Aug. 23, 1932. L. JENSEN 1,873,593

AUTOGRAPHIC REGISTER

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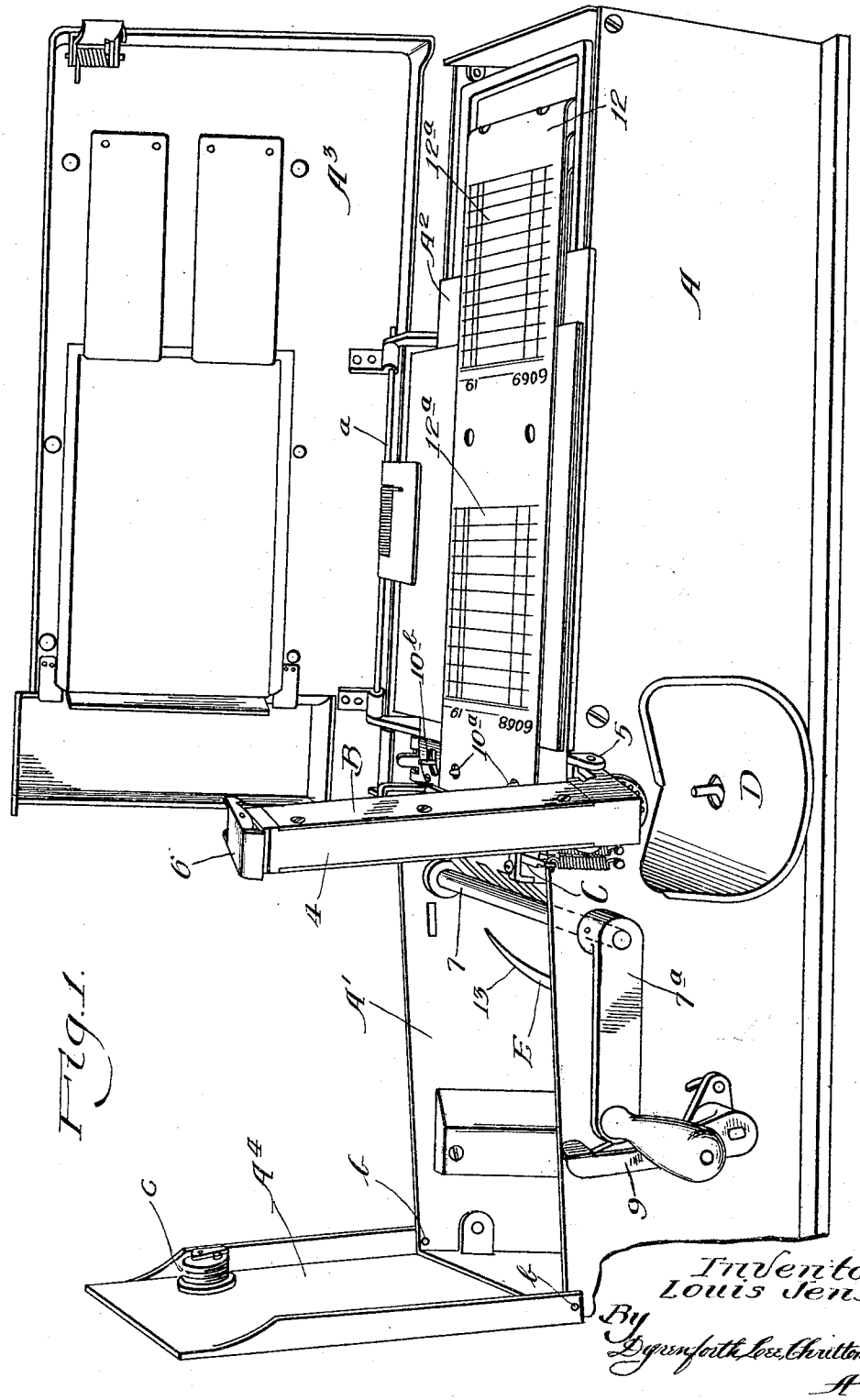


Fig. 1.

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AUTOGRAPHIC REGISTER

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Fig. 2.

