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1,442,338.

H. A. HERR.
METHOD OF RENDERING A PRINTING PLATE FLEXIBLE.
FILED MAR. 18, 1922.

Fig. 1

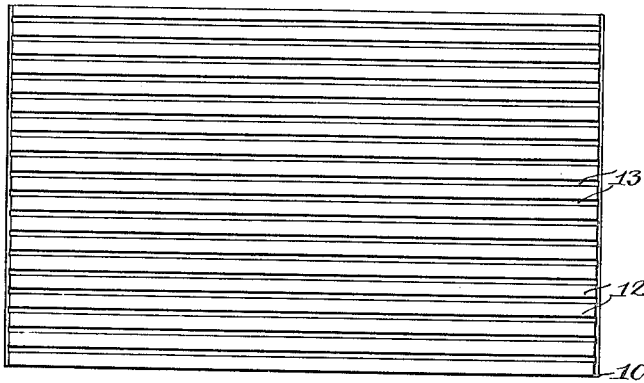


Fig. 2



Fig. 3

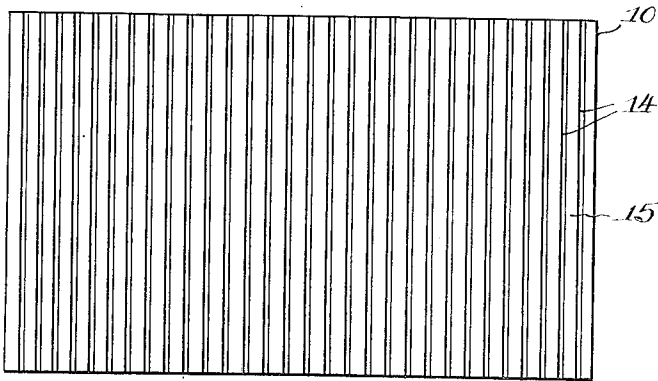
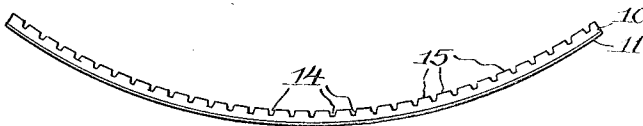


Fig. 4



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UNITED STATES PATENT OFFICE.

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METHOD OF RENDERING A PRINTING PLATE FLEXIBLE.

Application filed March 18, 1922. Serial No. 544,809.

To all whom it may concern:

Be it known that I, HENRY A. HERR, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Method of Rendering a Printing Plate Flexible, of which the following is a specification.

This invention relates to an improved method of rendering a printing plate flexible.

Heretofore in using printing plates and especially electrotype or nickel steel type plates, considerable difficulty and inconvenience has been experienced in fitting the plate upon the bed or cylinder of the machine in that the surface of the bed or cylinder is not always uniform and the printing surface of the plate is sometimes uneven, which necessitates a forcing down of portions of the plate, which is usually accomplished by hammering or pounding upon the face of the plate, with the result that the printing surface is often injured and sometimes mutilated, owing to the rigidity of the plate which prevents the plate from readily yielding under such shaping or setting process.

To overcome these difficulties and objections and to provide an improved printing plate of this character and to render the same flexible so that the material or body of the plate will yield under the hammering down or shaping process, thereby preventing injury to or mutilation of the printing surface, is one of the objects of the present invention.

To the attainment of these ends and the accomplishment of other new and useful results as will be apparent, the invention consists in the features of novelty in substantially the construction, combination and arrangement of the several parts, herein-after more fully described and claimed and shown in the accompanying drawing illustrating the same and in which—

Figure 1 is a plan view of the back of a printing plate before the same has been shaped or bent into the desired form.

Figure 2 is an end elevation of Figure 1, after the plate has been shaped.

Figure 3 is a view similar to Figure 1 of another form of plate.

Figure 4 is an end elevation of Figure 3 after the plate has been shaped.

Referring more particularly to the drawing and in the form of the invention shown in Figures 1 and 2, the numeral 10 designates the bottom of the plate having the usual printing surface 11 formed thereon in the usual and well known manner.

After the plate has been thus formed and while the plate is cold the back of the plate 12 is leveled or smoothed in any desired and well known manner. After the smoothing operation the back of the cold plate is cut with any implement or tool suitable for the purpose to provide a series of parallel grooves 13, which may be of any desired depth and these grooves 13 extend lengthwise of and entirely across the back of the plate.

After the grooving operation and while the plate is still cold it is then bent or shaped in any desired or suitable manner preferably into the form shown in Figure 2.

In the form of the invention shown in Figures 3 and 4, the grooves 14 are formed in a manner similar to the grooves 13, after the back 15 of the plate has been smoothed, but in this form of the invention the parallel grooves 14 extend in a direction transversely of the plate and entirely thereacross. After the plate has been grooved it may be shaped as shown in Figure 4.

With this improved form of plate and the method of rendering the same flexible, after the plate has been applied to the cylinder or the bed of the press and fastened in position, the finishing shaping operation may be readily performed by hammering or forcing down the high or uneven portions of the printing surface of the plate. This is accomplished in the ordinary and usual manner but, with the present invention and owing to the presence of the grooves 13—14, which extend either lengthwise or crosswise of the plate, the body of the plate together with the printing surface will readily yield and the grooves will permit the plate to be shaped so that the printing surface will be disposed in the same printing plate.

Obviously the grooves or channels 13—14 may be arranged in any desired manner and may, if desired, extend in a diagonal direction across the back of the plate.

Obviously the back of a flat plate may be treated in the same manner so as to render the plate flexible.

What is claimed as new is:—

5 1. The herein described method which consists in first smoothing the back of a cold flat printing plate, then cutting a series of grooves or channels in the said back while the plate is flat and extending them
10 entirely across the plate, whereby the plate will be rendered flexible and the plate will yield under a shaping process after the plate has been placed upon a curved supporting surface, and then shaping the plate to conform to the contour of the said supporting surface.

2. The method of fitting a printing plate upon a curved supporting surface which consists in first removing portions of the
20 metal of a cold flat printing plate by providing a plurality of grooves or channels in

the back of the plate to extend entirely across the plate from edge to edge to render the plate flexible, and then hammering down the work surface of the plate upon the
25 curved supporting surface.

3. The method of fitting a printing plate upon a curved supporting surface which consists in first smoothing the back of a cold flat printing plate and then removing
30 portions of the metal of the back of the plate while the plate is flat, to form closely arranged parallel grooves or channels extending entirely across the plate to render the plate flexible, and then hammering down
35 or shaping the work surface of the plate upon the curved supporting surface.

In testimony whereof I have signed my name to this specification on this 15th day of March, A. D. 1922.

HENRY A. HERR.