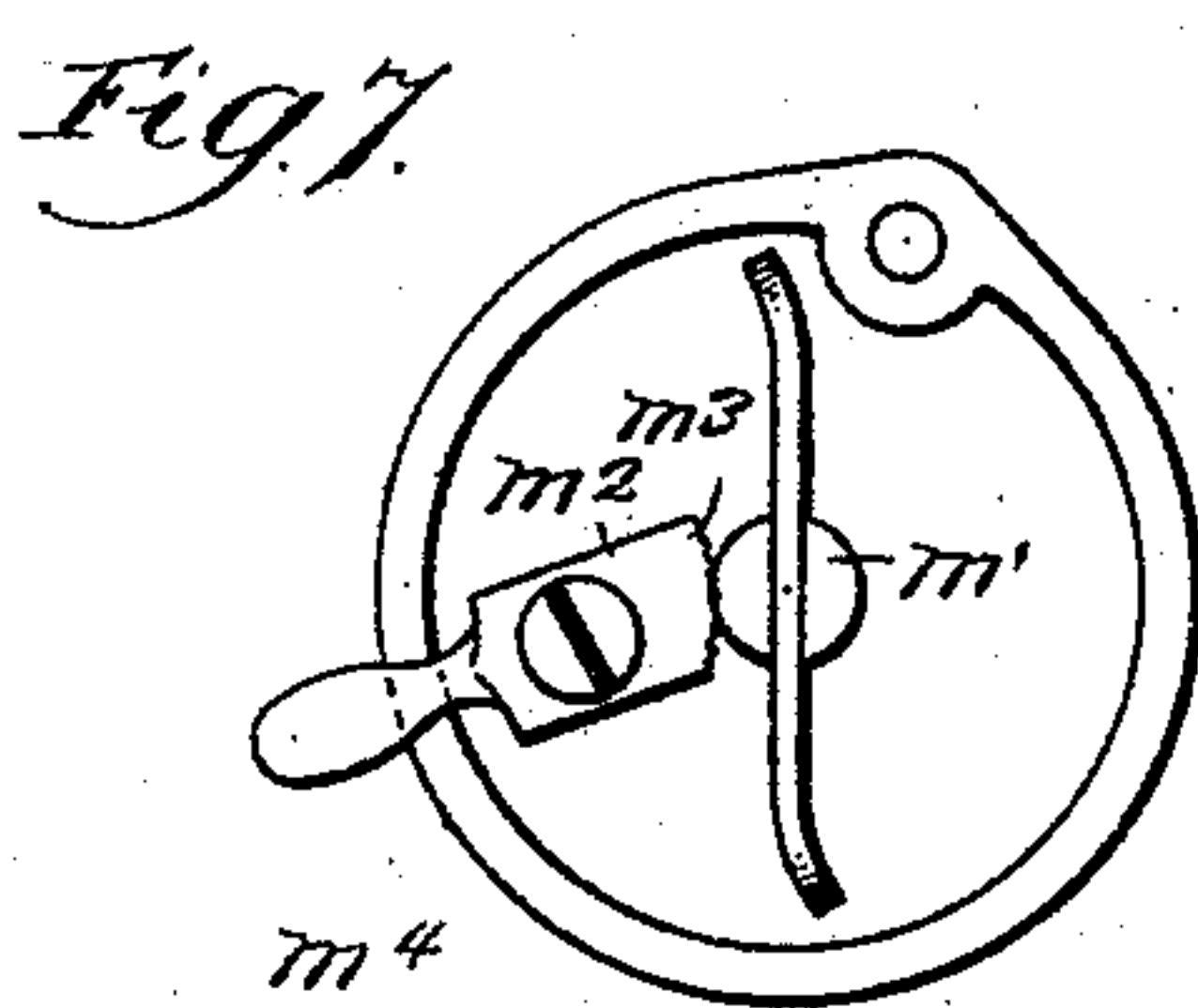
