Sept. 22, 1936. W. T. GOLLWITZER 2,055,009

PRINTING DEVICE

Original Filed Nov. 21, 1931 2 Sheets-Sheet 1

Fig. 1

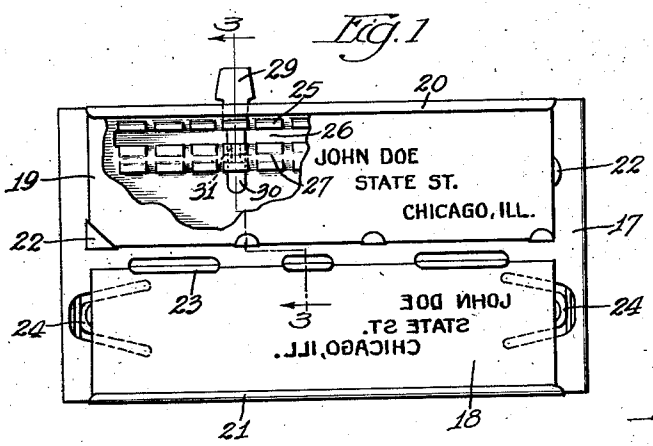


Fig. 3

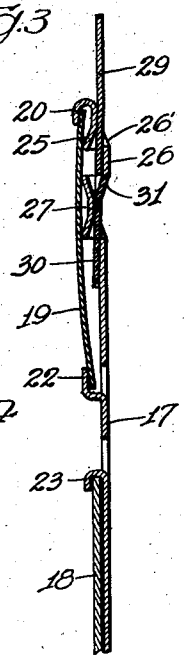


Fig. 2

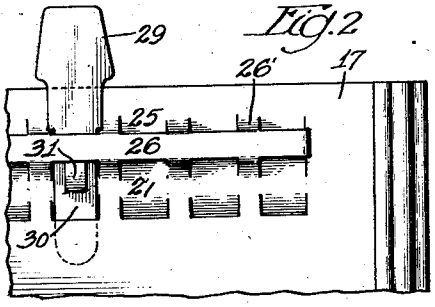


Fig. 4

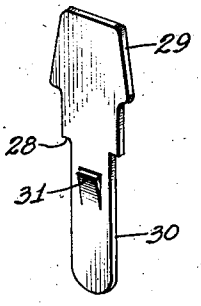


Fig. 5

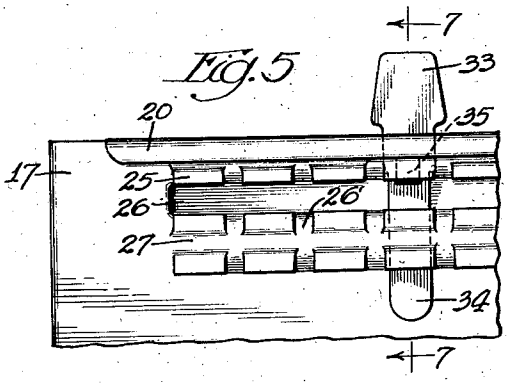


Fig. 6

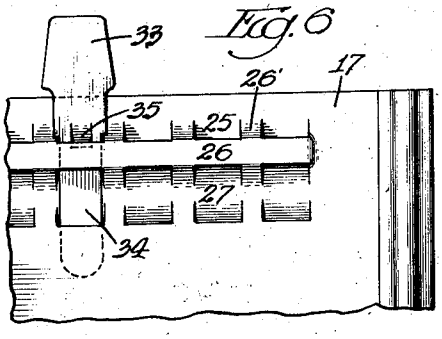


Fig. 7

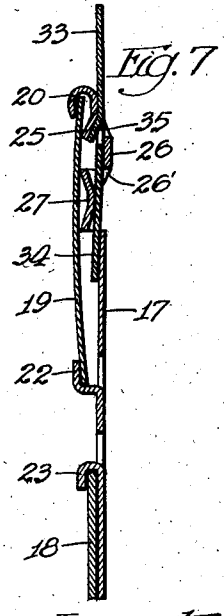
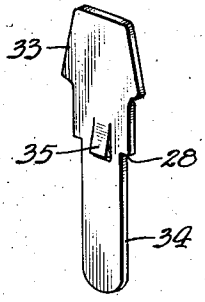


Fig. 8



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PRINTING DEVICE

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Fig. 9.

