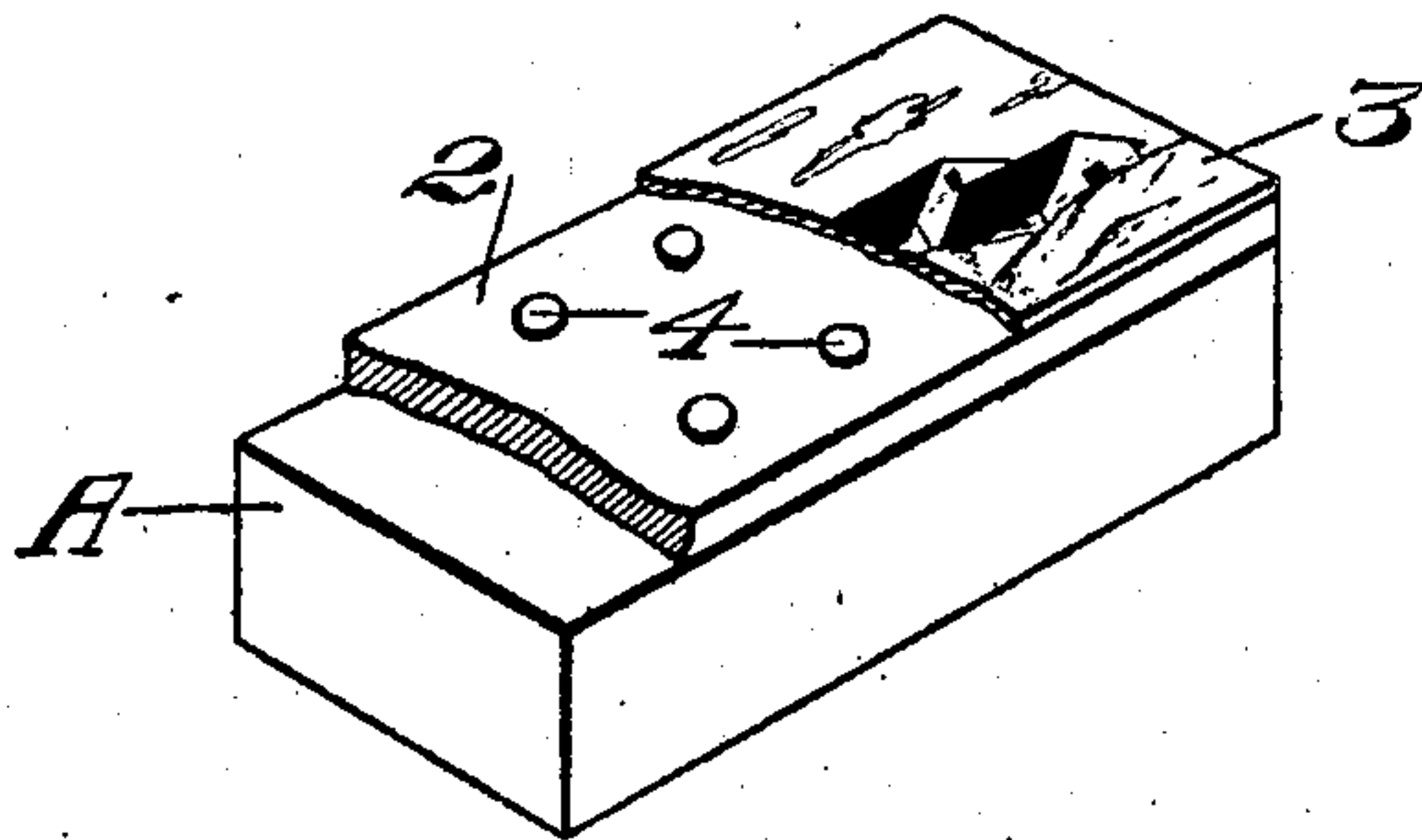


No. 832,530.