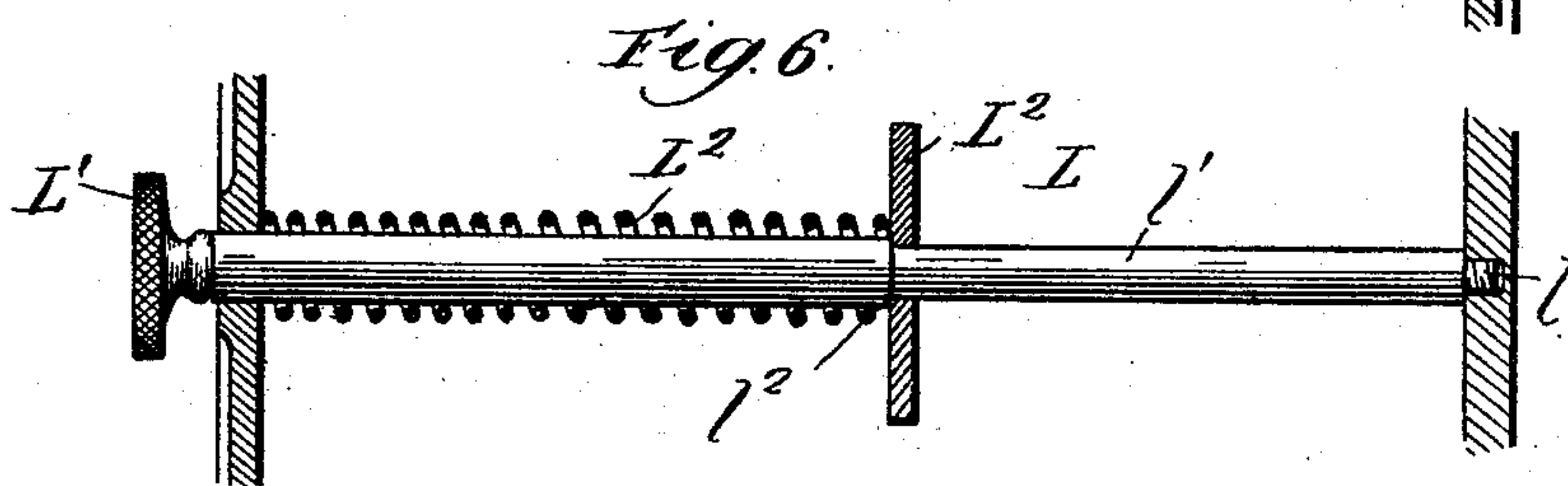
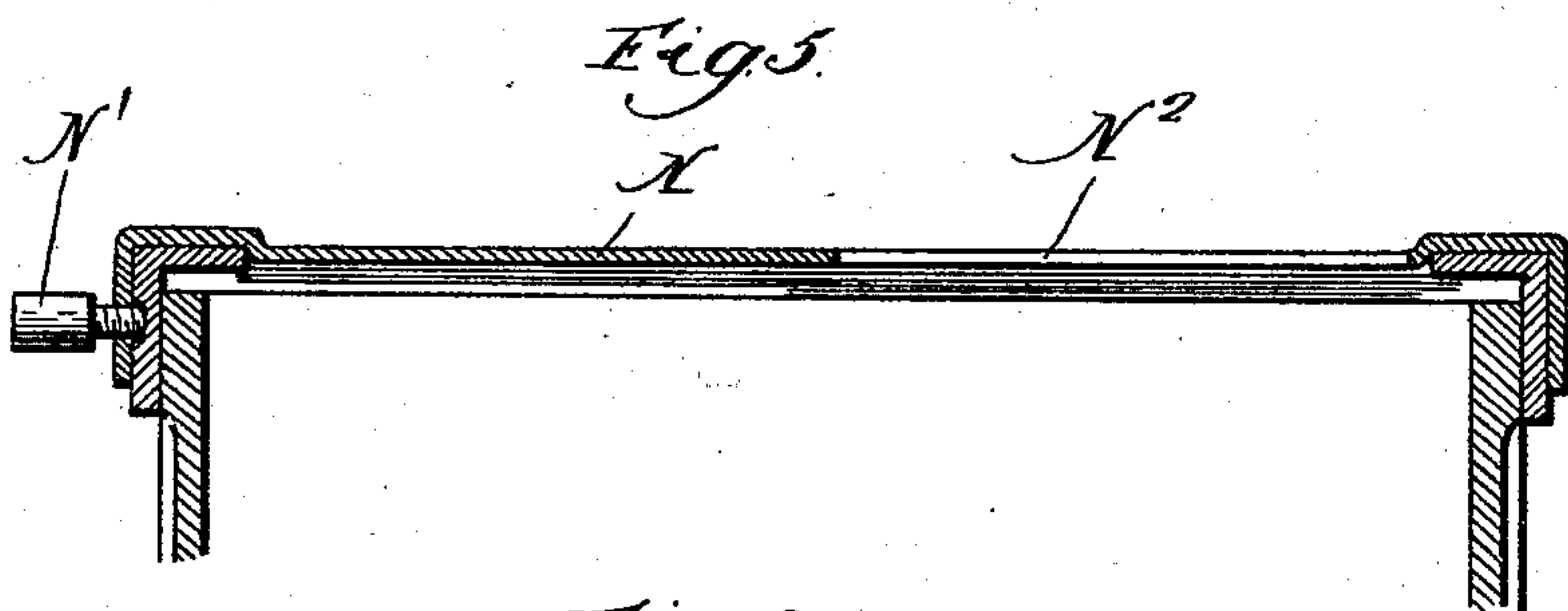
