Aug. 4, 1936. W. T. GOLLWITZER 2,049,438

DEVICE FOR INSERTING INDEX TABS

Filed May 22, 1934 3 Sheets-Sheet 1

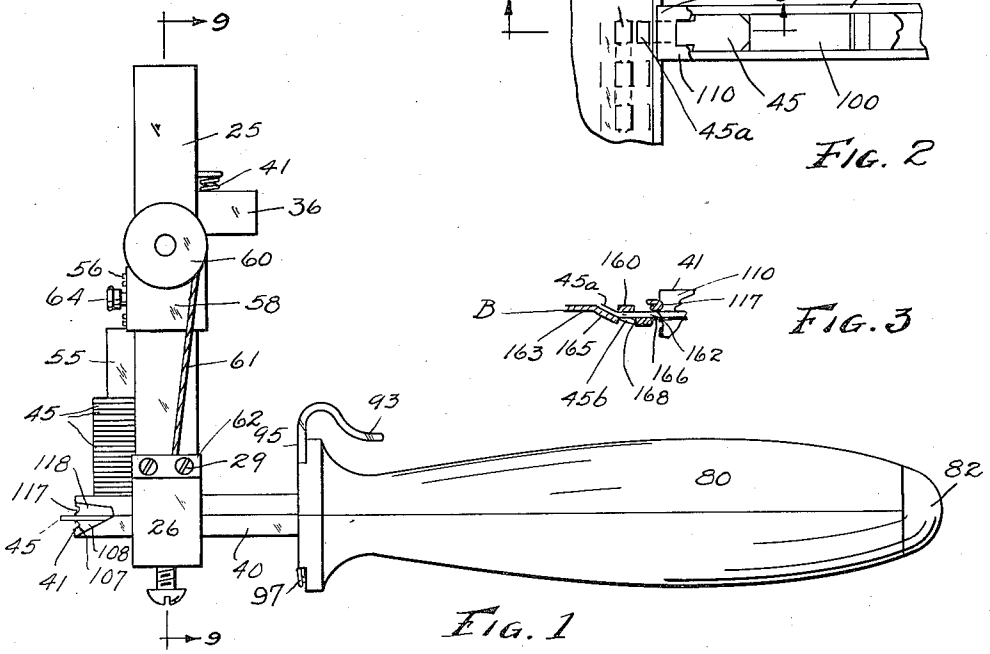


FIG. 1

FIG. 2

FIG. 3

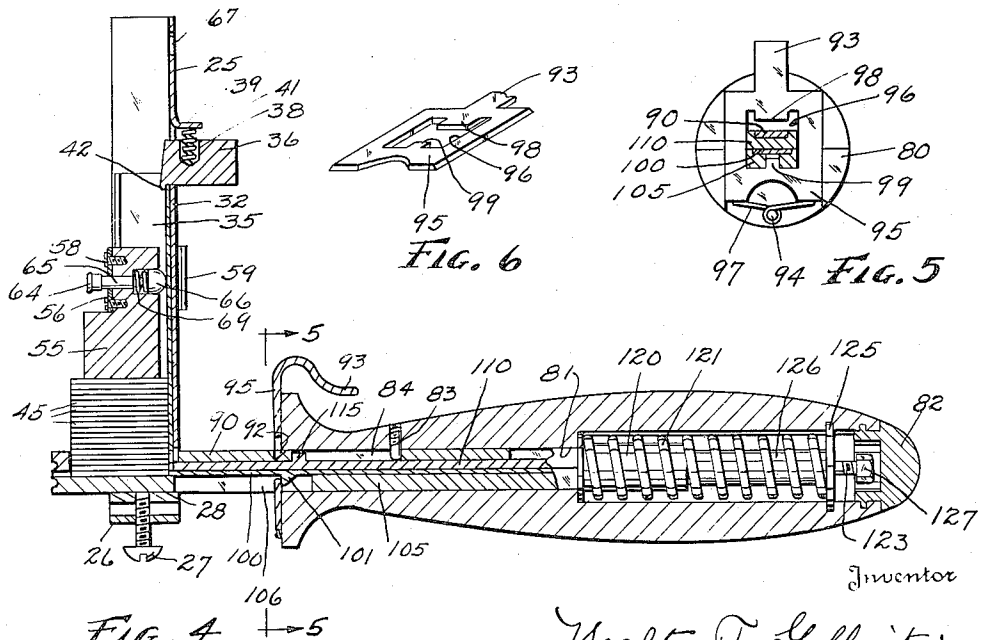


FIG. 4

FIG. 6

FIG. 5

Inventor

Walter T. Gollwitzer,

By Dales, Golrick & Tears,

Attorneys

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DEVICE FOR INSERTING INDEX TABS

