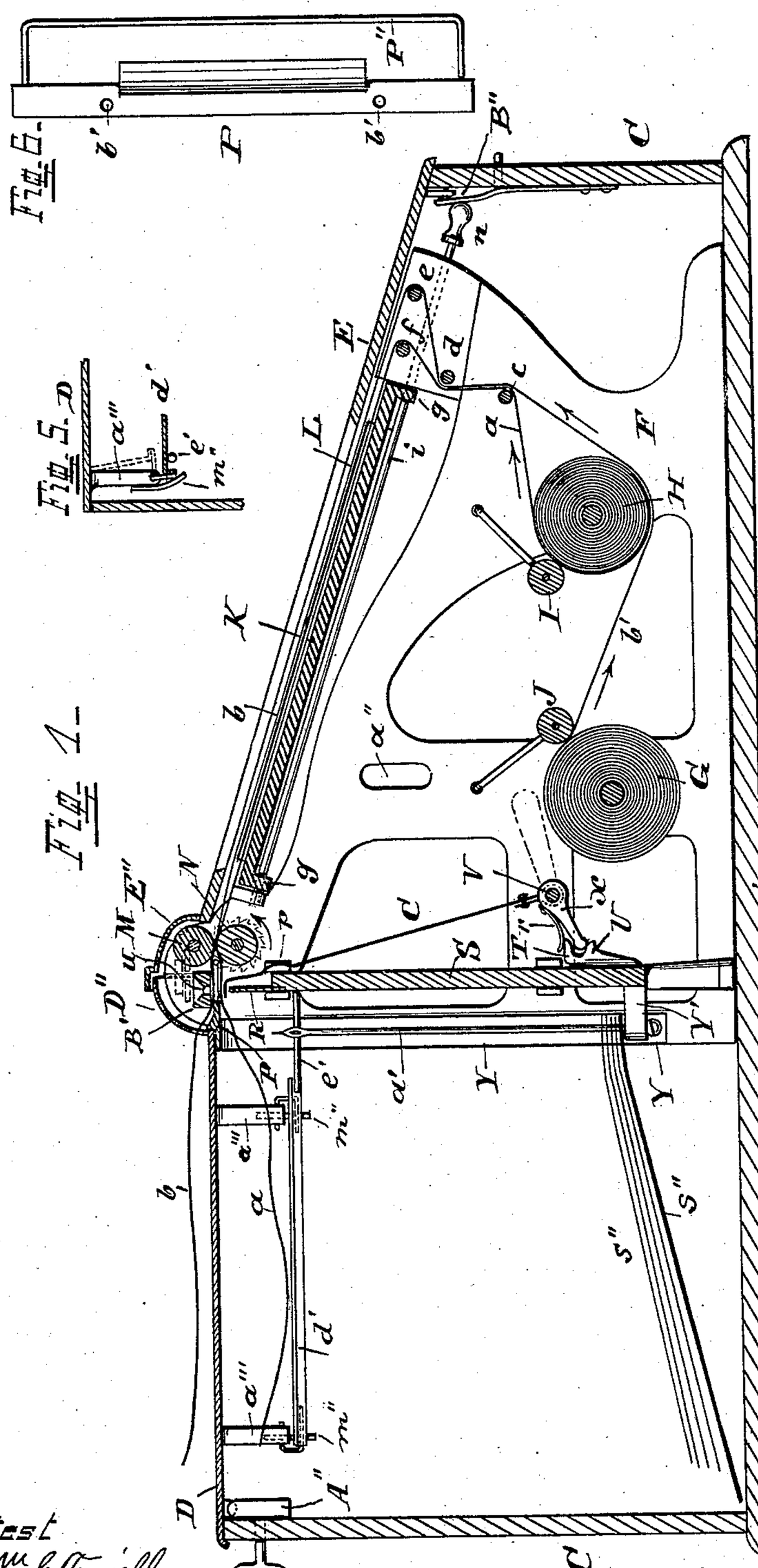
(No Model.) 2 Sheets—Sheet 1.

J. B. THIES.

AUTOGRAPHIC REGISTERING APPARATUS.

No. 455,444. Patented July 7, 1891.



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(No Model.) 2 Sheets—Sheet 2.