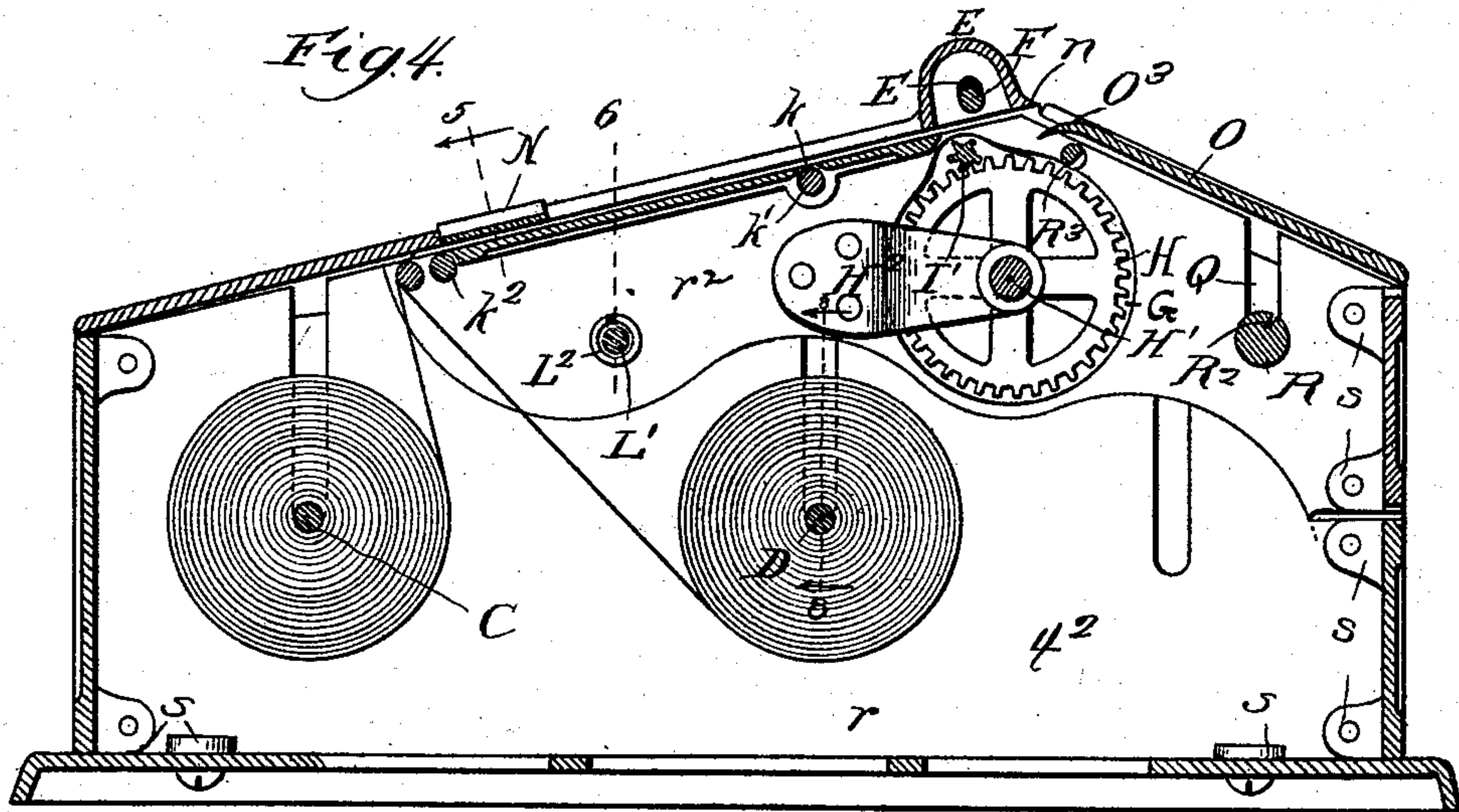
(No Model.)

