

June 4, 1935.

L. F. HAGEMANN

2,003,999

AUTOGRAPHIC REGISTER

Original Filed Oct. 17, 1925 2 Sheets-Sheet 1

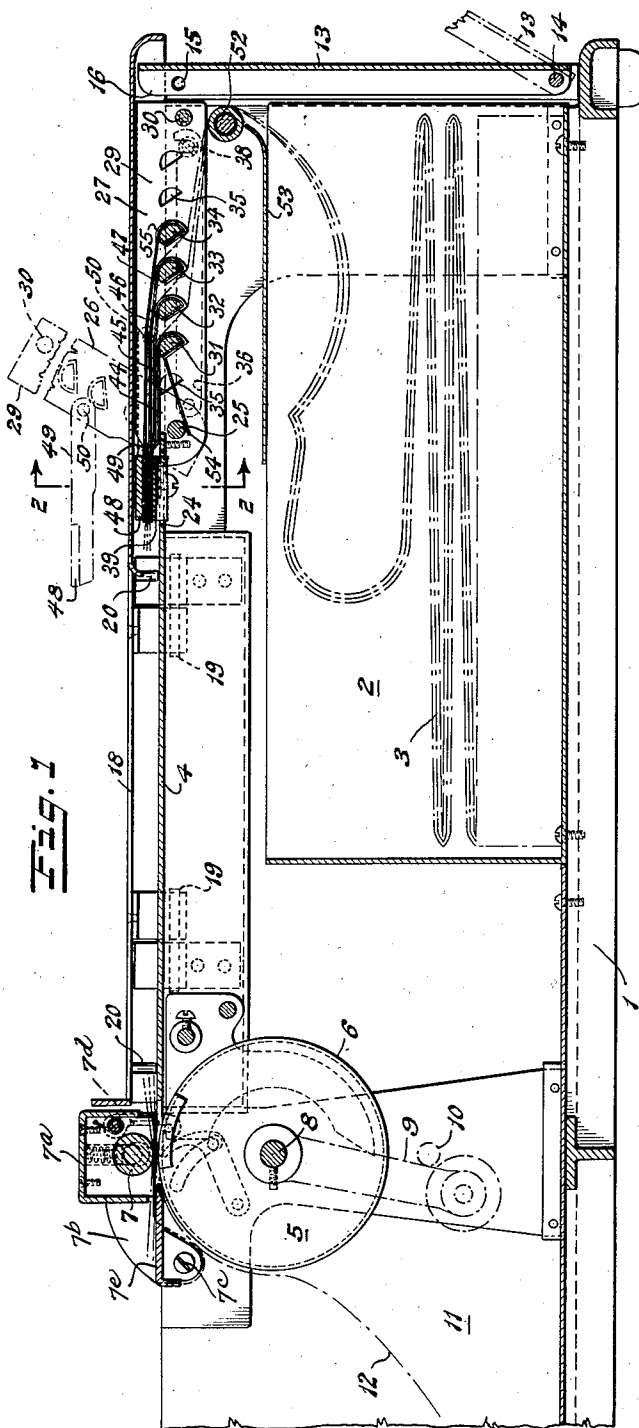
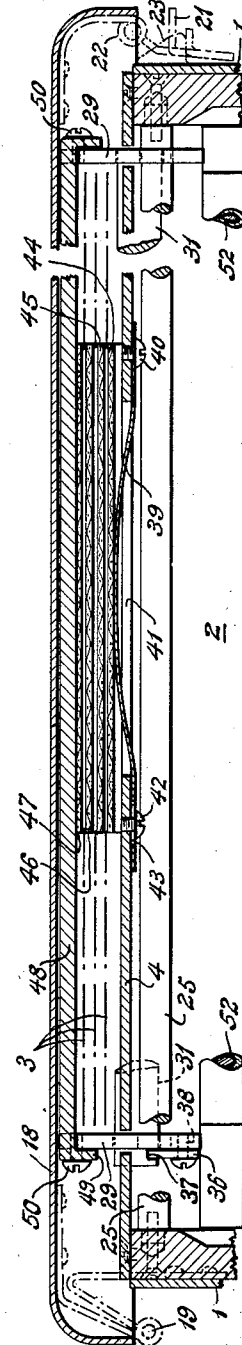