J. B. THIES.

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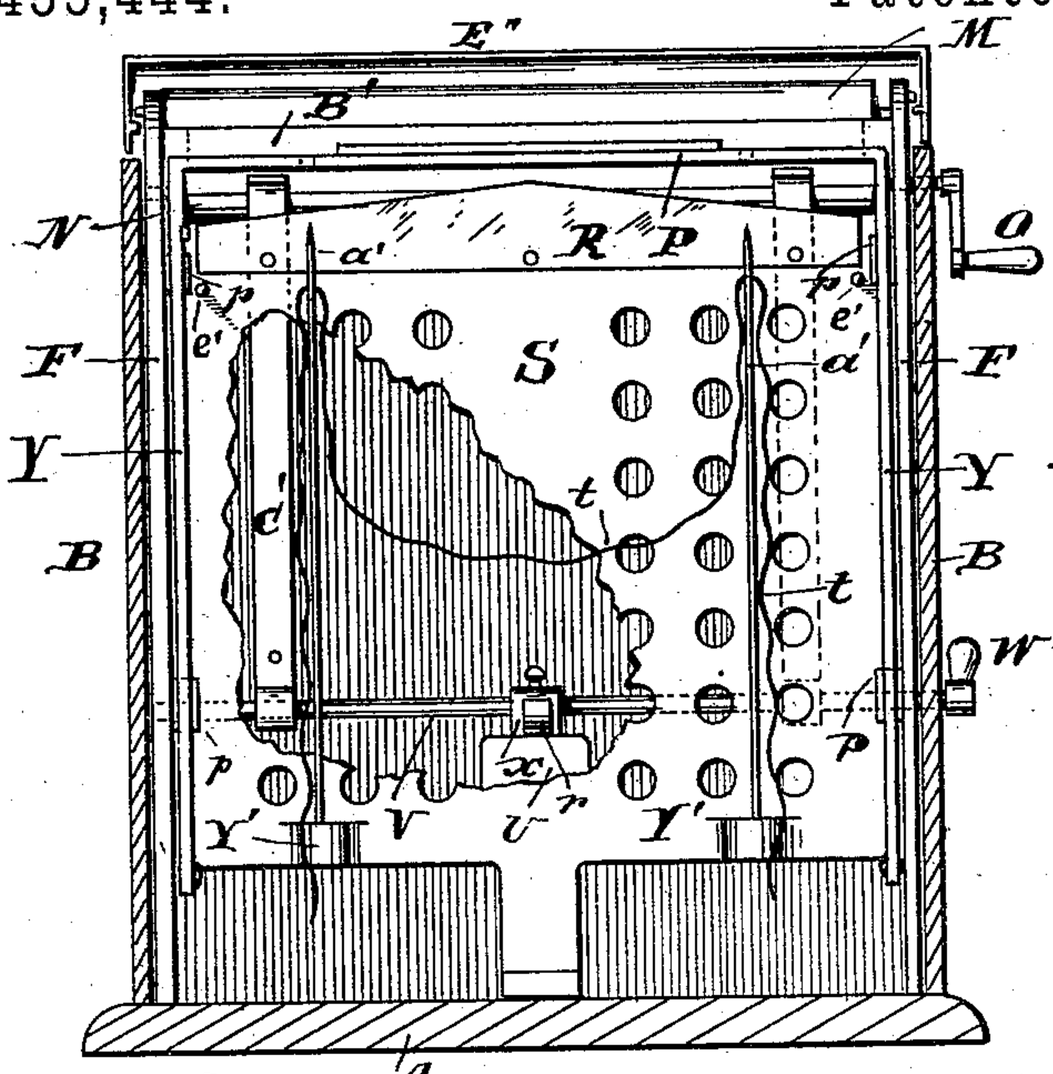

Fig. 2.

