

(No Model.)

F. A. SCHIMPF & W. C. HUNTER.
LITHOGRAPHIC OR OTHER PRINTING.

No. 468,695.

Patented Feb. 9, 1892.

FIG. 1.

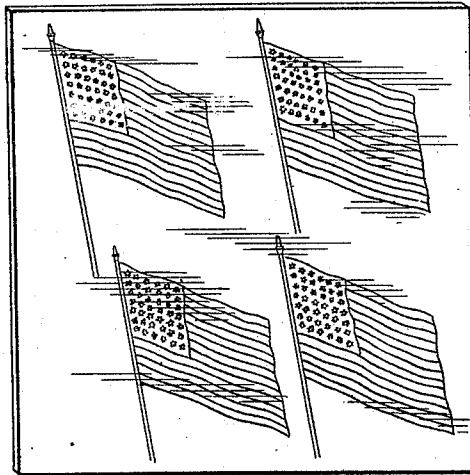


FIG. 2.

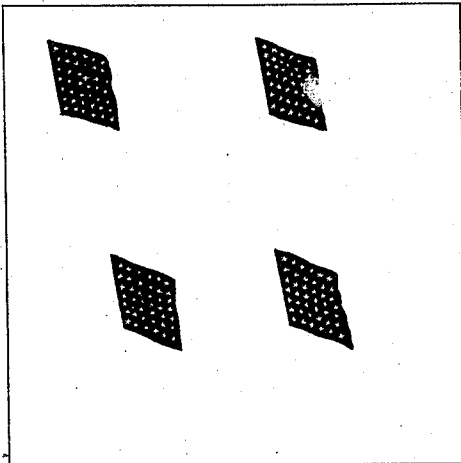
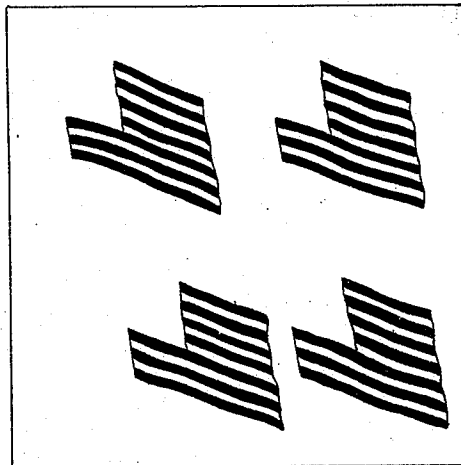


FIG. 3.



Witnesses:
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Inventors:
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William Clifford Hunter
by their Attorneys
Howson & Howson

UNITED STATES PATENT OFFICE.

FRANK A. SCHIMPF AND WILLIAM CLIFFORD HUNTER, OF PHILADELPHIA,
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LITHOGRAPHIC OR OTHER PRINTING.

SPECIFICATION forming part of Letters Patent No. 468,695, dated February 9, 1892.

Application filed May 21, 1891. Serial No. 393,634. (No model.)

To all whom it may concern:

Be it known that we, FRANK A. SCHIMPF and WILLIAM CLIFFORD HUNTER, citizens of the United States, and residents of Philadelphia, Pennsylvania, have invented certain Improvements in Lithographic and other Printing, of which the following is a specification.

The object of our invention is to facilitate the "proving" or "trying" of the various transfers in lithographic or other printing work, and especially in that class of work in which the same design or series of designs is repeated a number of times on the stone, zinc, glass, or other printing-surface; and it consists in providing for this purpose a transparent proving, trying, or "fitting" sheet, whereby the proper registry of the transfers upon the stone or other printing-surface can be readily and accurately determined before the surface is prepared for printing, and whereby also the proper disposition of the transfer impressions upon the "sticking-up sheet" can be determined, if desired, before their transfer to the printing-surface.

In the accompanying drawings, Figure 1 is a view of a transparent fitting-sheet such as constitutes the main feature of our invention, and Figs. 2 and 3 are views of two lithographic stones having color-transfers thereon in position for being proved by the fitting-sheet.

In ordinary lithographic printing the stone by which the black color is printed is regarded as the keystone, and this is the first stone prepared for printing. It is then the usual practice to print from this stone a number of sheets to be used for fitting-sheets to determine the accuracy of the color-transfers onto the various other stones, and also a number of sheets to be used for sticking-up sheets. Upon each of these latter sheets are then secured in their proper relations to the black imprint the transfer impressions corresponding to the color represented by said sheet, and this color design is then transferred from the sticking-up sheet to the stone, and the latter is prepared for printing in the usual way.