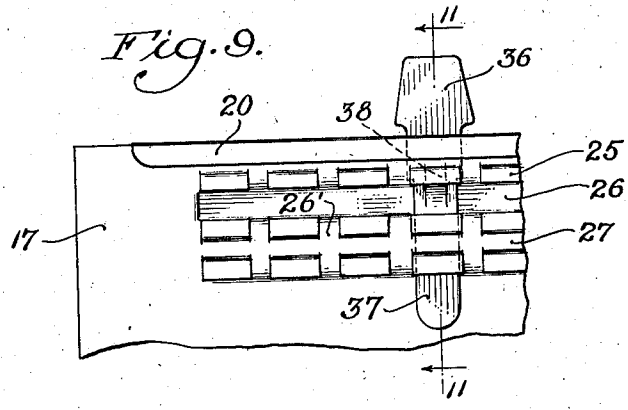


Fig. 10.

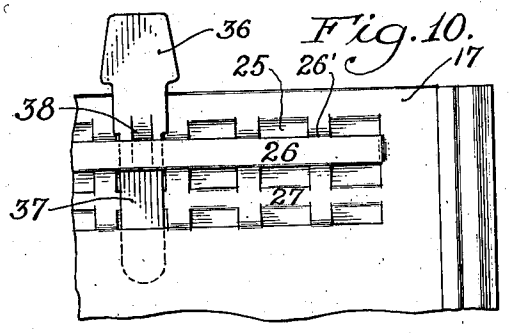


Fig. 11.

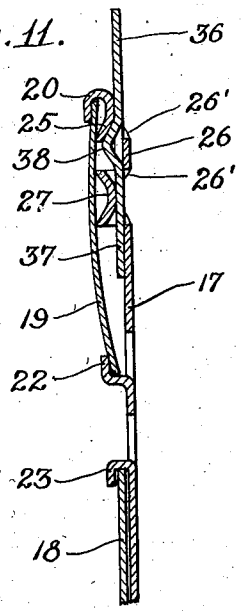
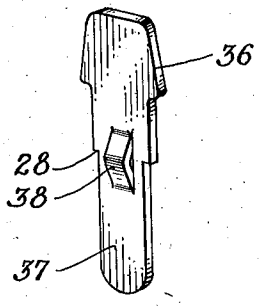


Fig. 12.



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UNITED STATES PATENT OFFICE

2,055,009

PRINTING DEVICE

Walter T. Gollwitzer, Cleveland, Ohio, assignor, by mesne assignments, to Addressograph-Multigraph Corporation, Cleveland, Ohio, a corporation of Delaware

Original application November 21, 1931, Serial No. 576,496. Divided and this application March 30, 1935, Serial No. 13,940

15 Claims. (Cl. 129—16.8)

This application is a division of my application, Serial No. 576,496, filed November 21, 1931.

This invention relates to printing devices of the kind stored in drawers when not in use and which are removed from the drawers to be sequentially fed through printing machines to print addresses and the like, and the invention more particularly relates to the classification of such printing devices.

The printing devices are provided with keepers for securing removable index tabs at determined positions to classify the printing devices and it is important that the tabs be firmly retained to prevent accidental disengagement or displacement during handling and use of the printing devices. But it is likewise important that the tabs be insertable and removable easily so that the classification of the printing devices may be changed by transferring the tabs from one position to another.

The primary object of my invention is to provide a novel detachable index tab that may be secured firmly in the keepers on the printing device to prevent accidental disengagement or displacement and which may be easily engaged with and detached from the printing device.

Another object is to provide a novel retaining device on the body of the tab adapted to engage a cooperating retaining means on the printing device to firmly secure the tab against accidental displacement while affording easy detachment upon manual manipulation of the tab.

Another object is to provide a novel and substantial retaining device on the tab which will not be permanently deformed in the insertion or removal of the tab so that a tab may be used repeatedly without reducing the effectiveness of the retaining device.

The invention can be used with a variety of printing devices including those embodying a frame carrying one or more printing plates having type characters embossed thereon, as shown, for example, in Patent No. 1,677,449, July 17, 1928, and one-piece printing devices as shown, for example, in Patent No. 1,790,717, February 3, 1931.