2 Sheets—Sheet 2.

D. T. BAXTER.
AUTOGRAPHIC REGISTER.

No. 543,420.

Patented July 23, 1895.



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UNITED STATES PATENT OFFICE.

DAVID T. BAXTER, OF HAMILTON, CANADA.

AUTOGRAPHIC REGISTER.

SPECIFICATION forming part of Letters Patent No. 543,420, dated July 23, 1895.

Application filed March 24, 1894. Serial No. 504,936. (No model.)

To all whom it may concern:

Be it known that I, DAVID T. BAXTER, a subject of the Queen of Great Britain, residing at Hamilton, Province of Ontario, Canada, have invented a new and useful Improvement in Autographic Registers, of which the following is a specification.

My invention relates to an improvement in autographic registers.

Apparatus of this class comprises usually a case containing two or more feeding-rolls of paper adapted to pass across an opening in the upper face, where the upper sheet may be written upon with a pencil or stylus, the mark or impression thus made being transferred to the lower sheet or sheets through interposed manifold paper, one or more of such strips being usually severed, while another or several of the strips may be adapted to pass into the casing, sometimes into a special compartment thereof, for preservation as a check-slip. It is the practice sometimes also to provide a "summary-strip," so called, by which is understood a strip separate from the sale-slip or check-slip, upon which is to be written only the sum total found in any slip, such summary-strip being capable of removal from the apparatus to enable the summary of various slips to be readily and conveniently added together.

The object of my invention is primarily to improve the construction of autographic registers of the general class herein set forth, whereby the operation may be simplified and the manufacture made more economical, whereby the rolls containing the strips from which the sale and check slips are to be severed may be ready of access, whereby the feeding of the paper may be quickly and uniformly accomplished, and whereby the operation may be generally improved.

A further object of my invention is to improve the general structure of the register, whereby access to its interior may be impossible to all unauthorized persons, while the apparatus, being in easily-separated parts, may be more easily manufactured.

In the drawings, Figure 1 is a perspective view of an autographic register embodying my improvements. Fig. 2 is a longitudinal central vertical section through the same. Fig. 3 is a vertical transverse section taken

on the irregular line 3 of Fig. 2. Fig. 4 is a longitudinal vertical section taken centrally through the register and viewed in the direction opposite to that of Fig. 2. Fig. 5 is a vertical transverse section taken on the line 5 of Fig. 4. Fig. 6 is a vertical transverse section taken on the line 6 of Fig. 4. Fig. 7 is a side elevation of the feeding-handle and its pawl, and Fig. 8 is a sectional view showing the roll-carrying bearing in the wall of the apparatus.

A represents the outer casing, which comprises the base t , sides $t' t^2$, each made in two parts, as shown, for a purpose hereinafter described, the front end piece t^3 , the rear end piece t^4 , made in two parts, for a purpose hereinafter described, the hinged top plate B, and the hinged top plate O'. The sides $t' t^2$ and ends $t^3 t^4$ are provided with inward projecting ears s , perforated for the reception of screws, whereby the said sides and end pieces may be bolted together and to the base t .

The lower half r of each side $t' t^2$ is provided with vertical recesses r' to receive one end of the paper rolls C and D. The drawings illustrate three such bearing-recesses r' , the device, as illustrated in the drawings, being intended for use, if desired, with a third roller, as hereinafter set forth.

