

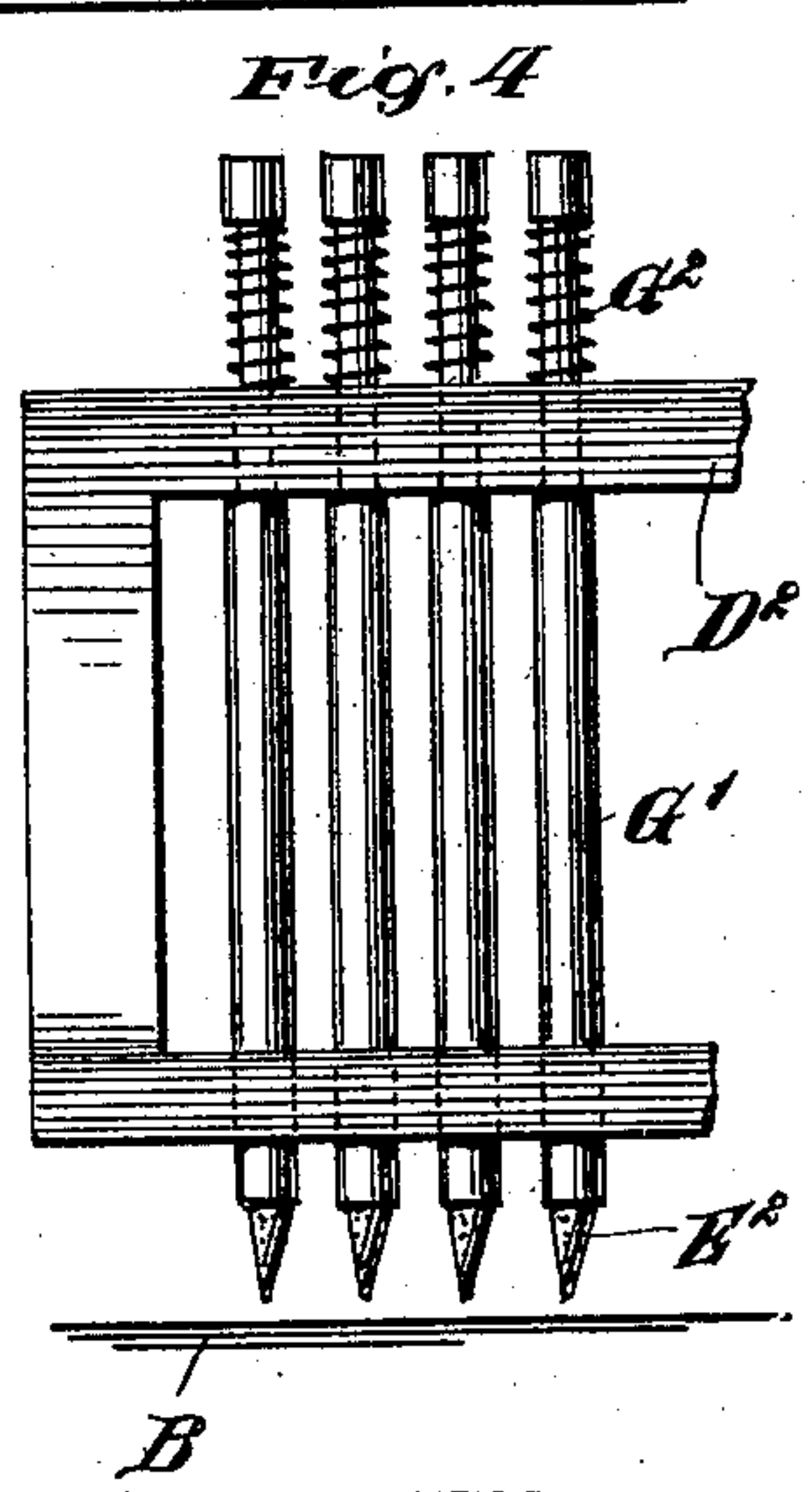
