No. 622,454. Patented Apr. 4, 1899.

L. EHRLICH.

AUTOGRAPHIC REGISTER.

(Application filed June 21, 1897.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

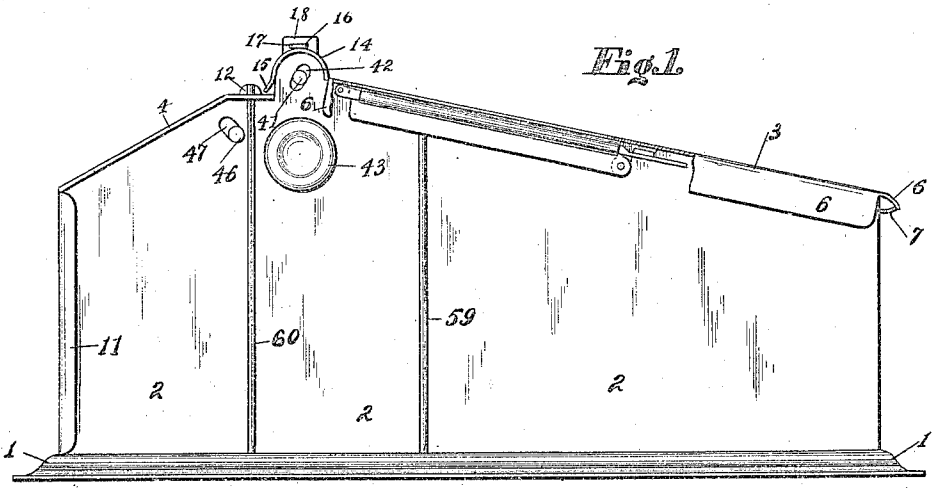


Fig. 2.

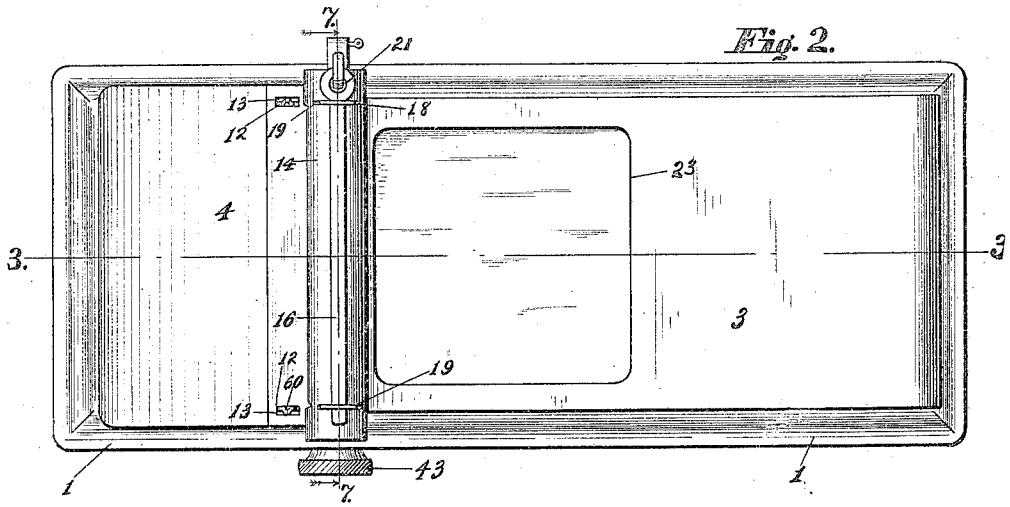


Fig. 9.



Fig. 7.

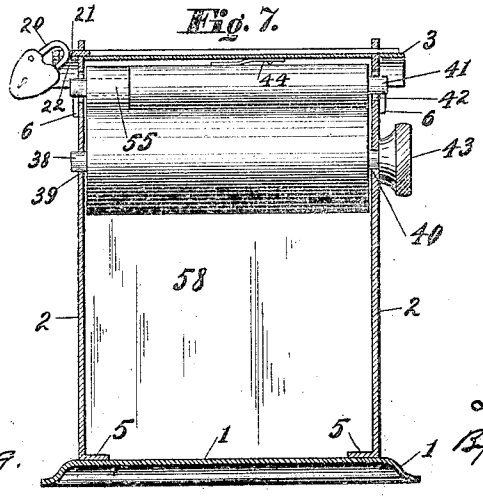
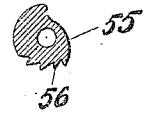


Fig. 8.