Fig. 2



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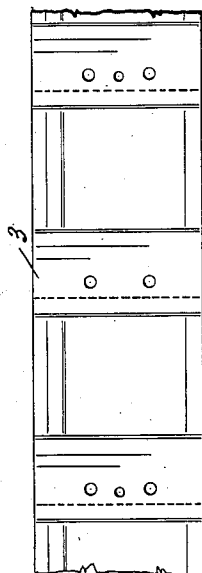
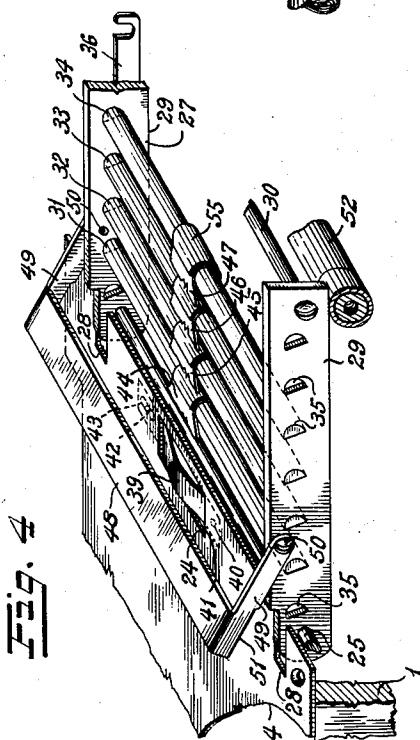
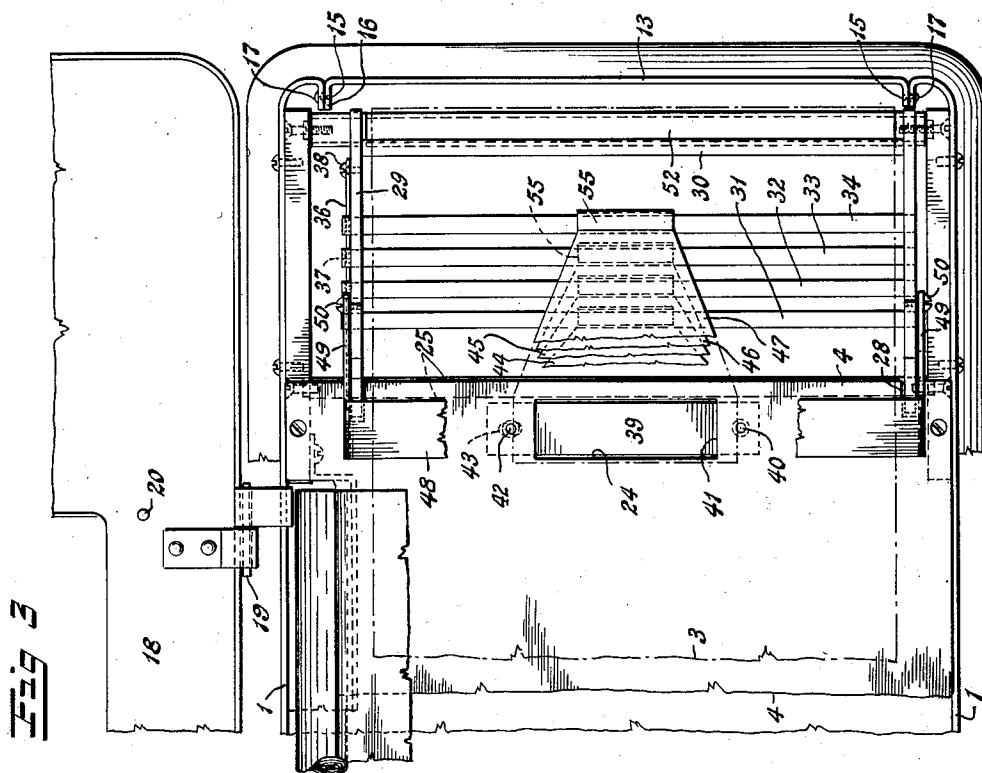
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Original Filed Oct. 17, 1925

2 Sheets-Sheet 2



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2,003,999

AUTOGRAPHIC REGISTER

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13 Claims. (Cl. 271—2.1)

This invention relates to autographic registers.

An object of this invention is to provide an autographic register adapted for use with a plurality of strips which will maintain a uniform and predetermined tension upon the strips at all times.

A further object is to provide a register which is effective to maintain the tension upon the webs regardless of pressure exerted upon the cover plate.

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 drawings, in which:

Figure 1 is a vertical section through a machine embodying this invention.

