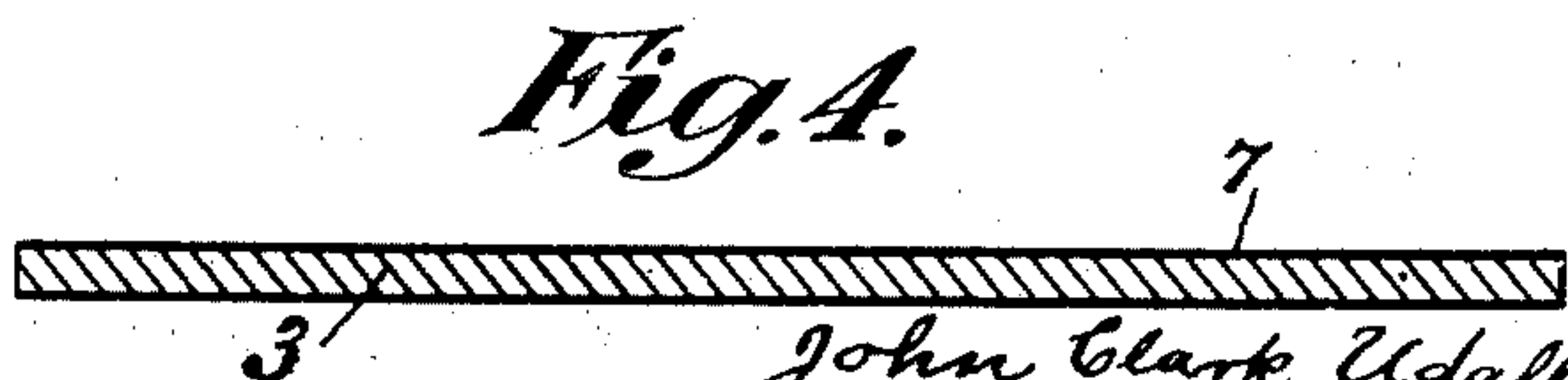