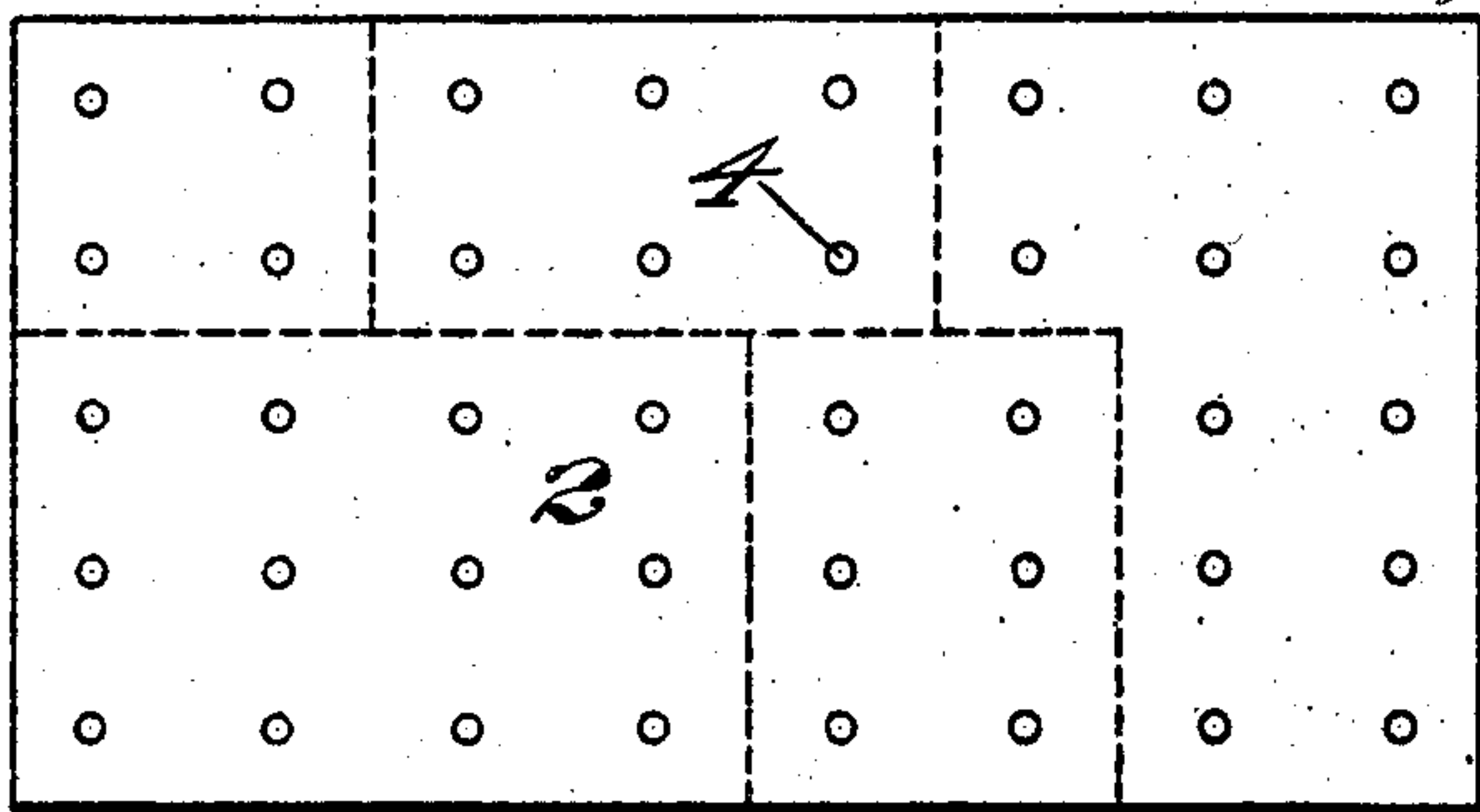
PATENTED OCT. 2, 1906.

