Dec. 26, 1939. J. H. CARPENTER ET AL 2,184,987

ASSEMBLY FIXTURE FOR MULTIPLE-SLIP FORMS

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Fig. 1.

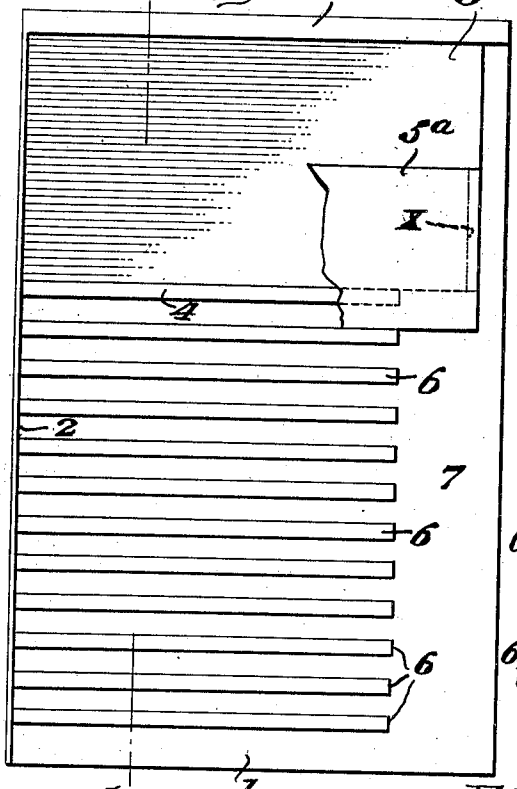


Fig. 2.

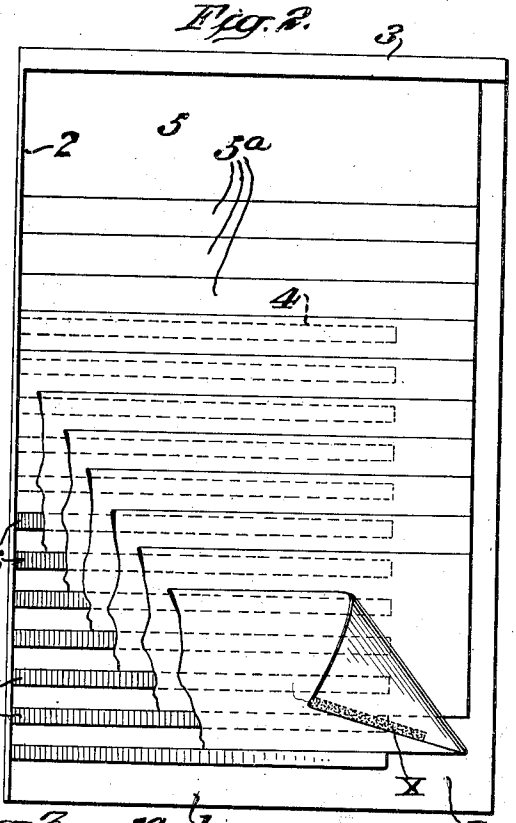
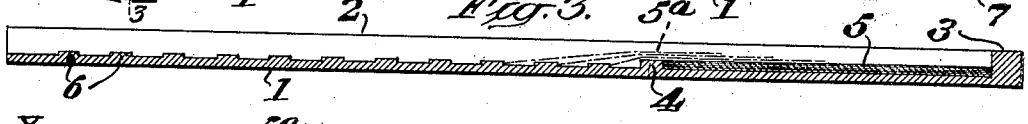


Fig. 3.



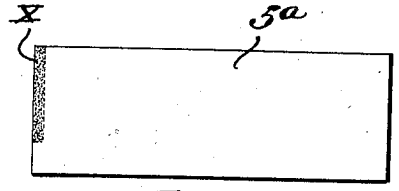
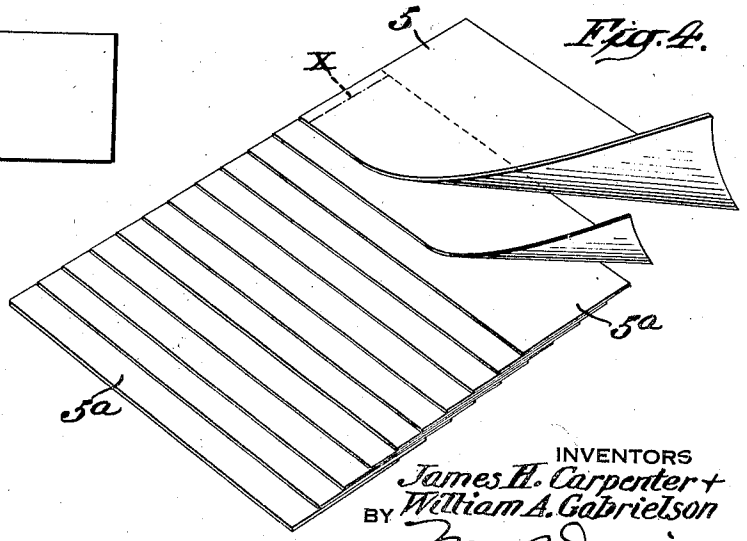


Fig. 5

Fig. 4.



