

Nov. 15, 1927.

1,649,595

C. L. JOHNSTON

AUTOGRAPHIC REGISTER

Filed Nov. 27, 1925

2 Sheets-Sheet 1

Fig. 2

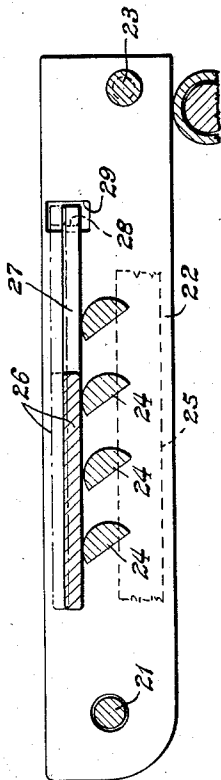
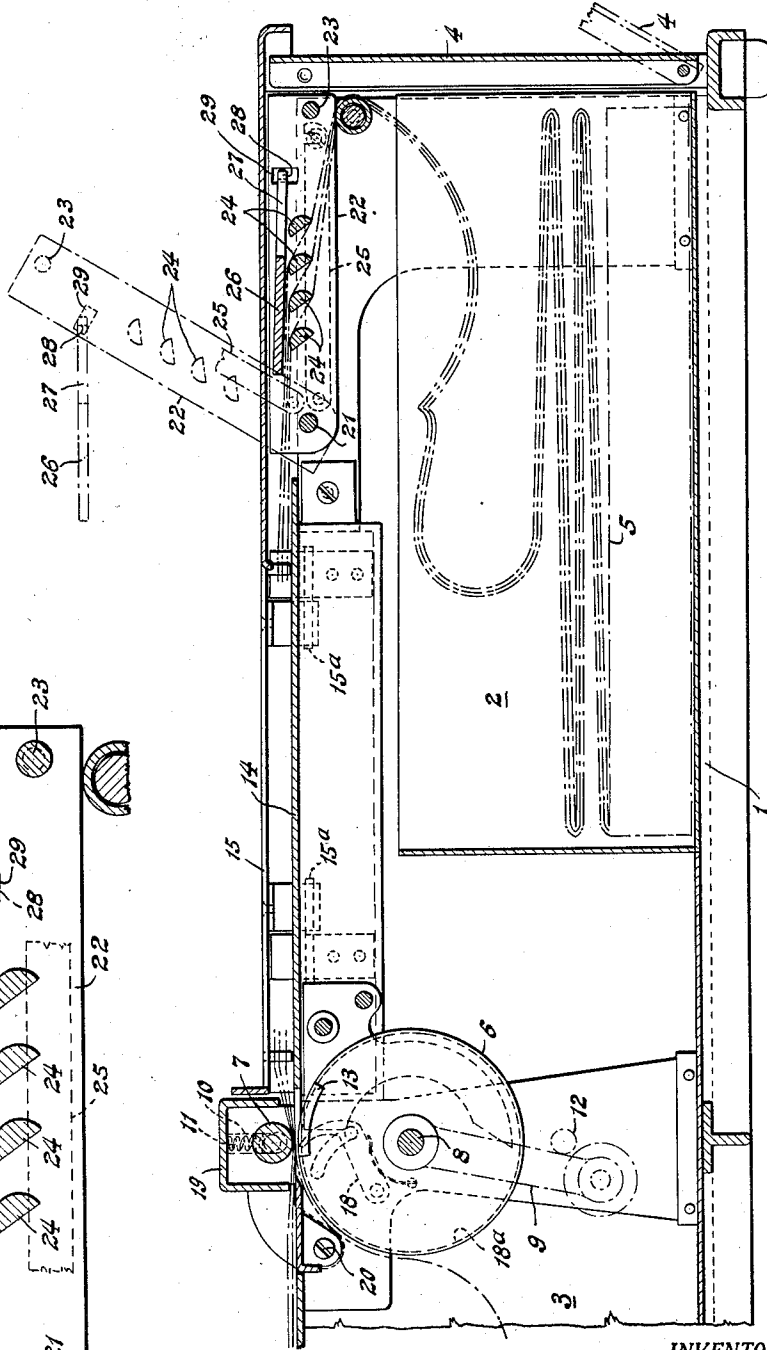