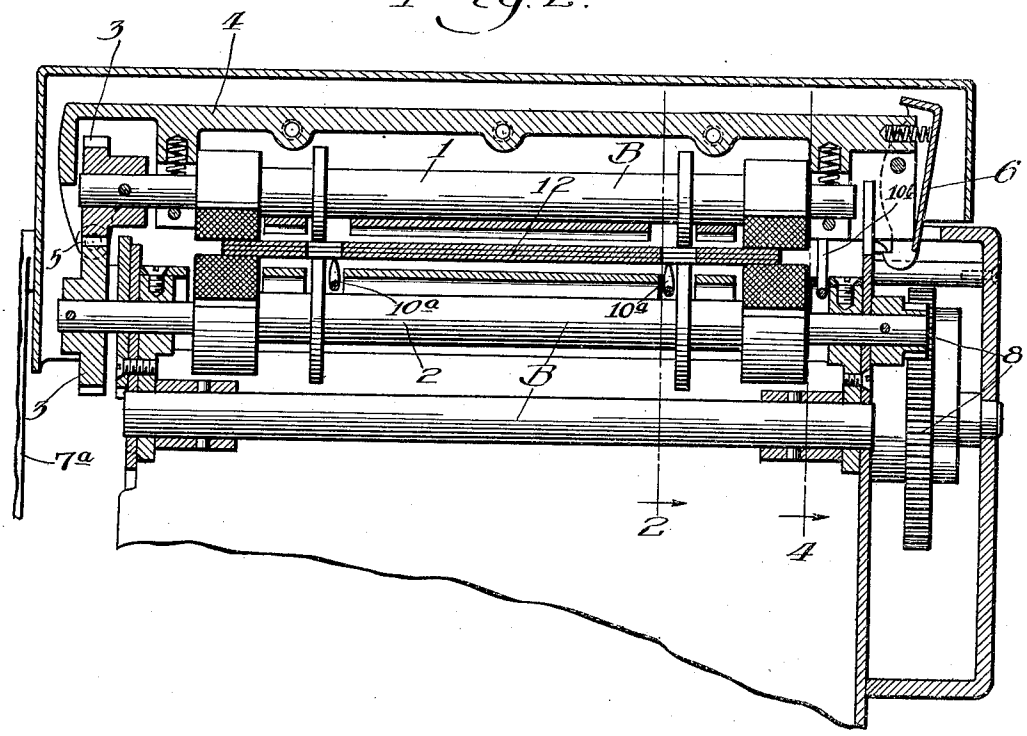


Fig. 3.

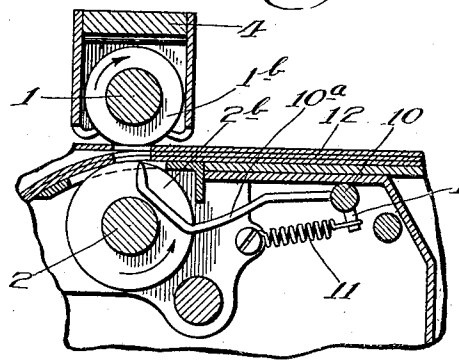


Fig. 4.

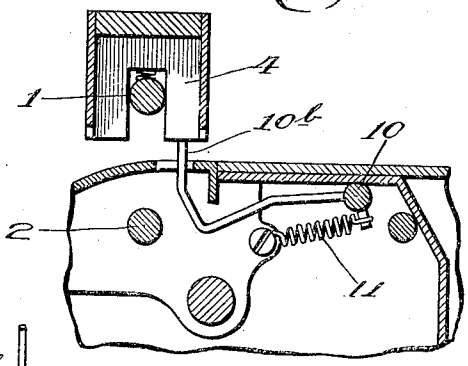
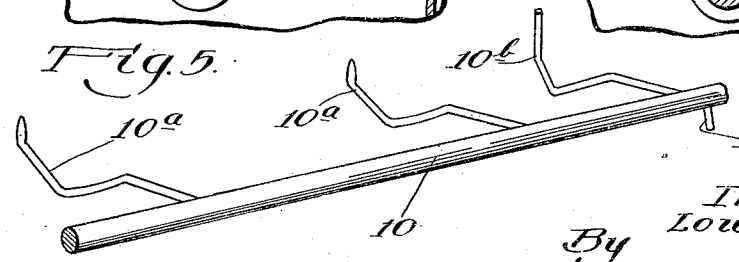


Fig. 5.



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Fig. 6.