Filed May 22, 1934 3 Sheets-Sheet 2

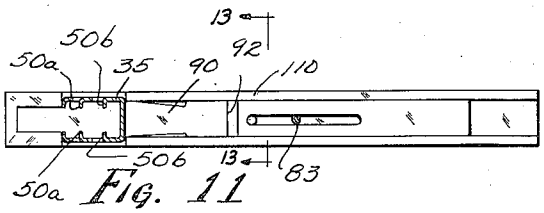


Fig. 11

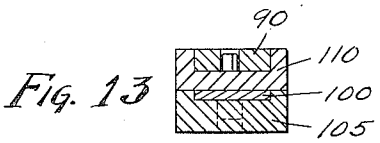


Fig. 13

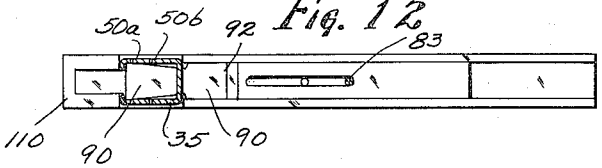


Fig. 12

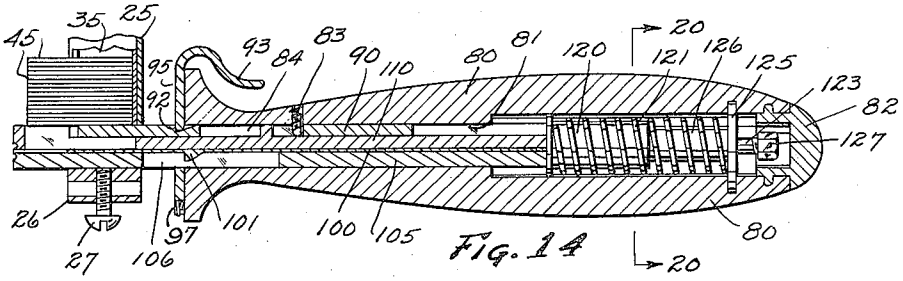


Fig. 14

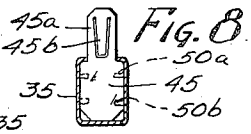


Fig. 8

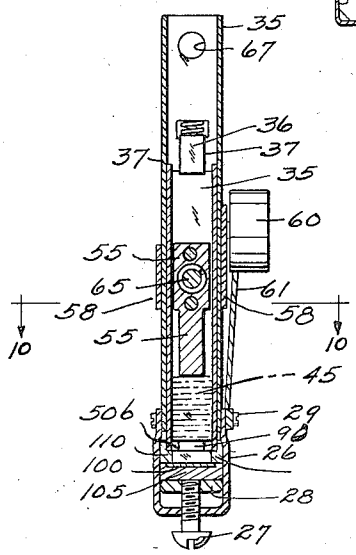


Fig. 9

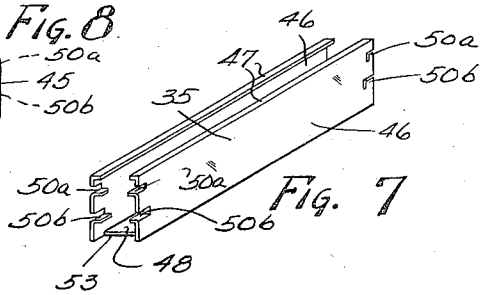


Fig. 7

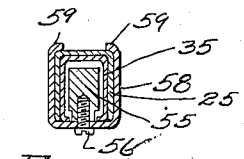


Fig. 10

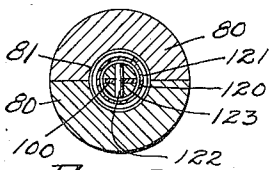


Fig. 20

Inventor

Walter T. Gollwitzer,

By Davis, Goldsmith & Heard,

Attorneys

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DEVICE FOR INSERTING INDEX TABS

Filed May 22, 1934 3 Sheets-Sheet 3

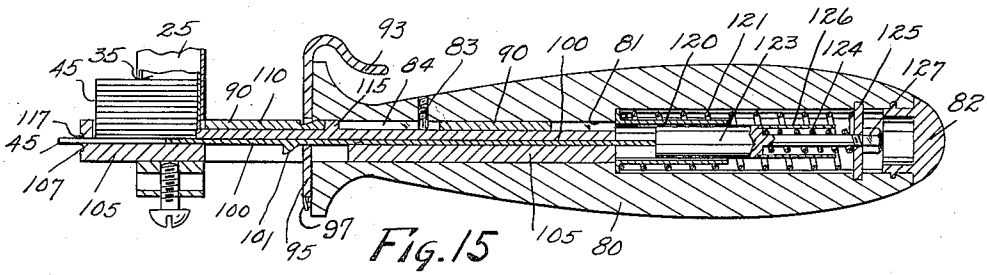


Fig. 15

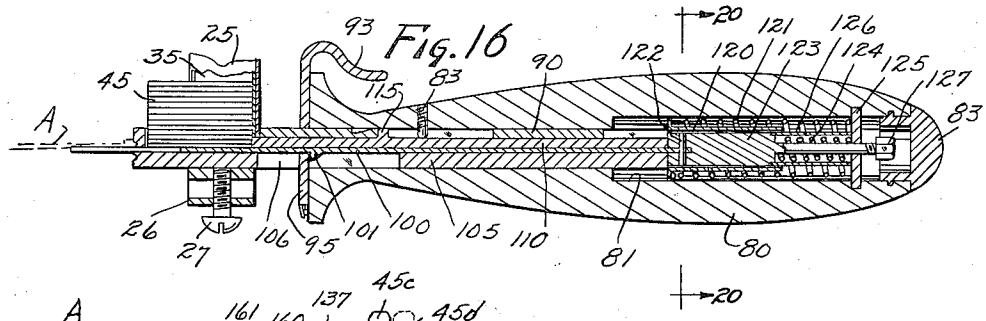


Fig. 16

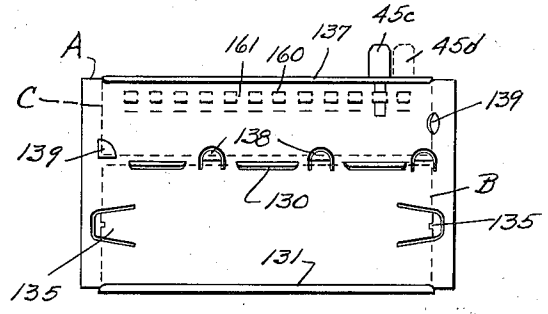


Fig. 18

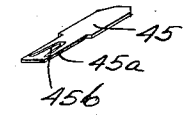


Fig. 17

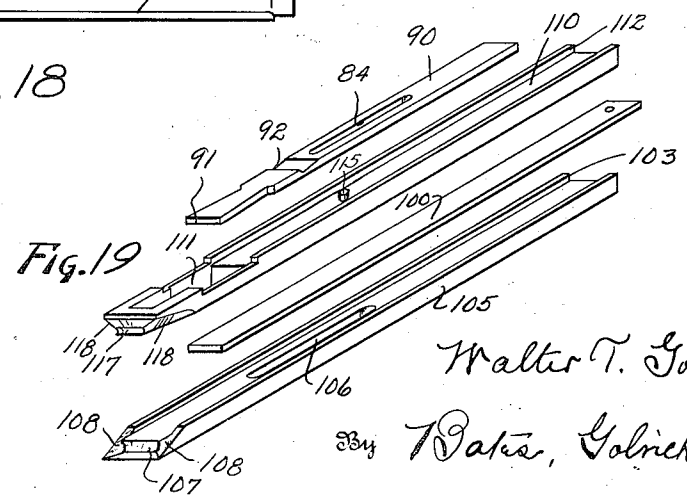


Fig. 19

Inventor

Walter T. Gollwitzer,

By Bakewell, Golrick & Teare

Attorneys

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UNITED STATES PATENT OFFICE

2,049,438

DEVICE FOR INSERTING INDEX TABS

Walter T. Gollwitzer, Cleveland, Ohio, assignor to Addressograph Company, Cleveland, Ohio, a corporation of Delaware

