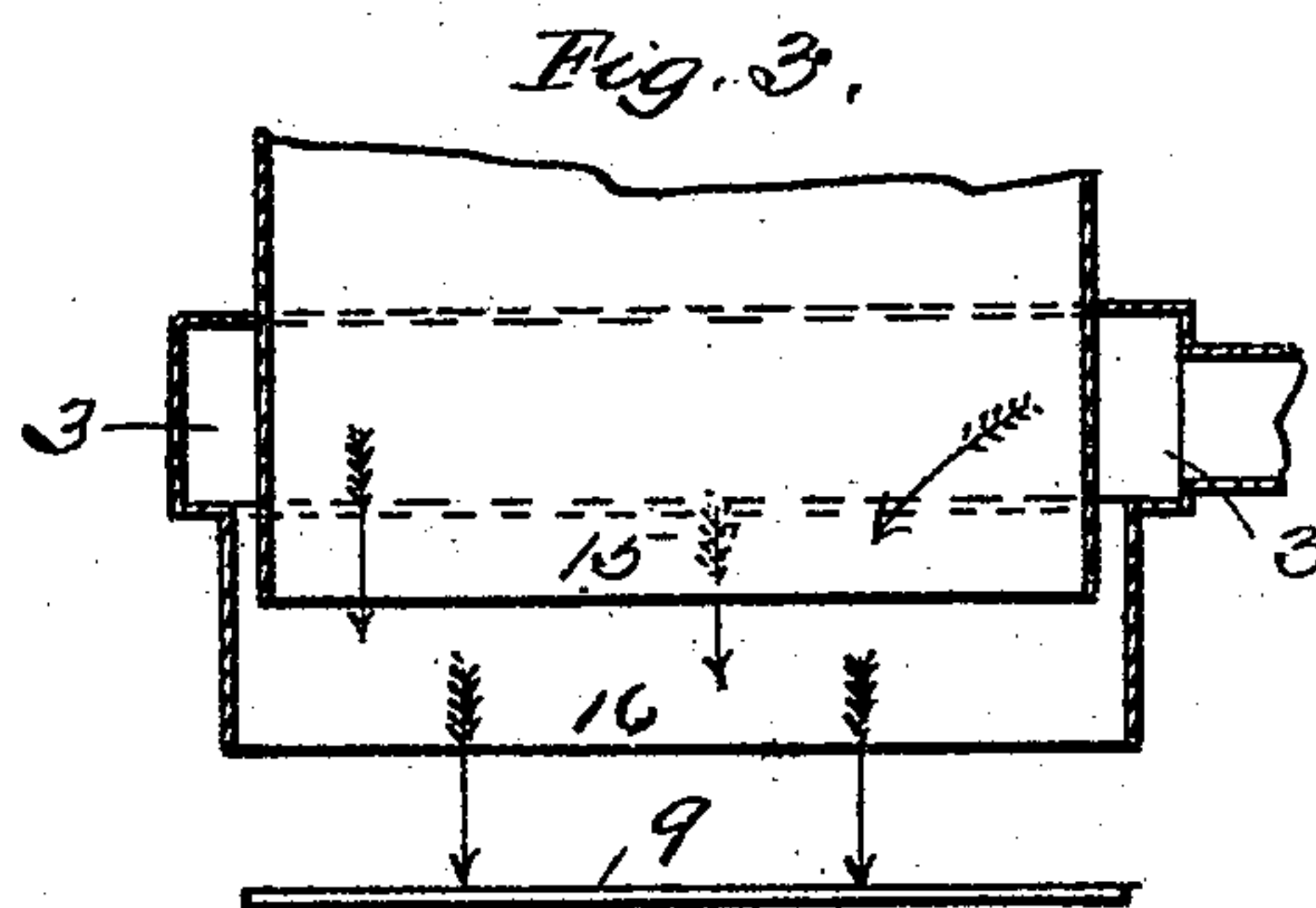
