

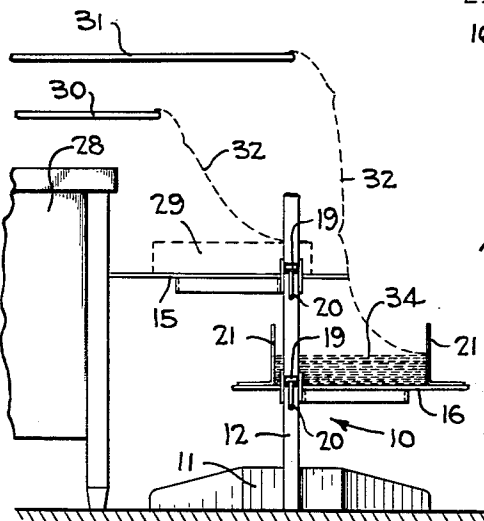
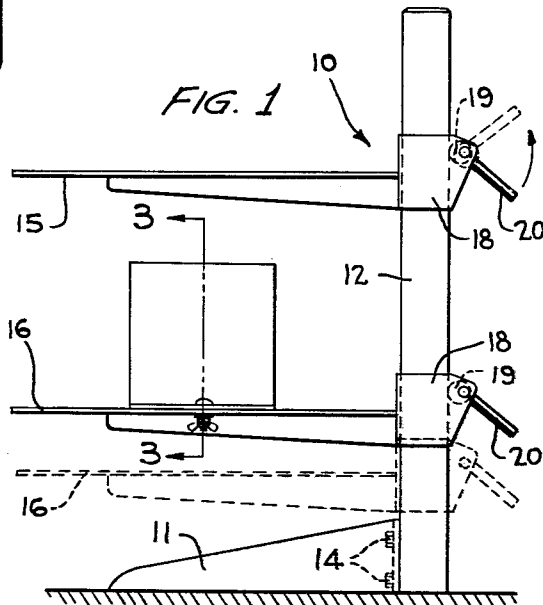
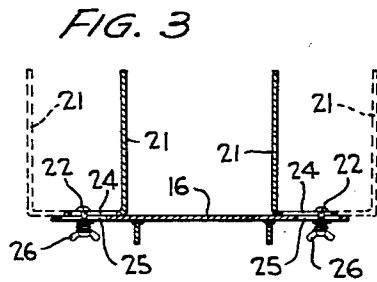
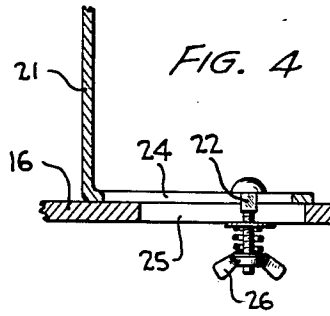
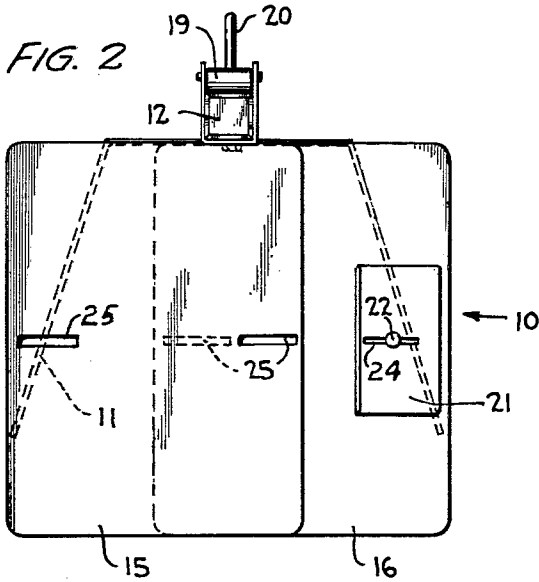
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ZIG-ZAG TYPEWRITER FORM STANDS

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## ZIG-ZAG TYPEWRITER FORM STANDS

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This invention relates to accessories for business machines, and more particularly to supply and discharge receptacles for business forms adapted to be employed in conjunction with typewriters and printing and reproducing machines of various kinds.