Application May 22, 1934, Serial No. 727,014

24 Claims. (Cl. 101—47)

This invention concerns a device designed to facilitate the placement of index tabs on members to be indexed, such as a character-carrying plate suitable for use in a printing machine. Such a printing device may comprise a flat plate, having printing characters embossed directly thereon, or it may act as a carrier for an auxiliary plate having embossed characters. The index tabs are metal markers, adapted to be inserted in keepers on the printing device to visually indicate some characteristic of the matter on the device or to act as a selective means for feeding the plate into a printing machine, which transfers the impression of the embossed characters onto a suitable printing medium, such as paper.

Heretofore it has been necessary to mount such index tabs on the printing device by hand, an operator with one hand picking up the device and with the other an index tab; and manually placing the latter in slots of the printing device. This method of placement was slow and laborious.

In the usual method of procedure, it frequently happens that a quantity of index tabs would be delivered in a jumbled condition to the operator. That is, instead of being neatly piled in containers, the tabs would be merely dumped into a tray or box. This disorderly arrangement of the tabs rendered it necessary for the operator to sort and correctly position each tab, in order that he might have it in position to insert in the slot of the plate holder. Further, by reason of the fact that the tabs were normally handled individually by the operator, it frequently happened that tabs were lost or dropped. The small size of the tabs and the great number handled resulted in an appreciable waste of time and material over a given period.

The general object of my invention is to provide a device by means of which it is possible to avoid manual handling of each individual tab, as it is being mounted in its respective carrier. A further object of my invention is to effect the use of a cartridge, which shall contain, properly positioned, a given number of index tabs, together with means for feeding the tabs, one at a time, from the cartridge to the slots of address plate holders or other carriers.

An additional object of my invention is to construct a device which will effect a saving of time by the mechanical handling of index tabs, and render easier the work of the person engaged in such handling. To this end I have provided an implement which may be comfortably retained in the hand, and which will carry a cartridge of tabs and readily insert them by simple manual movement of the implement handle. In the accomplishment of this result, I have so constructed my device as to conceal much of the operating mechanism within the confines of the handle. The cartridge holder, however, has been mounted outside of the handle so that ready access may be obtained to it for the replacement of cartridges when they become empty.

The index tabs, which are small, metallic pieces having a head with a reduced shank, are supplied to the implement in cartridges which are preferably three sided and open at the ends. The tabs are mounted in the cartridge through an end and a narrow shank thereof protrudes outwardly from the cartridge through the open side, means being provided in the cartridge for preventing the removal of tabs through the end until desired.

By proper operation of the handle, the mechanism embodied therein acts to open one end of the cartridge to permit the removal of index tabs therefrom. Further movement of the handle results in so locating an index tab that it partially projects from the nose of the device. Upon location of this projecting portion in the desired slot of the member to be indexed, further movement of the handle and its associated mechanism causes the tab to be seated properly in the desired position in such member.

Various features of my invention are more particularly described in the accompanying specification, and shown in the appended drawings, from which other objects of the invention will become apparent. The essential novel features of my invention will be summarized in the claims.

Referring now to the drawings, Fig. 1 is a side elevation of my tab inserting device, showing the cartridge holder, handle and part of the operating mechanism. Fig. 2 is a plan of a portion of my device, placed in operating position against a fragment of an address plate holder. Fig. 3 is a section through the nose of my device, showing a tab entering an abutting plate holder, as indicated by the line 3—3 on Fig. 2. Fig. 4 is a sectional view, through my device, taken in a plane parallel to that of Fig. 1, showing the mechanism of the device, as well as a cartridge containing index tabs. Fig. 5 is a vertical section, as indicated by 5—5 on Fig. 4, showing the trigger plate mounted on the flat end of the handle. Fig. 6 is an isometric view of the trigger plate, but with the handle portion broken off. Fig. 7 is an isometric view of the cartridge, designed to hold the index tabs, the right-hand end of which

is shown as open to permit the removal of the tabs and the left-hand end as closed to prevent such removal. Fig. 8 is a transverse section through the cartridge, showing the position occupied by a tab mounted therein. Fig. 9 is a vertical section, through the cartridge holder mechanism, as indicated by 9—9 on Fig. 1, with the exception of the fact that the tabs are not shown. Fig. 10 is a horizontal section through the cartridge and cartridge holder, as indicated by 10—10 on Fig. 9. Fig. 11 is a plan of a portion of the mechanism, showing the means employed to open an end of the cartridge and showing in section a cartridge mounted thereon. Fig. 12 is a similar view, with the mechanism so positioned that the end of the cartridge has been opened. Fig. 13 is a section taken as indicated by 13—13 on Fig. 11, showing the fixed frame and bars slidable therein. Fig. 14 is a fragmentary section taken in the same plane as Fig. 4, depicting the cartridge-opening bar in its operative position. Figs. 15 and 16 are sections similar to Fig. 14, but showing various positions of the ejector bar and the corresponding position of the tab in its movement out of the nose of the device. Fig. 17 is a view of an index tab, while Fig. 18 is a plan of a suitable address plate holder with the tab mounted therein. Fig. 19 is an isometric view of the body and its slidable bars, showing the order in which they nest together. Fig. 20 is a transverse section through the handle on the mechanism, as indicated by 20—20 on Fig. 16.

