J. Q. SHERMAN.

AUTOGRAPHIC REGISTER.

APPLICATION FILED AUG. 20, 1915.

1,259,918.

Patented Mar. 19, 1918.

2 SHEETS—SHEET 1.

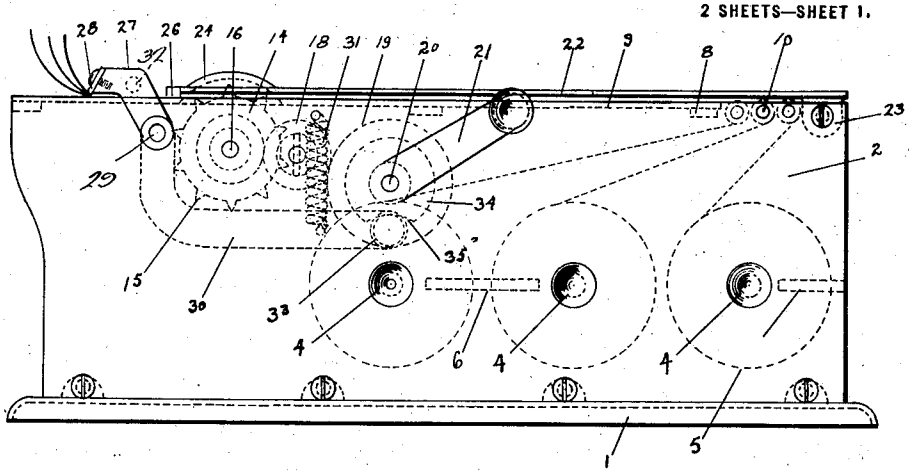


Fig. 1.

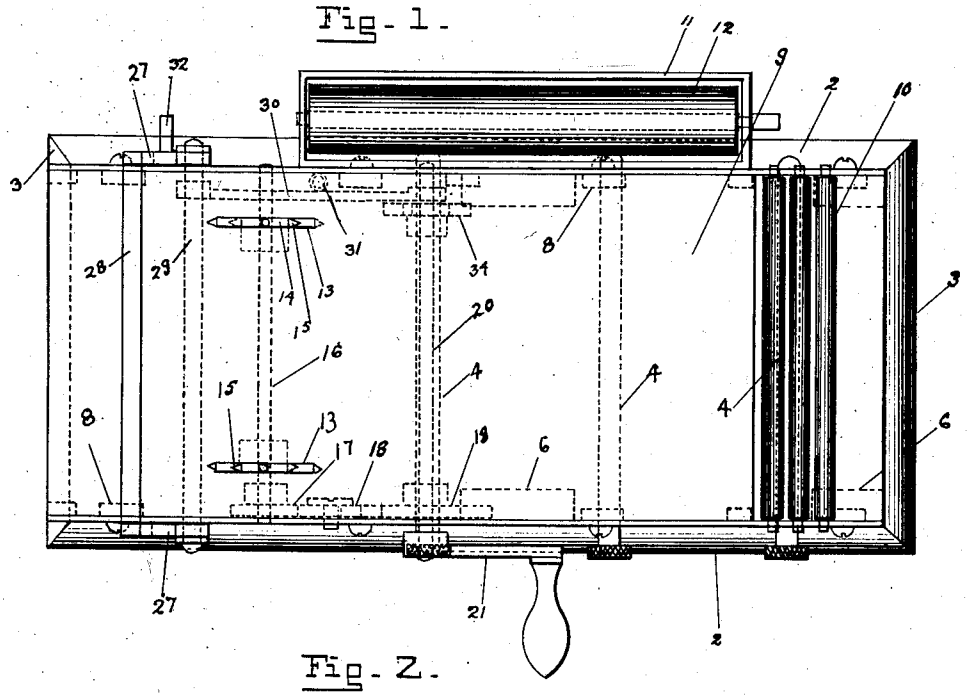


Fig. 2.

INVENTOR.

