

April 10, 1951

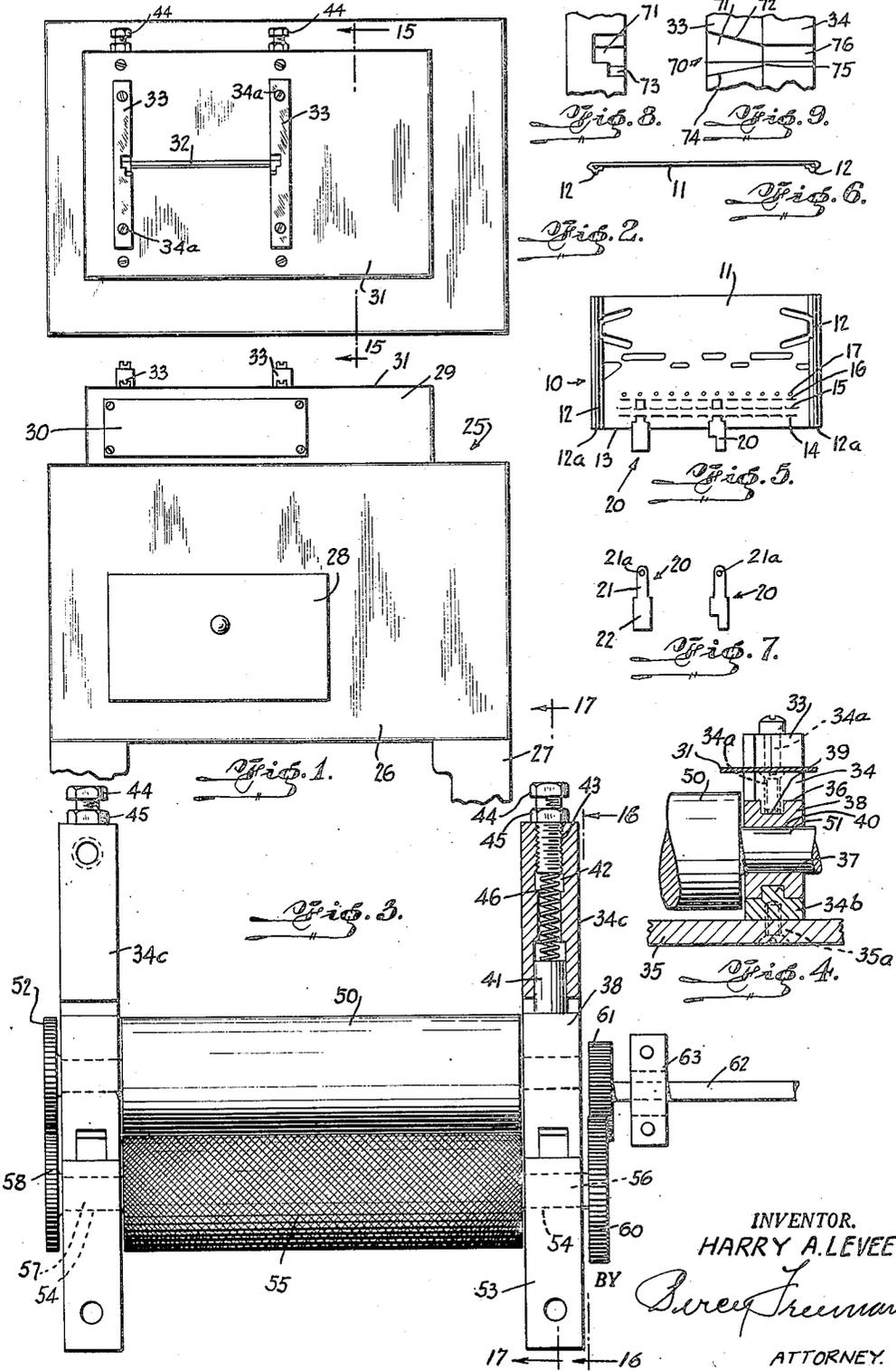
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2,548,484

