

May 29, 1923.

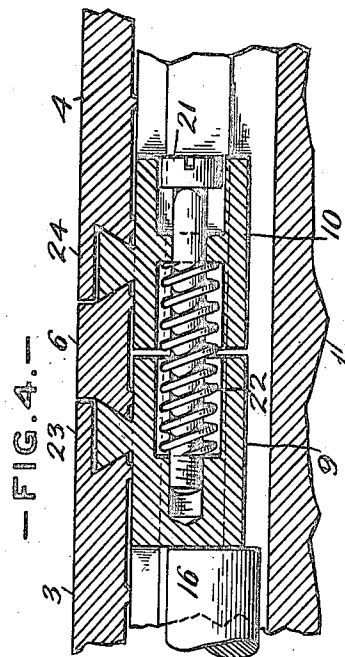
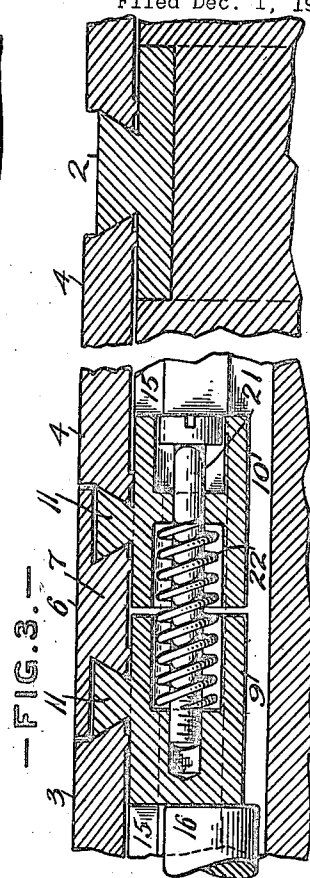
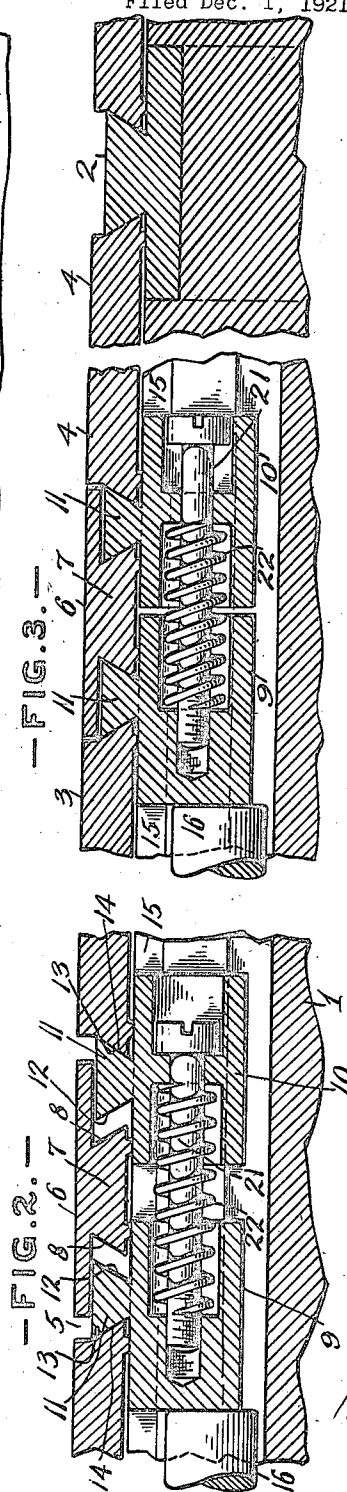
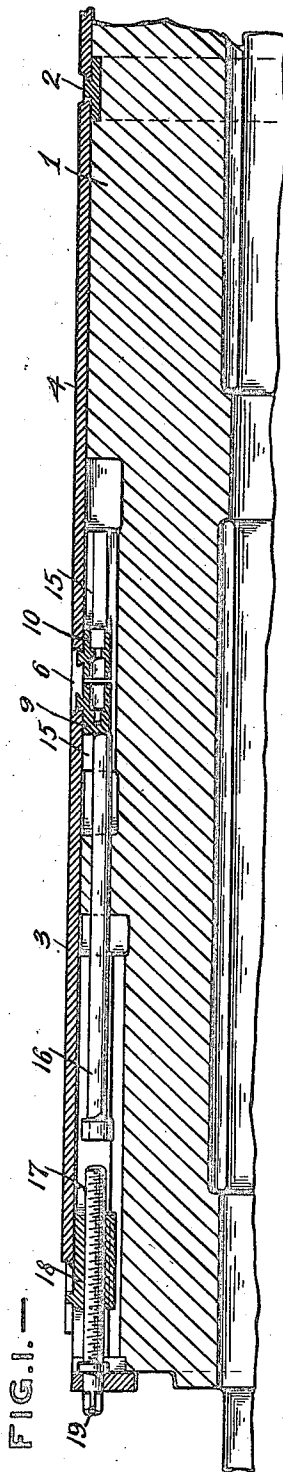
1,456,518