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(No Model.) 2 Sheets—Sheet 2.

Fig. 3.

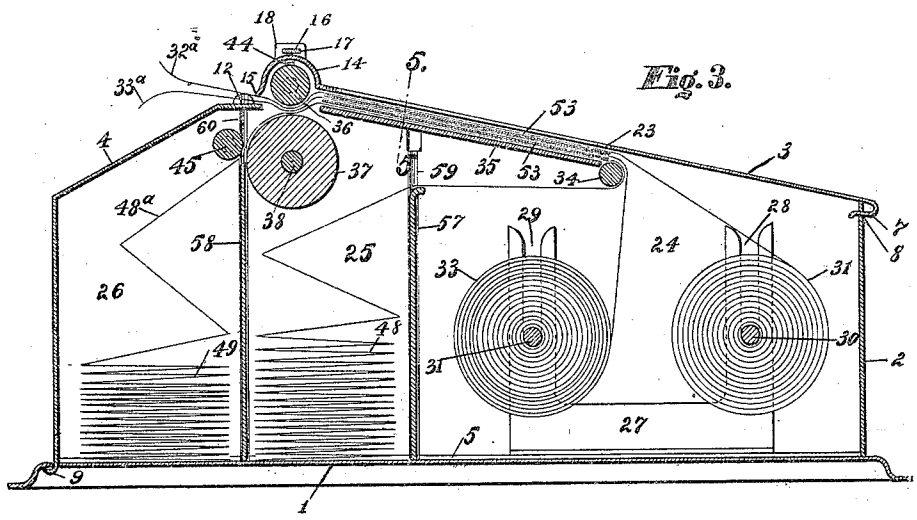


Fig. 4.

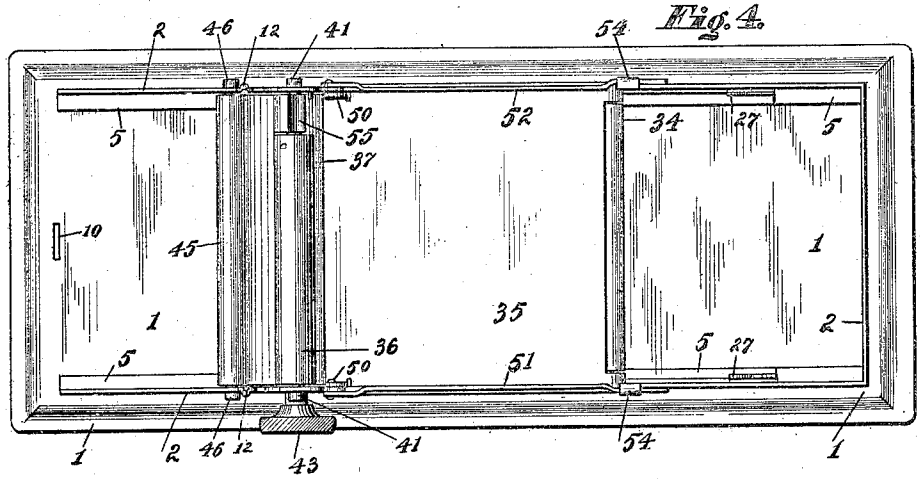


Fig. 5.