As heretofore mentioned, I prefer to make my tab inserting device compact enough to be comfortably supported in the hand. To this end, I provide a body 40 which, in part is surrounded by a handle 80. It is by gripping this handle that the operator holds the device. A tab 45 normally is supported in a cartridge 35 and is ejected from the device through a nose 41. The cartridge holder 25 is mounted on the body 40 and perpendicular thereto at a point adjacent the nose 41.

Means by which the cartridge holder 25 is permitted to be readily removable from the body 40 is desirable. To this end I employ a stirrup member 26 of such width that it closely fits the sides of the body 40 and extends a substantial distance beyond such sides. Fastened to the stirrup at the open top thereof, and on the inner stirrup faces is the cartridge holder 25. On the bottom of the stirrup is a hole of sufficient size to threadingly admit a machine screw 27. A rectangular plate 28 is drilled and tapped to accommodate the screw 27. By virtue of the threaded hole in the stirrup bottom and the plate 28, it is possible to tighten the screw 27 against the underface of the body 40 and thereby retain the cartridge holder 25 firmly against the upper face of the body. The plate 28 not only acts as a means of bracing the screw 27 but as it is held by the stirrrup against rotation it is forced downwardly slightly as the screw is seated, and thus acts as a lock-nut.

The cartridge holder is preferably rectangular and open along the side facing the nose 41. For this reason I employ as a cartridge holder a rectangular channel 25, having its open side adjacent the nose. Such opening in the channel extends the full length thereof. As shown in Fig. 9, the stirrup 26 has been made of such shape that it closely embraces the outer faces of the channel side walls, at a point adjacent their bottom as it stands in a vertical position. The cartridge holder 25 and the stirrup 26 may be firmly held together by machine screws 29.

The inner dimensions of the cartridge holder 25 are such that a cartridge, as shown in Fig. 7, may readily slide therein. The cartridge 35 is retained in the holder by the overlying latch 36, as best shown in Figs. 4 and 9. This latch has in the sides 37 adjacent their inner edge parallel grooves adapted to be engaged by mating edges of the back face 32 of the cartridge holder channel. Such a mounting allows movement of the latch only in the direction of the length of the cartridge holder. A hole 38 is drilled in the outer face of the latch. A suitable ear 39 is bent outwardly from the back plate 32 to register with the hole 38 and a compression spring 41 occupies the hole 38 and bears against an ear 39, causing the latch 36 to be normally retained in the downward position shown in Figs. 4 and 9. When so retained, an inner lip 42 on the latch is adapted to overlie an edge of the bottom portion of the cartridge 35 and thus retain the cartridge against outward movement with respect to the cartridge holder 25.

The cartridge 35, as shown in Fig. 7, is similar to the cartridge holder 25, in that it is formed of a channel member open along one entire side and at each end. The sides 46 of the cartridge extend inwardly at the top to form overlying lips 47. It is these overlying lips which combine with the sides 46 and the bottom 48 to retain index tabs 45, as shown in Fig. 8.

It will be noted that at the ends of the cartridge, each side is provided with two tongue portions 50*a* and 50*b*. The tongues 50*b* at each edge closest the bottom 48 of the cartridge extend a longer distance lengthwise of the sides 46 than do the tongues adjacent the lips 47. The base of the tongues face the bottom 48 of the cartridge, each tongue being formed by a suitable L-shaped slot cut in the side 46 adjacent the end edges.

When a cartridge has been filled with tabs, both ends are closed by turning the tongues inwardly, in contrast to the position shown at the right-hand end of Fig. 7, which is the position the tongues occupy when tabs are being inserted in the cartridge. It will be noted that the bottom 48 of the cartridge 35 is shorter than the sides. This results in an open portion 53 at each end of the cartridge along the bottom for a use hereinafter mentioned.

Means are provided to exert a downward pressure on the pile of tabs in the cartridge, (assuming the implement to be held in the position of Fig. 4), to retain the tabs in a position wherein the lowermost tab may be ejected through the nose of the device. As shown in Fig. 8, the index tabs 45 are mounted in the cartridge 35 in such manner that the shanks protrude through the open side of the cartridge. As shown in Fig. 4, when a cartridge is mounted in the cartridge holder 25, the tabs tend to drop down so that the lowermost assumes a desired position in the body 40.

To exert a constant pressure to retain the lowermost tab in the desired position, I provide a follower block 55 which bears against the uppermost tab. This block is retained by screws 56 to a collar 58, partially encircling the cartridge holder 25, as shown in Fig. 10. The collar 58, by virtue of its three sides and the overlying lips 59, is retained against any movement but a vertical sliding motion on the cartridge holder. As shown in Fig. 9, the collar 58 supports a spring barrel mechanism 60. Depending from this mechanism is a cord 61 fastened between the stirrup 26 and an auxiliary plate 62 by the screws 29.

Since the cord 61 is anchored at one end to the cartridge holder and at the other to the spring barrel, the tendency of the two ends to draw together results in a constant downward pressure of the block 55 on the top of the tabs 45.

When the supply of tabs in one cartridge has become exhausted, as hereinafter explained, the empty cartridge is readily replaced by a loaded one. To accomplish this, the operator grasps a knob 64 of a plunger 65 slidably carried by the block 55, withdraws the plunger and simultaneously raises the block 55 above the extreme upper end of the empty cartridge. When the block 55 is so raised against the action of the cord 61 leading from the spring barrel 60 to an anchor on the cartridge holder, the nose 66 of the plunger aligns with an opening 67 in the wall of the cartridge holder. Upon the release of the plunger 65, a suitable compression spring 69, surrounding the stem of the plunger, and acting between a wall of the block 55 and the enlarged head 66 of the plunger, urges the plunger into cooperation with the opening 67 and thereby maintains the block 55 in its inactive position, out of engagement with the cartridge.