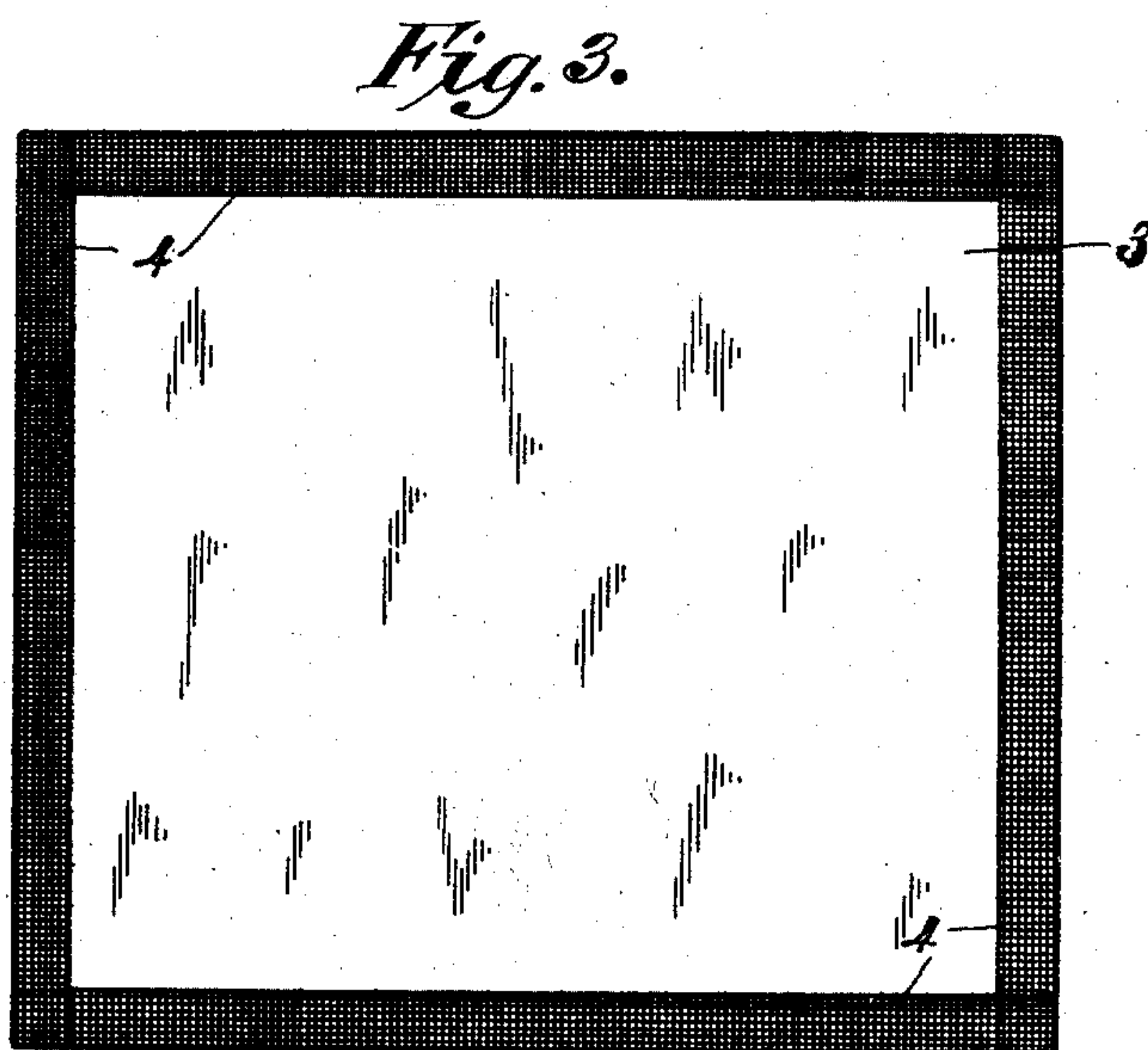
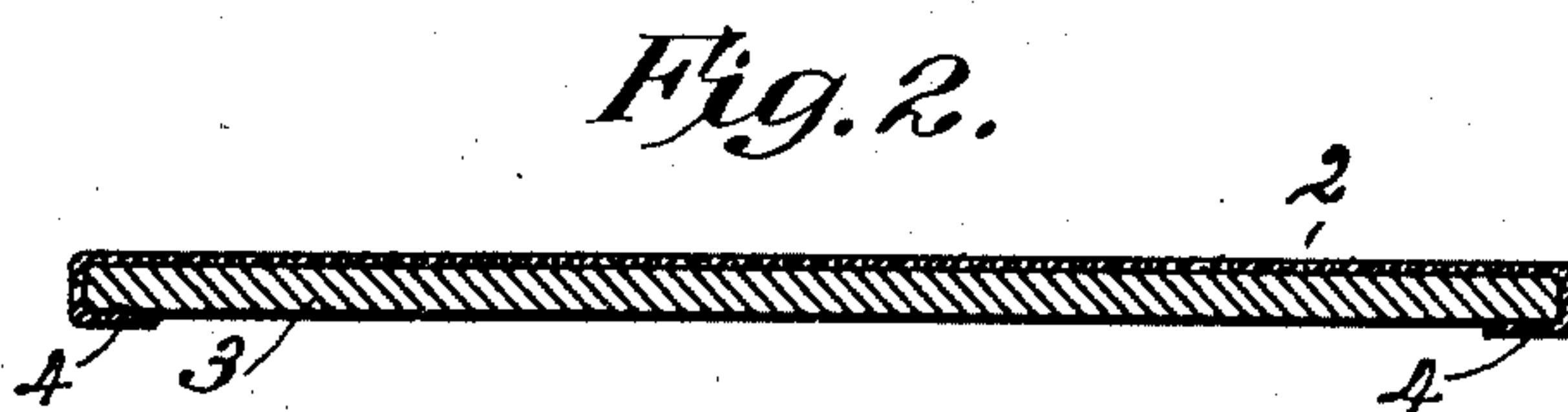