Fig. 1



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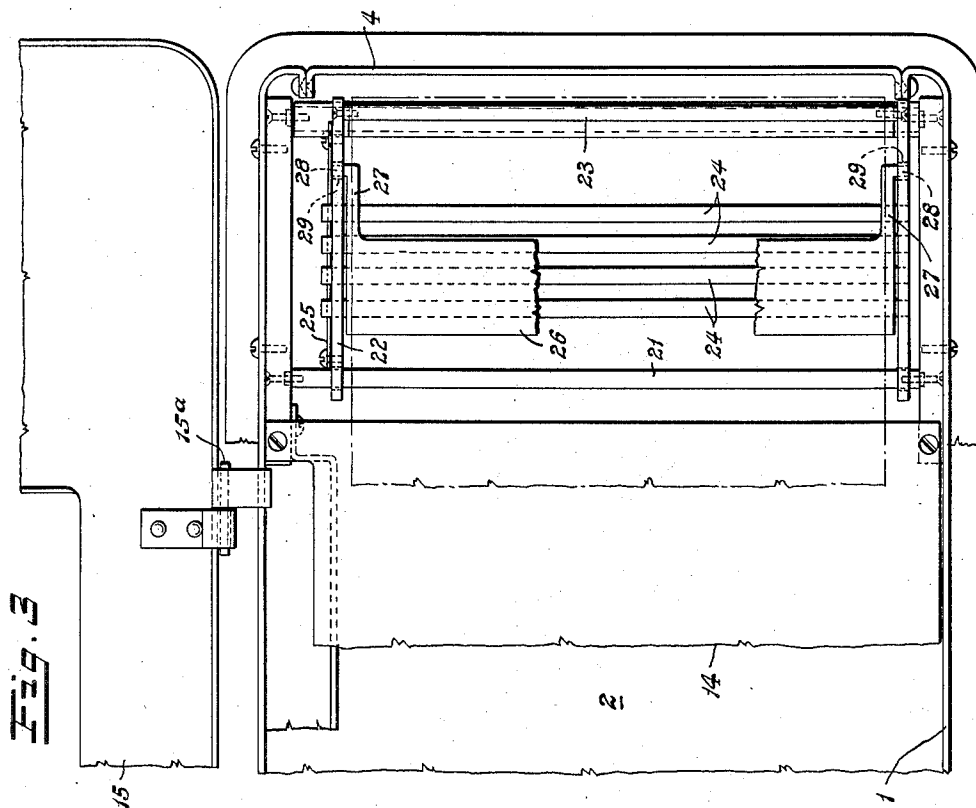
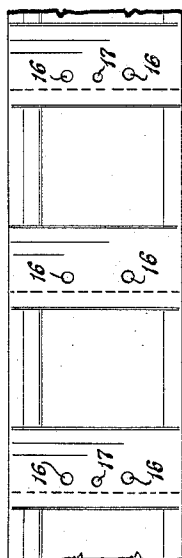


Fig. 4



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UNITED STATES PATENT OFFICE.

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AUTOGRAPHIC REGISTER.

Application filed November 27, 1925. Serial No. 71,601.

This invention relates to autographic registers and more particularly to means for tensioning the strips therein.

An object of this invention is to provide a device of the character described in which the strips are tensioned in a new and improved manner, which will be simple to arrange for writing, efficient in operation and economical in manufacture.

A further object is to provide a device of the character described in which the tension upon the strips is uniform at all times, independent of pressure which may be exerted by the hand upon the cover plate.

Other objects of the invention will in part be obvious and will in part appear hereinafter.