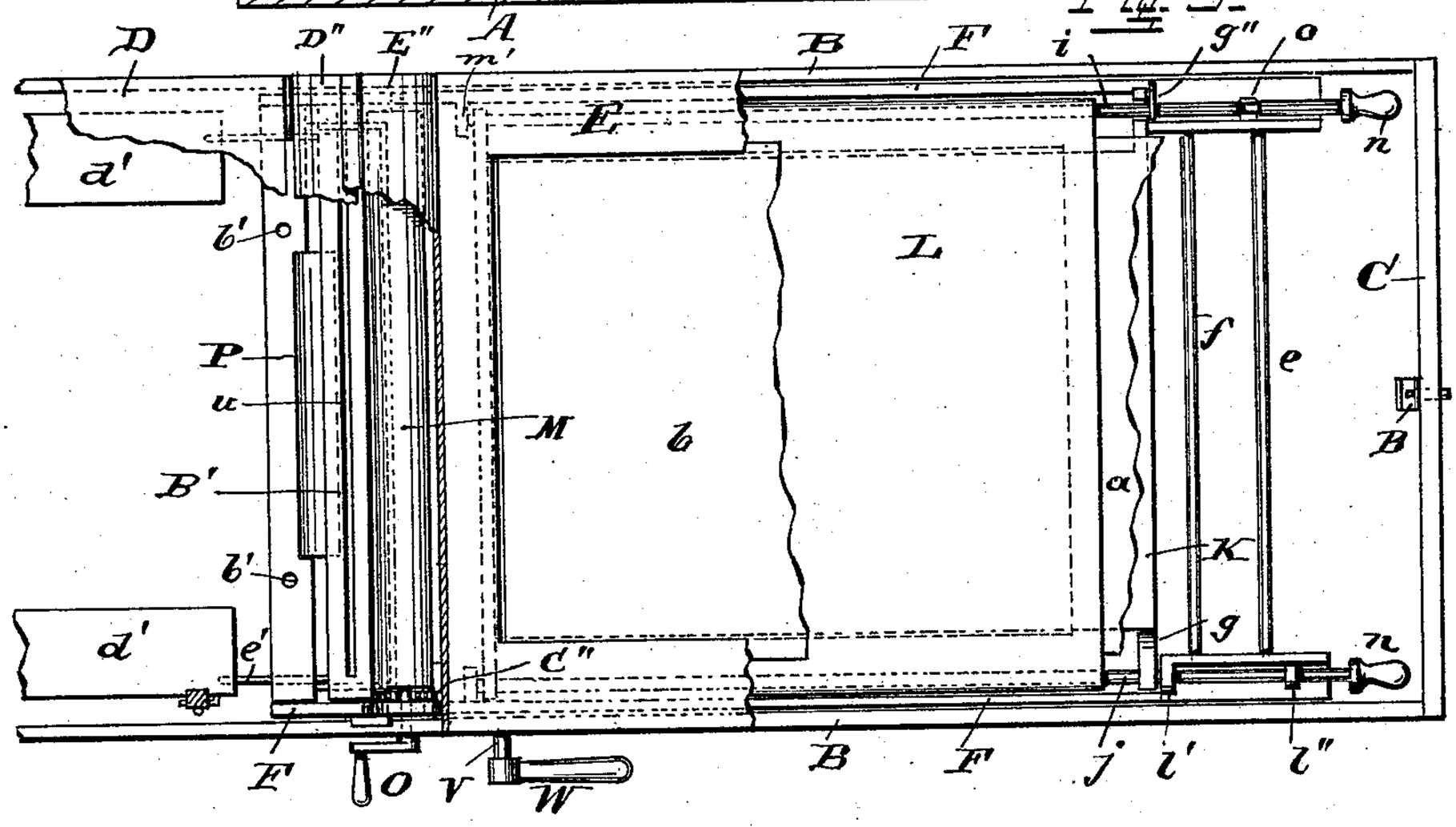

Fig. 3.

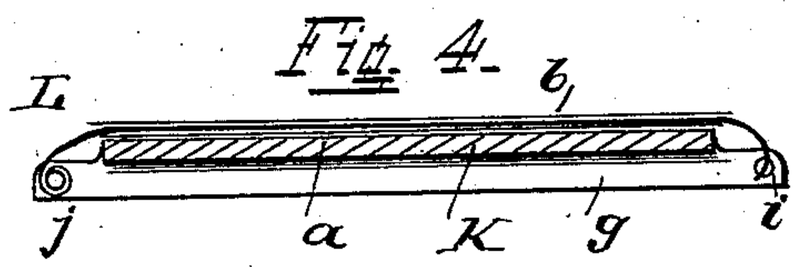

Fig. 4.