Fig. 2 is a section along the line II—II of Fig. 1.

Fig. 3 is a top plan view of a fragment of the machine.

Fig. 4 is a perspective view of the separating carriage and tensioning device, and

Fig. 5 is a plan of a form of strip suitable for use with the device.

The numeral 1 designates a casing having at one end a compartment 2 adapted for the reception of a multiple strip web supply as at 3. This casing is provided with a tablet 4 and with a feed mechanism indicated generally at 5, adapted to feed the strips over the tablet. As illustrated, this feed mechanism comprises discs 6 adapted to cooperate with a roll 7 to grip the strips. The discs are mounted upon a shaft 8 which is operable by a handle 9 and the movement of which is limited by a stop 10. As shown in Fig. 1, the roll 7 is journaled in a roll housing 7a supported upon arms 7b pivoted forwardly of the roll to the machine frame as indicated at 7c. The roll 7 and its housing may, therefore, be swung upwardly and forwardly about the pivot point 7c to release the grip between the roll 7 and the discs 6. The roll 7 may be retained in cooperative relation with the discs in any preferred manner as, for example, by means of the latch 7d pivotally mounted upon the roll housing and engaging with a lug upon the casing.

In the embodiment of the invention illustrated there is provided at the forward end of the casing beyond the feed mechanism a receptacle 11 adapted for the reception of one of the strips as shown

at 12 and intended to retain this strip in secret. For the purpose of diverting this strip 12 into the compartment 11 and for directing the other strips upwardly above the compartment, a guide plate or strip diverter 7e is arranged to be movable from a substantially horizontal position just beyond the feeding mechanism as shown to a slightly raised position to facilitate the insertion of the end of the strip 12 beneath this guide plate into the compartment 11. As shown, this movement of the guide plate is accomplished by pivoting it through depending lugs to the casing and this pivot may conveniently be coincident with the pivot 7c for the housing supporting arms 7b. Both the feed roll and the diverter plate are thus mounted for movement upon a forwardly disposed axis substantially parallel to the axis of the feed roll. In their normal positions the roll housing 7a overlies the forward edge of the diverter plate 7e, thus retaining the latter in its operative position.

The end wall 13 of the casing 1 is pivoted as shown at 14 to permit it to be opened, and it is provided with small catches 15 which may comprise indentations in a side flange 16 adapted to cooperate with orifices 17 in a flange on the casing body. A cover or margin frame 18 serving as a hand rest is pivoted at one side of the casing as shown at 19 in position to overlie the tablet, but in its closed position, it is spaced from the tablet by an amount sufficient to leave a clear space beneath it for the passage of the strips and for the housing of the tensioning mechanism about to be described. To insure this proper spacing, there are provided upon the underside of the margin frame, stops 20 which are of a length to bear upon the tablet to support the margin frame from the tablet, but are spaced laterally to permit the passage of the strips between them.

A catch 21 is pivoted to the underside of the margin frame as shown at 22 in position to engage lugs 23 struck from the side wall of the casing. The tablet 4 terminates some distance from the end of the casing as shown at 24 to provide room for the tensioning mechanism.

The tensioning mechanism comprises a frame 27 pivoted adjacent the end of the tablet as shown at 25 and movable from a position substantially vertical as shown in Fig. 1 in dot and dash lines 26 to facilitate the insertion of the strips, to a horizontal position during operation as shown in full lines in Fig. 1. To permit this movement and at the same time to carry the pivot as close to the end of the tablet as possible, the tablet itself is slotted as shown at 28.

The frame 27 comprises side members 29 attached to the pivot rod 25 and held together at their outer ends by a tie rod 30. Extending between these side members 29 are a plurality of separator rods 31, 32, 33 and 34, which may be conveniently inserted in the side members by slipping them into corresponding orifices 35 in the side members and they may be retained in place by a strip 36 on one of the said members, which strip fits into slots 37 in the separator rods. This retaining strip may be held in place by screws 38.

The rear end of the tablet has mounted thereon a spring 39 which may conveniently be of arc shape, rigidly attached at one end of the underside of the tablet as shown at 40, and extending upwardly through a slot 41 in the tablet into the pathway of the webs. The other end of the spring may be retained by a screw 42 on the underside of the tablet, fitting into a slot 43 in the spring.