W. BROWN & A. WEBER.  
BACKING LUMBER FOR HALF TONES.  
APPLICATION FILED OCT. 12, 1905.

*Fig. 1.*



*Fig. 2.*



*Witnesses.*  
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# UNITED STATES PATENT OFFICE.

WILLIAM BROWN AND ALBERT WEBER, OF SAN FRANCISCO, CALIFORNIA.

## BACKING-LUMBER FOR HALF-TONES.

No. 832,530.

Specification of Letters Patent.

Patented Oct. 2, 1906.

Application filed October 12, 1905. Serial No. 282,425.

*To all whom it may concern:*

Be it known that we, WILLIAM BROWN and ALBERT WEBER, citizens of the United States, residing in the city and county of San Francisco and State of California, have invented new and useful Improvements in Backing-Lumber for Half-Tones, of which the following is a specification.

Our invention relates to backing for half-tones and the like.

In the printing art it is now usual to mount the half-tone plate or zinco directly onto a block of hard wood, securing the half-tone plate to the block by tacks driven around the border of the plate. The latter is of zinc or copper and usually quite thin—not over a sixteenth of an inch in thickness—and the tacks are driven through a thin flange or border extending entirely around the engraved surface. This flange is very thin, so that the heads of the tacks will not make an imprint when the block is run through the press. The wood used is as hard as can be got and is very expensive, costing from eighteen to twenty-four cents a foot. The border left for the tacking results in a loss of an eighth to a quarter of an inch all around the print, which loss in advertising-space where half-tones are used so much amounts to considerable where advertising-space is very expensive. This style of mounting half-tones and zincos is used because it is as cheap as any heretofore known, and because half-tones and zincos come in all sizes, and no one size of cast block could be used for any considerable number of half-tones. The wood comes in boards of any length and width and is sawed up by the engraver as he wants it. The great difficulty, however, with wood blocks and mountings of the above order is the tendency of the wood to warp, for the plate to hollow or buckle, especially on long runs where tens of thousands of prints are to be made from one cut, also that the plate frequently pulls off the block and gets damaged and damages the other printing matter, or breaks the press, or the tacks work loose and frequently the pressman has to stop the press and drive the tacks in.

Half-tone work is entirely different from electro and stereo type work. The latter is cast from an original and offers no considerable or extended flat surface, the type and lines being spaced more or less so that a stereo or electro offers very little opportu-

nity for suction. Furthermore, electros and stereos are usually full column width, and fixed holders or cast backing-blocks may be used advantageously for them, since different electrotypes or stereotypes, but of uniform size, may be used successively on the same press or in the same magazine or paper; but with half-tones and zincos the conditions are entirely different. First, the half-tone presents a broad flat surface the full area of the picture and exerts a considerable suction as the rollers pass over it, which tends to rip the plate from the block where it is simply secured at the edges to the block. Second, hardly two half-tones are of the same size and more seldom still are they of the same width as the column or space in which they are to appear when in print. Half-tone plates and zincos vary in size corresponding with the variations in size of the pictures we see in a newspaper, book, or magazine. Hence it is that a ready-to-hand mount or backing for all sorts and sizes of half-tone plates is desired and necessary. A cast block of any sort is wholly impractical and out of the question.

The object of our invention is to provide a cheap backing material for half-tones, zincos, and the like, which can be carried in stock and cut up into any desired size of block without special machinery, and which will overcome all the numerous and serious shortcomings of the ordinary wood block.

The invention consists of the parts and the construction and combination of parts, as hereinafter more fully described and claimed, and having reference to the accompanying drawings, in which—

Figure 1 is a perspective view of a printing-block showing parts broken away. Fig. 2 represents a plan view of a large block with a permanent metal plate secured thereto, with dotted lines indicating a method of subdividing the blocks into a plurality of smaller blocks.