SIGNAL TAB-REMOVING DEVICE

Filed July 3, 1945

3 Sheets-Sheet 1



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SIGNAL TAB-REMOVING DEVICE

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3 Sheets-Sheet 2

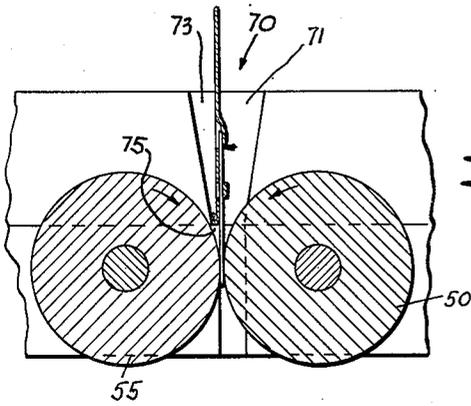


Fig. 10.

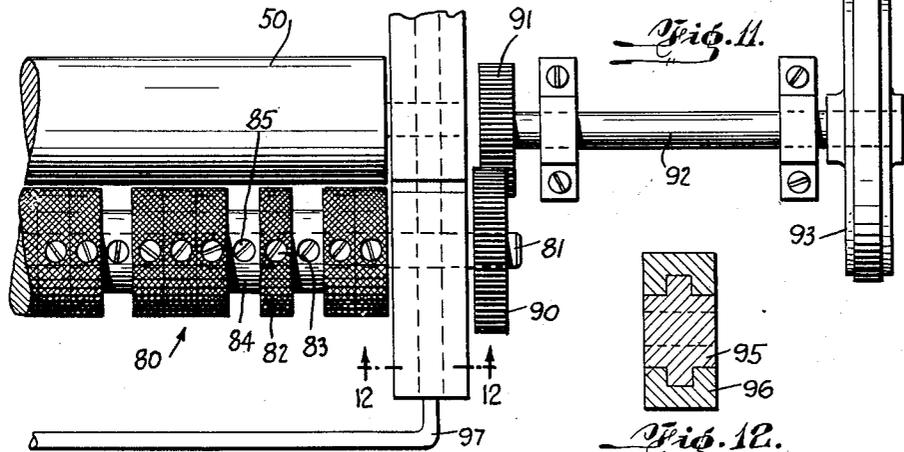


Fig. 11.

Fig. 12.

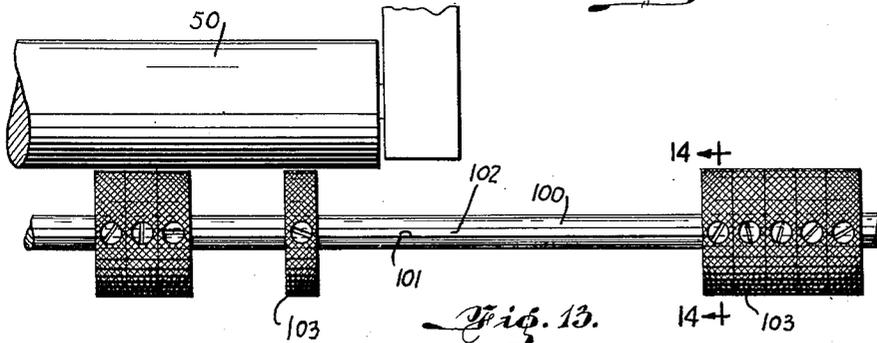


Fig. 13.

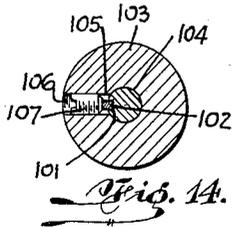


Fig. 14.