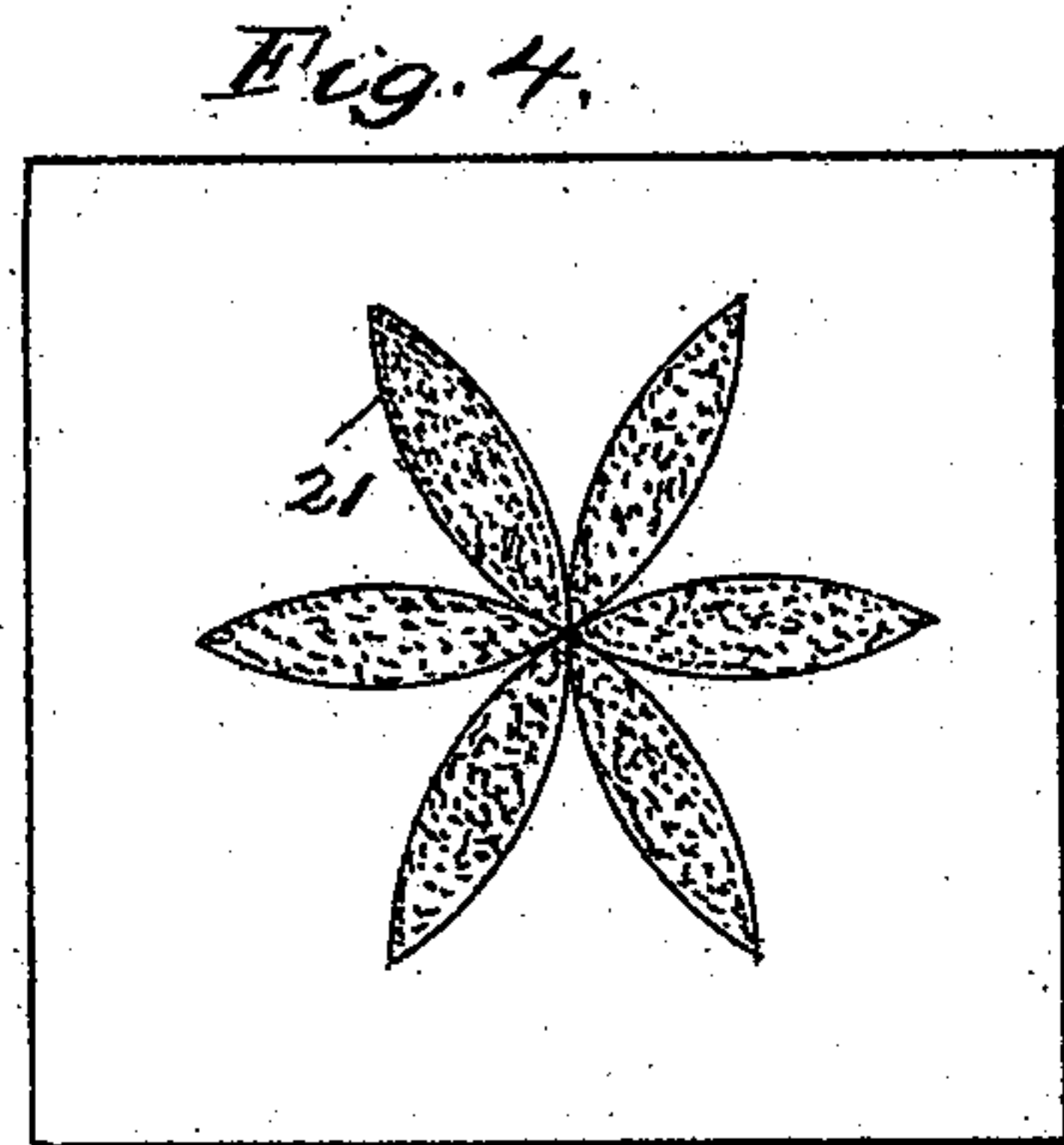