Selected embodiments of the invention are illustrated in the accompanying drawings wherein

Fig. 1 is a front elevation of a printing device having an index tab embodying my invention secured thereon;

Fig. 2 is a fragmentary back view of the printing device shown in Fig. 1;

Fig. 3 is a sectional detail view taken substantially on the line 3—3 of Fig. 1 and drawn to an enlarged scale;

Fig. 4 is a perspective detail view of the tab illustrated in Figs. 1, 2, and 3;

Fig. 5 is a fragmentary front elevation of a printing device having an index tab embodying another form of my invention secured thereon;

Fig. 6 is a fragmentary elevation of the back of the printing device shown in Fig. 5;

Fig. 7 is a sectional view taken substantially on the line 7—7 of Fig. 5 and drawn to an enlarged scale;

Fig. 8 is a perspective view of the tab shown in Figs. 5, 6, and 7;

Fig. 9 is a fragmentary front elevation of a printing device having an index tab embodying still another form of my invention secured thereon;

Fig. 10 is a fragmentary elevation of the back of the printing device shown in Fig. 9;

Fig. 11 is a sectional view taken substantially on the line 11—11 of Fig. 9 and drawn to an enlarged scale; and

Fig. 12 is a perspective view of the tab illustrated in Figs. 9, 10, and 11.

Referring to the drawings generally, 17 is the frame of the printing device, 18 is the printing plate, and 19 is the information card. Beads 20 and 21 are formed along the top and bottom edges of the frame and retaining devices 22 and 23 are struck up from the frame on the face thereof. The information card is detachably secured on the face of the frame by the bead 20 and the retaining devices 22. The printing plate is slidably mounted on the face of the frame between the bead 21 and the retaining devices 23 and is held against endwise displacement by the yieldable retaining tongues 24 formed on the frame. The frame is slit and struck up to provide sets of aligned keepers 25, 26, and 27 to receive the tabs and preferably as many sets of keepers are formed as can be conveniently provided on the frame. The keepers 25 are downwardly extending lips struck up on the front of the frame. The retaining devices 26 are provided by panels struck up on the back of the frame and these panels are connected to the frame intermediate the sets of keepers by legs 26'. The keepers 27 consist of oppositely extending lips struck up on the front of the frame and the portion intermediate the lips is in the plane of the frame.

The tabs are preferably formed of hardened resilient material and each tab includes a head and a stem. The head of the tab projects beyond the upper edge of the frame when the tabs

are properly installed. The stem of each tab is inserted into a set of keepers by first being passed below the keeper **25** and through the slit at the lower end thereof, then over the keeper panel **26** on the back of the frame, and then through the slits at the end of the lips of the keeper **27** so that the end of the stem of the tab lies on the face of the frame. The shoulders **28** on the edges of the tab engage the adjacent legs **26'** at the upper edge of the panel **26** to limit the movement of the tab inwardly on the frame. To prevent accidental outward movement of the tab in the keepers and avoid accidental disengagement and displacement of the tab, I provide retaining means which consists of a retaining device on the tab and a cooperating means on the frame. Each of the tabs described herein includes a retaining device adapted to cooperate with a keeper of the set of keepers into which the tab is inserted to thereby be retained against undesired displacement from the frame.

The tab illustrated in Fig. 4 consists of a head **29** and a stem **30**. The tab is slit and struck up between the edges thereof and intermediate of the end portions of the head and stem to form a lip **31** providing an upwardly facing shoulder spaced from the adjacent face of the stem and disposed below the shoulders **28**. Since the lip is spaced from the edges of the tab it may be of substantial size without weakening the tab and consequently it is made large enough to effectively resist accidental distortion and it therefore securely fastens the tab in position. This tab is inserted into a set of keepers in the manner previously described. Inasmuch as the tab is made of a resilient material the lip **31** flexes as it slides past the panel **26** during insertion of the tab, and as soon as the shoulder provided by the lip clears the lower edge of the panel the lip springs outwardly to thereby align the shoulder with the lower edge of the panel. To do this requires but little force and hence the tab may be easily inserted into a set of keepers. When the tab is positioned the shoulders **28** and the shoulder on the lip cooperate to prevent longitudinal movement of the tab and hence displacement of the tab from the keepers is effectively prevented.