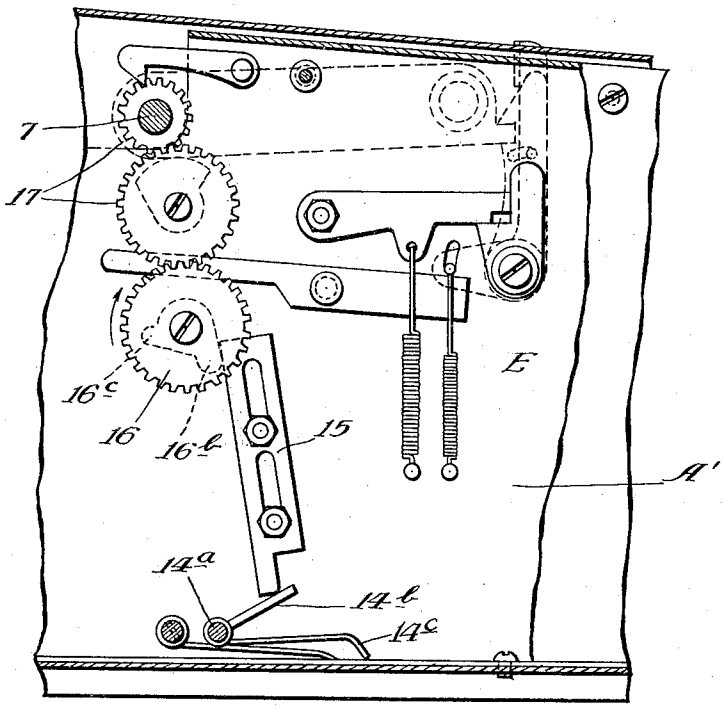


Fig. 7.

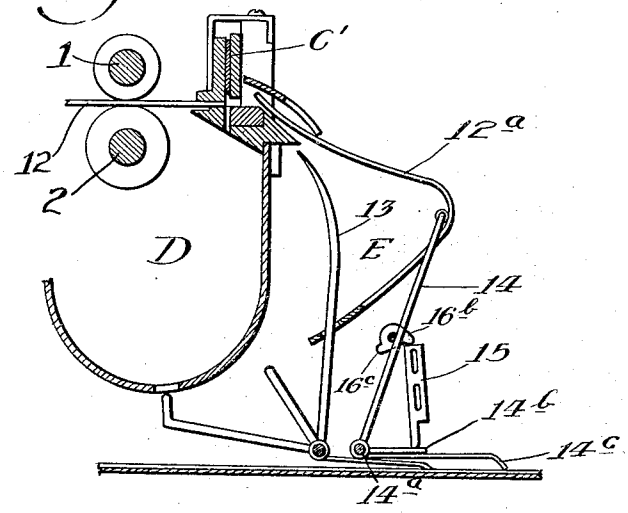
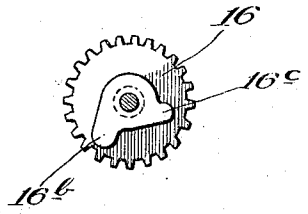


Fig. 8.



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Patented Aug. 23, 1932 1,873,593

UNITED STATES PATENT OFFICE

LOUIS JENSEN, OF CHICAGO, ILLINOIS, ASSIGNOR TO UNITED AUTOGRAPHIC REGISTER CO., OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS

AUTOGRAPHIC REGISTER

Application filed February 9, 1931. Serial No. 514,686.

This invention relates particularly to autographic registers of a type in which the duplicating strips are taken from a suitable source of supply and led across a platen upon which blanks, or tickets, are filled in.

The primary objects of the invention are improved means for positioning the strips over the platen during the loading operation, and the provision of improved means for filing the record copy in the machine.

The invention is illustrated in a preferred embodiment in the accompanying drawings, in which—

Figure 1 is a perspective view of an autographic register embodying the invention, the cover-members being shown in lifted position; Fig. 2 is a broken vertical sectional view on an enlarged scale, of the feed mechanism; Fig. 3, a broken longitudinal vertical sectional view on an enlarged scale taken as indicated at line 3 of Fig. 2; Fig. 4, a similar view taken as indicated at line 4 of Fig. 2; Fig. 5, a perspective view of the register-mechanism; Fig. 6, a broken longitudinal vertical sectional view of the mechanism for operating the kick-off member; Fig. 7, a schematic broken longitudinal vertical sectional view, showing the relation between the kick-off member, filing pins and knife; and Fig. 8, a detail of the cam-gear for operating the kick-off member.