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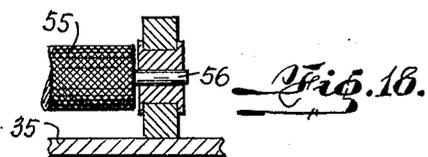
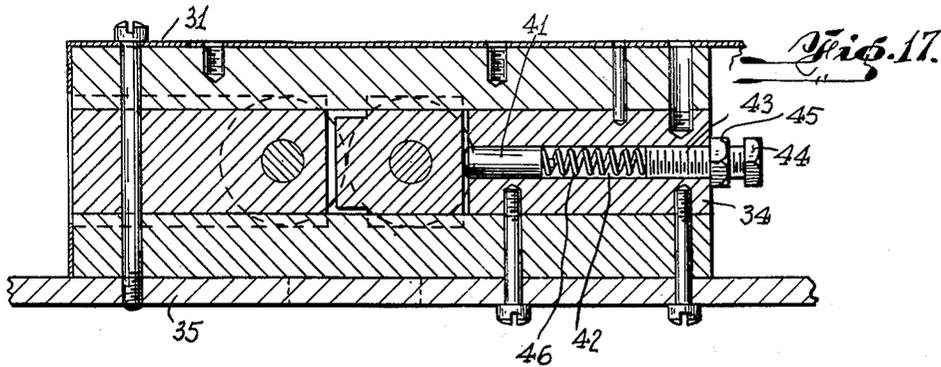
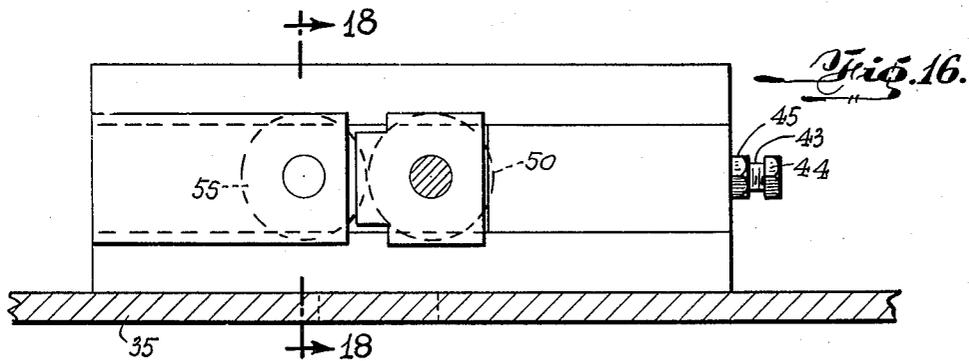
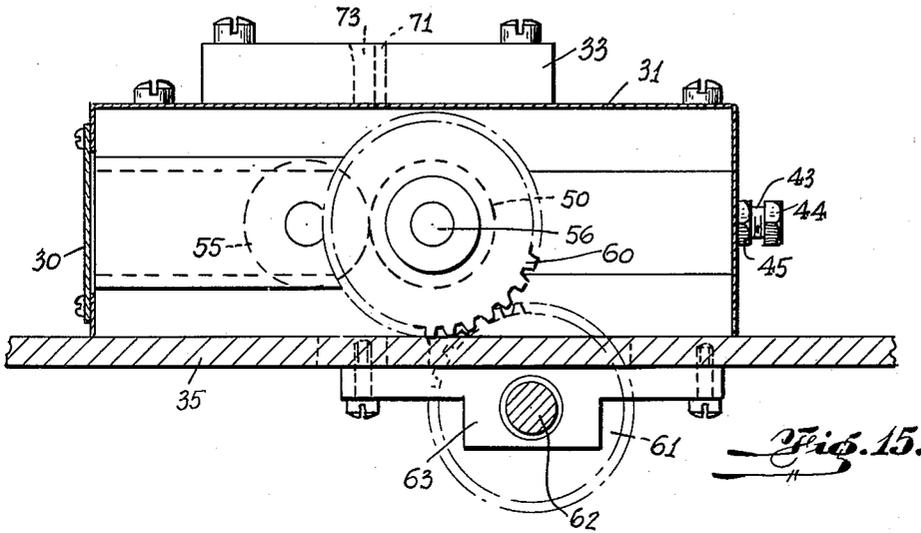
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SIGNAL TAB-REMOVING DEVICE

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3 Sheets-Sheet 3



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# UNITED STATES PATENT OFFICE

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## SIGNAL TAB-REMOVING DEVICE

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2 Claims. (Cl. 101-1)

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This invention relates to apparatus for removing tabs from addressing plates.