It is the general object of this invention to provide a novel and improved device of this character, which is peculiarly adapted to facilitate the feeding and refolding of zig-zag folded continuous forms to and from writing or imprinting machines.

It is another object of this invention to provide form stands for supporting zig-zag folded continuous forms on which the supply and discharge packs are disposed on vertically spaced shelves.

It is a further object of this invention to provide form stands having vertically adjustable shelves.

It is yet another object of the invention to provide form stands having refeed guides mounted on one of the shelves thereof and adjustable to accommodate various sizes of zig-zag folded continuous forms.

It is a further object of the invention to provide form stands having two shelves laterally offset to dispose one edge of the upper shelf over the middle of the lower shelf whereby the edge of the upper shelf will facilitate refolding of zig-zag folded continuous forms.

With these and other objects in view, the present invention contemplates a form stand comprising a base mounting a vertical pedestal thereon. A pair of shelves are mounted on the pedestal for vertical sliding movement thereon and are provided with clamping means for locking each shelf in any of a plurality of selected vertical positions. The shelves are so constructed that the vertical axes thereof are laterally displaced by equal amounts so that the upper of the two shelves will have one edge thereof disposed above the middle of the lower shelf. This construction enables the shelves to be interchanged without affecting the offset relationship thereof. A pair of adjustable refeed guides are mounted on the lower shelf to confine the discharge or refeed pack of zig-zag folded continuous forms. The adjustment of the refeed guides enables the accommodation of various sizes and forms.

Other objects, advantages, and novel features of the invention, including an arrangement whereby the edge of the upper shelf functions as a guide for the form web during delivery and refolding, will become readily apparent upon consideration of the following detailed description when read in conjunction with the accompanying drawing wherein:

FIGURE 1 is a view in side elevation of a preferred form of the present invention;

FIGURE 2 is a plan view of the form stand of FIGURE 1;

FIGURE 3 is a sectional view taken along the line 3—3 of FIGURE 1 and illustrates the adjustable arrangement provided for the refeed guides;

FIGURE 4 is an enlarged fragmentary view of a portion of FIGURE 3 and illustrates the clamping device provided for locking each of the refeed guides in the desired position; and

FIGURE 5 illustrates the form stand of the present invention in use.

Attention now is directed to the drawings wherein like numerals of reference designate like parts throughout the

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several views. The form stand of the present invention is designated generally by the reference numeral 10 and comprises a base 11 having a vertical pedestal or post 12 attached thereto by means of screws 14. A pair of shelves 15 and 16 are mounted on the pedestal 12 by means of U-shaped brackets 18. A clamping cam 19 is pivotally mounted between the open ends of each bracket 18 and each cam is provided with a handle 20.

A pair of L-shaped refeed guides 21 are mounted on the lower shelf 16 by means of screws 22 disposed in slots 24 and 25 formed in the refeed guides 21 and shelf 16, respectively. Wing-nuts 26 are provided on the screws 22 for locking the refeed guides 21 in the desired position.

In order that a better understanding of the invention may be had, the manner in which it is used will now be described. The stand 10 is first disposed behind the desk 28 which supports the writing or imprinting machine in the manner disclosed in FIGURE 5. The shelves 15 and 16 are adjusted vertically by first moving the handles 20 in the direction shown by the arrow in FIGURE 1 until the handles reach the position shown in dotted lines. Due to the eccentric mounting of the clamping cams 19, the cams no longer engage the backside of the pedestal 12 and the shelves may then be moved vertically to the desired positions. The handles 20 are then depressed, engaging the cams 19 with the pedestal 12 and locking the shelves in the desired positions.

As a general rule, the shelves are placed in lower positions for lighter forms and when control or form sway is desired, and in higher positions for heavier forms and when the forms are provided with few form fastenings.

A stack 29 of zig-zag folded continuous forms is then placed on the shelf 15. The end of the stack of forms 29 is then fed through the writing or imprinting machine (not shown) along an infeed guide 30 and an outfeed guide 31. The guides 30 and 31 may be of the form more fully disclosed and claimed in the co-pending application of Albert A. Sargent, Serial No. 116,572 filed June 12, 1961, now Patent No. 3,013,646 issued December 19, 1961.