In order to try or prove the stone—that is to say, to determine whether the color impressions have been properly located thereupon—a print is made from the stone upon one of the fitting-sheets, the registry of this

print in respect to the black imprint first made upon said fitting-sheet determining whether the operations of sticking and transferring the color impressions have been properly performed. This plan not only demands the preparation of a number of fitting-sheets, but it also precludes the determination of the question of proper registry of the transfer impressions until the stone has been prepared for printing, so that if there is an improper registry of the impressions or of any of the same the stone must be cleaned, a new sticking-up sheet prepared, and a new transfer made, and the stone again prepared for printing upon a new fitting-sheet, all of which operations are tedious and expensive.

In carrying out our invention we overcome the objections to the ordinary method by the use of a fitting-sheet of transparent material, for by this means but one fitting-sheet need be prepared, instead of the number of fitting-sheets now required, and this fitting-sheet can be used to determine the proper registry of the transfer upon each stone before the latter is prepared for printing; or, if desired, it can also be used for determining the proper registry of the color impressions upon the sticking-up sheet before they are transferred to the stone.

In the accompanying drawings we have illustrated our invention as applied to a case in which four representations of an American flag are to be printed, and in which the flag-staff and the outline of the flag, field, stars, and stripes are printed in black. In printing this design three stones will be required, one for the black imprint, one for the blue field, and the other for the red stripes. From the black stone is produced the fitting-sheet, Fig. 1, and also two sticking-up sheets, to one of which are applied the transfers representing the four fields of the flags, and to the other the transfers representing the four sets of red stripes of the flags. These color designs are then transferred, respectively, to the stones, Figs. 2 and 3, and by laying the transparent fitting-sheet, Fig. 1, upon the face of each stone after the transfer has been made the question of the proper registry of the transfers upon each stone can be at once determined by noting whether said transfers do

or do not occupy their proper relation to the black design of the fitting-sheet, the latter being laid upon the stones printed face down, so that the black imprint will occupy the same relation to the transfers that the black imprint occupies in relation to the respective colors in the finished print.

If it is desired to test the registry of the transfer impressions upon the sticking-up sheet prior to their transfer to the stone, this may readily be done by supplying the fitting-sheet to the sticking-up sheet with the printed face of said fitting-sheet uppermost, this reverse of position being due to the fact that the impressions upon the sticking-up sheet occupy a position the reverse of that which they assume when applied to the stone.

The material of which our improved fitting-sheet is composed may be any one possessing the required degree of transparency and not liable to change of size or form under atmospheric influences; but the material which we prefer to use for the purpose is sheet-celluloid, as we have found that this admirably meets both of the above conditions.

Of course it will be understood that our invention is applicable to any form of lithographic or other printing work—that is to say, it is not limited to printing from lithographic stones in contradistinction to other printing-surfaces.

Our improved transparent fitting-sheet can also be used during the printing operation in order to determine whether partly-printed sheets have been so affected by atmospheric conditions between the different printings that subsequent impressions will not properly register with those first made. For instance, if in the design shown in the drawings the blue imprints for the fields have been made upon the whole number of sheets, and if before the red imprint is made there has been such a change in the weather as would cause the

printed sheets to expand or contract, such expansion or contraction can readily be determined by application of the fitting-sheet to one of the partly-printed sheets, and the preparation of the press for the printing of the additional color can therefore be postponed.

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

1. The mode herein described of determining the proper registry of transfers upon lithographic or other printing surfaces, said mode consisting in applying to the surface containing the transfer a transparent fitting-sheet having upon it a guiding-imprint, substantially as specified.

2. The mode herein described of determining the proper registry or disposal of transfer impressions upon a sticking-up sheet, said mode consisting in applying to the face of said sticking-up sheet a transparent fitting-sheet having a guiding-imprint thereon, substantially as specified.

3. The within-described fitting-sheet for printers' use, the same consisting of a sheet of transparent material having thereon a guiding-imprint corresponding with the outline or keystone impression, substantially as specified.

4. The within-described fitting-sheet for printers' use, the same consisting of a transparent sheet of celluloid having thereon a guiding-imprint corresponding with the outline or keystone impression, substantially as specified.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

FRANK A. SCHIMPF.

WILLIAM CLIFFORD HUNTER.

Witnesses:

EUGENE ELTERICH,

HARRY SMITH.