The upper half r^2 of the side walls $t' t^2$ has a hinged connection with the lower half, afforded by the ears p , extending from the upper section r^2 , through which ears screws p' pass into the wall of the lower section r . The lower edges of the sides r^2 serve to close the bearing-recesses r' and thus constitute a closed recess in which the roller end is carried.

The upper or hinged section r^2 of the sides carries the feeding device, the summary-rollers, the manifold paper, and the plate against which the writing is performed. The sides are held together by being bolted to the end plates t^4 at one end and to the impression-plate o , as indicated in Fig. 2 of the drawings, said impression-plate being provided with ears o' for this purpose.

The hinged top plate B is provided with the ears B' , through the medium of which it is hinged to the front end of the case, as indicated in Fig. 1, said top plate B having the opening B^2 in its face, through which the strips are exposed, as hereinafter described,

so that they may be written upon, and at its opposite or free end the plate B is formed into a transverse hood or housing E. In this hood or housing E, and supported in bearings in the form of holes E' at opposite ends thereof, is located a roller F, provided at a central point with a milled enlargement F'. Within said hood or housing E, and bearing against said roller, is a spring F², the function of which is to maintain the roller normally and under spring-tension in a position to enable the milled enlargement F' to co-operate with the other member of the feeding device, hereinafter described.

The free end of the swinging plate B is preferably in the form of a knife-edge *n* for the ready severance of strips of paper. At its outer edges the free end of the pivoted plate B extends forward in the form of tongues *n'*, for a purpose hereinafter described.

The upper section *r*² of the side *t*² of the apparatus is provided with a circular recess G, centrally perforated, in which recess is located a toothed wheel H, the shaft H' of which passes through the perforation mentioned and is supported in the hanger-plate H². The outer end of the shaft H' carries the handle H³, and the inner end is cut away to constitute one member of a clutch, as indicated at *m*. The stem of the handle H³ is milled, as indicated at *m'*, and a gripping-pawl *m*² is pivotally supported adjacent to the handle-stem in such position that its milled face *m*³ may engage the milled surface *m'* of the handle-stem. The gripping-pawl *m*² is provided with a tail-piece *m*⁴ to permit it to be readily lifted out of engagement with the handle when desired. This construction is clearly shown in Fig. 7.

Having its bearing at opposite ends in the opposite walls of the upper section *r*² is a milled roller I, one end of which, as indicated at I', is cut to the form of a pinion meshing with the teeth on the wheel H. The milled roller I co-operates with the milled enlargement F' of the roller F as a means for feeding onward across the opening B² the strips upon the rollers C and D. It will be obvious that a slight turning of the handle H³ will produce considerable movement in the strips fed by said rollers, because the number of teeth on the wheel H is several times greater than the number of teeth on the pinion I'. It may here be stated that in the construction illustrated there are ten times the number of teeth on the wheel H than there are on the pinion I', so that a single complete revolution of the handle H³ will produce ten revolutions of the roller I. A half-revolution of the handle will move the check and sale strips about five inches—the usual length of the check and sale slips. The economy of motion thus effected constitutes a material advantage in an apparatus of this kind.

A shaft K having its bearing at one end in a recess formed in the wall of the upper section *r*² of the side piece *t'* is cut away at its

opposite end to produce the other member of the clutch *m*, said shaft K, when the members are brought together, thus constituting a continuation of the shaft H'. A collar K', free to slide backward and forward under the tension of the spring K², embraces the shaft K and is adapted to embrace the clutch members to constitute a simple form of releasable clutch. The spring K² has its opposite bearing in a flange K³, which flange also serves as a lateral wall for the space within which the shaft K is wound with paper, constituting the summary-roll. The function of the shaft K being to carry the summary-roll after the marks have been made thereon, it will be spoken of hereinafter as the "summary-receiving roller."

Toward the opposite end of the section *r*² there extends from one side to the other of the apparatus a shaft L, Fig. 6. This shaft L passes through the wall of the case on the side *t*², where it is provided with a milled handle L', while the opposite end is screw-threaded, as shown at *l*, to enter a corresponding screw-threaded socket in the opposite wall on the side *t'*. The shaft L is reduced in diameter in part of its length, as indicated at *l'*, to present the shoulder *l*², and receives the freely-moving disk L², against which bears a spring L³, surrounding the enlarged part of the shaft L, and having its opposite bearing against the wall *t*².