John Q. Sherman

BY

Allen & Allen

ATTORNEYS

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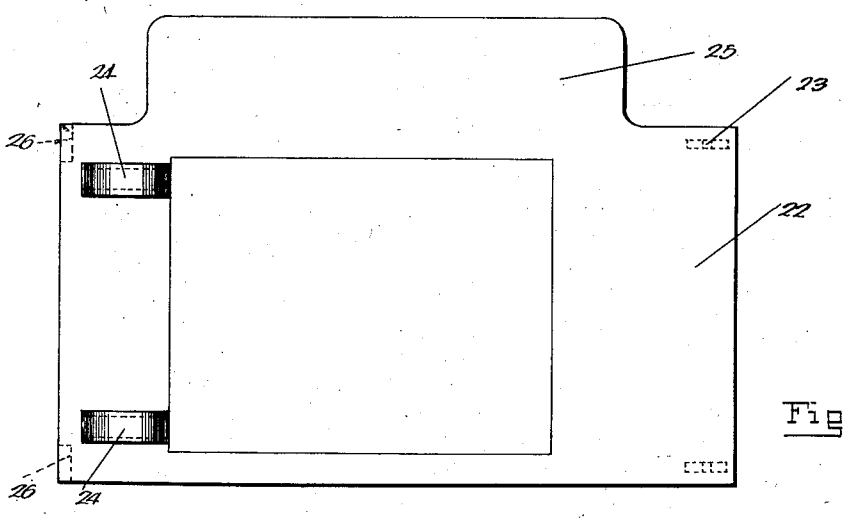


Fig. 3.

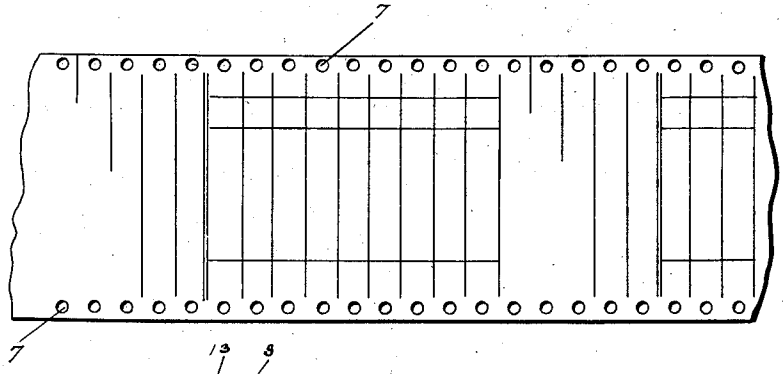


Fig. 4.

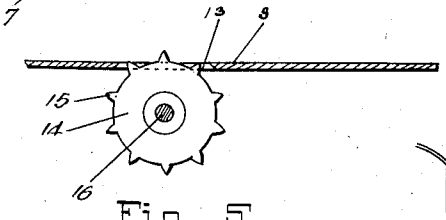


Fig. 5.

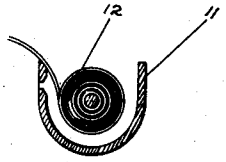


Fig. 6.

INVENTOR.

BY John Q. Sherman

Allen & Allen

ATTORNEYS

UNITED STATES PATENT OFFICE.

JOHN Q. SHERMAN, OF DAYTON, OHIO.

AUTOGRAPHIC REGISTER.

1,259,918. Specification of Letters Patent. Patented Mar. 19, 1918.

Application filed August 20, 1915. Serial No. 46,544.

To all whom it may concern:

Be it known that I, JOHN Q. SHERMAN, a citizen of the United States, and a resident of the city of Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Autographic Registers, 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 autographic registers of the perforated paper, sprocket feed type. In the Patent No. 940,481, to T. F. Schirmer, of November 16, 1909, mechanism is described whereby positively rotated sprockets are brought into contact with perforations in the edges of a plurality of films of paper to feed the same in perfect line for line registry throughout. Friction devices are also described which will hold the paper when the same is to be torn off, and are released when the paper is to be fed. In view of the fact that there must be a constant readjustment of the several films of paper, if they are to be fed over a pair of sprockets, if they are to remain in perfect registry, it is necessary that there be no friction when the paper is being fed. It is also desirable to have means for stripping the paper off of the sprockets, and the devices described in the said patent will accomplish these functions.