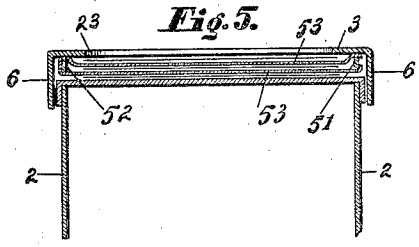
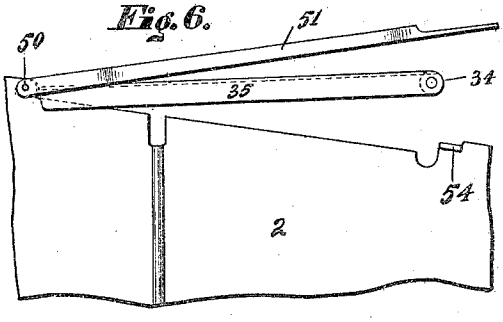


Fig. 6.



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UNITED STATES PATENT OFFICE.

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AUTOGRAPHIC REGISTER.

SPECIFICATION forming part of Letters Patent No. 622,454, dated April 4, 1899.

Application filed June 21, 1897. Serial No. 641,545. (No model.)

To all whom it may concern:

Be it known that I, LEO EHRLICH, a citizen of the United States, residing at St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Manual Recorders or Autographic Registers, of which the following is a specification.

My invention relates to improvements in that class of autographic registers in which several paper strips are led over a writing-tablet or platen by a suitable feeding device, with manifolding material interposed between two or more of the several said strips, by means of which latter the memoranda transcribed upon the upper strip are registered in duplicate upon the lower strips, the lower strip being led from the said platen to a storage-compartment within the casing of the machine, where it is stored as a record for future reference, while the upper strip or strips are led out of the machine and cut or torn off to serve as detached checks; and it relates more specifically to machines of the above-described class in which the record-strip is folded back and forth upon itself in the storage-compartment of the machine in reverse folds and stored in that form rather than wound upon a reel.

The invention consists of an improved autographic register, as hereinafter set forth and claimed.

Figure 1 is a side elevation of the complete machine, with a portion of the overhanging side lip of the top section of the casing broken away to show the platen and the device for holding the manifolding material; Fig. 2, a top or plan view of the complete machine; Fig. 3, a vertical longitudinal section on the line 3 3 of Fig. 2; Fig. 4, a top or plan view with the top and rear sections of the casing removed; Fig. 5, a vertical cross-section of the platen or writing-tablet and a portion of the casing taken on the line 5 5 of Fig. 3, with every other part removed; Fig. 6, a detail view, in side elevation, of the platen and device for holding the manifolding material, with so much of the side of the casing as is necessary to show the method of attaching the former thereto; Fig. 7, a vertical cross-section on the line 7 7 of Fig. 2, with the feed mechanism shown in elevation; Fig. 8, a cross-section through the unbalanced toothed dog employed to prevent the strip of paper from being pulled backward, and Fig. 9 a modification of the dog shown in Fig. 8.

Similar reference-numerals refer to corresponding parts throughout the several views.

The casing of the machine is composed of four sections—a bottom section 1, a combined side and front section 2, a top section 3, and a rear section 4—all stamped out of sheet metal. The side and front section 2 is provided at its lower edge with inwardly-projecting flanges 5 at the sides to serve as a means of riveting or otherwise fastening it to the bottom section. The upper section 3 is provided at the front and sides with an overhanging lip 6 and at the front end with an inwardly-projecting curved lug 7, which fits into a slot 8 in the front end of the section 2 of the casing, thus serving as a means of hinging the section 3 to the section 2. The section 4 is likewise provided with a downwardly-projecting curved lug 9, which fits into a corresponding slot 10 in the bottom section, thus serving as a means of hinging the section 4 to the bottom section 1. The lower vertical edges of section 4 are also provided with lips 11. The section 4 is held in position by being sprung over lugs 12, formed on the upper edge of the sides of the section 2. When the section 4 is in place, the lugs 12 project through slots 13 in the section 4. The section 3 comes over all and is formed at its rear end with a semicylindrical curve, which is located above the upper feed-roller and projects over the upper end of the section 4 at the point 15, thereby locking the section 4. The section 3 is held in place by means of a key 16, which at its end passes through slots 17, formed in lugs 18, projecting upwardly from the sides of the section 2. The lugs 18 pass through corresponding slots 19 in the rolled portion of the section 3. The key 16 is locked in position by means of a padlock whose clasp 20 passes through suitably-located holes 21 and 22, formed, respectively, in the end of the said key and in one side of the rolled portion of the section 3. In the section 3 an opening 23 is made to afford access to the upper strip of paper, upon which the memoranda are transcribed. The box