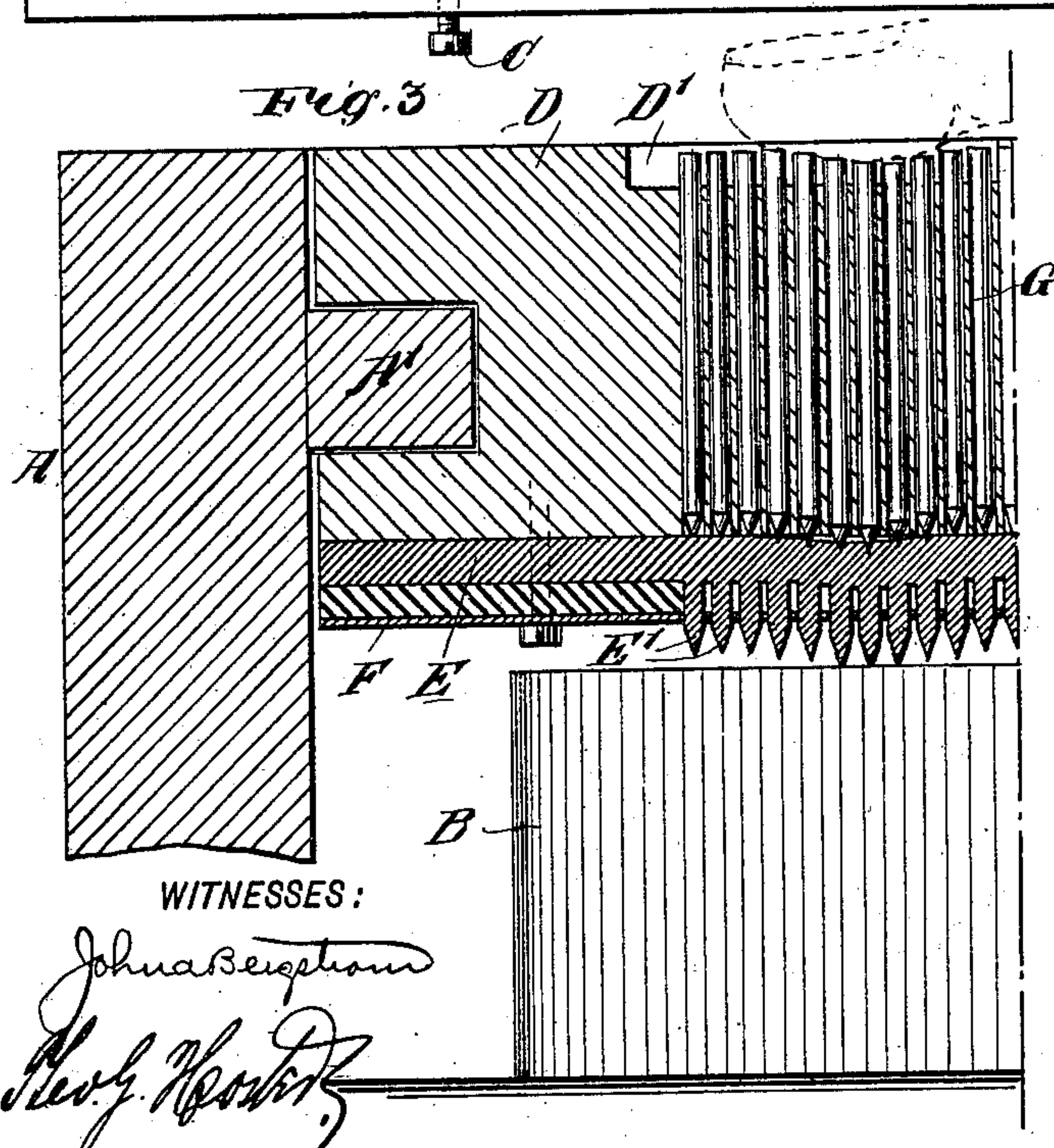
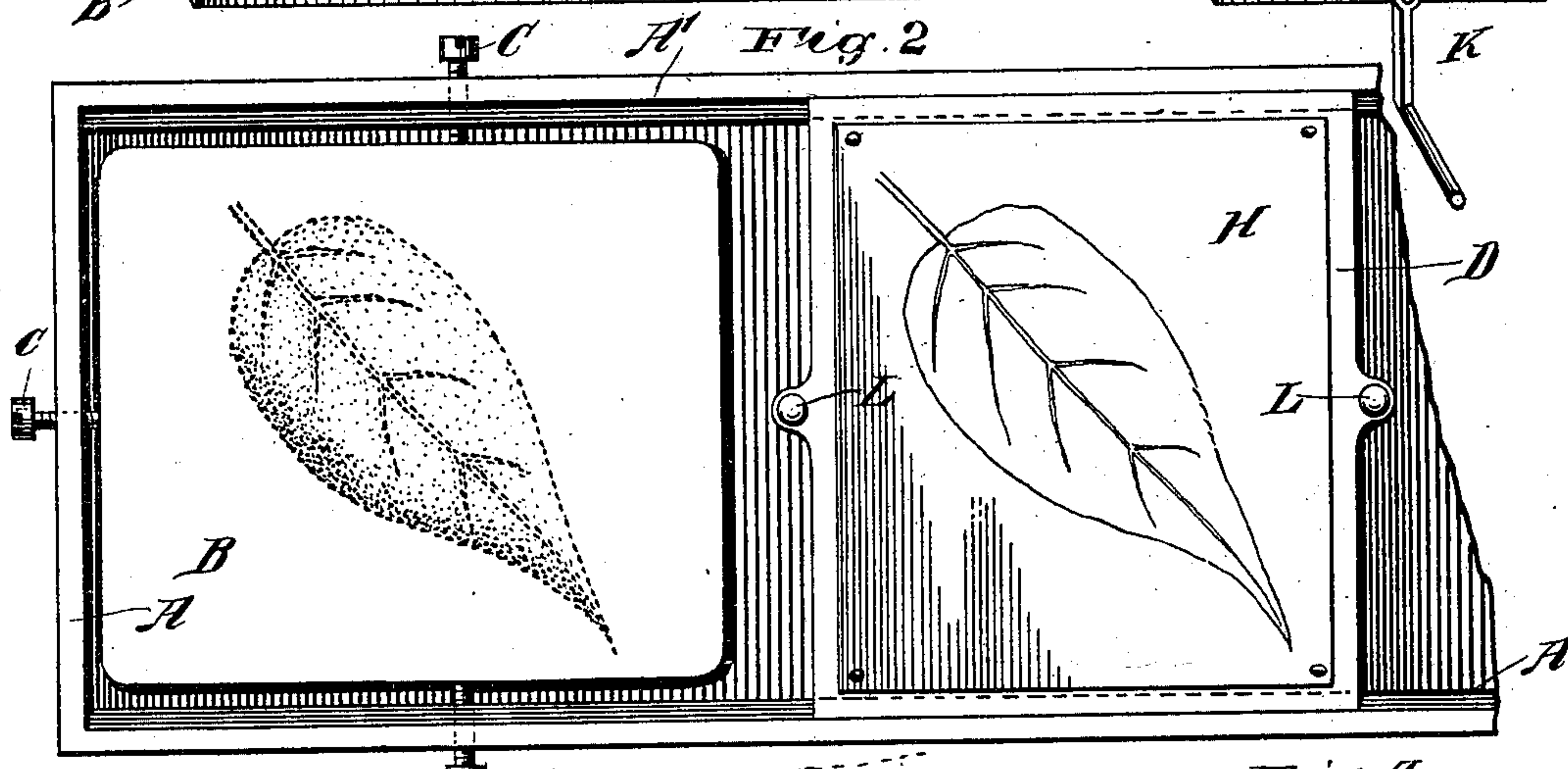