L. A. SCHMIDT

MARGINAL PRINTING PLATE

Filed Dec. 1, 1921

2 Sheets-Sheet 1



INVENTOR

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2 Sheets-Sheet 2

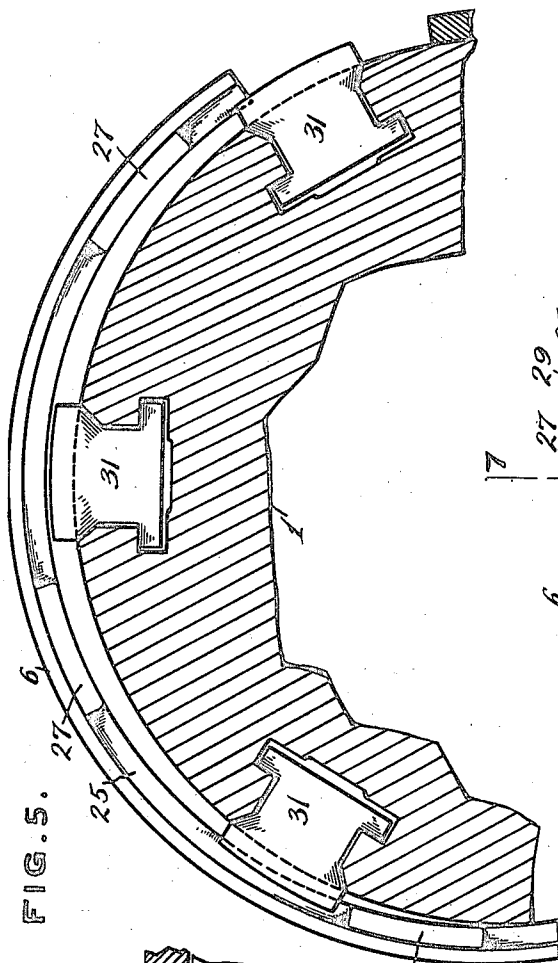


FIG. 5.