A represents a wood block or board of any width and length whatsoever, planed to the proper thickness. We have successfully used and prefer to use a cheap wood costing not over four cents a foot as against eighteen to twenty-four cents a foot for the picked hard wood usually employed as backing. Secured to the top of the block or board A is a soft light composition-metal plate 2 about one-eighth of an inch, more or less, in thickness, which has sufficient inherent rigidity to pre-



vent the block warping or the printing-plate 3, which is secured to the plate 2, from hollowing or buckling. Of course when the printing-plate is secured to the reinforced  
 5 plate 2 the surface of the printing-plate will just be type-high. The plate 2 is secured to the board either by screws or nails 4, and the latter are so alined and spaced apart as to permit the plate and board to be sawed  
 10 through to cut out blocks of any desired size from the same piece, as indicated by dotted lines, Fig. 2.

The printing-plate 3 may be in every way just like the ordinary thin metal half-tone  
 15 plate or zinco, except that it need have no tacking border. While one may tack the plate 3 onto the composite wood and metal block, it is preferred to sweat or solder the back of the printing-plate direct onto plate  
 20 2 and then run the block through a trimmer to trim the edges of the wood and of the two metal plates flush with the actual border of the engraving. A plate thus mounted allows the printed matter to be brought close  
 25 up all around the cut or picture, and thus effect a very considerable saving of advertising-space. The only way now by ordinary methods to have a cut fill the full width of a column or to have the printing matter come  
 30 close up to the picture is by mounting the plate "solid," as it is called; but this makes the cut very heavy, besides being an expensive process and usually one not followed on cheap work or work appearing for one issue  
 35 only.

Material or "lumber," consisting of the board A and its protective plate 2, secured thereto by the spaced nails or screws 4, may be turned out in bulk and sold direct to the  
 40 engraver to be cut up by him into any size or sizes to suit. Thus he may saw out a block from the same piece suitable for either a two and one-fourth by three and one-fourth a five by seven, a six and one-half by eight and  
 45 one-half, or any other size or shape of printing-plate. A block cut out of this backing material or lumber prevents the half-tone from buckling or hollowing in the center on long runs. It prevents the wood from warping or  
 50 shrinking. By sweating on the half-tone plate the latter is prevented from pulling off in the press and damaging the plate or type. It requires neither overlays nor underlays on account of the firm even support afforded the  
 55 plate, thereby giving all the details and gradations with a flat impression.

Not only may a block of any size be cut

from a single piece of our lumber, but the shape of the block need not necessarily be rectangular. The engraver is enabled to cut  
 60 a block of irregular shape in case he needs one for vignette or mortises or the like. Moreover, several half-tones may be blocked at once to a single piece of our lumber, the half-tones being fitted to one another, so as to occupy the backing to best advantage, and then  
 65 the backing may be sawed up into the several printing-blocks along the division-lines between the several half-tone plates and the blocks then trimmed. 70

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

1. As a new article of manufacture, a backing material consisting of a relatively thick  
 75 layer of wood and a relatively thin layer of metal permanently united thereto by screws or nails driven through the metal into the wood at regular intervals so as to permit the united wood and metal being cut into smaller  
 80 sections having the same characteristics as the composite piece from which the sections are cut.

2. A new article of manufacture comprising in combination a block of wood, a flat  
 85 soft-metal plate normally secured to the wood, a half-tone or like printing-plate sweated to said metal plate, said plate covering the top surface only of the block of wood, and said block, metal plate and printing-  
 90 plate trimmed flush with the printing edges of the printing-plate.

3. A new article of manufacture comprising in combination a block of wood, a flat  
 95 metal plate permanently secured over the top surface only thereof, and a printing-plate sweated or soldered onto the metal plate, said metal plate possessing sufficient inherent rigidity to prevent warping of the wood or hollowing or buckling of the printing-plate,  
 100 and said securing means of the printing-plate to the metal plate permitting the block and the two plates to be trimmed close up to the border of the printing matter on the printing-plate. 105

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

WILLIAM BROWN.  
 ALBERT WEBER.

Witnesses:

HENRY J. WESSEL,  
 ROBT. SNAER.