

No. 758,599.

PATENTED APR. 26, 1904.

R. J. SACHERS.
PRINTING PLATE.
APPLICATION FILED SEPT. 22, 1899.

NO MODEL.

Fig. 1.

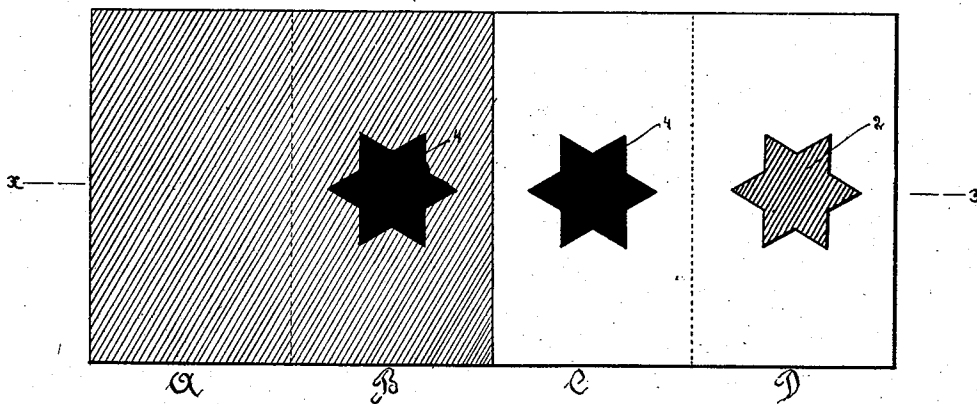


Fig. 2.

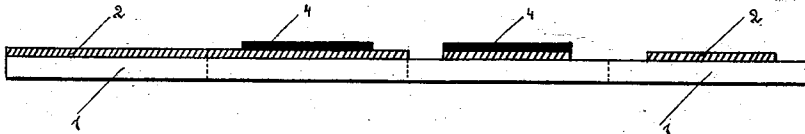


Fig. 3.

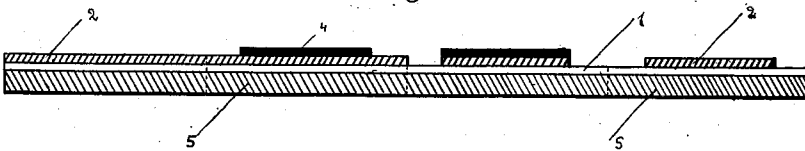
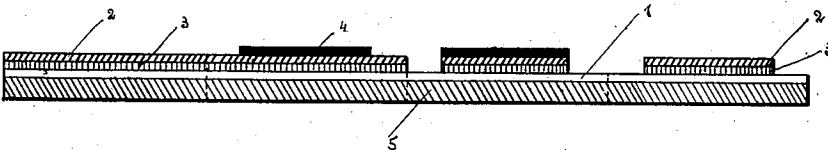


Fig. 4.



Witnesses
Jean A. Wetmore
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Inventor

UNITED STATES PATENT OFFICE.

RALPH JULIAN SACHERS, OF NEW YORK, N. Y., ASSIGNOR, BY MESNE ASSIGNMENTS, TO ALUMINUM COMPOUND PLATE COMPANY, OF NEW YORK, N. Y., A CORPORATION OF WEST VIRGINIA.

PRINTING-PLATE.

SPECIFICATION forming part of Letters Patent No. 758,599, dated April 26, 1904.

Original application filed February 23, 1897, Serial No. 624,624. Divided and this application filed September 22, 1899. Serial No. 731,322. (No model.)

To all whom it may concern:

Be it known that I, RALPH JULIAN SACHERS, a citizen of the United States, residing in the borough of Manhattan, in the city of New York, in the county of New York and State of New York, have invented a new and useful Improvement in Printing-Plates, of which the following is a specification.

In the United States Patent No. 518,826, dated April 24, 1894, I claim a compound printing-plate consisting of a base-plate of a soft metal and a surface layer of a harder metal on the parts in relief.