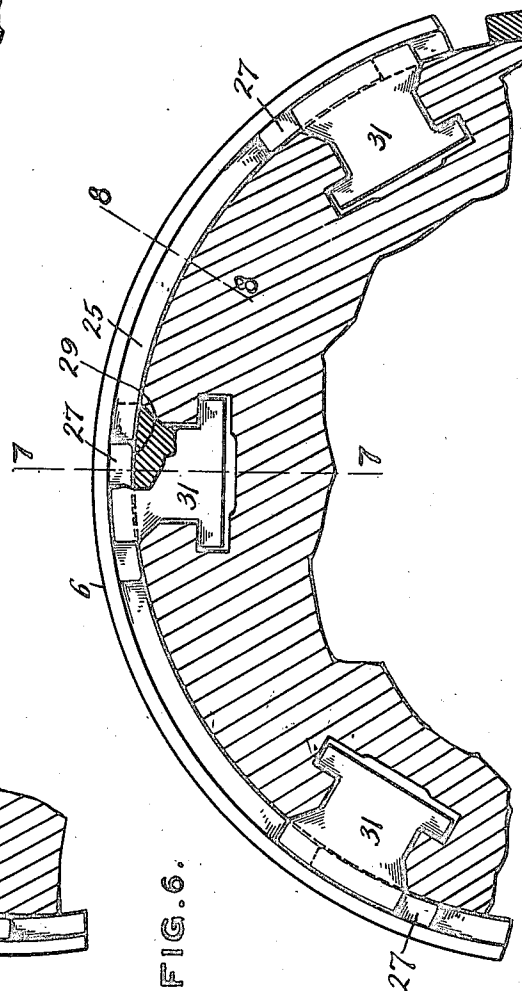


FIG. 6.

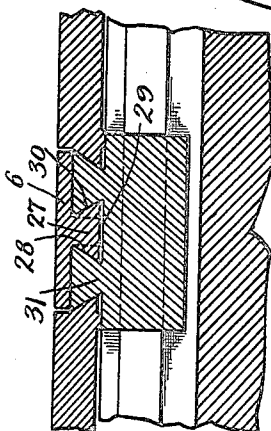


FIG. 7.

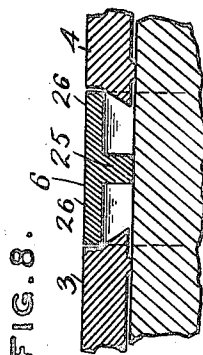


FIG. 8.

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UNITED STATES PATENT OFFICE.

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MARGINAL PRINTING PLATES.

Application filed December 1, 1921. Serial No. 519,042.

To all whom it may concern:

Be it known that I, LOUIS A. SCHMIDT, a citizen of the United States, residing at New York city, county of Kings, and State of New York, have invented certain new and useful Improvements in Marginal Printing Plates, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

This invention relates to certain improvements in devices for marginal printing, that is devices whereby the margin space usually formed between two printing plates may be utilized for printing.

It has been proposed to utilize this space by casting two adjacent plates so that they have portions projecting across this marginal space, the surface of the projecting portions carrying printing matter of any desired character. In thus utilizing this margin space it was necessary to cast one or both of the plates with this additional printing surface, and this required a special construction and arrangement of the casting box and special form of matrix. While this proposed method is efficient particularly where a large number of similar plates are to be cast, it is often desirable that this marginal space may be utilized for printing without special arrangement of the casting box and matrix, so that the two main plates may be cast as usual and the marginal printing surface formed separately from the plates.

It is the especial object of the present invention to produce a construction for marginal printing in which there is provided what may be termed a supplemental plate, this plate being narrower than the main plates and having a printing surface extending across the margin space, or so much thereof as it may be desired to utilize, means being provided for locking this supplemental plate in position between the main printing plates, this construction doing away with the necessity of specially casting one or more of the main printing plates.

A further object of the invention is to produce a simple construction for locking this supplemental plate in position, and a construction in which preferably the supplemental plate is locked up by the same mechanism which is employed for locking up the main plates.

With these and other objects not specifically referred to, the invention consists in certain novel parts and combinations, a detailed description of which will be given in connection with the accompanying drawings, and the novel features then pointed out in the claims hereunto annexed.

In these drawings:—

Figure 1 is a broken longitudinal section of a plate support showing a pair of main plates with the margin space therebetween occupied by a supplemental plate.

Figure 2 is a sectional view on an enlarged scale, showing the edges of the two main plates and the supplemental plate, the parts being shown in unlocked position.

Figure 3 is a similar view showing the parts locked.