When the block 55 has been raised, the operator raises the latch 36 and withdraws the exhausted cartridge from the device, replaces such cartridge with a loaded one and releases the latch 36, securing the loaded cartridge in place. The plunger 65 is then withdrawn from the opening 67 in the cartridge holder and the block 55 is drawn into engagement with the uppermost tab in the new cartridge by the tension of the cord 61. The head of the plunger thereafter bears against the rear wall of the cartridge and assists in maintaining the latter in position within the cartridge holder.

The handle 80, in addition to providing a convenient means for holding the device, acts as a retainer for certain of the operating mechanism, as will be hereinafter more fully described. The handle, as shown, is a barrel-shaped body having an axial opening extending therethrough, and is slit longitudinally in a plane passing through its axis and joined together by suitable screws or other fastening means. The handle is so shaped as to provide a comfortable hand grip and is provided adjacent its left hand end (Fig. 4) with an enlarged or outwardly flaring portion, which aids in the retention of the device in the hand when the handle is shoved toward the left (Fig. 4).

The right hand end of the handle 80 is closed by a suitable closure member, such as the button 82, which is retained in position within the handle by an annular flange 83, integral with the button and engaging a suitable annular recess in the handle.

The handle 80 is slidably mounted on the body 40. As shown, the left hand portion of the opening 81, which extends axially through the handle 80, is rectangular in cross section and houses the body 40. Also, slidably mounted in the rectangular portion of the opening 81 are a series of slides which are selectively slidable as a unit or independently as will be hereinafter more fully described. These slides include a bar 90 for straightening the cartridge tongue, and a tab ejector bar 100.

Fig. 19 best illustrates the component parts of the body 40, the slides, and the general relationship of these parts, one to the other. The tab ejector bar 100 is of slightly less width than the body 40 and is slidably mounted in a channel shaped longitudinally-extending recess in a lower member 105 of the body 40. This bar is slightly less in thickness than the tab with which the device is to be used and serves to eject the bottommost tab from the device, as will be hereinafter more fully described.

The upper part of the body 40 comprises a member 110, which is superimposed on the member 105 covering the ejector bar 100, and which serves to support the cartridge and cartridge holder. The member 110 is of the same length as the member 105 and adjacent its left hand end (Figs. 4 and 19) is provided with an opening 111. This opening is of such size as to permit the free passage of tabs therethrough. The surface of the member 110 adjacent the walls of the opening 111 serves as a support against which the cartridge holder and the cartridge are forced by the set screw 27 and the latch 36, respectively. The two body members 105 and 110 are abutted by a sleeve 120, which is slidably mounted in the rear portion of the axial opening 82, and are normally urged outwardly from the handle by a compression spring 121 which encircles the sleeve and abuts a flange thereof.

The cartridge tongue straightening bar 90 is slightly less in width than the distance between opposite side walls of the cartridge and is slidably mounted in a longitudinally extending channel 112 formed in the upper face of the bar 110, and in its normal position lies with its left hand end 91 adjacent the recess 53 of the cartridge.

When the operator has inserted and secured in position, in the device, a cartridge containing a supply of tabs to be inserted in suitable keepers on an address printing device, the tongues of the cartridge are straightened to permit the tabs to be forced under the influence of the block 55 onto the face of the body 40. This is accomplished by forcing the bar 90 forward toward the cartridge and projecting the bar into the cartridge and past the tongues thereof.

To force the bar 90 forward, the operator grasps the cartridge holder with one hand and depresses a latch 95 into engagement with the bar 90, locking the bar and handle 80 together in such a manner that the movement of the handle toward the left, from the position shown in Fig. 4 to the position shown in Fig. 14, will cause the bar 90 to be likewise moved toward the left relative to the cartridge.

The latch 95 controls the operation of the bar 90 and also the operation of the ejector slide 100. This latch, as shown in Fig. 6, comprises a plate-like member extending perpendicular to the body 40 and slidably mounted in a dovetailed slot, formed in the left hand face of the handle 80, as in Fig. 5. The latch 95 is provided with a rectangular opening 96, through which the body 40 and the various slides freely pass. A pair of tongues or lugs 98 and 99 project from the latch into the opening 96 towards the bar or slide 90 and the body member 105, respectively. A suitable spring 97 supported on a pin 94 carried by the handle 80 coacts with the lower edge of the latch plate 95 and normally retains it in its uppermost position (Fig. 4); that is, with the lug 99 projecting through a slotted opening 106 in the body member 105 and engaged by a depending lug or stop 101 carried by the ejector bar 100.

The latch 95 is provided with a handle or thumb rest 93 to aid the operator to depress it into engagement with the bar 90 against the action of the spring 97. Such depression of the latch causes the lug 98 projecting downwardly into the opening 96 to occupy a transverse slot

92 in the ejector bar 90, as shown in Figs. 12 and 14. As a result of such engagement, the handle 80 and the ejector bar 90 move as a unit when the handle is moved with respect to the body 40 by the operator. When the handle is moved to the left (Fig. 14), the bar 90 accompanies it until the position shown in that figure is reached. As the bar 90 is moved in such direction, the end 91 thereof enters the recess 53 of the mounted cartridge and engages the inturned tongues 50*a* and 50*b*, as shown in Fig. 11, to straighten them until they assume the position shown in Fig. 12.

Having straightened the tongues 50*a* and 50*b*, as above described, the operator releases the cartridge holder, which moves outwardly, to the left, under the influence of the spring 121, which was compressed as the handle was moved to straighten the tongues. As the spring 121 moves the cartridge holder, through the medium of the sleeve 120 and the body 40, the bar 90 is withdrawn from the cartridge by a pin 83, carried by the handle, which engages one end of a slot 84 in the bar and which prevents further outward movement of the bar relative to the handle. A pin or lug 115 on the bar 110 then coacts with the left hand edge of the slot 84 and prevents movement toward the left of the bar 110. The cartridge-holder retainstirrup 26 locks the member 105 to the member 110, and thereby prevents movement of the latter member outwardly from the handle.