In my application for Letters Patent, Serial No. 624,624, filed February 23, 1897, I disclose and claim a modification of the generic principle contained in the above-mentioned patent, and my present application is a division of the original application of February 23, 1897, and describes and claims the result of the process shown in said original specification.

Figure 1 of the drawings which accompany this application and form a part thereof illustrates a top-view of my improved printing-plate, showing the successive stages of a printable design. The thickness of the various layers of metal on my printing-plate is exaggerated in order to show the same more clearly. Fig. 2 is a vertical longitudinal section of the plate along the line *xx* of Fig. 1. Figs. 3 and 4 are similar sections of modifications of my improved plate.

An aluminium plate 1 of Fig. 2 is coated with a surface layer 2 of another metal or alloy—for instance, copper, &c. Instead of that a base-plate 5, of, for instance, zinc, type-metal, &c., may be taken and first coated with a layer of aluminium, and on the face of this there may be placed, as mentioned before, another layer 2, of other metal or alloy. The best way I know of for doing this is by electro-deposition, although this is not the only way, and I propose to include any other within the scope of my claims. On the face of this metal layer 2 a design 4 is imposed on in fatty ink

or any other substance by means of any of the well-known methods, as litho-transfer, photolitho, &c. Then all portions of the surface layer 2 which are not covered by the design 4 are removed until the aluminium 1 is exposed. This may be accomplished to advantage by electro-etching, although this, again, is not the only way for doing it. These exposed portions of the aluminium surface 1 are now treated by means of the well-known solutions of gum-arabic, stale beer, gallic acid, &c., or other non-corrosive, so as to repel printing-ink.

The term "non-corrosive" is intended to include all such chemicals which do not combine with the aluminium of the plate so as to form an insoluble salt adhering to the surface of the plate and which do not attack or disintegrate said aluminium plate. The action of these non-corrosives is twofold. They act upon the fatty substances of the design by changing the same in fatty acids, which combine ultimately with the design part of the plate. On the other hand, they precipitate albuminoid compounds, carbohydrates of the gum group, &c., which adhere to the non-printing parts of the plate and have the property of keeping the same evenly moist and of repelling fatty substances.

It may be advisable in some cases to employ several layers 2 3 on the face of the aluminium surface 1, as shown in Fig. 4, to etch through all the layers on the portions not covered by the design 4 and then to treat the exposed aluminium so as to repel printing-ink. The plate is now ready for the printing-press and is capable of rendering a considerably larger number of impressions of a superior quality than any of the now existing printing-plates.

I am aware that there are plates in use having a printing-surface of aluminium or of aluminium alloyed with denser metal, and I do not broadly claim any of the same, as the printing parts of my plate consist of any suit-

able metal with the total exclusion of aluminium, and only the non-printing surface consists of aluminium; but

What I consider my invention, and desire to
5 secure by Letters Patent, is—

1. A plate for planographic printing purposes, the non-printing parts of the face of which consist of aluminium, and the printing parts of which consist of said aluminium covered with one or more layers of other metal
10 or alloy.

2. A plate for printing purposes, the face of which is substantially plane, the non-printing parts consisting of aluminium treated with
15 a non-corrosive so as to repel printing-ink, and the printing parts consisting of said aluminium covered with one or more layers of other metal or alloy.

3. A plate for printing purposes, the ink-
20 retaining parts of which consist of any suit-

able metal or alloy and the ink-repelling parts consist of aluminium.

4. A plate for printing purposes, the printing parts of which consist of any suitable metal or alloy and the non-printing parts consist of
25 metallic aluminium treated with a non-corrosive to repel printing-ink.

5. A plate for printing purposes consisting of a metallic base having the ink-retaining parts of its face formed of one or more layers
30 of any suitable metal or alloy and the ink-repelling parts of a layer of aluminium.

In witness whereof I have hereunto set my hand, in the presence of two subscribing witnesses, this 20th day of September, 1899.

RALPH JULIAN SACHERS.

Witnesses:

MABEL OLCOTT FAHNESTOCK,
SAMUEL H. HARRINGTON.