When the tab is to be removed from the keepers, as when it is desired to change the classification of the printing device, a suitable instrument is employed and the end of the instrument is rested on the lip **31** and sufficient pressure is applied to clear the shoulder on the lip from alignment with the edge of the panel **26**. As best illustrated in Fig. 3, when the tab is in proper position, the lip **31** is opposite one of the lips of the keeper **27** and consequently there is clearance below the lip **31** and hence when pressure is applied to clear the shoulder from the edge of the panel the stem of the tab as well as the lip **31** may bend slightly so that the shoulder is clear of the edge and the tool is preferably so inclined that force is exerted in a direction to move the tab outwardly of the frame as well as to clear the shoulder and consequently as soon as the shoulder clears the edge of the panel, the tab so moves that the lip **31** is disposed under the panel **26** whereupon the head of the tab may be gripped by the fingers and, as is apparent from an inspection of Fig. 3, the tab may then be easily withdrawn from the frame since there is no obstacle in the path of the shoulder on the lip to prevent removal. By reason of the opposite disposition of the shoulders, the tab is locked in the keepers and can only be displaced therefrom by applying pressure thereon, as above described.

The tab illustrated in Fig. 8 includes a head **33** and a stem **34**. The tab is slit and struck up between the edges and intermediate of the end portions thereof to form an inclined downwardly extending lip **35** of substantial size. The lip **35** is positioned on the tab adjacent the shoulders **28**. When the tab is inserted into the keepers in the manner previously described and the shoulders **28** engage the adjacent legs **26'** at the upper edge of the panel **26**, the lip **35** lies below and engages the keeper **25**, and the inclinations of the keeper **25** and the lip **35** are preferably similar so that the entire adjacent faces of the keeper and the lip contact with each other. Since the tab is made of a resilient material, the lip springs into engagement with the keeper and prevents displacement of the tab until the tab is gripped and sufficient force is exerted to overcome the resiliency of the lip **35** and when this is done the lip is forced into the plane of the tab as the tab is moved outwardly and thus the lip is disengaged from the keeper and the tab removed from the frame.

The tab illustrated in Fig. 12 includes a head **36** and a stem **37**. The tab is slit and struck up between the edges and intermediate of the end portions thereof to provide a boss **38** of substantial size and including an apex and oppositely inclined sides extending longitudinally of the tab. The boss **38** is positioned adjacent the shoulders **28**. When the tab is inserted into a set of keepers in the manner previously described and the shoulders **28** engage adjacent legs **26'** at the upper edge of the panel **26**, the upwardly facing inclined surface of the boss **38** lies below the keeper **25** and preferably the keeper and the cooperating inclined side of the boss are similarly inclined so that the entire adjacent faces of the keeper and boss contact with each other. The boss **38** functions similarly to the lip **35** but clearly greater force will need be applied to disengage the boss **38** from the keeper **25** than will need be applied to disengage the lip **35** from the keeper because the lip has a free edge and consequently may be more easily deformed. Thus the tab illustrated in Fig. 12 is more securely held in position and greater force must be exerted to remove this tab from the frame.

I have shown and described my invention as used with a printing device embodying a frame and a removable printing plate, but it is to be understood that it is equally adapted for use on a one-piece printing device. Further, I have shown preferred forms of my invention but it is to be understood that these are susceptible of variation and modification and I therefore do not wish to be limited to the precise details set forth but desire to avail myself of such changes and alterations as fall within the spirit and scope of the following claims.

I claim:

1. In a printing device which has a frame provided with a set of aligned keepers comprising means struck from the frame, selected of said means having legs at the side edges thereof connecting said means to the frame, the combination therewith of a tab embodying an integral head and stem, said stem having continuous side edges and being insertable into said set of keepers past the legs and neatly fitting in the keepers and between the legs to prevent relative movement between the tab and frame, and a resilient retaining device on the tab of sufficient strength

to retain its shape after repeated insertions into and removals of the stem from the keepers, said retaining device being positioned on said tab between the side edges and intermediate the ends thereof and being adapted to cooperate with means on the frame to prevent accidental displacement of the tab from the frame after insertion of said stem into said set of keepers.

2. In a printing device which has a frame provided with a set of aligned keepers comprising means struck from the frame, selected of said means having legs at the side edges thereof connecting said means to the frame, the combination therewith of a tab embodying an integral head and stem, said stem having continuous side edges and being insertable into said set of keepers past the legs and neatly fitting in the keepers and between the legs to prevent relative movement between the tab and frame, said tab having a shoulder thereon engageable with one of said legs to limit inward movement of the tab when the stem is inserted into said set of keepers, and a resilient retaining device on the tab of sufficient strength to retain its shape after repeated insertions into and removals of the stem from the keepers, said retaining device being positioned on said tab between the side edges and intermediate the ends thereof and being adapted to cooperate with means on the frame to prevent accidental displacement of the tab from the frame after insertion of said stem into said set of keepers and engagement of said shoulder with said leg.