It will be understood that the disk L² is free to rotate and move longitudinally of the reduced part *l'* of the shaft. This reduced part *l'* of the shaft L receives the feed-roll of the summary-strip, said feed-roll being held under tension on said shaft by the pressure of the disk L², under its spring-tension. It is found that the tension thus obtained is sufficient for all purposes.

The impression-plate *o* is provided at a point near one end with a short transverse slot *k*, beneath which is supported a roller *k'*, and the summary-strip M passes from the roll on the shaft L around the roller *k*², along the face of the plate *o*, through the slot *k*, and thence to the summary-receiving roller K.

An adjustable slotted plate N slides on ways afforded in the sides of the hinged plate B, and is adapted to be held in an adjusted position by a set-screw N'. This plate N has a transverse elongated slot or opening N², the function of which, it may here be stated, is to provide a fixed location, through which the summary is written upon the strip. The hinged plate O is hinged through ears and held to the walls of the case by these hinges O', and at its opposite end it is provided with lateral forward projecting ears O², which cover the ears *n'* on the hinged plate B. Between the ears O² the forward edge of the plate O is bent downward, as indicated at O³, thereby to afford a sufficient opening between the edge of the plate O and the knife-edge *n* for free passage of the strips.

The plate O is provided on its under face

with a catch-lock P, the catch P' of which engages a transverse rod P² extending from one side t' to the other side t² in the upper member r² of this part of the device.

5 It will be obvious that when the plate O, which constitutes the lid, is closed and the catch P' engages the rod P² the entire apparatus is locked and access to the interior prevented, since the plate O holds down the plate 10 B and the plate B in turn holds down the upper section r². The catch-lock P is provided with the usual key to enable it to be opened by authorized persons.

At the head of the case, in slots Q formed 15 in the side walls of the part r², is hung a roller R, having a handle R' extending out from the side of the case. This roller R is provided with a slot R², and its function is to receive the lower check-strip in cases where 20 the check-strip is to be retained in the case without being severed, while the sales-slip is to be severed at the knife-edge n. In such cases the check-strip, which would be obtained from the roll D, passes over the guide- 25 rollers, across the plate B², and, if required, under a roller to the roller R, which latter thereupon constitutes the means for advancing the strips. In this event the movement of the strips under the advancing action effected in the roller R produces rotation of the 30 milled roller I, and through this of the gear-wheel H, and thus of the summary-roller.

The operation is as follows: A summary-strip is caused to pass from the shaft L over 35 the plate o to the summary-receiving roller K. A strip of manifolding-paper S is thereupon laid upon the plate o, it being preferred that this manifolding-sheet shall be cut away, so that only so much thereof will cover the 40 summary-strip as is necessary for the space in which the summary is to be written. Where slips of uniform length only are to be provided for, the summary usually being written in the lower right-hand corner of 45 such slip, the slot k, instead of being formed as indicated in Fig. 2 of the drawings, near the upper end of the plate o, may be formed near the lower end thereof, as indicated by the arrow-point x, Fig. 2, and the summary- 50 strip after passing over the roller k² will pass through this opening x, and thence to the summary-receiving roller K. With either of these arrangements, however—that is to say, whether the summary-strip be exposed itself 55 for a short distance only above the plate o, or the manifolding-paper be cut away, so that a small part thereof only covers the summary-strip—the same result is obtained—namely, that no marks made upon the upper or sales 60 slip in any part thereof, excepting at the point where the summary is to be indicated, will be transferred to the lower or summary strip. Over the manifold-strip S is now placed the strip from the roller D, which constitutes 65 the check-strip; over this a sheet S of manifold paper, and over this again the strip from the roller C, which constitutes the sales-strip.