Figure 4 is a view of a modified form of construction in which only a portion of the margin space is to be utilized.

Figure 5 is a sectional end view of a modified construction for effecting the locking up of the supplemental plate.

Figure 6 is a similar view with the parts in locked position.

Figure 7 is a detail sectional view taken on line 7—7 of Fig. 6; and

Figure 8 is a detail sectional view taken on line 8—8 of Fig. 6.

Referring now to these drawings, 1 indicates a plate support which may be in the form of a cylinder. In the particular construction illustrated this cylinder is capacitated to carry three or more plates wide, and is provided with the usual plate stop or bar 2, against which the inner edges of the two main plates abut and against which they are locked. It will be understood, however, that other forms of support other than a cylinder may be employed if desired, the cylinder having been shown for convenience.

In the construction illustrated, two or more plates are shown in Fig. 1, full width, these plates being marked 3 and 4, it being understood that if desired, the mechanism hereinafter referred to will be duplicated on the other side of the cylinder. These two main printing plates 3, 4 are of the usual size and are arranged on the cylinder end to end with a margin space, indicated in Fig. 2 by the numeral 5, left between the plates.

Referring first to the construction illus-

trated in Figs. 1 to 3, there is provided a supplemental plate 6, which is narrower than the main plates, and is provided with a printing surface which extends substantially across the margin space when the plates are in locked position, and the supplemental plate is of a width corresponding to the width of the main plates, the printing surface of this plate being unbroken.

This supplemental plate 6 may be locked in position in various ways, but in the preferred form of the construction, as shown in Figs. 1 to 3, is locked in position when the main plates are locked. While various specific constructions may be provided for effecting this, in the particular construction illustrated, the supplemental plate is cast with a central ridge or projection 7 having bevelled sides 8. These bevelled sides co-operate with a plate clamp in the form of a pair of blocks 9, 10. Each of these blocks is provided with a projection 11, having undercut sides 12 and 13. The sides 13 co-operate with the bevelled edges 14 of the main plates and the sides 12 co-operate with the bevelled edges 8 of the projection 7 on the supplemental plate so that when the blocks are moved to locking position the main plates and the supplemental plate are firmly locked simultaneously in position.

The means for operating the blocks for thus locking the plates may be varied as desired. In the particular construction shown the blocks slide in grooves 15 cut in the cylinder and are moved to locking position by means of bars 16 and 17, the latter being threaded through an outer clamp 18 by which the outside edges of the main plates are locked up, this bar 17 having a squared end 19 by which it may be turned.

Means are also provided so that when the plates are to be unlocked the supplemental plate will be freed from the locking blocks. In the particular construction illustrated for effecting this, these blocks are shown as hollow and connected by a bolt 21 having a shank about which is a coiled spring 22. As the blocks are moved to locking position this spring is put under tension, and when the bar 17 is manipulated to unlock the plates this spring forces the blocks apart and permits the supplemental plate to be freed from the locking projections of the blocks and readily taken off the cylinder.

Under some circumstances it may be desired to increase the printing surface of the main plates and to decrease the width of the supplemental plate so that a narrower margin may be provided in which the matter carried by the supplemental plate is printed. When this is desired a construction such as illustrated in Fig. 4 may be provided. As there shown the two main plates are provided with extensions 23 and 24, which extend across a portion of the

usual margin space and the supplemental plate 6 is provided with a correspondingly narrowed or restricted printing surface. In this latter construction, however, the parts are formed and the plates locked up as heretofore described, and this description need not again be repeated.