The withdrawal of the bar 90, as above mentioned, positions the ejector bar 100 to partially eject a tab. The ejector bar, as heretofore mentioned, is slidably mounted in the channel 103 in the member 105. The right hand end (Fig. 4) of the ejector bar extends beyond the member 105 into the sleeve 120, where it is secured by a pin 122 to a plunger 123. A suitable compression spring 124, surrounding a reduced portion of the plunger, coacts with a disc 125, rigidly carried in an annular groove within the handle, to normally urge the ejector bar to its extreme outward or left hand position relative to the body 40, as shown in Fig. 14. As the handle was moved to straighten the lugs of the cartridge holder, the ejector bar was urged to its extreme outward or left-hand position relative to the body 40, by virtue of the contact between a sleeve 126 carried by the plunger 127, and the disc 125, thereby compressing the spring 124.

The release of the cartridge holder and the consequent movement between the body 40 and the handle acted to withdraw the ejector bar from beneath the tabs and position it for partially ejecting the lowermost tab, as shown in Fig. 15. As the latch 95 was released, the tongue 99 of the latch 95 was urged upwardly in front of a lug 101 of the ejector bar (Fig. 14), and is maintained in this position by the latch spring 97. Hence, when the cartridge holder 25 was released, the tongue 99 prevented outward movement (to the left in Fig. 4) of the ejector bar 100 relative to the handle 80, and maintained the ejector spring 121 compressed, as well as resulting in the relative withdrawal of the ejector bar from beneath the tabs within the cartridge, permitting the lowermost tab to fall into place on the member 105 immediately in front of the left-hand end of the ejector bar.

If, for any reason, the ejector bar is not withdrawn from the cartridge holder, (such, for instance, as the failure of the operator to release the latch 95 and the cartridge holder substantially simultaneously), then the cartridge holder is again firmly grasped and the handle is then moved toward it. As the ejector bar is restrained from movement toward the cartridge holder by contact between the frame 40 and the plunger 123, this movement causes the compression of the ejector spring 124. As the handle moves to the left, the tongue 99 of the latch 95 is cammed downwardly against the action of the latch spring 97, by a sloping portion of the lug 101, and, passing the lug, the tongue 99 is forced upwardly in front thereof, so that on the release of the cartridge holder by the operator, the spring 121 will cause the ejector bar to be withdrawn from beneath the tabs, as heretofore described. The parts then will assume the position as shown in Fig. 4

The shank of the lowermost tab will now be partially ejected from the nose 41 to facilitate locating it relative to the address printing device or other object in which it is to be mounted. This is accomplished by depressing the latch 95, whereupon the tongue 99 is moved out of registration with the lug 101 of the bar 100. The ejector spring 124, which was compressed, as heretofore mentioned, now moves the plunger 120 and the ejector bar 100 toward the left from the position shown in Fig. 4 to the position shown in Fig. 15. Such movement of the ejector bar is limited by the nut 127, carried on the right hand end of the plunger abutting the disk 125 of the handle. As shown, the nut may be adjusted to vary the amount of this limited movement that can take place. As the ejector bar moves forward this limited distance, the bar engages the lowermost tab in the cartridge and partially ejects it from the device.

It is now possible to locate the shank of the partially ejected tab relative to the object on which it is to be placed. The embodiment shown in the drawing is especially adapted to position index tabs on a printing device, similar to that shown in Fig. 18. Such printing device A is illustrated also in Figs. 2 and 3, and may comprise a metallic plate having raised overturned lips 130 intermediate its edges, and an overturned edge lip 131, which cooperate with a pair of spring tongues 135 to retain in position thereon a metal plate having printing characters embossed on its face, such plate being indicated by dotted lines B in Fig. 18. The printing device is also provided with an overturned edge lip 137 and a series of upwardly extending tongues 138, which retain a suitable identification card in position on the device, such card being prevented from endwise movement by stops 139 and 162. The identification card may carry the impression of the printing plate or any other notation desired and is indicated by the dotted lines "C" on Fig. 18.

Beneath the card is a series of keepers or pockets 160, adapted to support an index tab 45, so that the body of the tab projects outwardly from the edge of the printing device, and lies in substantially the same plane as the body thereof. It will be seen from Figs. 2, 3 and 18 that the printing device is formed to permit a tab to be inserted in the keeper slots and to be retained therein by moving a tongue 45*a* of the tab out of the plane of the body of the tab, with the result that the end of the tongue abuts a portion of the plate holder.

The keepers are formed of the material of the printing device, and comprise straps separated above and below from the material of the plate proper and connected at their ends by intermediate plate portions 161, the material of the plate

above and below the straps being depressed relative to them. Thus, the strap portions form relatively raised loops. Above and below the relatively depressed portions of the plate are horizontal portions 162 and 163 in substantially the same plane as the body of the plate. Above the horizontal portion 163 is an inclined region 165 of the printing device, which extends backwardly from the face of the device, the edge of the incline terminating in a horizontal line which is directly behind the horizontal line defining the edge of the keepers.

The shank 45*a* of the tab 45 has a width slightly less than that of the pocket or keeper and the thickness of the tab is slightly less than the depth of the pocket, as bounded at the rear by the front face of the zone 163 and at the front by the rear face of the straps 160. Accordingly, the tab may be pushed down into position through the openings 166 near the top of the plate. Now, when a tab is inserted, the lower end of the shank engages the incline 165 of the printing device and continued shoving in of the tab bends the lower end by reason of the camming action of the plate and likewise bends the tongue 456 to a position such that the end of the tongue stands directly in line with the edge 168 of the keeper. Accordingly, the tab cannot be drawn out until the tongue 456 thereof is displaced from this position.

It may be noted that the specific tab shown in Fig. 17, and the specific address printing device shown in Fig. 18, as well as the combination thereof, are shown, described and claimed in my pending application No. 612,957, filed May 23, 1932, and assigned to Addressograph Company. Reference may be had to that application for a fuller description of such devices.