Such plates are provided with slots in which are inserted signal tabs of various kinds, each tab, depending on its position on the plate, its shape, and/or color, having a predetermined meaning. These tabs often become stuck to the plate so that it is difficult to remove them. It is, therefore, an object of this invention to provide apparatus or a machine of the character described having improved means for easily removing all or some of the tabs from addressing plates.

A further object of this invention is to provide a machine comprising a plurality of rollers, and means to insert the addressing plate into the machine in such position that the portions of the tabs projecting from the plate are caught between the rollers which serve to pull the tabs out of the addressing plate, the machine being provided with means to retain the addressing plate against movement in predetermined position while the tabs are being removed therefrom.

Another object of this invention is to provide in a machine of the character described, spring means to press the rollers together for firmly gripping the tabs, to facilitate removal of the latter.

Another object of this invention is to provide a machine of the character described comprising a pair of rollers, one of the rollers consisting of annular knurled rings adjustable on the shaft for alignment with all or certain of the tabs on the addressing plate.

Still a further object of this invention is to provide a neat, compact and durable machine of the character described which shall be relatively inexpensive to manufacture, smooth and positive in operation, and yet practical and efficient to a high degree in use.

Other objects of this invention will in part be obvious and in part hereinafter pointed out.

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

In the accompanying drawing, in which is shown various possible illustrative embodiments of this invention:

Fig. 1 is a front elevational view of a machine embodying the invention.

Fig. 2 is a top plan view thereof.

Fig. 3 is a top plan view of the roller assembly.

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Fig. 4 is an elevational cross-sectional view of one of the roller bearings.

Fig. 5 is a top plan view of an addressing plate with several tabs thereon.

Fig. 6 is an edge view of the addressing plate shown in Fig. 5.

Fig. 7 is a top plan view of two tabs mounted on the addressing plate.

Fig. 8 is a partial top plan view of one of the guide bars adapted to receive an edge of the addressing plate.

Fig. 9 is a partial inner view illustrating a slot which receives one edge of the addressing plate.

Fig. 10 is a cross-sectional view of the rollers and the supports therefor.

Fig. 11 is a view similar to Fig. 3 but illustrating a modified construction.

Fig. 12 is a cross-sectional view taken on line 12-12 of Fig. 11.

Fig. 13 is a view similar to Fig. 11, but illustrating another modified construction.

Fig. 14 is a cross-sectional view taken on line 14-14 of Fig. 13.

Fig. 15 is a sectional view taken on line 15-15 of Fig. 2.

Fig. 16 is a sectional view taken on line 16-16 of Fig. 3.

Fig. 17 is a sectional view taken on line 17-17 of Fig. 3.

Fig. 18 is a fragmentary section as seen on line 18-18 of Fig. 16.

Referring now in detail to the drawing, 10 designates an addressing plate of usual construction as best seen in Fig. 5. The addressing plate 10 comprises a body 11 made of sheet metal having inwardly turned end edges 12. Adjacent one side edge 13 of the plate are a plurality of rows or sets of slots, there being three slots designated by numerals 14, 15 and 16 in each row. The slots are spaced from one another and are parallel to edge 13. Adjacent each innermost slot 16 is a teat or bump 17.

