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PRINTING PLATE LOCATION AND AFFIXING MEANS

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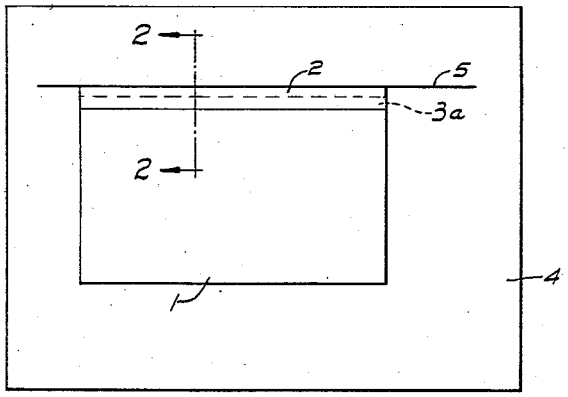


FIG. 1

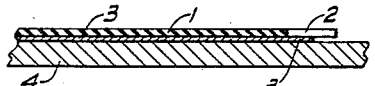


FIG. 2

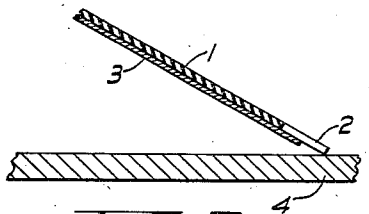


FIG. 3

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PRINTING PLATE LOCATION AND AFFIXING MEANS

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5 Claims. (Cl. 33—184.5)

This invention relates to printing apparatus, and more particularly to a means for enabling quick, accurate and effective mounting and positioning of flexible printing plates upon plate cylinders or plate beds.

Flexible plastic and rubber plates are widely used in the printing art, and many methods of securing these plates to the plate cylinders or plate beds have been proposed. One of the most satisfactory securing methods has been the use of a two-sided sheet of adhesive which is applied first to the plate, and then to the cylinder or bed.

The use of such a sheet provides a rigid, firm and positive bond between plate and bed or cylinder, but in practice, considerable difficulty has arisen in accurately positioning or registering the plate on the bed or cylinder when such a two-sided adhesive sheet is used.

In practice, the registration of such plates has heretofore been, to a large extent, a hit and miss proposition. The beds of cylinders are, as a rule, scored in ½" or 1" squares, and the plate, with adhesive backing applied, is applied to the cylinder or bed visually. Once the adhesive back touches the bed or cylinder, it is impossible to shift it even slightly, without distorting the plate, and if it is found that the plate thus visually applied is misaligned or misregistered, the plate must be removed and reapplied. It will be appreciated that the proximity of the first application to the desired register is lost upon its removal for the second application, and the problem is aggravated where more than one plate is used, especially where two or more colours are involved. This random placing of the plates and the time involved in registering and aligning is expensive since the presses are idle while the plates are being applied.

It is a principal object of this invention, therefore, to provide a means whereby a flexible plate having an adhesive backing may quickly and accurately be registered and positioned upon the cylinder or bed.

It is a further object of this invention to provide such a means that will permit accurate prepositioning or registering of the plate upon the cylinder or bed.

It is another object to provide such a means of simple construction or application readily adaptable to all types of flexible printing plates now in current use.

These and other advantageous objects will become apparent through a consideration of the following detailed description taken in conjunction with the attached drawings in which:

Figure 1 is a plan view showing a flexible adhesive backed plate embodying my invention.

Figure 2 is a fragmentary, enlarged vertical cross-section of a portion of the plate shown in Figure 1, and

Figure 3 shows the plate of Figure 1 being registered or aligned upon a plate bed prior to application.

This invention consists broadly in the provision of a separate strip applied to the top, bottom or side edge of the plate, the adhesive backing then being applied to the plate and extending some distance beyond the plate and onto the separate strip, but not extending to the outermost edge of the strip. If a plate thus constructed is held at an angle to the cylinder or bed, the non-adhesive backed edge of the separate strip may be aligned and positioned precisely with respect to the scored lines or other positioning guides on the cylinder or bed and after this edge is positioned the plate may be affixed in the desired position firmly by swinging it about the edge of the separate strip and bringing the adhesive backing on the plate into contact with the cylinder or bed.