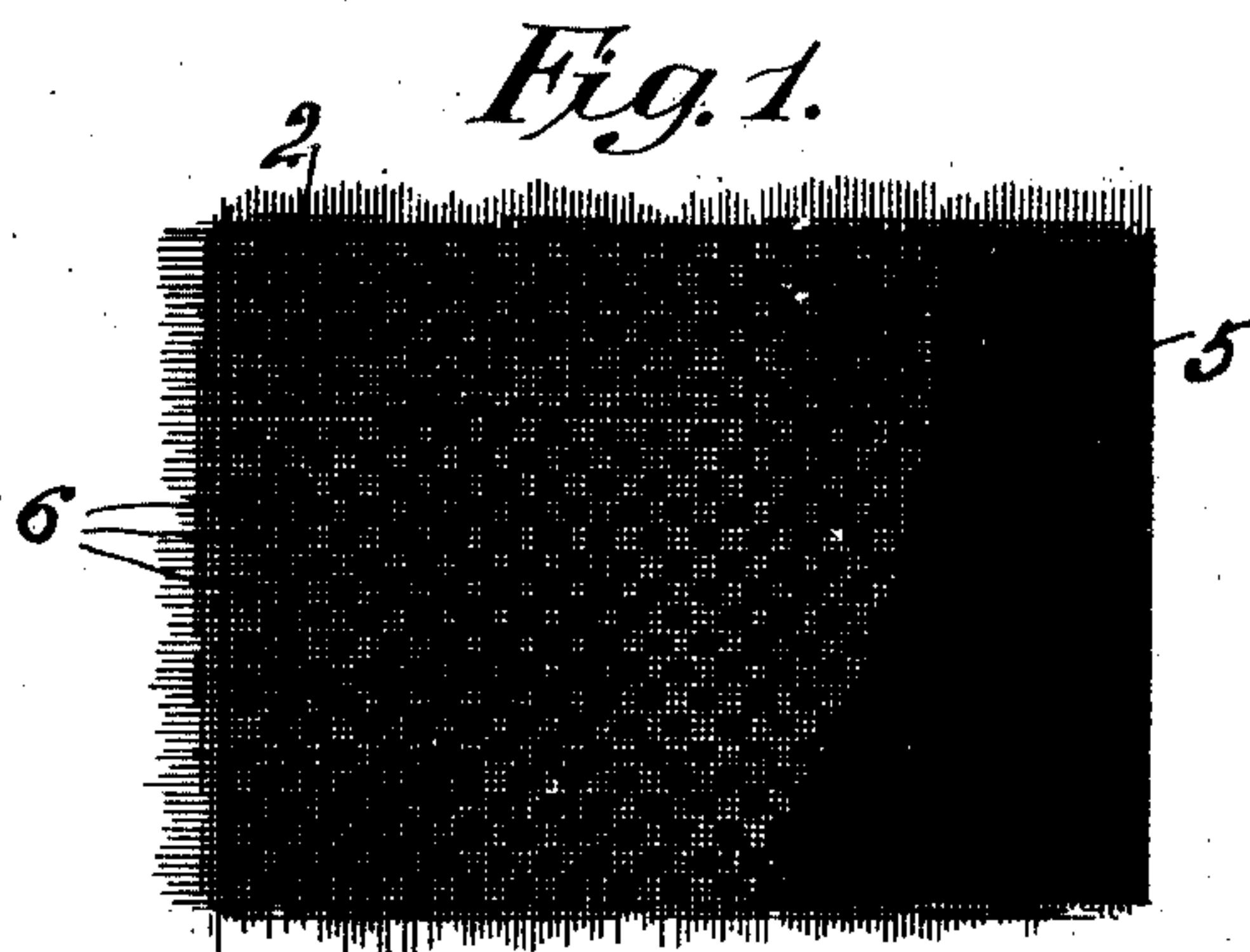