Detachably mounted on the plate 10 are a plurality of tabs or signal members 20. Each tab 20 has a narrow stem portion 21 which may be inserted through the slots 14, 15 and 16 in the manner shown in the drawing and the inner end of each stem portion 21 is provided with a perforation 21a, into which a teat 17 may be yieldingly engaged. Each tab 20 also has a projecting portion 22 which extends beyond edge 13. It will now be understood that there may be as many tabs mounted on plate 10 as there are sets of slots, and that said tabs may be parallel to one another.

The tabs may be of different color or differently notched to indicate various intelligence, or to have different meaning in relation to the person, firm or corporation named on the plate. It has been found that these tabs often prove difficult to remove, particularly after they have been on the addressing plate for a long period. The present invention, therefore, comprises a machine 25 for quickly and easily removing the tabs 20 from the plate 10. Said machine 25 comprises a main box-like casing 26 which may be supported on legs 27. Within the casing 26 is a drawer 28 to receive the tabs which are removed as will appear hereinafter. On top of the main casing 26 is a smaller casing 29 attached thereto in any suitable manner. Casing 29 may be provided with a removable cover 30 covering an opening at the front of said casing.

The casing 29 has a top wall 31 formed with a longitudinal slot 32. Attached to the top wall 31 are a pair of parallel bars 33 at right angles to and forming an H with the slot 32. Within the casing are parallel side walls 34 disposed beneath the bars 33. Walls 34 are attached to the bottom wall 35 of the top casing 29, by screws 35a. The bottom wall has an opening above the drawer 28. Each wall 34 is formed with a horizontal slot 36 and is formed with tongues 37 projecting into the slot.

Slidably mounted in slots 36 of walls 34 are horizontal bearing blocks 38 formed with grooves 39 to receive the tongues 37. The bearing blocks 38 are formed with aligned bearing openings 40. Screw 34a is provided to bind together and to the top wall 31, parallel bars 33 and side walls 34. Extending from the blocks 38 are horizontal plungers 41. Each of walls 34c is formed with a through opening 42 having a screw-threaded rear end portion 43. Screwed into the rear end portion 43 of each opening is a stop screw 44 provided with a lock nut 45. The plungers 41 project into openings 42. Interposed between the plungers 41 and the stop screws are coil compression springs 46. The springs 46 urge the bearing blocks 38 forwardly.

Mounted on and between the bearing blocks 38 is a roller 50 having end shafts 51 received in the openings 40 in the bearing blocks. Attached to one end shaft is a gear 52 for the purpose hereinafter appearing.

Fixed within casing 29, and aligned with walls 34 are bearing blocks 53 formed with bearing openings 54. Supported on and between the blocks 53, is a knurled roller 55. The roller 55 is formed with outwardly extending shafts 56 and 57 journaled in the bearings 54. On shaft 57 is a gear 58 meshing with gear 52. On the shaft 56 is a gear 60 meshing with a gear 61 on a drive shaft 62. Shaft 62 may be supported in any suitable bearing 63, and may be driven by a motor or any other suitable motive power. It will now be understood that drive shaft 62 will drive the roller 55, and through the gears 58, 52 will also drive the roller 50. The springs 46 cause the rollers to be pressed together.

The bars 33 are directly above the walls 34. The bars 33 are formed adjacent the slots 32 with notches or grooves 70. The grooves 70 each comprise a portion 71 of relatively greater width and having a tapered edge 72. Said portion 71 narrows as it goes downwardly. Said groove 70 also comprises a portion 73 of lesser width and having an oppositely tapered surface 74 terminating in a horizontal shoulder 75 at the wall 34. Plate 34 is formed with notches 76 communicating with

the lower ends of groove portion 71. The plates 10 are inserted into slots 32. The turned over edges 12 of the plates 10 are received in the groove portions 70, whereas the portion of the plate 10 between the turned in edge portions passes through the slot 32. The plate can be inserted until the lower ends 12a of the turned over edges 12 strike shoulders 75. In such position the portions 22 of the tabs pass between the rollers. It will be noted that the rollers rotate in opposite directions, inwardly, as indicated by the arrows in Fig. 10. Movement of the rollers will pull out the tabs 20 from plate 10.