thus formed by the several sections of casing above described is divided into three compartments—an anterior 24, a middle 25, and a rear compartment 26. The front compartment 24 contains two spindle-supports 27, one upon either side of said compartment. These spindle-supports are stamped out of sheet metal, preferably in U form, each being provided with two upwardly-projecting legs, each of which latter has formed in it a slot 28 and 29. These spindle-supports are held in position by being riveted or otherwise suitably fastened to the bottom of the casing through the agency of a flange formed on said supports. The slots 28 and 29 each carry a spindle 30 and 31, which spindles in turn carry rolls of paper 32 and 33. The paper from these rolls is led over a roller 34, mounted in the platen, and from thence over the platen 35, the paper being drawn over the latter by means of two feed-rollers 36 and 37. The strips of paper from the two said rollers are passed out of the machine through an opening between the edge 15 of the rolled portion of the section 3 and the upper end of the section 4. The feed-roller 37 is made of wood or other similar material and is carried by shaft 38, which takes its bearings in the sides of the section 2 at 39 and 40. The feed-roller 36 is carried by a shaft 41, which is held in position over the roller 37 by means of the inclined slots 42, formed in the section 2. The shaft 38 is provided at one end with a milled head 43, by means of which said shaft may be rotated. The upper feed-roller 36 is pressed against the lower feed-roller 37 by its own weight and also by means of the spring 44, fastened to the lower surface of the rolled portion of the section 3. 45 is a roller carried by a shaft 46, which latter takes its bearings in an inclined slot 47, formed in the sides of the section 2. The said roller 45 presses against the roller 37 by the force of gravity. The middle compartment 25 contains a book or bank of strip-paper 48, which has been previously folded in reverse folds and thus deposited in the machine. The strip of folded paper from this book or bank is carried over the roller 34, and thence over the platen 35, below the previously-described strips of paper, thence between the rollers 36 and 37, and thence between the rollers 45 and 37 into the rear compartment 26, where it drops into reverse folds to again form a book or bank 49 of reversely-folded paper. The roller 45 serves to keep the folded paper tense after it has passed between the feed-rollers 36 and 37, so that the creases in the paper will not cause it to buckle up, and also to direct the paper downward, and thus aid it in assuming its previously-folded form in proper location in the machine. The platen 35 is hinged to the section 2 at the points 50. Hinged at these same points are two clamping-arms 51 and 52, which serve to hold the manifolding material 53 in place over the platen. These arms are held in position by being sprung under outwardly-projecting lugs 54, formed in the sides of the casing.

The method of holding the manifolding material in place by the arms 51 is illustrated in Figs. 1 and 5, and the method of hinging the platen 35 and the arms 51 to the casing is specially shown in Fig. 6. Loosely journaled upon one end of the shaft 41 is an unbalanced toothed dog 55, which serves to prevent a reverse movement of the recording-paper, its operation being such that the moment an attempt is made to run the recording-paper in a direction the reverse of that which it is intended to move in the teeth 56 of the dog will embed themselves into the paper and the wooden roller 37, and thus prevent any movement of the paper in such direction.

The machine may be divided into mere imaginary compartments—such as 24, 25, and 26—or it may be physically divided into compartments by the partitions 57 and 58, in which latter case grooves, such as 59 and 60, are stamped into the casing for the reception of such partitions. I, however, prefer the latter construction, since the partitions make the machine more certain in its operation, preventing the various strips of paper from interfering with each other in their course through the machine. The book or bank of paper 48, it is manifest, should be equal in length when unfolded to the length of the paper composing each of the rolls 32 and 33. It is manifest that the compartment 24 may be partitioned off so as to form two compartments and that either or both of the rolls of paper 32 and 33 may be replaced by a book or bank of folded paper similar to the book 48, one such book being placed in each of the said compartments, without departing from the general plan of my invention. I, however, prefer the roll paper for the two strips which are designed to be torn off as checks, since they are not required to be kept in form suitable for convenient reference and storage, as is the case with the preserved record-strip, which is stored in the machine. The two strips of paper which pass out of the machine and are designed to be torn off as checks are indicated at the point where they emerge from the machine by 32^a and 33^a, while the strip of previously-folded paper which serves as a permanent record and is stored in the machine is indicated by 48^a.