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UNITED STATES PATENT OFFICE.

JOHN B. THIES, OF DAYTON, OHIO.

AUTOGRAPHIC REGISTERING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 455,444, dated July 7, 1891.

Application filed December 24, 1889. Serial No. 334,844. (No model.)

To all whom it may concern:

Be it known that I, JOHN B. THIES, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Autographic Registering Apparatus, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to improvements in apparatus for registering autographic writings, the original of which is to be used by the writer while duplicates thereof are automatically filed away and secretly preserved; and it consists of various improvements in the mechanism thereof, which will hereinafter more fully appear.

In the accompanying drawings, Figure 1 is a central longitudinal section of the apparatus; Fig. 2, a cross-section thereof with a part of the knife-carrier frame cut away. Fig. 3 is a top plan view of the apparatus with parts of the top casing broken away. Fig. 4 is a cross-section of the writing-tablet. Fig. 5 is a detail view in cross section of one of the guiding-shelves of the filing-compartment. Fig. 6 is a top plan view of the divider bar and rod. Fig. 7 is a detail view of one side of the writing-tablet. Fig. 8 is a cross-section of Fig. 7.

Like letters of reference indicate identical parts in all the figures.

The apparatus is incased in a box or casing consisting of the bottom A, sides B B, and ends C C. The top cover is made in two separate parts—a horizontal portion D, which covers the filing-compartment of the apparatus, and an inclined portion E, where the writing is done, and which covers the paper-rolls. The top D is provided with a curved flange D″, and the top E is also provided with a similar curved flange at its inner end E″, the flange D″ fitting under the flange E″, and thus the filing and cutting mechanism is properly covered. The flange D″ is provided with a horizontal slot to allow for the passage of the paper. The cutting and filing mechanism occupies the central portion of the case, and thus the filing-compartment is completely separated from the paper-supplying compartment, while the two covers D and E are slid in grooves onto the case and each secured by a lock or catch, so that access may be had to either compartment independent of the other.

A″ is the lock for the cover D, and I prefer to use a simple catch B″ for the cover E, so that access may be had at any time to the paper-supplying compartment.

F F is a metallic frame-work to support the various working parts of the apparatus, and in this frame the paper-rolls G H are journaled in proper bearings. I have shown only two rolls of paper; but when desired a third roll can be used, journaled in the slot *a″* of the frame, and thus two duplicate copies made. The paper-rolls G H supply the paper upon which the writings are to be made, and guide-rods *c*, *d*, *e*, and *f* are extended horizontally from side to side of the metallic frame, around which the paper may be drawn to keep the same from being drawn out unevenly. The paper *a* from roll H is passed under guide-rod *c*, over *d*, and under *f*, while the paper *b* from roll G is passed under roll H and rod *c*, over rod *d*, and under rod *e*, while to keep the paper taut tension rolls or weights I and J are employed, hung on arms pivoted to the metallic frame.

K is the writing-tablet upon which the copies are made. This tablet is supported by the cross-bars *g g* and the rods *i j*, which together form a rectangular frame, the rods passing through the cross-bars, as shown in Fig. 4. The rod *i*, however, is arranged so that it can be raised up independently of the rest of the frame, the cross-bar *g* being grooved, as shown in Fig. 7, to support the rod *i*, and a catch *g″*, swinging on the rod *i*, as shown in Figs. 7 and 8, is used to hold the rod on the frame and arm *g‴* on this catch, fitting under the cross-bar *g*, and when it is desired to remove the rod *i* independently of the rest of the frame this catch is raised and the rod thus released. The rod *j* passes loosely through ears *l*, *l′*, and *l″* on the metallic frame F, which thus forms a hinge, while the other rod *i* rests in corresponding ears *m m′* on the opposite frame. The copying paper or cloth L is wound on these two rods *i* and *j*, and by means of the handles *n n* the copying paper or cloth can be drawn from side to side when a new copying-surface is required. A clamp *o* holds the rod *i* in position when in use.

I prefer to use prepared cloth for my copying medium, as numerous copies can be made before it is necessary to shift the cloth, and when this is done, the cloth being wound tightly on the rod and in contact with the balance of the prepared cloth, the ink used soaks through and thus re-inks the used portions of the copying medium.