Having partially ejected the tab 45 from the implement, so that the end of the tab projects a slight distance from the end of the implement, the operator brings the tab into alignment with the keepers on the device, to which the tab is to be applied. This may be done by a partial insertion or not, as desired. In either event, the tab is aligned with its keeper and the nose of the implement brought against the adjacent edge of the device. The implement shown in the drawings is especially adapted to insert index tabs on printing devices, and hence, the nose of the body 40 is formed to coact with the edge of such devices. As shown, the ends of the body members 105 and 110, which lie above and below the partially ejected tab 45, are provided at their outer ends with guiding recesses 107 and 117, respectively, either one of which is adapted to engage the rolled edge 137 of the printing device, which is held thereagainst by the operator.

The recesses 107 and 117 are shown the same distance from the plane of the partially ejected tab. This position of the notches enables the implement to place the tabs either face foremost on the same printing device, which is of advantage if the tabs are formed with different visible designations on their opposite sides. If desired, however, one of the recesses might be farther away from the plane of the tab than the other, which would enable the implement to operate always with one face of the tab, for a given printing device, but to insert them in differently dimensioned printing devices.

Having located or aligned the shank of the tab 45 with reference to the keepers 160 of the printing device, the tab is forced into position on the device by an operation of the handle 80. The handle is moved toward the printing device—that is, to the left, in the drawings,—until the ejector bar 100 moves from the position shown in Fig. 15, to the position shown in Fig. 16, at which time the tab 45 will be ejected from the nose of the implement a sufficient distance to be seated and locked in its respective keeper. As the handle was so moved, the bar 100 remained stationary relative to the cartridge holder until the ejector spring 124 was compressed, at which time the end of the sleeve 126 abutted the disc 125, and hence continued movement of the handle 80 caused the ejector bar 100, connected through the plunger 123, to the sleeve 126, to complete the seating of the lowermost tab in its respective keeper. The pressure on the handle is now released and the compression spring 121 acts to return the parts to their normal position, the tab being locked in position on the printing device, as heretofore described. The withdrawal of the printing device now completely withdraws the tab from the implement.

The ejecting movement above described resets the ejector 100, so that upon the return of the handle 80, under impulse of the spring 121, the ejector bar spring 124 was compressed ready for the operator to cause the partial ejection of the next tab 45. As the handle 80 was moved forward to position the tab on the printing device, the ejector spring 124 was compressed and the lug 101 on the ejector bar was carried to the right (Fig. 16) of the latch 95, which was retained in contact with the ejector bar by the latch spring 97. Hence, as the compression spring 121 returned the parts to the position shown in Fig. 4, the ejector bar was withdrawn from beneath the tabs in the cartridge holder and the ejector spring was maintained compressed, ready for the operator to partially eject the next tab from the implement by depressing the latch 95, as heretofore described.

It is frequently desirable to mount index tabs in keepers close to one another, such as is shown by the tabs indicated at 45*c* and 45*d* in Fig. 18. Such side by side placement is facilitated by the peculiar nose construction shown in Figs. 1 and 19. The members 105 and 110, which form the body 40, are cut away or beveled at the nose, as shown at 108 and 118, adjacent the corners, which lie next to the tab. The result is a substantially rectangular nose having a central portion of restricted width, thus allowing tabs to be mounted so close to one another that their edges touch.

As shown in the drawings, the tab is preliminarily partially ejected from the nose of the implement a sufficient distance to slightly enter the shank of the tab in the keeper of the retaining device. However, if it is desired to simply align the tab with the keeper, the nut 127 of the plunger 123 is adjusted toward the disc 125. This controls the distance the tab will be ejected by the depression of the latch 95. Likewise, if it is desired to eject the tab further, say, for instance, totally from the device, the nut 127 would be adjusted away from the plunger 123.

I claim:

1. An implement for facilitating the placement of an index tab on a member to be indexed comprising a handle, an abutment connected therewith and having a recess to embrace the edge of the member to be indexed, and means operated by the movement of the handle toward the abut-

ment for mounting an index tab on the member to be indexed.

2. The combination with a cartridge adapted to contain a plurality of index tabs, means on the cartridge for confining the tabs therein, a tool adapted to carry the cartridge, means on the tool for opening the cartridge to free a tab, and means on the tool for ejecting the freed tab.

3. A device to place index members on a member to be indexed, comprising a holder for index members, means adapted for successive operation to partially eject an index member from said holder and operable subsequently to further eject the index member.

4. A device of the class described, comprising a body, a holder for index members mounted on said body, settable means for partially ejecting an index member from said body and to further eject said partially ejected member.

5. A device of the class described, comprising a body, a holder for index members on said body, an ejector, resilient means to urge said ejector toward an index member, and releasable means to constrain said resilient means.

6. An implement for facilitating the placement of index members on members to be indexed, comprising means for carrying a group of the index members, a handle for said means, ejecting mechanism, means for putting the same under constraint, and a releasable latch associated with the handle for holding the ejecting mechanism when constrained.

7. In a device of the character described, the combination of a handle, a spring carried thereby, an ejector bar, means operated by movement of the handle against the action of the spring to constrain resilient means acting on the ejector bar, means for holding an index tab in front of the ejector bar and a releasable latch to control the ejector bar.

8. A device of the class described, comprising a body, a holder for index members carried by said body, means to transfer index members from said holder to said body, one at a time, means to partially eject the transferred members from the body to facilitate their location relative to a member to be indexed, and means to transfer a partially ejected index member from the body to the member to be indexed.

9. A device of the class described, comprising a body, a holder for index members carried by said body, settable means for partially ejecting an index member from said body, means to transfer a partially ejected index member to a unit to be indexed, and said settable means being reset by the operation of said last named means.

10. A device of the class described, comprising a body, means on said body to retain a stack of index tabs with the endmost tab thereof in contact with said body, means to eject said endmost tab from said body, a spring, and means operable consequent upon the operation of said aforesaid means to position said spring to cause a subsequent partial ejection of the next succeeding tab.