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ASSEMBLY FIXTURE FOR MULTIPLE-SLIP FORMS

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5 Claims. (Cl. 281—1)

This invention relates to improvements in assembly fixtures adapted for use in assembling and securing together the paper slips of a multiple-slip form.

Multiple-slip forms are used for many purposes and are of different characters. This invention is adapted for use in assembling and securing together the slips of a form made up of a broad header sheet and a series of narrower slips attached to the header sheet and to each other along one vertical marginal edge, the first slip projecting or extending slightly below the lower edge of the header sheet and each additional slip extending a slight distance below the slip next above, the header sheet and all the attached slips being secured together in shingle arrangement. The header sheet and the attached slips must be accurately aligned with each other, and the area of the slips exposed at the face of the form must be uniform. Many of these multiple-slip forms are used in hectographing operations and the exposed portion of each slip receives a line or two of printed matter from the master hectograph sheet. It is obvious, therefore, that the header sheet and the attached slips must be accurately aligned and the exposed portions of the slips must be uniform in size. In some instances the slips, after receiving the hectograph impression, are detached from the header sheet and from each other. It is important, therefore, that the slips be attached to the header sheet and to each other by adhesive lightly applied along a portion of one vertical edge of each slip.

It is the object of this invention to provide an assembly fixture by means of which the header sheet and the multiplicity of slips may be quickly and accurately assembled and aligned and secured together along one vertical edge.

In the drawing, Fig. 1 is a plan view of the assembly fixture illustrating the manner of securing the first slip to the header sheet;

Fig. 2 is a similar view of the fixture showing a number of the slips assembled and attached to the header sheet and to each other;

Fig. 3 is a longitudinal vertical sectional view of the assembly fixture taken on the line 3—3 of Fig. 1;

Fig. 4 is a perspective view of the multiple-slip form complete; and

Fig. 5 is a detail view of one of the slips with the adhesive applied ready for assembly and attachment to the form.

The header sheet and the attached slips are secured together in reversed position, that is to say, face down. When the form is complete it is removed from the assembly fixture and reversed in order to bring it into face-up position, as shown in Fig. 4.

The assembly fixture consists of a board or plate 1 having an upstanding aligning flange 2 along its left-hand marginal edge. Along the upper edge of the plate 1 is arranged an upstanding aligning bar 3 adapted to be engaged by the upper transverse edge of a header sheet. The aligning flange 2 is adapted to be engaged by the left-hand vertical marginal edges of the header sheet and the slips as they are arranged on the fixture. At a suitable distance below the aligning bar 3 and on the upper face of the plate 1 is arranged a transversely extending header-sheet-aligning bar 4 whose upper edge forms a gaging shoulder. This bar terminates a considerable distance short of the right-hand margin of the plate 1. This bar 4 is of considerable thickness and forms the lower edge of a large pocket between the aligning bar 3 and said bar 4 for the reception of the comparatively large header sheet 5. It is desirable that this bar be of sufficient thickness to permit the stacking in the pocket of a substantial number of header sheets.

Below the header-sheet-aligning bar 4 are arranged a series of slip-aligning and gaging bars 6 whose upper edges form shoulders which are adapted to be engaged by the lower edges of the slips. Each bar 6 extends transversely of the plate 1 from the aligning flange 2 and terminates a substantial distance inwardly from the right-hand margin of the plate 1. These bars are equal distances apart from each other and from the bar 4. The distance between the upper edge of one bar and the upper edge of the next bar below it defines the extent of the exposed portions of the attached slips when the form is turned face-up as shown in Fig. 4. Aligning and gaging bars 6 project slightly above the upper surface of the plate 1 and are preferably just thick enough to be engaged along their upper edges by the lower edges of the slips. These bars 6 terminate along a vertical line leaving a smooth, unobstructed surface 7 on the plate 1 at the right-hand ends of said bars. This flat, unobstructed surface along the right-hand margin of the plate permits the overlapping portions of the header sheet and the slips to lie flat on the plate and on each other so that they may be readily secured together by adhesive applied to the slips.

When the fixture is in use a substantial number of the header sheets are placed in the pocket formed by the bar 3 and the gage bar 4, said sheets being accurately positioned by the aligning flange 2 and by the bars 3 and 4. Adhesive is applied to one of the slips 5^a along a portion of its left-hand marginal edge as shown at X in Fig. 5. The adhesive is not applied to that portion of the left-hand edge of the slip which is to extend below the header sheet. The slip with the adhesive applied is then reversed so that the adhesive is then on the under side of the slip at the

right-hand marginal edge. The slip, in this position, is then aligned against the flange 2 and the upper edge of the first aligning and gaging bar 6. The edge of the slip bearing the adhesive is then pressed down at the right-hand margin of the header sheet which is in place between the bars 4 and 3. The dotted lines at X in Fig. 1 show the extent of the slip 5^a secured to the header sheet by the adhesive. After the attachment of the first slip to the header sheet as described, adhesive is applied to the second slip 5^a as illustrated in Fig. 5 and that slip is then reversed, gaged and aligned by the second gage bar 6 and the aligning flange 2. The right-hand margin of this slip, to which the adhesive has been applied, overlies the previously attached slip 5^a and is pressed down on the said previously attached slip. The flat, unobstructed marginal portion 7 of the plate 1 provides a smooth surface against which the right-hand marginal edges of the slips may be pressed to attach them firmly together by the adhesive. This operation of attaching the slips is repeated until the desired number of slips have been secured. When the form is of proper length it is removed from the fixture and reversed so that the attached edges are at the left-hand margin of the form, as illustrated in Fig. 4.