In Fig. 11, there is shown a modified construction. In the devices shown in Fig. 11, there is substituted for the roller 55, a roller 80. Roller 80 comprises a central shaft 81 on which there is mounted annular discs 82 having annular knurled outer surfaces. The discs 82 are each formed with a radial through opening to receive a set screw 83 for fixing the disc to the shaft. The diameter of the discs 82 are the same as the diameter of roller 85. There may be also mounted on shaft 81, rings 84 which may be fixed to the shaft by radial set screws 85. The width of the discs 82 and the rings 84 are the same, and the width of each is substantially the same as the distance between the center lines of adjacent sets of slots 14, 15, and 16. Thus, each disc 82 may engage one tab 20. The rings 84 are placed where there are no tabs, or where it is not desired to remove a tab. The discs 82 and rings 84 are removable and may be arranged in any suitable assembly on shaft 81. With such construction, certain tabs may be removed and others may be allowed to remain on the addressing plates.

On shaft 81 is a gear 90 adapted to mesh with gear 91 on shaft 92. On shaft 92 is a pulley 93 connected by belt 94 to any suitable drive. The ends of shaft 81 may be journaled in sliding adjustable bearing blocks 95 slidably mounted in plates 96 fixed within casing 29. The bearing blocks 95 at the two ends of the rollers 80 may be interconnected by a handle 97 which may be used to pull the roller 80 away from roller 50.

In Fig. 13 is shown another modified construction. In accordance with this construction, there is substituted for shaft 81, a shaft 100 provided with a longitudinal key slot 101. In the key slot 101 is a longitudinal key 102. On shaft 100 are knurled discs 103 each having a knurled outer annular periphery. The discs 103 are each formed with a central opening 104, to receive the shaft. Said discs are also formed with longitudinal key slots 105 to receive key 102. Each disc 103 is furthermore formed with a radial screw-threaded opening 106 to receive a set screw 107 adapted to press against the key 102 to fix the disc in place. Upon loosening the set screws, the discs may be moved to one side of the shaft when not in use. The shaft 100 may be supported for rotation in any suitable manner.

It will thus be seen that there is provided a device in which the several objects of this invention are achieved, and which is well adapted to meet the conditions of practical use.

As various possible embodiments might be made of the above invention, and as various changes might be made in the embodiments above set forth, it is to be understood that all matter herein set forth or shown in the accompanying drawing is to be interpreted as illustrative and not in a limiting sense.

Having thus described my invention, what I

claim as new and desire to secure by Letters Patent, is:

1. A machine for removing detachable tabs from an addressing plate comprising a casing formed with a slot, a pair of parallel contiguous rollers within the casing, said rollers being adapted to coact to grasp and pull the tabs inserted between them, said slot being located in a plane passing through the meeting line of said rollers, said slot being adapted to receive an addressing plate, means at the ends of the slot to guide the edges of the addressing plate, stop means to arrest movement of the addressing plate toward said rollers, one of said rollers having a knurled outer periphery, and means to rotate said rollers in opposite directions, and means to resiliently press said rollers toward each other.

2. A machine for removing detachable tabs from an addressing plate, comprising a pair of coacting parallel rollers for grasping and pulling tabs inserted between them, means to support one of said rollers for rotation, a pair of sliding bearing blocks formed with bearing openings, means on said other roller journaled in said bearing openings for rotatably supporting said second roller on said sliding blocks, resilient means for urging the second roller against the first roller, means for rotating said rollers in opposite directions, a casing for said rollers formed with a slot disposed above and in a plane

passing through the meeting line of said rollers to receive an addressing plate, means for guiding the ends of said addressing plate as it is moved toward said rollers, and stop means to engage the lower edges of the moving plate to arrest its movement toward the rollers as the tabs are pulled.

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