11. In a device for facilitating the placement of index members on members to be indexed, the combination of a handle, means connected therewith for carrying a supply of index members, means whereby the movement of the handle toward the member to be indexed while an index member is partially projecting from the device completes the ejection of such index member and also constrains a spring, and a latch adapted subsequently to release the spring and partially eject the next index member.

12. In an implement for placing index tabs on members to be indexed, the combination of means for carrying a plurality of index tabs in face engagement, a handle movably connected with said means, an abutment movably connected with the handle and adapted to engage the member to be indexed, means whereby movement of the handle toward the member to be indexed when the abutment is in engagement with it may shove a partially ejected tab onto the member to be indexed, a spring constrained by said movement of the handle, a latch adapted to hold the spring constrained, and means whereby the release of the latch causes the partial ejection of the next tab into position ready for mounting on the next member to be indexed.

13. A device of the class described, comprising a body, a holder for a set of index members on said body, means for feeding such set, an ejector, resilient means to urge said ejector toward an index member, and releasable means to constrain said resilient means.

14. A device of the class described, a body, a holder for a set of index tabs carried by said body, means for feeding said set, an ejector mounted on said body, resilient means acting on said ejector, means for constraining said resilient means, a latch to retain said resilient means constrained, and means to release said latch to cause said ejector to engage and move a tab.

15. An implement to facilitate the placement on a member to be indexed, of an index tab having a head and a shank, comprising a holder for the tabs having a channel adapted to embrace the heads with a narrower slot through which the shanks project, means for feeding the tabs along the channel with their shanks projecting, and means to eject the tabs one at a time shank-end foremost.

16. A device of the class described, a body, a holder for index tabs carried by said body, an ejector mounted on said body, a handle slidably mounted on said body, an abutment carried by said handle and coacting with said ejector consequent upon movement of said handle toward said holder, resilient means interposed between said abutment and said ejector and adapted to be compressed by the movement of said handle toward said holder, a latch to retain said resilient means compressed, and means to release said latch to cause said ejector to engage and move a tab.

17. A device of the class described, comprising a body, a holder extending normal to the body adjacent one end thereof and arranged to retain a plurality of index tabs one above the other in a stacked relationship, means resiliently urging the lowermost tab in said holder into contact with said body, an ejector bar slidably mounted in said body and adapted to engage the lowermost tab, a handle surrounding the ejector bar and body and slidably mounted on the body for movement toward and away from said holder, an abutment in said handle to engage said ejector and eject the lowermost tab from the device consequent upon movement of the handle toward said holder, and resilient means within said handle compressed consequent upon such movement of the handle to return the parts to their normal positions.

18. A device of the class described, comprising a body, a holder for a stack of index tabs carried by said body, an ejector slide carried by said body in alignment with said lowermost tab, a member slidably mounted on said body and an abutment

on said ejector adapted to be engaged by said member to force said endmost tab from said body by a relative sliding movement between said body and said member, a compression spring interposed between said member and said ejector and adapted to be compressed by the sliding movement of said member, a latch to retain said spring compressed, and a lost motion connection between the ejector and said member whereby said spring acts to partially eject a tab consequent upon the release of said latch.

19. A device of the class described, comprising a body, a holder for a stack of index tabs carried by said body, an ejector to eject an endmost tab from said body, an operating member for said ejector, a lost motion connection between said operating member and said ejector, a spring compressible by the movement of said operating member in taking up said lost motion, a latch to retain the ejector in position relative to said operating member with said spring compressed, whereby said member and ejector may be moved as a unit relative to said holder to eject a tab from the device, means to return said ejector and member as a unit, operable means to disconnect said latch whereby said ejector may partially eject the next tab under the influence of said spring.

20. A device of the class described, comprising a body, a removable holder for a plurality of index tabs thereon, means whereby said tabs are yieldingly retained against said body, a handle on said body, a bar slidable in said handle and having an extension at one end, a compression spring bearing at one end against said bar extension and at the other against said handle, means on said extension to allow limited movement only between said extension and said handle, a latch on said handle adapted to engage said bar to retain it in one position with respect to said limited movement, said latch being releasable whereby said bar is urged by said compression spring to partially eject the tab adjacent the body.

21. A device of the class described, comprising a body, a holder for an open end cartridge of index tabs thereon, inwardly turned tongues at said open end, a bar slidable on said body, a handle slidable on said body, a latch on said handle adapted to engage said bar, whereby said handle and said bar slide as a unit, there being an end on said bar adapted to engage said inwardly turned tongues and straighten them to open said cartridge end.

22. A device of the class described, comprising a body, a holder for a cartridge of index tabs thereon, means on the cartridge maintaining its end closed, a bar slidable in said body, a handle slidable on said body, a latch on said handle adapted to engage said bar, whereby said handle and said bar slide as a unit, said bar being adapted to open said cartridge end, means on said holder whereby said tabs are yieldingly urged through said opened end onto said body, a second bar to eject one of said tabs from said body, settable means acting on said second bar whereby a partial ejection of said tab results, and means consequent upon movement of said handle to reset said settable means after such partial ejection.

23. An implement to facilitate the placement of index tabs on a member to be indexed comprising a holder, a cartridge adapted to be mounted therein and carrying a set of tabs side by side, a follower slidably mounted in the holder, a spring barrel and a cord for moving the follower to advance the set of tabs, a handle movably connected with the holder, an ejector operated by axial movement of the handle to eject the foremost tab, and an abutment rigid with the holder and adapted to engage the edge of the member to be indexed.

24. The combination with an implement for inserting index tabs of a cartridge adapted to carry index tabs having heads and shanks comprising a channel-shaped member adapted to embrace the head of the tabs and carry a set of them in face engagement, said cartridge having a slot along one side narrower than the width of the channel, retaining means on the cartridge adapted to engage the head of the end-most tab, whereby the shanks of the tabs may project outside of the cartridge while the heads are confined therein, said implement having means to receive the cartridge and render the retaining means thereof idle, means to feed the group of tabs in the cartridge, and means to eject the tabs one at a time from the implement.

WALTER T. GOLLWITZER.