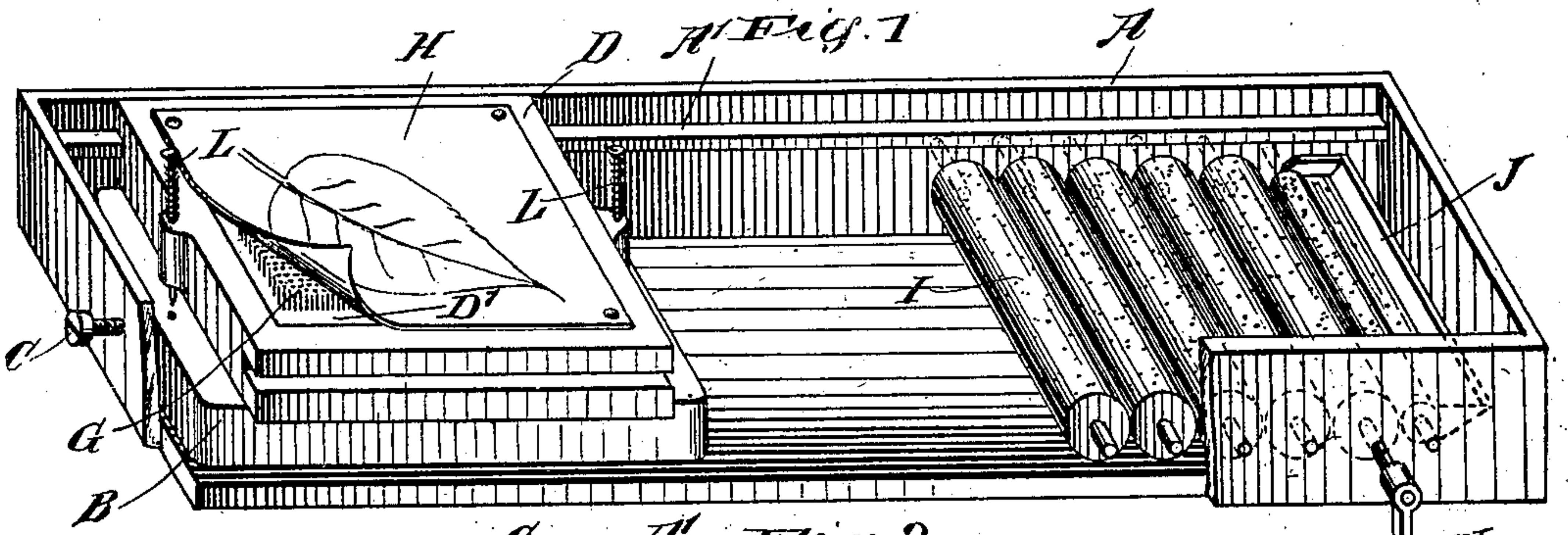
No. 674,253.

