March 15, 1927. 1,621,271

E. PREISLER

PLATE FOR MULTIGRAPH MACHINES

Filed Dec. 3, 1925

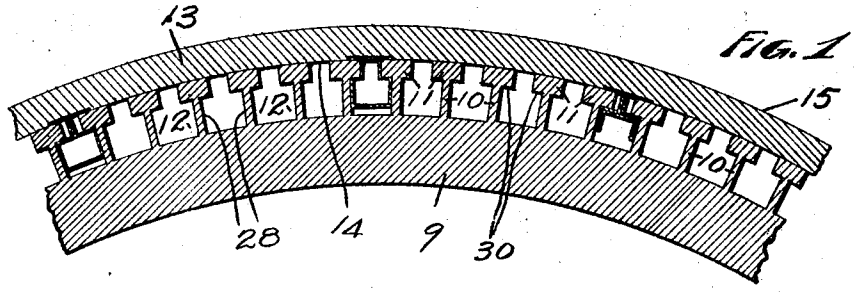


FIG. 1

FIG. 2

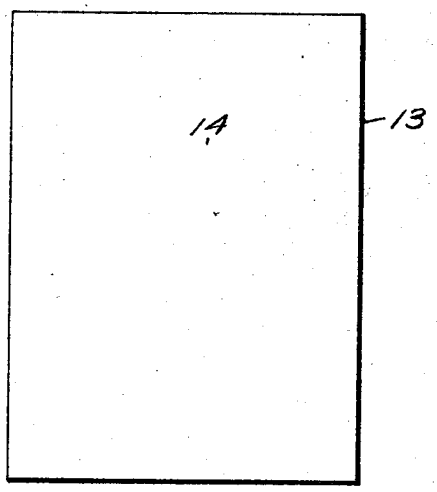


FIG. 4

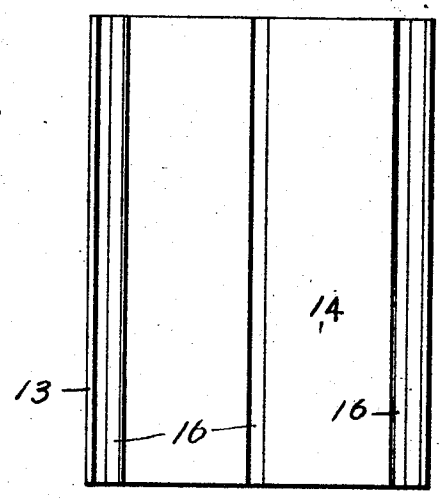


FIG. 3

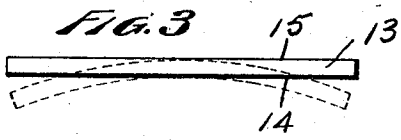


FIG. 5

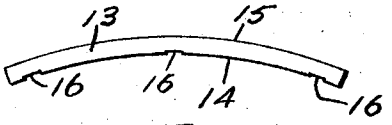


FIG. 7

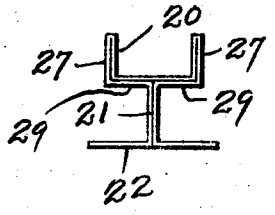


FIG 6

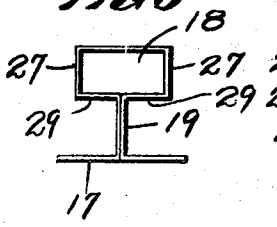
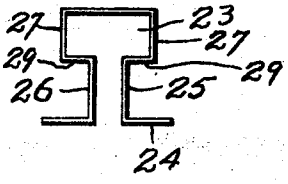


FIG. 8



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Patented Mar. 15, 1927. 1,621,271

UNITED STATES PATENT OFFICE.

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PLATE FOR MULTIGRAPH MACHINES.

Application filed December 3, 1925. Serial No. 72,926.

My invention relates to improvements in plates for multigraph machines, and has for its primary object an electrotype plate provided with lugs whereby the same can be secured to the drum without the necessity of providing any margin for securing the same in position, either by means of marginal bands or line-lock clips.

A further object is to construct an electrotype plate for use on multigraph machines and after the same has been completed to curve the same and then secure to the back face thereof one or more lugs by means of which the same can be secured to the drum of a multigraph machine without the use of any extraneous fastening devices.

A still further object is to construct a lug for securing electrotype plates to the drum of a multigraph machine, which are so shaped and which have sufficient resiliency to firmly secure the plate to the drum and prevent any horizontal or vertical motion thereby eliminating the necessity of any extraneous fastening means.

Another object is the method of preparing a multigraph plate so that the same can be readily applied and secured to the drum of a multigraph machine in such a manner that all horizontal and vertical motion is eliminated without the necessity of employing separate means to accomplish this purpose.

In the drawings:—

Fig. 1 is a fragmental sectional view of a portion of a multigraph drum with my improved plate attached thereto;

Fig. 2 is a plane view of the rear side of a plate as originally formed;

Fig. 3 is an edge view of the same showing the curve to fit the plate in dotted lines;

Fig. 4 is a rear view of the plate prepared to receive the lugs;

Fig. 5 is an edge view of the same;

Fig. 6 is an enlarged end view of the preferred form of lug;

Fig. 7 is an end view of a modified form of lug; and

Fig. 8 is an enlarged view of another modified form of lug.