The invention accordingly comprises the features of construction, combinations of elements, and arrangement of parts, which will be exemplified in the construction hereinafter set forth and the scope of the application of which will be indicated in the claims.

For a fuller understanding of the nature and objects of the invention reference should be had to the following detailed description taken in connection with the accompanying drawing, in which:

Figure 1 is a vertical longitudinal section of a register embodying this invention.

Fig. 2 is an enlarged view showing the tensioning means,

Fig. 3 is a fragmental top plan view of the tensioning means, and

Fig. 4 is a plan of the strip with which it is desired to use the device.

In devices of the character described, it has heretofore been proposed to tension a plurality of strips as they are about to be fed over a tablet, by springs bearing upon the composite strip to exert pressure upon the individual strips as they lie superposed. This has not proven satisfactory in use for many reasons, among which may be mentioned that for practical operation, it involves co-operation between the cover plate and the platen to tension the strips, whereas the cover plate may be flexible so that the pressure of the hand upon it is sufficient to bear it down so far as to cause it to bind the strips.

It has been found desirable where the strips used have printed forms thereon and control apertures in registry with the forms, to utilize as the feeding mechanism a disc in registry with the apertures co-operating with a roller. Such a feeding mechanism will feed the strips until a control aperture allows the disc to come in direct contact with the roller, whereupon no further gripping of the sheet occurs and the feed ceases. Such a feeding mechanism has been found in itself unsatisfactory in many cases, in maintaining the alignment. In accordance with this invention, however, it has been found that it will do so when caused to co-operate with the proper tensioning means.

In the drawings, the numeral 1 constitutes a casing provided at one end with a chamber 2 for the reception of a strip supply and at the other end 3 with a chamber for the reception of an inscribed strip for record purposes. The end wall 4 of the casing is hinged to facilitate the insertion of a flat pack 5 of zigzag folded record strips.

The feeding means comprises discs 6 adapted to cooperate with a roller 7 to grip the strip between them. The discs 6 are mounted upon a shaft 8 journaled in the side walls of the casing, while the roller 7 has movable pivots operating in slots 10, which pivots are urged downwardly towards the discs 6 by springs 11.

A spring pressed stop 12 may be provided to limit the movement of the handle 9 at the end of each feeding movement, while lugs 13 are located on the discs in position to engage the strips at the side of the control apertures at the close of the feeding movement, in order to retain the strips securely as they are torn off and to continue the feeding movement until the discs again engage the strips beyond the apertures. A tablet 14 is arranged at the top of the casing and a margin frame 15 is hinged as at 15^a to the side wall of the casing to lie above the guides 24, hereinafter mentioned, and to be operated so as to permit access to the mechanism or to cover all of it, save the portion of the strips immediately above the tablet.

The strip intended for use with this device may have control apertures 16 provided in each sheet in registry with the forms, and

also an additional aperture 17 in each alternate sheet. A spring finger 18 is arranged upon a selecting disc 18^a in a position to cooperate with the aperture 17 of each alternate strip to assist in refolding the record strip in the record compartment. A housing 19 pivoted as at 20, carries the roll 7 whereby it is movable from a position to facilitate the insertion of the strip through the feed, into the operative position shown in Fig. 1.

The tensioning mechanism is as follows:

A shaft 21, mounted in the forward end of the machine, pivotally carries a frame comprising side members 22, one at each side of the casing, connected by a tie bar 23. This frame work is movable about the shaft 21 from its normal position for tensioning webs to a raised position as shown in dot and dash lines in Fig. 1 to facilitate threading. The side members 22 carry spacing rods 24 extending from one of the side members to the other and held in position by a strip 25 on one of the side members which fits into slots in the spacing rods. These spacing rods are preferably semi-circular in cross-section, thereby affording large radius of curvature over which the strips are to be fed while affording the maximum space between adjacent spacing rods and serving as guides for the strips.