My arrangement for holding the copying-cloth is of considerable advantage, as fresh portions of the cloth can be presented without touching the cloth by winding up one of the rods, and when the paper strips upon which the copies are to be made are to be adjusted the rod *i* can be removed from the frame and the copying-cloth raised up out of the way without soiling the hands or injury to the cloth by handling it. Of course when three rolls are used and two duplicates are to be made two sheets of copying-cloth must be used. When the copying-cloth is raised up, as described, the paper *a* from the roll is passed over the top of the tablet. The copying or transfer cloth is then brought down over this, the rod *i* returned to its place, and the second sheet *b* passed over the copying-cloth, and in this way any writing made on sheet *b* will be transferred to sheet *a* and a duplicate thus made, and similarly when two duplicates are to be made. The lid or top E, which is cut away to allow for the writing, as shown in Figs. 1 and 3, covers all the other working parts. This cover E can be removed, as described, and the writing-tablet raised up on the rod *j* as a hinge, whenever it is desired to get at the paper-rolls to renew the supply of paper or for any other purpose.

M and N are gripping-rollers, made of rubber or other suitable material, journaled on the sides of the frame-work in suitable bearings. Between these rollers the sheets of paper *a* and *b* are passed, the rollers bearing against each other with sufficient friction to draw the paper along when the rollers are revolved. The lower roller N is provided with a crank or handle O on the roller-shaft, by which the rollers are rotated. An ordinary dog and ratchet C″ is provided on the lower roller-shaft to prevent the gripping-rollers from being revolved in the wrong direction.

P is a dividing-bar placed opposite the delivery of the rollers, extending from side to side and supported on the supports Y Y, which are hinged in the lower portion of the case, so that this dividing-bar may be swung down out of the way when it is desired to get at the paper-files. This dividing-bar P carries a rod P″, which extends along very close to the delivery of the gripping-rollers M and N, as shown in Fig. 1, and the central portion of the bar P is raised, so as to further assist in the delivery of the paper. The sheet *b*, carrying the original writing, will thus be delivered through the longitudinal slot in the case D″ outside the box, while the other and duplicate sheet or sheets are delivered in the filing-compartment.

In autograph-registers as hitherto constructed, the duplicate sheets which are to be preserved have been either wound on storing-reels within the box or separated from the roll by cutting and then filed away. The means employed hitherto to separate the sheets has been by shears, which are not sufficiently certain of operation; and one part of my invention consists in new and improved means for cutting off the written sheets from the rolls. R is a thin flat steel knife-blade with cutting-edge raised at the center to give a shearing cut. This knife is securely attached to a metallic carrier-frame S, consisting of a rectangular plate which slides up and down in the casing of the apparatus between the guides or lugs *p p*. To lighten this carrier or plate S and to better its appearance, I pierce it with a series of circular openings, as shown in Fig. 2, and I prefer to use a carrier-frame of this shape to more completely separate the filing-compartment from the paper-distributing compartment, though of course the shape of this knife-carrier frame is not material. At the central portion of the bottom of this frame S, at the back, is extended upward an arm U, integral therewith, which arm is grooved or hollowed out at its upper end to form a tooth or cog T. To the rear of the carrier-frame the shaft V is located, journaled in suitable bearings in the frame-work of the apparatus and operated by crank W, and at the central part of this shaft an arm or fixed pawl *x* is rigidly attached, which meshes with the cog or tooth on the arm U, so that when the crank W is turned the arm *x* will raise carrier-frame S and knife R. A spring *r* is attached to the pawl *x*, bearing upon the tooth T, to assist in returning the carrier-frame to its normal position. Integral with the base of the carrier-frame S, and extending out at right angles thereto, are the projections or arms Y′ Y′, on which are rigidly attached in an upright position the filing-needles *a′ a′*, which are thus raised or lowered simultaneously with the knife. These needles *a′ a′* have eyes at their upper end, through which the string *t* is threaded, as shown in Fig. 2. Directly above the cutting-edge of the knife R is extended the slotted bar B′, which rests on and is attached to the sides of the frame. This bar B′ is slotted longitudinally at *u* to receive the knife-blade when it is raised by operating the crank W, and the dividing-bar P is pierced with holes *b′ b′* to receive the points of the needles when they are raised, as described, the sheets of paper being passed between the slotted bar and the knife-blade. Extending over the edge of the cutting-knife are the fingers C′ C′, which are frictionally attached to the shaft V, as shown in Fig. 2, so that when the shaft is turned and the knife raised the fingers will at once be thrown back out of the way; but upon the fingers coming into contact with the roller N they will still allow the shaft V to be rotated and the knife