It is the object of this invention to provide for the above functions, but to do so in a simpler way than in the patent mentioned. The object is to provide for releasing the friction by providing a clamping tearing knife, which will hold the paper with sufficient friction after the close of a feeding operation. Furthermore, by a simple alteration of the standard tablet top on which writing is done in all autographic registers, this part is made to accomplish the function of the stripper for raising the paper away from the sprockets. It is also the object to provide devices for raising up the tearing knife while the sprockets are being rotated, although this motion can be accomplished by hand, the operator merely raising up the blade with one hand while he is turning the handle for the sprockets with the other.

These objects I accomplish by that certain construction and arrangement of parts to be hereinafter more specifically pointed out and claimed.

In the drawings,

Figure 1 is a side elevation of the machine.

Fig. 2 is a top plan view of the same, with the lid of the machine removed.

Fig. 3 is a top plan view of the lid detached from the machine.

Fig. 4 is a plan view of the films of paper.

Fig. 5 is a detail of the sprocket and the tablet top, showing the function of the stripper which said tablet top serves.

Fig. 6 is a detail section of the carbon paper box.

The machine has a base 1, sides 2, 2, and ends 3, 3. Within the casing formed thereby, are mounted the spindles 4, 4, 4 of three rolls of paper 5. Paper guiding plates 6, 6, are mounted on the sides of the casing, for the rolls of paper. This paper, as stated, has perforations 7 along each side, said perforations being a regulated distance apart and identical for the different films or rolls.

Seated on lugs 8, 8, along each side of the upper end of the casing, is the tablet top 9. This top serves primarily for writing purposes, and as a backing for the films of paper, which are brought up over idlers 10 at the forward upper end of the casing and fed over the top of the tablet as will be described. Mounted at one side of the machine is a trough or box 11 for carbon paper, and in this trough is suitably supported in any desired manner, a roll of carbon paper 12. In stocking the machine, a piece of carbon paper is set between the films of paper, and in using the machine the operator writes on the top film, thereby making an impression on the other two films below it.

The tablet top is slotted at 13, 13, toward the rear end of the machine, and extending part way up through the slots are sprockets 14, having teeth 15, spaced apart the same distance as the perforations in the paper. These sprockets are mounted on a shaft 16, journaled in the sides of the machine. This shaft has a gear 17 on it, which meshes with a gear 18 mounted on the casing, which in turn meshes with a gear 19 on the casing, which is directly connected by its spindle 20 to a handle 21.

The machine has a lid 22, hinged at 23 to the front of the machine. This lid does not extend to the rear end of the machine, where it would interfere with the tearing knife which will be later described, and it has arched portions 24, 24, which are located so as to be over the exposed sprockets, thereby holding the paper down on the sprockets. The lid has the customary opening to expose the films of paper so that they may be written on, and has an extension 25 for closing the carbon paper trough. The top has also depending lugs 26 at its rearward end to keep it raised away from the paper at that point, and throughout its length it will not apply any friction to the films of paper, although it will hold these films down on the sprockets.

As so far described, the operation of the machine in feeding the paper is simple. The films are brought up and over the tablet top and set into engagement with the sprockets, its perforations being arranged so that they are over the teeth and the lines on the films in perfect registry. The sprockets are then turned by means of the handle and gear described, and the paper held on the sprockets and fed out of the machine at the rear. The tablet top will serves as a stripper to raise the films off of the sprockets, all the intervening space between the slots 13, 13, serving to hold the paper firmly from traveling down with the teeth of these feeders.

Pivoted on the outside of the machine beyond the rolls are arms 27, 27, which carry between them the tearing knife 28. These arms also have their pivoting spindle 29 connected to an arm 30 which extends forwardly inside of the machine and is held up by a spring 31. This serves to hold the knife in a normal position down over the tablet top, which allows the operator to safely tear off the films of paper and at the same time clamps the paper tightly to the said tablet top.

The knife has a handle 32 on one of its arms by which it may be raised by the operator as he is turning the crank for rotating the sprockets, but means are provided whereby this raising is automatically accomplished. For this purpose, the arm 30 is provided with a roller 33 at its forward end, and this roller rides on a cam 34 on the spindle 20 of the driving gear 19, heretofore mentioned. This spindle extends across the machine, and the arm and cam are at the opposite side of the machine from the handle 21.