A weight member 26 is arranged to rest by gravity upon the strips immediately above those spacing rods 24 over which the strips are fed, and this weight is sufficient to create the desired tension upon the strips by pressing them against the rods. The member 26 has arms 27 which project rearwardly carrying pivots 28 which operate in slots 29 in the side members 22 in order to confine the weight member to its proper position. There is, however such lost motion between the pivots 28 and the slots 29 that the pivots are free to translate in the slots 29, whereby the weight is free to assume its own position relative to the spacing rods 24 so that it will rest equally upon them, thus creating an equal tension on each strip. The pivot 28, however, does prevent undue lateral displacement of the weight and prevents its being fed forward by friction of the strip as the strips are advanced.

In operation, the composite strip comprising, as illustrated, three interfolded strips, is separated so that each of its individual strips passes between a pair of the spacing rods 24, whereupon the tensioning frame may be lowered into place with the weight 26 resting upon the strips. The remainder of the machine may be fed in the usual manner and the margin frame 15 lowered into place.

It will now be seen that the first or top-most strip passes under the first guide rod and over the second. For this reason, it is

not necessary that the weight shall be of such size as to lie upon the first guide rod.

The operation of the device will be evident to one skilled in the art from the above construction. The rotation of the handle 9 will cause the composite strip to be fed over the platen 14, one strip being directed into the record compartment 3 and there refolded in compact form, while the others are discharged from the machine. The strip moves with the feeding mechanism until the control apertures in the strip come opposite the discs whereupon feeding ceases. During this operation, the weight mechanism, resting as it does upon the strip in superposed position over the separating rods, exerts an individual tension on each strip. Thus, if through some error of registry, one of the strips should have gained slightly on another, not only will the feed mechanism release the feed of said strip more quickly, but moreover the constant backward separate tension upon each strip tends very distinctly to hold the advanced strip in position until the retarded strips have been brought up into alignment.

Thus by the above construction, other objects are accomplished than the objects herein set forth.

Since certain changes may be made in the above construction and different embodiments of the invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative and not in a limiting sense.

It is also to be understood that the following claims are intended to cover all of the generic and specific features of the invention herein described, and all statements of the scope of the invention which, as a matter of language, might be said to fall therebetween.

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

1. A device of the character described, comprising, in combination, a casing, a frame pivoted to said casing being movable into and out of said casing, a plurality of separating guides in said frame between which a plurality of strips are adapted to be placed, a weight adapted to rest freely upon said guides and means for constraining said weight against lateral displacement.

2. In an autographic register, or the like, in combination, a plurality of strip separating guides between which the record strips are adapted to be fed while in superposed relation to each other, feed rolls between which said strips are adapted to be gripped for being fed between said guides, a margin frame adapted to lie above said guides, and

a weight adapted gravitatively to press said strips against said guides independently of pressure of said margin frame.

3. In an autographic register, or the like, in combination, a plurality of strip separating guides between which the record strips are adapted to be fed while in superposed relation to each other, feed rolls between which said strips are adapted to be gripped for being fed between said guides, a weight adapted gravitatively to press said strips against said guides, and means adapted to constrain said weight against lateral movement.

4. In an autographic register, or the like, in combination, a plurality of strip separating guides between which the record strips are adapted to be fed while in superposed relation to each other, feed rolls between which said strips are adapted to be gripped for being fed between said guides, a pivotally mounted frame in which said guides are

mounted, and a strip tensioning weight pivotally movable in said frame toward and from said guides, the pivots of said frame and weight being at opposite ends, respectively, of the series of guides.

5. In an autographic register, or the like, in combination, a plurality of strip separating guides between which the record strips are adapted to be fed while in superposed relation to each other, feed rolls between which said strips are adapted to be gripped for being fed between said guides, a pivotally mounted frame in which said guides are mounted, and a strip tensioning weight pivotally movable in said frame toward and from said guides, the pivots of said frame and weight being at opposite ends, respectively, of the series of guides, the pivot of said weight being translatable in said frame in a line transversely of the strips.

In testimony whereof I affix my signature.
CLARENCE L. JOHNSTON.