raised, while as soon as the knife is lowered the fingers will at once return to their normal position. Swung or hinged longitudinally along the sides of the filing-compartment on the supports a''' a''', attached to the top D, are the shelves or guides d' d'. These shelves are so hinged to the supports a''' a''' that they will fall by their own weight into a horizontal position, as shown in Fig. 5, where they will rest against the pins m'' m'', attached to the supports a''' a'''. Rigidly attached to the knife and needle carrier frame S and extending out horizontally are the pins e' e', which rest underneath and against the shelves d' d' when in their normal position, so that when the knife-carrier frame S is raised, and with it the pins e' e', these pins will at the same time raise the shelves d' d' to an upright position while the paper is being cut off and filed on the needles, and as soon as the knife and needles are lowered the shelves will again return to their normal horizontal position.

The operation of the register is as follows: The two sheets of paper after being written upon are drawn forward by the gripping-rollers till the written sheet appears on top of the case. The crank W is then turned, which drives the knife up within the slotted bar B', and the sheets are cut from the roll. At the same time the sheets are cut off the needles carrying the string pierce the duplicate sheet and carry it down with them, and the first sheet is thus filed, and so on until the needles have all the sheets they can hold. Before any sheets are filed, however, it is advisable to file on the needles a sheet of card-board s'', which will serve as a base for the sheets s''' to be filed upon. When the needles are full, another piece of card-board may be placed on top of the package, the string drawn out from the needles, the package tied up, and the duplicate sheets will thus be bound up and ready for storing away. They can then be removed and the filing-compartment will be ready for another supply.

As the paper is furnished from a roll, the ends thereof are very apt to curl up, and in order that the duplicate sheet may be delivered into the filing-compartment in a horizontal position the fingers C' C' are provided, which guard the knife and guide the paper into the filing-compartment. For the same reason the shelves or guides d' d' are provided. These support the paper while it is being delivered to the compartment; but in the action of severing the sheet from the roll these guides are raised, as above described, to enable the sheet, when it has been filed on the needles, to fall into the compartment below.

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

1. In an autographic registering apparatus, the combination, with the paper-rolls and feeding mechanism, of a reciprocating knife-carrier cog formed thereon, shaft journaled in the frame, and arm rigidly attached to said shaft and meshing with said cog, whereby rotation of the shaft operates said knife-carrier, substantially as shown and described.

2. In an autographic registering apparatus, the combination, with the paper-rolls and feeding mechanism, of a reciprocating knife-carrier with knife and filing-needles rigidly attached thereto, so that the duplicate sheet will be filed on the needles simultaneously with the severing of the sheet from the roll, substantially as shown and described.

3. In an autographic registering apparatus, a reciprocating knife-carrier, cogged arm integral therewith, shaft journaled parallel thereto, arm rigidly attached to said shaft and meshing with said cog, and fingers frictionally attached to said shaft to serve as guides for the paper to be cut, substantially as shown and described.

4. In an autographic registering apparatus, a filing-compartment having hinged along the sides thereof guides or shelves to support and guide the paper to be filed, in combination with a needle-carrying frame and means for operating said shelves simultaneously with said frame, so that said shelves may be automatically closed when the needles are at work in the act of filing, substantially as shown and described.

5. In an autographic registering apparatus, in the filing-compartment thereof, shelves to support and guide the paper to be filed, hinged along the sides of said compartment, in combination with pins on the needle-carrying frame to close said shelves when the needles are at work in the act of filing, substantially as shown and described.

6. In an autographic registering apparatus, the combination of a writing-tablet and two rollers to support and hold the copying medium arranged at opposite sides thereof, one roller supported in the frame of the machine and forming a hinge for the writing-tablet, the other detachably connected to said writing-tablet, so that it may be moved independently thereof, substantially as shown and described.

JOHN B. THIES.

Witnesses:
WM. G. FRIZELL,
THOMAS B. HERRMAN.