As heretofore stated, I am aware that autographic registers have been constructed in which the strip of paper designed to be stored in the machine is initially rolled off of a roll of paper deposited in the machine and then mechanically folded back and forth in reverse folds for the first time by the registering-machine itself after the said paper passes the feed mechanism and has had the memoranda transcribed upon it, the folding being initially effected through the agency of a folding mechanism actuated by the act of feeding the paper over the platen or writing-tablet; but I believe I am the first in the art to devise

autographic register in which a strip of paper which has previously been folded in reverse folds is fed to and across the writing-tablet, and I therefore do not wish to be confined to the details of construction here shown, although I believe these also to be novel, and hence will also claim them specifically.

It is manifest that many modifications in details of construction might be made without departing from the general plan of my invention. For instance, a suitable guide-arm might be substituted for the roller 45, which might possibly as effectively act to direct the strip of folded paper 48ª downward after it leaves the feed-roller 37 and at the same time secure the necessary tension of the paper after it passes said feed-roller. Again, the unbalanced dog 55 might be provided with one or more pins, as shown in Fig. 9, in lieu of the teeth 56. (Shown in Fig. 8.)

From the preceding description the operation of my machine should be apparent.

Heretofore in this class of devices various arrangements of rollers and means for directing the passage of the strips of paper and distributing them have been devised. By means of my invention a construction is afforded which embraces a simple and compact arrangement for guiding and distributing the strips of paper in an efficient manner, and especially where the recording-strip is a folded strip of paper. I limit my construction, as claimed, to the precise combination and arrangement of parts as herein set forth.

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

1. An autographic register, comprising a compartment, to receive a recorded folded strip of paper, having a guide-aperture adjacent to the top of one of its sides for the passage of said strip of paper, a second chamber, to contain the folded strip of paper to be recorded, having at the top of one of its sides a guide-aperture for the passage of said strip of paper, a third chamber containing rollers for carrying the strips of paper to be manifolded and deliverable from the register, and a guide-roller adjacent to the receiving end of the platen and common to, and over which the folded strip of paper to be recorded and the manifolded strips of paper are guided to the platen, in combination with friction guide-rollers between which the several strips of paper pass, a device for preventing the reverse movement of the paper, clamping-arms for holding the manifolding material in place on the platen, and a friction guide-roller adjacent to the lower one of the main friction guide-rollers, and located adjacent to the guide-aperture at the top of the chamber for the recorded folded strip of paper, as herein set forth.

2. A case for an autographic register, formed of stamped sheet metal, and consisting of the several parts, viz: a base or bottom, formed of a sheet of stamped-up metal, longitudinal sides, having inwardly-bent flanges, resting upon and adapted to be secured to said base, a vertical side at one end secured to said base, the other end of the casing being formed of a vertical sheet and an inclined bent sheet in one piece with a horizontal flange at its forward end, and means for securing the same to the sides of the casing, the sides of the end or vertical sheet being formed with flanges bent over the ends of the sides of the casing and the bottom of the vertical sheet, or end projecting through a slot in the base, and bent over to form a retaining-flange; a covering or top piece of sheet metal, formed at its sides with depending flanges and at its forward end, with a semicylindrical curve, having its edge overlapping the flange of the inclined bent end piece, the rear end of said covering being in hooked engagement with the adjacent end of the casing, and the several parts enumerated being detachable, as herein set forth.

LEO EHRLICH.

Witnesses:
EDWARD HIDDEN,
EDW. L. DILLON.