In the embodiment of the invention illustrated, A designates a casing, or frame, provided with a storage compartment A′, a platen A^2, a cover A^3 adapted to partially inclose the platen, and a closure A^4 affording a cover for the compartment A′; B, feed mechanism located between the platen and the filing compartment A′; C, clamping and cutting mechanism adapted to hold and sever the original strip; D, a laterally open delivery-chute through which the copy-strips are delivered; and E, mechanism for filing the record slips.

The casing A is of known construction. The platen A^2 is pivotally connected at one lateral edge with the upper portion of a side-wall of the casing. The casing is equipped with a pair of rigid arms which support a pivot rod *a* to which one lateral edge of the cover A^3 is connected by means of hinge-members. The closure A^4 is connected at one end to the casing by transverse pivots *b*, and the closure is shown equipped with a lock *c*.

The feed-mechanism B is similar to that described in my application Serial No. 289,821, filed July 2, 1928, and comprises an upper feed-roll 1, and a lower feed-roll 2, which are connected by gears 3, 3. The upper feed-roll is mounted in a transverse housing 4, one end of which is pivotally supported at 5 and the other equipped with a releasable catch 6. The feed-rolls are driven by a shaft 7, through the medium of gears 8. The shaft 7 is equipped with a crank 7^a which co-operates with a latch-device, or withdrawable stop, 9.

In the present invention, register-pins are used during the loading operation only, and when the upper feed-roll housing 4 is lowered, to place the feed-roll 1 in operative position, an operating arm is engaged which withdraws the register-pins from the register perforations in the strips.

The machine is provided with a rock-shaft 10 which carries a pair of register pins 10^a, an operating arm 10^b, and a short arm 10^c to which a spring 11 is connected. The spring tends to throw the pins 10^a into engagement with the register-perforations in the manifold strips, designated 12. It will be understood that when the feed-roll housing 4 is raised, the pins 10^a will spring up into strip engaging position and that upon turning the feed-roll to operative position, the housing will depress the arm 10^b and thereby throw the pins down out of the path of the strips. The pins serve to assist in the proper positioning of the strips over the platen and feed-mechanism during the loading operation.

The duplicating strips 12 comprise a series of connected forms or slips designated 12^a. In the operation of the machine the slips to be dispensed from the machine are usually torn from the strip while those to be filed in the machine are severed by a blade designated C′.

In the filing mechanism described in my application Serial No. 289,821, the feed-rolls advance the strips to the cutter mechanism,

but no means is provided for advancing the rear edge of the last set of slips from the feed-rolls to a position beyond the cutter blade, prior to its operation, and as a result the last set of slips are mutilated by the cutter. In the present invention, the mechanism E is similar to that previously described except that the kick-off member is designed to operate before the slips are severed and again after they are severed, so that mutilation of the slips is prevented.

The filing compartment A′ is provided with filing pins 13 (one shown), and a ticket-overturn device, or kick-off member 14, which is mounted on a shaft 14^a and provided with an actuating arm 14^b. A slide 15 is engaged by a cam-gear 16, which, in turn, is actuated by the shaft 7 through a train of gears 17. The cam is provided with two arms 16^b and 16^c which are positioned to actuate the kick-off arm 14, by means of the slide 15, just prior to the lowering of the cutter-blade C′ and again thereafter. A spring 14^c is wound on the shaft 14^a and serves to throw the kick-off member rearwardly when released by the slide 15.

Thus, it will be seen that if the slips 12^a are not restrained by the strip 12 they will be drawn from under the blade before its operation. In other words, the kick-off arm is designed to operate twice during each cycle of operations on a single set of slips. While the cam 16 is shown with a pair of cam-arms serving to give the kick-off arm two distinct swings, obviously the device would function as well if the cam were arranged to make the longer swing in two steps, the first step being sufficient to assure the end of the slip reaching the cutter, and the second step continuing the swing sufficiently to overturn the slip after the cutting operation. The cam arm 16^c is made somewhat shorter than the cam-arm 16^b, which will prevent the arm from tearing slips which are not free from the strip prior to the cutting operation.

The foregoing detailed description has been given for clearness of understanding only, and no unnecessary limitations should be understood therefrom, but the appended claims should be construed as broadly as permissible, in view of the prior art.