In Figs. 5 to 8 a somewhat modified construction for securing the supplemental plate in the margin space is illustrated. In this construction the supplemental plate is cast with a flange or projection 25, this flange extending circumferentially of the plate, a clear space 26 being left on each side of this flange for a portion of the width of the plate. At suitable intervals this flange is widened, as indicated at 27, and these widened portions are formed with bevelled sides, indicated at 28. These bevelled sides are arranged to take into a groove 29 having correspondingly bevelled sides formed in blocks 31, a suitable number of these blocks being provided around the cylinder. When this construction is employed the plate is locked in position circumferentially of the cylinder by placing it in the position shown in Fig. 5 in which the narrow part of the projection 25 will lie in the groove of the block and then rotating the plate to the position in Fig. 6, this rotation bringing the thickened portions of the projection 28 in under the sides of the groove in the block. With this construction, therefore, the plate may be readily placed in and removed from its printing position on the cylinder.

The blocks 31 are movable lengthwise of the cylinder to lock up the two main plates, this movement of the blocks being effected in any suitable manner, as for instance, by the rod construction illustrated in Fig. 1.

With the construction illustrated and described a very simple construction has been provided for utilizing the marginal space between two printing plates for printing and one in which the main plates may be formed as usual, if desired, and the supplemental plate is readily placed on and removed from the cylinder and locked in printing position.

While a preferred form of the invention is that illustrated and described, it will be understood that certain changes and variations may be made in the specific structure and arrangement, and that the invention is not to be limited to this.

What I claim is:

1. In a marginal printing mechanism, the combination with a plate support, of a main printing plate mounted thereon so as to leave a margin space at one end of the plate, and a supplement printing plate secured on the support and having an unbroken printing surface for printing in the margin space at the end of the main plate.

2. In a marginal printing mechanism, the combination with a plate support, of a pair of main printing plates mounted on the support so as to leave a margin space between
5 the plates, and a supplemental printing plate secured on the support and in the margin space between the plates and having an unbroken printing surface.

3. In a marginal printing mechanism, the combination with a plate support, of a pair
10 of main printing plates on the support arranged end to end with a margin space between, means for locking the plates on the support, a narrower supplemental printing
15 plate in the margin space between the plates, and means for locking the supplemental plate in position on the support.

4. In a marginal printing mechanism, the combination with a plate support, of a pair
20 of main printing plates on the support arranged with a margin space between, a narrower supplemental printing plate in the margin space provided with a downwardly extending projection having bevelled sides,
25 and a clamping device provided with projections having bevelled sides co-operating with the sides of the plate for locking the plate in position on the support.

5. In a marginal printing mechanism, the combination with a plate support, of a pair
30 of printing plates on the support arranged end to end with a margin space between, a narrower supplemental printing plate in the margin space, sliding blocks having holding
35 projections under which take projections on the supplemental plate, means for effecting a sidewise locking movement of the blocks, and means for separating the blocks to free the narrow plate when the sidewise locking
40 means are released.

6. In a marginal printing mechanism, the combination with a plate support, of a pair of printing plates on the support arranged end to end with a margin space between, a
45 narrower supplemental printing plate in the margin space, sliding blocks having holding projections under which take projections on the supplemental plate, means for effecting a sidewise locking movement of the blocks, and a spring for separating the blocks. 50

7. The combination with a plate support, of three plates arranged in line across the support, a pair of clamping blocks for the middle plate, means for effecting a sidewise
55 locking movement of the blocks, and means for separating the blocks to free the center plates when the sidewise locking means are released.

8. In a marginal printing mechanism, the combination with a plate support, of a pair
60 of printing plates on the support arranged end to end with a margin space between, a narrower supplemental printing plate in the margin space and provided with a projecting portion having bevelled sides, a clamping device having projections engaging the main
65 plates and the bevelled sides of the projection of the narrow plate, and means for effecting a sidewise movement of the clamping device to lock the plates in position. 70

9. In a marginal printing mechanism, the combination with a plate support, of a pair of printing plates on the support arranged end to end with a margin space between, a
75 narrow supplemental plate filling the margin space between the plates, and means for simultaneously locking up the plates.

In testimony whereof, I have hereunto set my hand.

LOUIS A. SCHMIDT.