The ends of the strips from the rollers C and D are drawn over the roller I, and the hinged plate B being thereupon returned to the position shown in Figs. 1, 2, and 3, the feed- 70 rollers F and I are in position for feeding the strips. The plate N is adjusted in position, so that the aperture N² therein will coincide with the lowest manifold-strip S, 75 where the latter is cut away to leave only a small part exposed for operation or to coincide with the exposed part of the summary-strip M, if the latter pass through a recess K, located at the point x, Fig. 2. The register 80 being closed and locked it is now to be used in the manner common with apparatus of this nature—that is to say, the writing is done with a pencil or stylus upon the strips through the opening B², which writing is 85 transferred to the check-strip from the roll D by the interposed manifold paper, and the summary or total of the slip thus written is put in the space prescribed within the slot N², which mark, for reasons explained, is trans- 90 ferred by the manifold paper, not only to the check-strip D, but also to the summary-strip M. The slip having been written, the handle H³ is turned until the requisite amount of sales-slip from the roll C is caused to pass 95 beyond the knife-edge n, when it may be severed. Owing to the differential gear between the summary-roller and the check and sales strip feeding-rollers, a much greater movement occurs in the check and sales strips C 100 and D than occurs in the summary-strip M. In the device illustrated a movement of five inches in the check and sales strips occurs with a movement of a half-inch in the summary-strip. At the conclusion of the day, or 105 at any other time, the register being unlocked and the hinged-plate B lifted, the upper section r² of the sides, with the parts carried thereby, may be lifted on the hinge p to give access to the interior, whereupon the clutch 110 members m may be separated, the summary-roller K removed, and the summary-strip withdrawn therefrom, being torn from the remainder of the strip for this purpose. It will then be found that the summary-strip shows 115 in accurate alignment a half-inch or less from each other in convenient arrangement for addition the summary of each slip written in the machine.

It will be understood that my invention is 120 not limited to the use of any particular number of rolls C D, nor is it limited to specific details of construction, excepting where such details constitute mere improvements in autographic registers as heretofore constructed. 125

I make no claim in an autographic register in which a plurality of strips of paper are employed to the combination with a writing-tablet over which the paper strips are propelled, and manifolding material between the 130 upper strips of paper, of a sheet of manifolding material narrower than said tablet interposed between the lower and upper strips of paper, and feeding mechanism for the lower

strip, which when actuated feeds said strip a shorter distance than the upper strips are fed; but

What I claim as new, and desire to secure by Letters Patent, is—

1. In a case for an autographic register, the combination of the base section r , upper section r^2 hinged to the base section at the rear end thereof, plate O, hinged to the section r^2 at the rear end thereof, locking means for securing the plate O to the section r^2 , and plate B, hinged to the base section r at the rear end thereof, and of such length as to be overlapped by the plate O, whereby, when the section r^2 , plate B and plate O are folded together in the order named locking of the plate O to the section r^2 locks the whole case, substantially as described.

2. In an autographic register, the combination with the rollers for the check and sales and summary strips and with the plate against which impressions are made, the top plate having the opening through which the strips are exposed, and the summary guide plate having a slot, adjustably secured to said top plate, substantially as and for the purpose described.

3. In an autographic register, the combination with the sides t' , t^2 , having the upper sections, r^2 , hinged, as at p' , said upper sections carrying the feed mechanism for the strips of a hinged cover plate B, having the projecting ears, n' , and the hinged cover plate O, provided with a lock and having the projecting

overlapping ears, O^2 , substantially as and for the purpose described.

4. In an autographic register, the combination of the check and sales strip rollers and with the plate o, of a summary strip roll-carrying shaft and summary strip receiving-roller, in position to carry a summary strip over the plate o, of a hinged plate B, presenting the opening B^2 , and the adjustable plate N having the slot N^2 , substantially as described and for the purpose set forth.

5. In an autographic register, the combination with the rollers for the check and sales strips and the summary strip of the feed roller I having the pinion I' and its companion feed roller, the gear wheel meshing with said pinion and carrying the shaft of the summary roller, and the removable roller R, having a handle R' , and adapted to receive the check strip, substantially as and for the purpose described.

6. In an autographic register, the combination of the summary roll receiving roller K, having a bearing at one end in the wall of the case, and having at its opposite end a clutch member, the shaft H' , and having at one end a clutch member for coupling with the shaft K, the sleeve K' and spring K^2 , all as and for the purpose described.

DAVID T. BAXTER.

In presence of—
E. P. AITKEN,
CHAS. LEMON.