In greater detail, and referring now to the drawings, and in particular to Figures 1 and 2 thereof, **1** represents a flexible rubber or plastic printing plate, to the reverse side of which a double-faced adhesive sheet **3** has been applied. The dimensions of the adhesive sheet are identical to or very slightly less than those of the plate with the exception of the portion **3A** which extends beyond one edge of the plate at the top, bottom or side thereof. In practice, a projection of ¼" will be found to be adequate for the adhesive backing, and it will be appreciated that the edge of the plate beyond which this portion is to project, will be governed by the manner in which the form is to run, and will be chosen to best enable the operator to position the plate.

A separate strip **2** preferably of plastic or other flexible nature is then butted against the selected edge of the plate, and brought in contact with the projecting portion of adhesive backing **3A**. The strip is, as shown, the same length as or slightly shorter than the edge to which it is affixed, and may be of transparent plastic. This strip, for contrast with the cylinder or bed, may be coloured, and thus facilitate positioning with respect to the cylinder or bed. The width of the strip is largely a matter of preference, but in practice should be held to a minimum for most efficient results. Assuming that the adhesive backing projects a distance of ¼" beyond the plate a strip of ½" width will be found to be satisfactory and a strip as narrow as ⅜" could be used. Such strips would provide non-adhesive projections of ¼" and ⅛" respectively which would in practice be sufficient for the purposes hereinafter outlined. It will be appreciated that while a coloured transparent plastic strip has desirable features, the strip need not necessarily possess any of these qualities and substances other than plastic may be used, such as cardboard, but care must be taken to ensure that the material chosen is solvent repellent. The strip of course need not be coloured, nor transparent, and a non-flexible material may also be substituted provided that it is not too wide, in this case the junction with the two-sided adhesive acting as a hinge.

A plate so equipped may be employed as illustrated in Figure 3. In Figure 3, **4** represents the printing chase or bed to which it is desired to affix the plate, and a scribed positioning line is shown as **5**. The plate **1** with projecting strip **2** affixed in the manner already outlined, is held at an angle to the chase, and the outer edge of the strip **2** is positioned with respect to the scribed positioning reference line **5**. Since the plate is being held at an angle, only the edge of the strip **2** will come into contact with the bed or roll and since this edge has no adhesive backing, then it may be freely and minutely positioned with respect to the reference line **5**. When the edge is in the required position, the thus aligned edge is maintained rigidly by hand and the plate swung down onto the bed or chase about the thus postioned edge and the adhesive backing thus firmly securing plate and bed together.

Because the use of this projecting strip permits the plate to be positioned before the adhesive touches the bed, the hit and miss practice which characterized former procedure is completely eliminated with a resultant saving in time and money.

When in this specification I use the expression flexible

plate, I mean a plate of rubber, plastic or metal or a combination thereof whose Shore hardness is less than 100 or a plate thin enough that though its Shore hardness is greater than 100 it may be bent.

This invention has been described above in one embodiment, in detail. It is to be understood, however, that the foregoing description is offered by way of example only, and should not be construed as a limitation of this my invention. Such embodiments of my invention as fall within the scope and purview of the appended claims are to be considered as part of my invention.

What I claim as my invention is:

1. Means for enabling the accurate location and affixing of flexible adhesive backed printed plates upon plate cylinders or beds, consisting of a strip abutting and affixed to one edge of the plate, said strip being ¼" to ½" in width and having an adhesive backing on all but the outermost ⅛" to ¼" thereof.

2. Means for enabling the accurate location and affixing of flexible printing plates upon plate cylinders or beds

consisting of a double-faced adhesive sheet applied to the reverse face of the plate, said sheet being of substantially the same dimensions as the plate, but extending a distance beyond said plate along one edge thereof, an additional strip of greater width than said distance, and of length substantially equal to the length of the plate edge beyond which said sheet projects, said additional strip being butted against the plate edge and being affixed by a portion of its lower face to said projecting sheet.

3. Means as claimed in claim 2 wherein said sheet projects a distance of from ⅛" to ¼" and said additional strip is from ¼" to ½" in width.

4. Means as claimed in claim 3 wherein said additional strip is formed of transparent plastic material.

5. Means as claimed in claim 4 wherein said additional strip is formed of coloured, transparent plastic material.

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