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ART OF BUILDING UP FORMS IN PRINTING PRESSES.  
APPLICATION FILED OCT. 24, 1910.

984,859.

Patented Feb. 21, 1911.

Fig. 1.

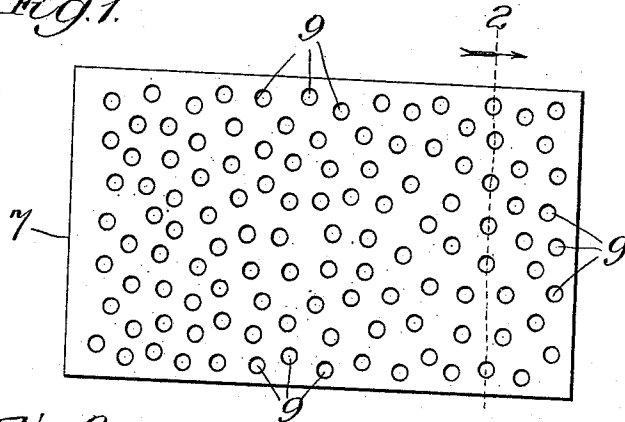


Fig. 2.

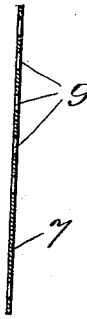


Fig. 3.

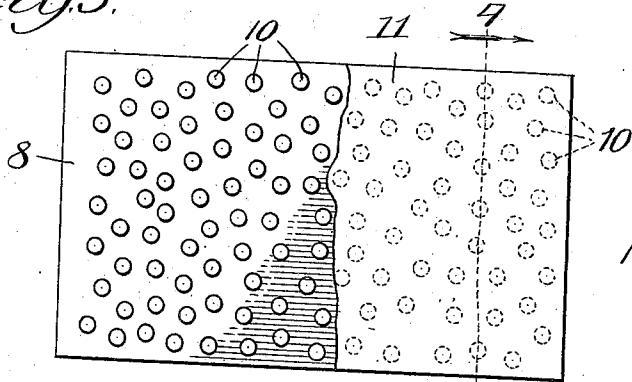


Fig. 4.

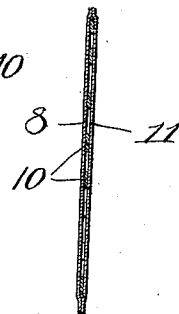
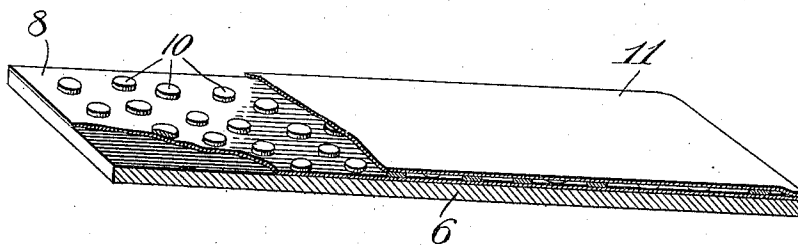


Fig. 5.



Witnesses:  
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Inventor:  
Frank J. Slader,  
By Dyrenforth, Lee, Crittendon & Wiles  
Per W. A. Dyrenforth. Attys

# UNITED STATES PATENT OFFICE

FRANK J. SLADER, OF CHICAGO, ILLINOIS.

ART OF BUILDING UP FORMS IN PRINTING-PRESSES.

984,859.

Specification of Letters Patent. Patented Feb. 21, 1911.

Application filed October 24, 1910. Serial No. 588,669.

*To all whom it may concern:*

Be it known that I, FRANK J. SLADER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in the Art of Building Up Forms in Printing-Presses, of which the following is a specification.

My invention relates to an improved method of building up the forms in the art of printing to "level up" the plates.

The method usually practiced in building up a form in the art referred to, consists in taking an impression from the first setting of the plate to ascertain, by examining the impression, the parts of the cut which are below the required level, and padding the reverse side of the plate at those parts with paper or other suitable material. The operation is repeated, by way of test, until the proper leveling-up of the impression surface of the plate is attained. This practice is arduous and slow and renders the work very expensive.

The object of my invention is to provide a novel method for the purpose stated which shall greatly facilitate the work and enable it to be performed expeditiously, in fact within a small fraction of the time ordinarily required to do it according to the old method referred to.

My invention consists, in the broadest sense, in providing on the reverse surface of the plate pieces, spaced apart and of substantially uniform thickness, of material susceptible to ready crushing under pressure, such as hard soap, whereby when the plate is adjusted in the form on a printing-press and subjected to the action of the impression-cylinder the pressure will crush the padding pieces of soap or the like which underlie the unduly high portions of the cut or type on the plate, spreading the pieces so crushed into the intervening spaces, and leaving the pieces which coincide with the relatively lower portions of the cut or type intact or more or less crushed and spread out according to the extent of leveling they are required to exert.