The cam has an indentation 35 in which the roller seats at the close of each rotation of the sprockets, and when so seated the tearing blade will be allowed to rest on the tablet top. But during the rotation the roller will be riding on the balance of the cam and will be held so that the blade will not be on the table. The rising of the roller into the indentation serves as a stop for the driving mechanism sufficient to warn the operator that he has made one complete turn of the sprockets.

Thus it can be seen that the tearing knife serves as the friction member as well as the tearing member, and that either automatically or by employing the handle thereof this friction is released when the feeding of paper is being done. Thus the paper can adjust itself constantly while being fed and will be kept by the sprockets in perfect alinement at all times.

It is readily to be seen that modifications in the method of operation and the construction of the machine now described could be adopted without departing from the spirit of the invention. The parts are simple and the function of a number of them conjoin with their well known function in the art to accomplish the necessary movements for a sprocket feed register.

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

1. In an autographic register for feeding a plurality of films of paper perforated longitudinally, actuated means for engaging the perforations to feed said paper, means for holding the paper loosely thereon, means for stripping the paper from said actuated means, a member for engaging the paper located beyond the feeding means, said member having a tearing blade thereon, and means to raise said member while the paper is being fed.

2. In an autographic register for feeding a plurality of films of paper perforated longitudinally, actuated means for engaging the perforations to feed said paper, means for holding the paper loosely thereon, a member for engaging the paper located beyond the feeding means, said member having a tearing blade thereon, and means to raise said member while the paper is being fed.

3. In an autographic register for feeding a plurality of films of paper perforated longitudinally, actuated means for engaging the perforations to feed said paper, means for holding the paper loosely thereon, a member for engaging the paper located beyond the feeding means, said member having a tearing blade thereon, and means for automatically raising said member while the paper is being fed.

4. In an autographic register for feeding a plurality of films of paper perforated longitudinally, rotatable members having teeth to engage in said perforations and hold the films of paper in alinement, means for holding the paper loosely thereon, a member for engaging and holding the paper located beyond the feeding means, said member hav-

ing a tearing blade thereon, and means to raise said member while the toothed members are being rotated.

5. In an autographic register for feeding a plurality of films of paper perforated longitudinally, a tablet top over which said paper is to be brought and upon which writing is to be done, longitudinal slots therein, toothed members extending through the said slots for engaging the perforations in the paper, whereby the said top serves as a stripper to remove the paper from said toothed members, and a lid for said register adapted to come down over the tablet top, said lid having raised portions located over the extending toothed members, to hold the paper on said members without friction.

6. In an autographic register for feeding a plurality of films of paper perforated longitudinally, a tablet top, slots therein, sprockets mounted beneath the said top and extending partway through said slots, a means for rotating said sprockets for feeding the paper, a tearing knife, means for maintaining it normally spring-pressed against the paper, and means on the rotating means for the sprockets for raising said knife when the said means is in operation.

7. In an autographic register for feeding a plurality of films of perforated paper, actuated means for engaging the perforations to feed said paper, means for holding the paper loosely thereon, means for lifting the paper from said actuated means, a member for engaging the paper located beyond the feeding means, said member having a tearing blade thereon, and means whereby the said member may be raised while the paper is being fed.

8. In an autographic register for feeding a plurality of films of perforated paper, movable members having teeth to engage in said perforations and hold the films of paper in alinement, means for holding the paper loosely thereon, a member for engaging and holding the paper located beyond the feeding means, said member having a tearing blade thereon, and means whereby said member may be raised while the toothed members are being moved.

9. In an autographic register for feeding a plurality of films of perforated paper, toothed members for engaging said perforations, said means being movable to preserve alinement of the paper, and a top for said register adapted to come down over the said toothed members, said top being provided with raised portions to clear the toothed members for maintaining said paper on the toothed members without friction.

10. In an autographic register, a pair of toothed rotary elements, and means for rotating the same, strips of paper perforated along their edges to be engaged by the toothed members to feed said strips in a constantly adjusted alinement, means for loosely holding the paper strips against the toothed members for permitting said adjustment, a tearing blade for providing an edge against which the strips may be severed, and means for maintaining the blade out of contact with the strips during the feeding operation, and means whereby said knife applies tension to the strips during the tearing operation to preserve alinement during the tearing off operation.

JOHN Q. SHERMAN.

Witnesses:
W. M. BROCK,
READ M. KUHNS.