

# UNITED STATES PATENT OFFICE.

WILLIAM WELLSTOOD, OF JERSEY CITY, NEW JERSEY, AND FREDERIC BOOTH NICHOLS, OF NEW YORK, N. Y.; SAID NICHOLS ASSIGNOR TO SAID WELLSTOOD.

## FAC-SIMILE OF ENGRAVED STEEL PLATES.

SPECIFICATION forming part of Letters Patent No. 474,888, dated May 17, 1892.

Application filed July 15, 1891. Serial No. 399,563. (Specimens.)

*To all whom it may concern:*

Be it known that we, WILLIAM WELLSTOOD, residing at Jersey City, in the county of Hudson and State of New Jersey, and FREDERIC BOOTH NICHOLS, residing at New York, in the county and State of New York, citizens of the United States, have invented certain new and useful Improvements in Fac-Similes of Engraved Steel Plates as they appear when inked, wiped, and polished ready for printing; and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

Heretofore fac-similes of engraved plates have been made first by means of the transfer-press, as in bank-note engraving, and more recently by means of the electrotype process, the object of both of these methods being to produce plates that can be printed from the same as from the original plate.

The object of our invention is not to produce plates that can be printed from, but to produce, as pictures, exact copies of engraved plates on thin sheets of white and highly-polished metal by means of thin shells produced by the electrotype process. These electrotype shells must have a polished face of nickel, which may be deposited on the copper shell after removal from the matrix, or preferably by first depositing the nickel on the matrix and afterward depositing copper to obtain the required thickness. The plates, after backing up with some light non-metallic substance to make them rigid, have the engraved portion filled with ink, wiped and polished the same as if intended for printing from. The engraving then presents a brilliant pictorial effect. The plates thus prepared, when mounted on some suitable material, as silk plush, or framed, are ready to put on the market as pictures in place of prints on paper, parchment, or satin, being much more brilliant than even the latter. A bright-colored plush adds much to the effect and is an important adjunct.

To carry our invention into effect, we adopt different methods to suit the conditions required. When a plate already engraved in

reverse, as is usually the case, appears natural as a picture in that state, we prefer having electrotype shells taken from the original plate by the usual method. For small subjects the shells need not be thicker than those made for letter-press work; but when large, should be much thicker. Engraved plates usually have beveled edges, which may be produced in the electrotype shell and will make the back thereof a shallow pan. If this is not preserved sufficient metal should be left in the margin to turn up at the back to make the required width of bevel, which, being cut at the corners to accommodate it to the desired angle, should be soldered in the joints to form a tight pan. The pan-shaped shell is placed on a hot plate set level, or some other method employed to keep it hot and in level position, while melted pitch or asphalt is poured into it. One or more sheets of thick strong paper are then inserted, care being taken to drive out all of the air, after which it is filled up with melted pitch and allowed to cool. The object of the paper is to give strength without increasing the weight, and for this purpose we prefer paper already covered with tar or pitch, as it more readily cements with the melted pitch or asphalt. After backing the engraved portion is to be filled with ink, wiped and polished, and allowed to dry hard before mounting.

As before stated, we are aware that fac-similes of engraved plates have been produced both by transferring and by electrotyping, the electrotype shells being sometimes filled up with a hard alloy of lead and antimony or other fusible alloy, and therefore do not claim the production of such plates; but so far as we are aware they have heretofore been made solely for the purpose of printing from and never for the purpose of exhibiting as pictures, whereas our invention is for pictorial effect only, and in consequence of the thinness of the shells and soft backing will not bear the pressure of the printing-press, a matter of great importance to us, as otherwise they might be used surreptitiously to flood the market with cheap prints from our own work, and as a further precaution we employ an

ink that will dry so hard as to baffle all attempts to clean it out of the lines without injuring the work.

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

A fac-simile of an engraved steel plate, consisting of an electrotpe of the engraved plate, the copper surface of which is covered with

nickel-plating, and the lines in the copy of the engraving being filled with ink or its equivalent, which is allowed to harden to produce a pictorial effect.

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Witnesses:

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