Each of the separator rods 31, 32, 33 and 34 has attached thereto a flexible strip 44, 45, 46 and 47 of sufficient length to extend over and lie upon the spring 39. To this end, it will be obvious, that the strip 47 which is mounted on the further separator rod 34 is longer than the strip 46 on the separator rod 33, and the strips 45 and 44 are correspondingly shorter.

A bar 48 which is preferably of flat material and of substantially the same width as the spring 39, is carried by side arms 49 which are pivoted at 50 to the side members 29. In this manner, the bar is adapted to lie in a position where it rests upon the flexible strips 44, 45, 46 and 47, which in turn rest upon the spring 39. The bar is movable from that position to an upward position to open the tensioning device.

The side arms 49 preferably extend downwardly below the level of the bar 48 sufficient to bear upon the tablet 4 and serve as stops as at 51 to limit the downward movement of the bar 48 to prevent an accidental excessive lowering of the bar unduly increasing the tension on the strips.

A roller 52 is mounted in the casing adjacent to the top of the end wall 13, and to prevent accidental misthreading of the machine by the attendant, a deflector 53 is provided below the tensioning mechanism 27 and a finger 54 extends from the last separator rod 31 toward the tablet.

To thread the machine, the multiple strip web supply which may conveniently be in the form of a plurality of superposed sheets folded zigzag into a flat package is inserted into the compartment 2 and the ends of the strips are carried outwardly and upwardly around the guide roller 52. Thereupon the closing of the end wall 13 will retain it in place during the threading operation. The upper strip is then threaded between the guide rods 33 and 34 and the superposed strips are carried successively between the successive pairs of rods respectively, whereupon the group of superposed strips may be carried together across the tablet, suitable carbons being placed between them. The group of strips is now carried between the feed members as usual.

The lower strip is diverted into the locked compartment 11 while the others pass out of the machine over the cover of the locked compartment in the usual manner. Thereafter, the tension bar 48 may be moved over to rest upon the combined strips, and the margin frame or cover may be closed.

The register in this position is ready for operation, and it will be observed that at a point directly above the spring 39, each strip is sepa-

rated from the strips above and below it by flexible separators, while the weight of the bar 48 is transmitted to each of the flexible strips to cause it to frictionally grip the adjacent record strips with a uniform tension. Since the friction between each record strip and the adjacent flexible strips is determined by the weight of the bar 48, it will be clear that this tension will be independent of the number of record strips employed. If, however, a lesser number of record strips were employed within a prescribed minimum, their combined thickness may be such as to permit the stops 51 to rest upon the tablet so that the tensioning of the webs is then determined by the pressure exerted by the spring 39.

It will be noticed that the strip engaging, strip tensioning members 44, 45, 46 and 47 overlap and engage with the respective record strips and that these tensioning members may move together slightly as a unit with corresponding movements of the record strips, being operatively connected for this purpose through the interposed record strips when said record strips are in position, or directly engaging with each other when the record strips are not in position. The spring 39 engages at one side of this group of tensioning members, tending to adjust the said tensioning members into engagement with the interposed record strips. By this means the spring 39, by its engagement with one of the tensioning members, will transmit tensioning pressure to the record strips through the other tensioning members, thus equalizing the tension upon the record strips during feeding movement of the latter by the feeding mechanism described. The biased member 48 will not come into play to exert pressure upon the tensioning members and record strips, as will be obvious, unless the combined thickness of the tensioning members and record strips is greater than the space provided beneath the member 48 because otherwise the member 48 will rest upon its limit stops 51.

In the manufacture of the device, it is convenient to make the separating rods 31, 32, 33 and 34 half round, but placed in such a way that the curved surface is in contact with the record strips. In this manner each strip is carried over a rather sharp edge of the adjacent member.

The flexible strips are preferably of a textile material such as surfaced cloth and each may be attached to its supporting rod by one or more spring clips 55.

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 drawings 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. An autographic register, comprising, in combination, means for feeding a plurality of superposed record strips into inscription-receiving position with reference to a tablet, a hand rest and tensioning means for applying a separate tension on each strip, including means independent of

the hand rest for simultaneously applying and releasing the tension.

2. An autographic register, comprising, in combination, means for feeding a plurality of superposed record strips into inscription-receiving position with reference to a tablet, a hand rest, members adapted to lie between the superposed strips, tensioning means for applying a separate tension on each strip including a gravity controlled member independent of the hand rest for engaging the superposed strips at a point of superposition opposite said members to tension the strips.