In the construction of my device, 9 represents the drum or segment of a multigraph machine. This drum is provided with a plurality of ribs 10, which are provided with heads 11 so as to form a plurality of T-shaped channels 12. These channels preferably extend longitudinally of the drum although they may extend laterally when a complete cylindrical drum is not used. My improvement consists of a plate 13, preferably an electrotype which is composed of material which can be bent to any shape and retain this form. This material is preferably lead, it being essential that the material from which the plate is made is not springy so that, no matter into which shape it has been bent, it will retain that form without any tendency to return to its original shape.

On one face of this plate is formed the matter which is to be printed, the other face being perfectly flat. After the plate has been thus formed, it is curved by passing it through curving rollers when it will assume the shape in cross section as shown in Fig. 5. This curvature is such that the face 14 of the plate will snugly fit the outer periphery of the drum or segment 9 while the face 15 has the printed matter thereon. By first casting the plate 13 flat and then curving it to fit the drum, there will be no distortion of the printed matter when the same appears on a printed sheet nor will there be any possibility of the type or the raised portions of the plate pressing harder on one portion of the sheet than on the other. In other words, I get what is virtually a perfect impression without any distortion or undue pressure on certain parts. After the plate has been formed, as illustrated in Figs. 4 and 5, I cut a series of square recesses 16 in the face 14. These recesses are only of such depth that the base 17 of the lugs will fit therein and when secured in position, as will hereinafter be described, will form a continuity of the surface 14 so that this surface will be the true arc of a circle without any depressions or projections. The lug is formed preferably of a single piece of sheet metal and is provided with a hollow head 18, a web 19, and the base 17.

In Fig. 7 I have shown a modified form of my device in which a U-shaped head 20 is employed. The web 21 being of the same construction as the web 19, and the base 22 the same as the base 17. In Fig. 8 I have employed a hollow head 23, a base 24 but in this instance the web is composed of members 25 and 26 which are separated from each other.

The method of constructing a plate according to my improvements is as follows: The electrotype or plate is first made or cast

flat as illustrated in Figs. 2 and 3 after which it is passed through forming rollers. The face 14, which is smooth, is designed to be the inner periphery of the arc in which the plate is bent while the face 15 carries the type or irregular surface which is designed to do the printing. After the plate has been thus bent, the square cut recesses 16 are cut in the surface 14 by means of a saw or milling cutter, the depth of these recesses, however, being exactly the same as the thickness of the metal out of which the lugs are made. The lugs are then cut the same length as the plate and set in position in the recesses 16 after which they are secured thereto by any well known means, such as a soldering iron or by means of burning therein as is done in storage batteries.

The plate when thus assembled with the lugs 5 is ready to be placed in position and this is done by inserting the plate into the segment or drum so that the head of the lugs will enter the T slot 12. When in this position the sides 27 of the head will contact with the walls 28 of the T slots 12 while the shoulders 29 will contact with the shoulders 30 of the T slots thus preventing any radial movement or circumferential movement of the lugs, and by reason of the lugs being formed of relatively thin metal a certain amount of friction or rather spring action is set up in the lugs, which will prevent their longitudinal movement, thus firmly holding the plate in position without the use of bands or clips as afore mentioned. I wish it to be understood that I do not rely upon any resilient action of the lug to hold the same in position on the plate, the securing of the lug to the plate being entirely accomplished by welding, soldering or similar means, the only resilient action being in the head when the device is applied to the drum or segment.

It will be observed that according to my method of forming the plates, that is by forming a very shallow square recess, then inserting in said recess the base of said lug and then soldering over, that the plate is in no sense weakened.

Having fully described my invention, what I claim is:—

1. A plate for multigraph machines comprising a curved plate having a printing surface on its outer face, parallel square recesses formed on the inner face of said plate, and a sheet metal lug having a resilient hollow head secured in each of said recesses extending the full length of the plate.

2. In a plate for multigraph machines a curved plate having a printing surface on its outer face and a smooth inner face, a square recess formed in the inner face of said plate, and a lug formed of sheet metal having a hollow resilient head, a base and a web secured to said plate in said recess and extending the full length of said plate, the depth of said recess being the same as the thickness of the sheet metal in said base.

3. A plate for multigraph machines comprising a curved plate having a printing surface on its outer periphery, a sheet metal lug secured to the inner face of said plate, said lug provided with a base which is counter-sunk in the rear face of said plate and secured thereto by means of welding or soldering whereby said plate can be secured to the drum of a multigraph machine and held against creeping or lateral movement.

4. The method of making plates for multigraph machines, which consists in first forming a plate having a printing surface, passing said plate through curving rollers so that it will conform to the drum of a multigraph machine, cutting a recess in the inner face of said plate, setting a lug in said recess, and lastly securing said lug in said recess by means of soldering or welding whereby said lug is attached without disturbing the printing surface of the plate.

In testimony whereof I have affixed my signature.

ERNST PREISLER.