What I regard as new, and desire to secure by Letters Patent, is:

1. In combination in a duplicating machine equipped with a casing: a platen over which may be fed strips provided with register-perforations; feed-mechanism comprising a displaceable roll; and a register-finger movably mounted on said casing independently of said feed mechanism and operative to engage a register-perforation when said roll is in inoperative position, said finger being equipped with means for throwing it to inoperative position in the operation of moving the roll to its operative position.

2. Means as specified in claim 1, in which said feed-roll is mounted in a movable housing equipped with register-finger retracting means.

3. In combination in a duplicating machine: a platen; an automatically projected register-member; feed mechanism, including a withdrawable upper feed-member; and means for retracting said register-member, comprising an actuating arm associated with said register-member, and means carried with said feed-member serving to move said arm member and thereby effect retraction of the register-member in the operation of throwing the feed-member to operative position.

4. In combination in a duplicating-machine: feed-mechanism comprising a housing mounted to swing about one end thereof, said housing carrying an upper feed-roll; a register-member mounted in rear of said feed-mechanism and equipped with means for projecting it to registering position when said housing is lifted; and means carried by said housing serving to effect withdrawal of said register-member when said housing is lowered to operative position.

5. Means as specified in claim 4, in which the register-member is carried by a rock-shaft equipped with an actuating arm which extends into the path of a co-acting member with which said housing is equipped.

6. In a register: a platen over which strips provided with perforations may be drawn, a frame in which said platen is mounted, feed means adapted to engage said strips and draw them over said platen, register-pins mounted adjacent to and independently of said feed means and adapted to enter the perforations of the strips, and means for automatically withdrawing said register-pins from the perforations when the feed means is placed in strip-engaging condition.

7. A device of the character set forth in claim 6, in which the register-pins are mounted on a rock-shaft having an actuating arm projecting into the path of movement of said feed means.

8. In a register: a platen over which perforated strips may be drawn; a pair of feed-rolls serving to draw said strips over the platen, one of said feed-rolls being adapted to be separated from its companion roll to permit the introduction of strips; a rock-shaft provided with an operating arm and a register-pin adapted to enter perforations in the strips; and means for operating said arm and withdrawing the register-pin when the feed-rolls are brought together.

9. In a register: a platen over which strips comprising connected slips may be drawn; a filing-compartment in advance of said platen; a cutter interposed between the platen and filing compartment; feed-mechanism serving to feed said strips over said platen

to the cutter; cutter-actuating means operating in timed relation to said feed-mechanism; and a device actuated in timed relation to said cutter serving to carry the last slip clear of the cutter after said last slip has passed from said feed-means.

10. A device of the character set forth in claim 9, in which the filing compartment is provided with register pins which are adapted to impale the slips as they leave the cutter, and the device actuated in timed relation to the cutter is mounted in said compartment and serves to overturn the slips after they are impaled.

11. In a register: a platen over which a strip comprising connected slips may be drawn; a cutter device adapted to sever said slips; feed mechanism adapted to engage said strip back of the cutter device and feed it over the platen and project it past the cutter; and a final slip withdrawing device operative, after the final slip has cleared the feed-mechanism, to cause said final slip to clear the cutter.

12. In a register: a platen over which a strip comprising a series of slips may be fed; a filing-compartment in advance of the platen; a cutter operating in a plane between said platen and compartment; a suitably actuated filing-pin in said compartment; feed-mechanism engaging said strip back of said cutter; means for guiding the strip as it enters the filing compartment to cause the advance end to be impaled on said pin; a kick-over device operative to aid in overturning the slip fed into said compartment; and actuating-means for said kick-over device having means for causing a succession of kick-over impulses against each slip.

13. In a register: a platen over which a strip comprising slips may be fed; cutter mechanism adapted to sever said slips; feed-means for advancing a strip over said platen to the cutter mechanism; a filing compartment in advance of said cutter mechanism adapted to receive the severed slips; and a kick-off member in said filing compartment, operated in timed relation with said cutter mechanism, adapted to strike each slip prior to its severance and again thereafter to prevent mutilation of the slips by said cutter mechanism.

14. In combination in a duplicating machine: a platen; an automatically projected register-member; and feed mechanism including a withdrawable upper feed-member journaled in a housing, said housing serving normally to hold said register-member in inoperative position.

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