Patented May 14, 1901.

G. ARNOLD.
STIPPLING MACHINE.

(Application filed Sept. 12, 1900.)

(No Model.)



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GUSTAV ARNOLD, OF NEW YORK, N. Y.

STIPPLING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 674,253, dated May 14, 1901.

Application filed September 12, 1900. Serial No. 29,795. (No model.)

To all whom it may concern:

Be it known that I, GUSTAV ARNOLD, a citizen of the United States of America, residing in the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Stippling-Machine, of which the following is a full, clear, and exact description.

The invention relates to lithography, and its object is to provide a new and improved stippling-machine arranged to reproduce in a suitable manner any design produced by the artist with a pencil, brush, or drawing implement.

The invention consists of novel features and parts and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

A practical embodiment of my invention is represented in the accompanying drawings, forming part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view of the improvement with parts broken out. Fig. 2 is a plan view of the same with the parts in a different position. Fig. 3 is an enlarged transverse section of the improvement, and Fig. 4 is a side elevation of a modified form of the improvement.

The improved stippling-machine, as illustrated in Figs. 1, 2, and 3 of the drawings, is mounted on a suitably-constructed frame A, adapted to support the stone or plate B, on which the design in stipple-work is to be produced, the said stone or plate being adjusted to the proper position within the frame by means of suitable set-screws C, as indicated in the drawings.

In the upper portion of the frame A is formed a guideway A', on which is mounted to slide a carriage D, carrying at its bottom a diaphragm E, of rubber or other elastic material, formed on its under side with depending stipple-points E', preferably made integral with the diaphragm and likewise elastic, so that when a stipple-point is pressed downward it moves in contact with the top surface of the stone or plate and makes a stipple-imprint thereon, the graduation of the imprint depending on the amount of movement given to the stipple-point in a downward direction.

Thus when the stipple-point is but lightly pressed downward it makes a very light imprint on the stone, and when the point is pressed downward farther the elastic material on coming in contact with the stone spreads so as to make a heavier imprint on the stone. Thus by the arrangement described any desired graduation of stipple-imprints may be obtained by pressing the diaphragm, and consequently the stipple-points E', downward more or less.

The stipple-points E' are isolated, but are closely related one to the other, as is plainly shown in Fig. 3, and the said points are held separated from one another by an apertured guide-plate F, secured to the under side of the carriage D, together with the diaphragm, as indicated in Fig. 3.

On top of the diaphragm E and in alignment with the stipple-points E' are arranged the downwardly-extending pins G, mounted to slide in suitable bearings in the carriage D and extending at their upper ends into a recess D', formed in the top of the carriage. On the upper ends of the pins G is placed a piece of paper or a sheet of any other suitable material H, on which the design is to be drawn by the artist, and then the artist by drawing on this piece of paper or sheet exerts a downward pressure on the corresponding pins G, so that the latter press the diaphragm E and with it the corresponding points E' to cause the latter to make stipple-imprints on the face of the stone or plate B, as previously explained, the stipple-imprints representing the design drawn by the artist on the piece of paper or sheet of material.