3. In a printing device which has a frame provided with a set of aligned keepers comprising means struck from the frame, selected of said means having legs at the side edges thereof connecting said means to the frame, the combination therewith of a tab embodying an integral head and stem, said stem having continuous side edges and being insertable into said set of keepers past the legs and neatly fitting in the keepers and between the legs to prevent relative movement between the tab and frame, and a resilient retaining device on the tab of sufficient strength to retain its shape after repeated insertions into and removals of the stem from the keepers, said retaining device being positioned on said tab between the side edges and intermediate the ends thereof and being adapted to cooperate with selected of the means struck from the frame to prevent accidental displacement of the tab from the frame after insertion of said stem into said set of keepers.

4. In a printing device which has a frame slit and struck up to provide a set of aligned keepers of which at least one is inclined relative to the face of the frame, the combination of a tab having a shoulder thereon adapted to limit inward movement of the tab when it is inserted into said set of keepers, and means on said tab including a face inclined similarly to an inclined keeper of the set into which it is inserted, the inclined face of said means engaging said inclined keeper to prevent accidental outward movement of said tab in said keepers.

5. In a printing device which has a frame provided with a set of aligned keepers comprising means struck from the frame, selected of said means being inclined longitudinally thereof relative to the face of the frame and certain of said means having legs at the side edges thereof connecting such means to the frame, the combination therewith of a tab embodying an integral head and stem, said stem having continuous side edges and being insertable into said set of keepers past the legs and neatly fitting in the keepers between the legs to prevent relative movement between said tab and frame, and a resilient inclined lip on the tab of sufficient strength to retain its shape after repeated insertions into and removals of the stem from the keepers, said lip being positioned on the tab between the side edges and intermediate the ends of the tab and being adapted to cooperate with selected of the inclined means on the frame to prevent accidental displacement of the tab from the frame after insertion of said stem into said set of keepers.

6. In a printing device which has a frame provided with a set of aligned keepers comprising means struck from the frame, selected of said means being inclined longitudinally thereof relative to the face of the frame and certain of said means having legs at the side edges thereof connecting such means to the frame, the combination therewith of a tab embodying an integral head and stem, said stem having continuous side edges and being insertable into said set of keepers past the legs and neatly fitting in the keepers between the legs to prevent relative movement between said tab and frame, said tab having a shoulder thereon engageable with one of said legs to limit inward movement of the tab when the stem is inserted into said set of keepers, and a resilient inclined lip on the tab of sufficient strength to retain its shape after repeated insertions into and removals of the stem from the keepers, said lip being positioned on the tab between the side edges and intermediate the ends of the tab and being adapted to cooperate with selected of the inclined means on the frame to prevent accidental displacement of the tab from the frame after insertion of said stem into said set of keepers and engagement of said shoulder with said leg.

7. In a printing device which has a frame provided with a set of aligned keepers comprising means struck from the frame, selected of said means being inclined longitudinally thereof relative to the face of the frame and certain of said means having legs at the side edges thereof connecting such means to the frame, the combination therewith of a tab embodying an integral head and stem, said stem having continuous side edges and being insertable into said set of keepers past the legs and neatly fitting in the keepers between the legs to prevent relative movement between said tab and frame, and a resilient retaining device on the tab of sufficient strength to retain its shape after repeated insertions into and removals of the stem from the keepers, said retaining device being positioned on the tab between the side edges and intermediate the ends of the tab and being adapted to cooperate with selected of the inclined means struck from the frame to prevent outward movement of the tab in said keepers until pressure is applied to said device to disengage it from the means with which it cooperates.

8. In a printing device which has a frame provided with a set of aligned keepers comprising means struck from the frame, selected of said means being inclined longitudinally thereof relative to the face of the frame to space free edges thereon from the adjacent face of the frame and certain of said means having legs at the side edges thereof connecting such means to the frame, the combination therewith of a tab embodying an integral head and stem, said stem having continuous side edges and being insertable

into said set of keepers past the legs and neatly fitting in the keepers between the legs to prevent relative movement between said tab and frame, and a resilient lip struck from said tab between its side edges and intermediate its ends and providing an upwardly facing shoulder adapted to cooperate with the free edge of selected of the means struck from the frame to prevent accidental displacement of the tab from the frame after insertion of said stem into said set of keepers.