It is of advantage to provide means for stacking a considerable number of header sheets 5 in the pocket between the gaging bar 4 and the aligning flange 3 as that facilitates rapid operation and renders it unnecessary to place a header sheet in the pocket for each multiple-slip form.

What we claim is:

1. An assembly fixture for multiple-slip forms comprising a plate, an aligning flange along one longitudinal marginal edge, an aligning bar along the upper edge of said plate, a header sheet gage bar of substantial thickness on the upper surface of said plate and extending transversely of the plate from the said aligning flange and below the aligning bar at the upper edge of the plate to form a pocket to receive a number of header sheets, the upper edge of said bar forming a gage for the lower edges of the header sheets, a series of parallel gaging and aligning bars of less thickness than the header sheet gage bar and extending transversely of the plate from the said aligning flange equal distances apart, the upper edges of said bars forming gaging and aligning shoulders, said gaging and aligning bars terminating short of the marginal edge of the plate opposite the aligning flange to provide a smooth, unobstructed portion of the upper surface along the marginal edge of the plate opposite the aligning flange.

2. An assembly fixture for multiple-slip forms comprising a plate, an aligning flange along one longitudinal marginal edge, an aligning bar along the upper edge of said plate, a header sheet gage shoulder on the upper surface of said plate and extending transversely of the plate from the said aligning flange below the aligning bar at the upper edge of the plate to form a pocket to receive a header sheet, the upper edge of said bar forming a gage for the lower edge of the header sheet, a series of parallel gaging and aligning shoulders extending transversely of the plate from the said aligning flange equal distances apart, said gaging and aligning shoulders terminating short of the marginal edge of the plate opposite the aligning flange to provide a smooth, unobstructed portion of the upper surface along the marginal edge of the plate opposite the aligning flange.

3. An assembly fixture for multiple-slip forms comprising a flat plate, an aligning flange along one longitudinal marginal edge, a rigid gage bar on and projecting above the upper surface of said plate and extending transversely of the plate from the said aligning flange, the upper edge of said bar forming a gage for the lower edge of a header sheet, a series of narrow parallel rigid gaging and aligning bars projecting above the surface of the plate and extending transversely thereof from the said aligning flange and spaced equal distances apart to form a series of open, narrow transverse channels, each of which is adapted to loosely receive the lower portion of a slip of paper, the upper edges of said bars forming gaging and aligning shoulders adapted to be engaged by the lower edges of the paper slips loosely received in said open channels, all of said gaging and aligning bars terminating short of the marginal edge of the plate opposite the aligning flange to provide a smooth, unobstructed portion of the upper surface along the marginal edge of the plate opposite the aligning flange.

4. An assembly fixture for multiple-slip forms comprising a flat plate, an aligning flange along one longitudinal marginal edge, a rigid gage bar on and projecting above the upper surface of said plate and extending transversely of the plate from the said aligning flange and spaced a material distance from the upper edge of said plate to form a wide pocket to loosely receive a header sheet, the upper edge of said bar forming a gage for the lower edge of said header sheet, a series of narrow parallel rigid gaging and aligning bars projecting above the surface of the plate and extending transversely thereof from the said aligning flange and spaced equal distances apart to form a series of open, narrow transverse channels, each of which is adapted to loosely receive the lower portion of a slip of paper, the upper edges of said bars forming gaging and aligning shoulders adapted to be engaged by the lower edges of the paper slips loosely received in said open channels, all of said gaging and aligning bars terminating short of the marginal edge of the plate opposite the aligning flange to provide a smooth, unobstructed portion of the upper surface along the marginal edge of the plate opposite the aligning flange.

5. An assembly fixture for multiple-slip forms comprising a flat plate, an aligning flange along one longitudinal marginal edge, a rigid gage bar on and projecting above the upper surface of said plate and extending transversely of the plate from the said aligning flange and spaced a material distance from the upper edge of said plate to form a wide pocket to loosely receive a header sheet, the upper edge of said bar forming a gage for the lower edge of said header sheet, a series of narrow parallel rigid gaging and aligning bars projecting above the surface of the plate and extending transversely thereof from the said aligning flange and spaced equal distances apart to form a series of open, narrow transverse channels, each of which is adapted to loosely receive the lower portion of a slip of paper, the upper edges of said bars forming gaging and aligning shoulders adapted to be engaged by the lower edges of the paper slips loosely received in said open channels.

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