In the accompanying drawing, Figure 1 is a plan view of a profusely-perforated sheet-metal or celluloid plate, which I use for the application to the surface of a sheet of paper to be pasted on the back of a printing plate, of disks of soap by scraping a bar

of soap over the perforated surface with the perforated plate imposed on such sheet; Fig. 2 is a section on line 2, Fig. 1; Fig. 3 shows the sheet of paper with the disks of soap in their spaced relation upon it and a paper covering-sheet, with a portion broken away to display the disks; Fig. 4 is a section on line 4, Fig. 3, and Fig. 5 is a broken perspective sectional view of the printing-plate equipped in accordance with my improvement, ready to be placed in position in a printing-press.

The plate 6 is an ordinary printing-plate provided with a cut on its face which is not displayed in the drawing. To prepare the plate for leveling-up on the reciprocating bed of a cylinder printing-press, the perforated plate 7 is applied to a sheet of paper 8 and a bar of soap is scraped over the outer surface of the plate to deposit the soap through the perforations 9 in spaced disks 10 on the sheet, to the surface of which they adhere. The plate 7 being removed, the sheet 8 is then covered with a second sheet of paper 11 which is pasted along its edge- portions to those of the sheet 8, as most clearly represented in Fig. 4, to tend to prevent the disks from being dislodged in the handling of the sheets. These sheets, with the spaced disks confined between them, are then applied to the back of the plate 6 to which the sheet 8 is pasted. Upon placing the plate with the described back-covering in position in a printing-press and operating the latter, the pressure of the impression-roller will level-up the plate by variously crushing the disks into the spaces surrounding them according to the requirement for leveling the impression-surface. It is desirable that the thickness or height of the disks be initially uniform and slightly in excess of the height to which the most depressed points in the cut require to be leveled, so that all of the disks are more or less crushed by the pressure of the cylinder.

It is not necessary that the entire back of the sheet 8 be covered in the manner described with the disks 10, since they may be applied in groups only to certain parts, as by first applying them over the entire surface of the sheet 8 and picking them off where they are not required; or they may be applied in groups, where required, to the sheet in the first instance. In the last-described use of my invention, the impres-

sion is first taken from the plate 6 without any attempt to level it, and the sheet upon which the impression is taken is examined to ascertain the points of imperfection in the impression. The disks 10 are then applied, in the manner described, in groups to those points, and are covered over with a sheet 11 when the sheet bearing the impression is pasted on the back of the plate to register the cut on the sheet with that on the plate.

Though paper is the preferred material for the sheets 8 and 11, my invention is intended to include any other material suitable for the same purposes, such as cloth, and where paper is specified in the appended claims I intend such other material as the equivalent thereof. Furthermore, while soap is the preferred substance for the purpose described, any other suitable material that is non-elastic and will crush like hard soap under pressure such as wax, may be employed.

What I claim as new and desire to secure by Letters Patent is—

1. The method of building up the forms of a printing-press, which consists in padding the back of a printing-plate with pieces, spaced apart, of non-elastic material readily susceptible to crushing under pressure, to effect permanent leveling of the impression-surface of the plate by crushing said material under the pressure of the impression-roller in the press.

2. The method of building up the form of a printing-press, which consists in padding the back of a printing-plate with disks, spaced apart, of non-elastic material readily susceptible to crushing under pressure, to effect permanent leveling of the impression-surface of the plate by crushing said material under the pressure of the impression-roller in the press.

3. The method of building up the form of a printing-press, which consists in padding the back of a printing-plate with pieces, spaced apart, of hard soap, to effect permanent leveling of the impression surface of

the plate by crushing said pieces under the pressure of the impression-roller in the press.

4. The method of building up the form of a printing-press, which consists in providing on the back of a printing-plate a covered sheet with pieces, spaced apart between the sheet and its covering, of non-elastic material readily susceptible to crushing under pressure, to effect permanent leveling of the impression-surface of the plate by crushing and spreading said pieces under the pressure of the impression-roller in the press.

5. The method of building up the form of a printing-press, which consists in pasting on the back of a printing-plate a paper-covered sheet of paper with disks, confined in spaced relation between the sheets, of non-elastic material readily susceptible to crushing under pressure, to effect permanent leveling of the impression-surface of the plate by crushing and spreading the disks under the pressure of the impression-roller in the press.

6. The method of building up the form of a printing-press, which consists in applying in spaced relation to one surface of a sheet of paper pieces of non-elastic material readily susceptible to crushing under pressure, pasting a second sheet of paper on the first-named sheet to cover said pieces, and pasting said first-named sheet to the back of a printing plate, to effect permanent leveling of the impression-surface of the plate by crushing and spreading between the sheets said disks under the pressure of the impression-roller in the press.

7. A printing-plate for the form in a printing-press, provided on its back-surface with sheets of paper secured together along their edges and confining, spaced apart between its sheets, pieces of non-elastic material readily susceptible to crushing under pressure, for the purpose, set forth.

FRANK J. SLADER.

In presence of—

R. A. SCHAEFER,  
R. A. RAYMOND.