9. In a printing device which has a frame provided with a set of aligned keepers comprising means struck from the frame, selected of said means being inclined longitudinally thereof relative to the face of the frame to space free edges thereon from the adjacent face of the frame and certain of said means having legs at the side edges thereof connecting such means to the frame, the combination therewith of a tab embodying an integral head and stem, said stem having continuous side edges and being insertable into said set of keepers past the legs and neatly fitting in the keepers between the legs to prevent relative movement between said tab and frame, said tab having a shoulder thereon engageable with one of said legs to limit inward movement of the tab when the stem is inserted into said set of keepers, and a resilient lip struck from said tab between its side edges and intermediate its ends and providing an upwardly facing shoulder adapted to cooperate with the free edge of selected of the means struck from the frame to prevent accidental displacement of the tab from the frame after insertion of said stem into said set of keepers and engagement of the shoulder on said tab with said leg.

10. In a printing device which has a frame provided with a set of aligned keepers comprising means struck from the frame, selected of said means being inclined longitudinally thereof relative to the face of the frame and certain of said means having legs at the side edges thereof connecting such means to the frame, the combination therewith of a tab embodying an integral head and stem, said stem having continuous side edges and being insertable into said set of keepers past the legs and neatly fitting in the keepers between the legs to prevent relative movement between said tab and frame, said tab having a shoulder thereon engageable with one of said legs to limit inward movement of the tab when the stem is inserted into said set of keepers, said tab being slit and struck up between the side edges thereof to provide a substantially medially located inclined resilient lip projecting from a face of the tab and adapted to cooperate with selected of the inclined means and the engagement of said shoulder with said leg to prevent accidental displacement of the tab after insertion of said stem into said set of keepers.

11. In a printing device which has a frame provided with a set of aligned keepers comprising means struck from the frame, selected of said means being inclined longitudinally thereof relative to the face of the frame and certain of said means having legs at the side edges thereof connecting such means to the frame, the combination therewith of a tab embodying an integral head and stem, said stem having continuous side edges and being insertable into said set of keepers past the legs and neatly fitting in the keepers between the legs to prevent relative movement between said tab and frame, said tab being slit and struck up between the side edges thereof to provide a substantially medially located inclined resilient lip projecting from a face of the tab and providing a downwardly facing shoulder and being adapted to cooperate with selected of the inclined means on the frame to prevent accidental displacement of the tab after insertion of said stem into said set of keepers.

12. In a printing device which has a frame provided with a set of aligned keepers comprising means struck from the frame, selected of said means being inclined longitudinally thereof relative to the face of the frame and certain of said means having legs at the side edges thereof connecting such means to the frame, the combination therewith of a tab embodying an integral head and stem, said stem having continuous side edges and being insertable into said set of keepers past the legs and neatly fitting in the keepers between the legs to prevent relative movement between said tab and frame, said tab having a shoulder thereon engageable with one of said legs to limit inward movement of the tab when the stem is inserted into said set of keepers, said tab being slit and struck up between the side edges thereof to provide a substantially medially located inclined resilient lip projecting from a face of the tab and providing a downwardly facing shoulder, said lip cooperating with selected of the inclined means and the engagement of the shoulder on the tab with said leg to prevent accidental displacement of the tab after insertion of said stem into said set of keepers.

13. An index tab slit and struck up inwardly of the edges and intermediate of the ends thereof to provide a boss including oppositely inclined faces extending longitudinally of the tab and merging thereinto.

14. An index tab including a head and a stem and having a shoulder on a side edge thereof, said tab being slit and struck up intermediate the ends thereof to provide a boss adjacent said shoulder, said boss having oppositely inclined faces extending longitudinally of the tab and merging thereinto.

15. An index tab having a head and a stem and a downwardly facing shoulder on a side edge thereof, said tab being slit and struck up between its side edges to form a substantially medially located lip providing a downwardly facing shoulder positioned in determined location relative to the downwardly facing shoulder on the side edge of the tab, said lip cooperating with the downwardly facing shoulder on the side edge of the tab to prevent accidental displacement of the tab when it is installed in the keepers on a printing device.

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