3. An autographic register, comprising, in combination, means for feeding a plurality of superposed record strips into inscription-receiving position with reference to a tablet, a hand rest, flexible sheet members adapted to lie between the superposed strips, tensioning means for applying a separate tension on each strip, including a gravity controlled member independent of the hand rest for engaging the superposed strips at a point of superposition opposite said members to tension the strips.

4. An autographic register, comprising, in combination, a tablet over which a multiple strip web supply including superposed record strips may be fed into inscription-receiving position, a hand rest, flexible sheet members adapted to lie between the superposed strips, tensioning means for applying a separate tension on each strip including a resilient element on said tablet, and a gravity controlled member independent of the hand rest for engaging the superposed strips at a point of superposition opposite said members and said element to tension the strips.

5. An autographic register, comprising, in combination, a tablet over which a multiple strip web supply including superposed record strips may be fed into inscription-receiving position, a hand rest, flexible sheet members adapted to lie between the superposed strips, tensioning means for applying a separate tension on each strip including a resilient element on said tablet, a gravity controlled member independent of the hand rest for engaging the superposed strips at a point of superposition opposite said members and said element to tension the strips and stops for limiting the movement of said gravity controlled member, to limit the tension on said strips.

6. An autographic register, comprising, in combination, means for feeding a plurality of superposed record strips into inscription-receiving position with reference to a tablet, a hand rest, means adapted to lie between the strips to separate the same as they are fed forwardly into inscription-receiving position, and means independent of the hand rest for applying pressure to the strips at the point of separation, whereby each of said webs is separately tensioned.

7. An autographic register, comprising, in combination, a tablet over which a multiple strip web supply including superposed record strips may be fed into inscription-receiving position, means for separating the strips and applying a separate tension thereon as the strips are fed forwardly into inscription-receiving position, said separating means including a frame pivotally movable adjacent the tablet, separating members carried by said frame, including flexible members adapted to lie between the strips and a weight pivoted to said frame and adapted to engage the strips at a point opposite said flexible members.

8. An autographic register including, in combination, means for feeding a plurality of superposed record strips into inscription receiving position with reference to a tablet, means for maintaining a separate tension on each strip as said strips are fed forwardly by said feeding means into inscription receiving position, and means cooperative with said last mentioned means to increase the tension on the strips as the number of strips is increased beyond a prescribed limit.

9. An autographic register including, in combination, means for feeding a plurality of superposed record strips into inscription receiving position with reference to a tablet, and means for maintaining a separate tension on each strip as said strips are fed forwardly by said feeding means into inscription receiving position, said tension means including a plurality of biased members to increase the tension on the strips as the number of strips is increased beyond a predetermined limit and also to limit the maximum tension when a greater number of strips is employed.

10. In a manifolding machine having a platen over which a pile of worksheets is fed from a supply compartment, guide rods in the path of the worksheets between the supply compartment and the platen and over which said worksheets pass, fabric strips secured to the guide rods and extending forwardly to a point above the platen, said fabric strips being adapted to be interposed between worksheets of the pile to separate the worksheets as they approach the platen, a frame comprising a plate located above said fabric strips, and resilient means adapted to press said pile of worksheets and said separators together and against the plate of said frame to thereby put a drag on the worksheets.

11. In a manifolding machine having a platen over which a pile of worksheets is fed from a supply compartment, means for individually separating the worksheets as they approach the platen placing a drag on each worksheet, comprising a plurality of flexible cloth strips interposed between the worksheets of the pile and extending to the platen at the introductory side thereof.

12. A manifolding machine including, in combination, means for feeding a plurality of superposed record webs into inscription receiving position with reference to a tablet, sheet web tensioning members of flexible and pliable material positioned in superposed relation with each other so as to lie respectively between adjacent webs to frictionally engage the same and separately tension them as fed, and pressure means positioned above and below said pliable sheet members in superposed relation therewith, and including a resilient pressure limiting device.

13. A manifolding machine including, in combination, means for feeding a plurality of superposed record webs into inscription receiving position with reference to a tablet, a sheet web tensioning member positioned to lie between two adjacent webs to tension the latter as fed, guide bars for the webs, a supporting frame supporting said guide bars and mounted for movement into operative and inoperative positions, and means for exerting pressure upon the webs, including a pressure member pivotally mounted upon said supporting frame and normally positioned for exerting pressure upon the webs in superposed position with said web tensioning member.

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