In order to ink the stipple-points E', a suitable inking device I is arranged in the frame A at one side of the stone or plate B, so that when the operator moves the carriage D sideways from over the stone and over the said inking device I then the stipple-points E' become inked, and when the carriage D is moved back over the stone B and the pins G are pressed by the artist drawing the design on the piece of paper or sheet of material H then the corresponding imprint is made on the stone by the corresponding stipple-point E'.

The inking device shown in Fig. 1 consists, essentially, of a plurality of inking-rollers I, receiving ink from a fountain J, the first ink-

ing-roller being provided with a crank-arm K to transmit ink from the fountain to the adjacent roller. When the carriage D is moved over the inking device and the stipple-points E' come in contact with the several rollers, the latter are turned, and thereby take up the necessary quantity of ink for producing the stipples on the stone, as before explained.

It is understood that by the arrangement described any desired graduation of stipple-imprint is obtained on the stone, according to the design to be reproduced, it being understood that the artist need not give any attention to the stipple-work, but only needs to execute the design properly, as the machine reproduces the design in stipple-work with all the necessary graduations on the stone or plate B.

I do not limit myself to the particular construction of the machine shown and described, as it is evident that the same may be greatly varied without deviating from my invention. For instance, as shown in Fig. 4, the carriage D² may be provided with pins G', held in an uppermost position by springs G² and provided at their lower ends with elastic stipple-points E², adapted to make the stipple-imprints on the stone B. It is evident that when the artist presses the pins G' the same move downward against the tension of their springs G² and move the stipple-points E² in contact with the stone to make the stipple-imprint.

The artist can examine from time to time the progress of the work on the stone, and for this purpose he needs only to shift the carriage D to one side, so as to uncover the stone B for inspection, and in order to bring the carriage D again into proper relation to the stone on the return movement of the carriage I provide suitable spring registering pins L, mounted to slide vertically on the carriage to engage corresponding marks on the stone. (See Fig. 1.)

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

1. In a stippling-machine, the combination of isolated stipple-points closely related one to the other, and pins one for each stipple-point and mounted to slide to cause the stipple-points to make stipple-imprints on the stone or plate, as set forth.

2. In a stippling-machine, the combination of isolated elastic stipple-points closely related one to the other and normally standing out of contact with the plate or stone, and pins one for each stipple-point and adapted to be pressed singly or in groups to move the corresponding stipple-points in contact with the stone or plate to make a stipple-imprint thereon, as set forth.

3. In a stippling-machine, the combination of isolated elastic stipple-points closely related one to the other and normally standing out of contact with the plate or stone, pins one for each stipple-point and adapted to be pressed singly or in groups to move the corresponding stipple-points in contact with the stone or plate to make a stipple-imprint thereon, and means for returning the pins and points to a normal position on releasing the pressure on the pins, as set forth.

4. In a stippling-machine, the combination of a carriage, an elastic diaphragm stretched thereon, isolated stipple-points integrally on one side of the said diaphragm, the stipple-points being closely related to one another, and pins one for each stipple-point and in engagement with the diaphragm on the side opposite the one having the stipple-points, the pins being in alinement with the said stipple-points and movable in the carriage so that when the pins are pressed the corresponding stipple-points are moved in contact with the stone or plate to make a stipple-imprint thereon and when the pressure on the pins is released the diaphragm returns with the points and pins to a normal position with the stipple-points out of contact with the plate or stone, as set forth.

5. In a stippling-machine, the combination of an elastic diaphragm, and isolated stipple-points thereon, the points being closely related to one another, and pins mounted to slide in alinement with the said points and adapted to engage the said diaphragm on the side opposite the points, to cause the latter to make stipple-imprints on the stone or plate, as set forth.

6. In a stippling-machine, the combination of a frame for receiving the stone or plate to be stippled, an inking device in the said frame at one side of the said stone, and a plurality of isolated stipple-points closely related to one another and mounted on the said carriage, the latter being adapted to be moved from the stone to the said inking device and back to the stone, as set forth.

7. In a stippling-machine, the combination of an elastic diaphragm, and isolated stipple-points thereon, the points being closely related to one another, and an apertured plate through which extend loosely the said stipple-points, to guide the latter in their movement and to keep the points separated from one another, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GUSTAV ARNOLD.

Witnesses:

THEO. G. HOSTER,
EVERARD BOLTON MARSHALL.