J. C. UDALL.
PROCESS OF MAKING STENCILS.
APPLICATION FILED DEC. 26, 1908.

929,730.

Patented Aug. 3, 1909.



Attest:
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UNITED STATES PATENT OFFICE.

JOHN CLARK UDALL, OF SOUND BEACH, CONNECTICUT.

PROCESS OF MAKING STENCILS.

No. 929,730.

Specification of Letters Patent.

Patented Aug. 3, 1909.

Application filed December 26, 1908. Serial No. 469,251.

To all whom it may concern:

Be it known that I, JOHN CLARK UDALL, a citizen of the United States, and a resident of Sound Beach, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in the Process of Making Stencils, of which the following is a specification.

My invention relates to the process of making stencils for applying artistic impressions or pictures to the surfaces of wood, metal, fabrics, etc., the stencil being capable of being made in the likeness of natural objects.

The object of the invention, among other things, is to so construct or fabricate the stencil that correlated dots or spots on the netting, as well as the narrow lines, and the margins of the solid portions, will not only prevent the paint or other coloring material from being spread upon the surface receiving the impression, but will prevent the coloring matter from spreading beneath or back of the said dots or spots, or beneath or back of the narrow lines on the stencil or back of the edges of the margins outlining the subject of the stencil.

In the accompanying drawings to which reference is made, and which form a part of this specification,—Figure 1 is a plan view of a portion of a stencil, made in accordance with my invention. Fig. 2 is a sectional elevation of a plate, having the netting applied thereto. Fig. 3 is a back view of the plate and netting. Fig. 4 shows a modification of the plate.

In the accompanying drawings, 2 designates the body of the stencil, composed of netting of a suitable mesh, preferably French lawn or organdy.

In making the stencil the body 2 of netting is applied to the surface of a plate 3, preferably a zinc plate, perfectly flat and polished on the surface to which the netting is applied. The netting is folded over the edges of the plate and held fast, preferably by sticking it to the back of the plate, as shown at 4, by means of paste or other adhesive material. The netting is drawn snug and flat on the plate, and drawn in two directions, at right angles, so that the strands are drawn taut and are held in that condition, in close contact with the plate. Thus secured to the plate, the netting and the plate itself are coated with sensitized glue, sensitized gelatin, or other sensitized adhe-

sive material, which, when exposed to light, will take a photographic print.

I prefer to apply three coats of the sensitized material to the netting, and to the surface of the plate, and to bake each coating before the other is applied, care being taken not to expose the plate to the action of light, at least after the first coat has been put on and baked. The netting and plate now being properly coated and dried, I take a transparency, preferably a glass photographic negative, on which has been taken, through a screen, or a plate of lined glass, the picture of the person, object or thing desired to be the subject to be reproduced by the use of the stencil, and apply thereto the coated netting and plate in a printing frame, and print the sensitized netting and plate by exposure to sunlight or the action of the actinic rays of artificial light in the manner well known as sun printing in the art of photography. I do not limit myself to the use of a photographic transparency, but if such a half-tone photographic negative be used, I prefer to place it in the printing frame with the film side up, so that the film will make a perfect contact with the sensitized material on the netting and plate. In printing, those portions of the sensitized material on the netting and plate, which are acted upon by the light, are rendered insoluble in water, while those portions not exposed to the light remain soluble in water, and both of said portions after exposure still remain at all parts closely adherent to the flat and polished surface of the plate, and a sharp demarcation between the insoluble and the soluble portions of the sensitized material is produced by the action of the rays of light. After exposure to the light, the plate 3, the netting and the coating of sensitized material are immediately washed in water, preferably by a stream of water directed upon the same. This washing dissolves and carries away the soluble portions of the sensitized material from the netting and from the plate, leaving the strands of the netting clean and exposed, but still taut, and leaves the insoluble portions still in contact with and adhering to the flat surface of the plate. The insoluble portions, while not dissolving in the water, are swollen and rendered soft and quite easily disturbed at their outer surfaces only, practically no dissolving taking place next

to the plate beneath the insoluble sensitized material. After washing, as just described, the plate, with its netting and the attached insoluble portions still sticking fast thereto, is dried, preferably by baking the same in an oven. This drying evaporates the moisture from the insoluble portions of the sensitized material, and shrinks and hardens each portion of the same while yet held by the strands of the netting, and in turn the insoluble portion holds the strands of the netting flat down upon the surface of the plate. At some portions of the stencil the sensitized material sticks fast to the plate, as for example at the solid margin 5, but in all instances the dots or spots 6, and the other parts dry flat, so that they do not warp or curl up or project above the strands of the netting. When dry, the stencil is removed from the plate and it is then ready for use.

In use the stencil is placed flat upon the surface which is to receive the imprint, and I use ordinary house paint as the coloring material which can be perfectly applied with a brush or scraper, since the contact is so perfect that while the paint will pass beneath the strands of the netting, it will not pass beneath the dots or spots, narrow portions or the margins of the stencil, to blur or disfigure the perfection of the impression made.

In order to facilitate the removal of the netting and sensitized material from the plate, I prefer in some cases to coat it with a substance to which glue will not adhere as tenaciously as it does to the plate itself, and for this purpose I prefer to employ a thin layer 7 of ox-gall, and I prefer this because it dries quickly and when dry makes a very hard and smooth surface and is transparent and not affected by heat.

I do not limit myself to the use of a metal plate, as a plate of glass or other material might be used, but I prefer a polished metal plate, as it will not break or warp, and its polished surface has a reflective influence during the exposure for printing which tends to sharpen the lines of demarcation between those parts of the sensitized material which are rendered insoluble and those which remain soluble.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is,—

1. The process herein described of making foraminous stencils, which consists in applying netting to the surface of a plate, coating the netting and plate with adhesive sensitized material, photo printing the subject for the stencil on said coating by exposure of the same to the action of light while adhering to the said netting and plate, then washing said coating, netting and plate, to remove the soluble portions of the coating, leaving the insoluble portions adhering to

said plate, then drying the netting and the insoluble portions of the coating while still adhering to the plate, and finally removing the stencil from the plate, substantially as described.