As the machine operates, the web of forms 32 is fed from the pack 29 through the machine and out along the outfeed guide 31. The web 32 descends from the end of the outfeed guide 31 and onto the lower shelf 16. The refeed guides 21 are adjusted to accommodate the refeed or discharge pack 34 being formed by the web 32 as it refolds. The guides 21 are positioned so that the center of the refeed pack 34 is disposed directly beneath the edge of the upper shelf 15. It has been found that engagement of the descending web 32 with the edge of the shelf 15 greatly facilitates the refolding thereof. The edge of the shelf 15, by engaging the descending web 32, precludes the web from falling over the top of the refeed guides. This ensures a neatly refolded pack. Preferably the shelves 15 and 16 are adjusted with a vertical distance between them of less than one fold length so that the extension of shelf 15 engages form 32 between the first fold crease in the vertical section of the form where a crease reaches shelf 16, as shown in FIGURE 5.

From the foregoing it will be readily apparent that a new and improved form stand has been provided embodying many advantages not found in the prior art. For example, the refeed guides enable the accommodation of zig-zag folded continuous forms of various sizes as clearly illustrated by FIGURE 3. When the width of the forms is small, the refeed guides 21 are positioned as shown in solid lines in FIGURE 3 with the bases thereof pointing toward the edges of the shelf 16. When the forms are of a larger size than can be accommodated with the guides 21 in this position, the guides are rotated through 180° to the position shown in dotted lines in FIGURE 3. This enables the accommodation of much larger

forms. In adjusting the guides 21 in either of these positions, it is only necessary that they be symmetrically placed so that the center of the refold pack is directly below the edge of the upper shelf. Also, it should be noted that the shelves 15 and 16 may be reversed with the shelf 15 being the lower shelf. Due to the offset positioning of the brackets 18, one edge of the upper shelf will always be disposed above the center of the lower shelf irrespective of whether the shelf 15 or the shelf 16 is placed in the upper position. The shelf 15 is also provided with slots similar to the slots 25 to accommodate the refold guides 21 although these slots have been omitted from the drawings for the sake of clarity. Thus the stand 10 can be modified to suit the particular location in which it is to be used.

It is to be understood that the above described arrangements are simply illustrative of the principal features of the invention. Numerous modifications may be readily devised by those skilled in the art to produce a similar apparatus still embodying the principles of the present invention and falling within the spirit and scope thereof.

What is claimed is:

1. Supply and delivery apparatus for business machines particularly adapted for the guiding of zig-zag folded continuous forms in their passage to and from the machine, said apparatus comprising a stand having a substantially vertical post, two shelves having means for securing them to said post at different levels, the upper shelf adapted to support a zig-zag pack to be fed to the machine, the lower shelf having vertical guides spaced apart substantially the length of one fold in the zig-zag form to be processed to receive and position the continuous form from the machine again in zig-zag pack configuration, a delivery guide associated with the machine and disposed substantially above said upper shelf to feed the zig-zag forms received from the machine, and one edge of the upper shelf being disposed directly above the center of the guides on the lower shelf at a distance less than the length of said fold for engaging the forms fed from the machines so that the delivered continuous form

slides down in contact with said edge of the upper shelf whereby said edge constitutes the sole guide for transferring the continuous form from the said delivery guide to folded condition between said guides on the lower shelf.

2. A form stand for supporting supply and discharge packs of zig-zag folded continuous forms processed by a business machine comprising in combination, means for adjustably mounting two shelves at different vertical levels in offset position to dispose one edge of the upper shelf over the central region of the lower shelf, a set of vertical guides on the lower shelf positioned apart symmetrical with said central region one fold length of said form to receive forms discharged from said machine in a zig-zag pack, said shelves being spaced apart less than one fold length, and said stand being positioned to receive the discharged forms by force of gravity in sliding contact over the said edge of the upper shelf whereby the edge of the upper shelf constitutes the sole guiding force to cause the zig-zag forms to refold into a pack between said guides.

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