2. The process herein described of making foraminous stencils, which consists in applying netting to the surface of a plate, drawing the netting taut in contact with the plate, coating the netting and plate with adhesive sensitized material, photo-printing the subject for the stencil on said coating and netting by exposure of the same to the action of light while adhering to said plate, then washing said coating, netting and plate to remove the soluble portion adhering to the plate, then drying the netting and the insoluble portions of the coating while still adhering to the plate, and finally removing the stencil from the plate, substantially as described.

3. The process herein described of making foraminous stencils, which consists in applying netting to the surface of a plate, drawing the strands of the netting taut in contact with the surface of the plate, coating the netting and the plate with adhesive sensitized material, drying the said coating, photo-printing the subject for the stencil on said coating and netting by exposing the same to the action of light while adhering to said plate, then washing said coating, netting and plate to remove the soluble portions adhering to the plate, then drying the netting and the insoluble portions of the coating while still adhering to the plate, and finally removing the stencil from the plate, substantially as described.

4. The process of making foraminous stencils, which consists in applying a coating of material to a plate to which coating glue will not adhere so tenaciously as to metal, applying netting to said plate and drawing the same taut, and securing the edges to said plate, coating said netting and plate with adhesive sensitized material, photo-printing the subject for the stencil on said sensitized coating and netting by exposing the same to the action of light, while adhering to said plate, then washing said coating, netting and plate to remove the soluble portions adhering to the plate, then drying the netting and the insoluble portions of the coating while still adhering to the plate, and finally removing the stencil from the plate, substantially as described.

5. The process of making foraminous stencils, which consists in applying a coating of ox-gall to the surface of a plate, applying netting to said plate and drawing the same taut in contact with the plate, coating said netting and plate with adhesive sensitized material, printing the subject for the stencil on said sensitized coating by exposing the same to the action of light while

adhering to said plate, then washing said coating, netting and plate to remove the soluble portions adhering to the plate; then drying the netting and the insoluble portions of the coating while still adhering to the plate, and finally removing the stencil from the plate, substantially as described.

6. The process herein described of making foraminous stencils, which consists in applying netting to the surface of a flat plate, having a polished surface, drawing said netting taut in contact with said polished surface, coating said netting and plate with sensitized adhesive material, drying the same, then printing the subject for the stencil on said sensitized material by exposure to the action of light, then washing the sensitized coating, netting and plate to remove the soluble portions of the sensitized material, then drying the netting and the insoluble portion of the sensitized material while still adhering to the plate, and finally removing the stencil from the plate, substantially as described.

7. In the process of making foraminous stencils, the process of rendering soluble by exposure to light certain portions of sensitized adhesive material, while the same is held on netting applied to a plate, then removing such soluble portions by washing the sensitized material, and netting, while still adhering to the plate, for removing from the netting and plate the said soluble portions, leaving the insoluble portions of the sensitized material still adhering to the plate, substantially as described.

8. The process herein described of making foraminous stencils, which consists of sticking netting to the surface of a plate by liquid sensitized adhesive material, drying the same on said plate, printing the subject for the stencil on said sensitized material, by exposing the same to the light, then washing the netting and plate to remove therefrom the soluble portions of the sensitized material, then drying the netting and the insoluble portions of the sensitized material on said plate, and removing the stencil from the plate, substantially as described.

9. The process of making a foraminous stencil, which consists in applying netting taut upon a plate, coating the netting and plate with a liquid sensitized adhesive material, drying the same, exposing the same to the action of light through a pictorial subject for the stencil whose high lights are made up of isolated and regularly disposed dots or spots, washing the coating, netting and plate to remove the soluble portions of the coating, leaving the isolated dots or spots held by the netting flat upon the plate, drying the netting and insoluble portions while adhering to the plate and finally removing the stencil from the plate, substantially as described.

Signed at city of New York, in the county of New York and State of New York, this 21st day of December, A. D. 1908.

JOHN CLARK UDALL.

Witnesses:

ROSWELL M. PATTERSON,
FRED. H. PATTERSON.