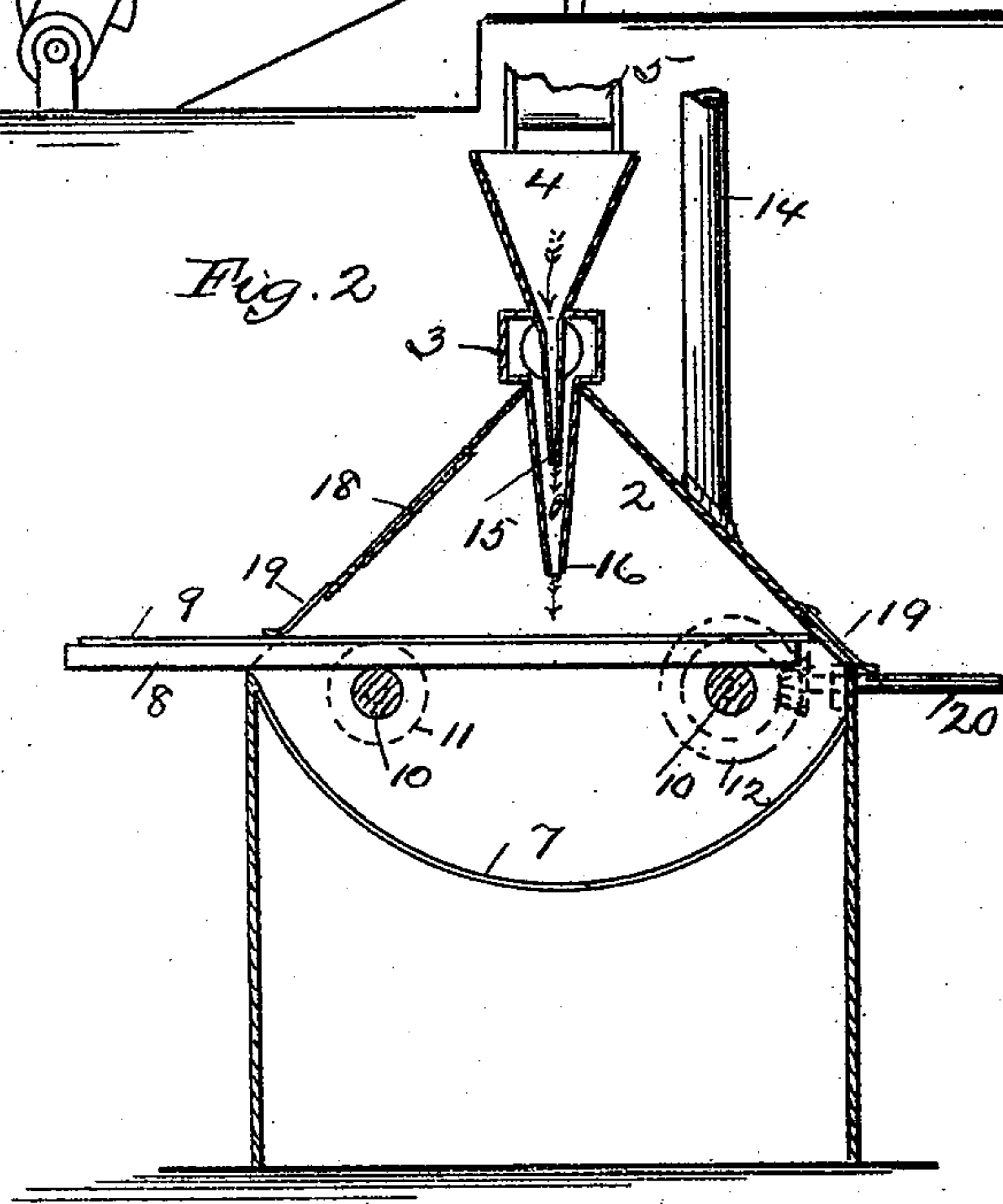
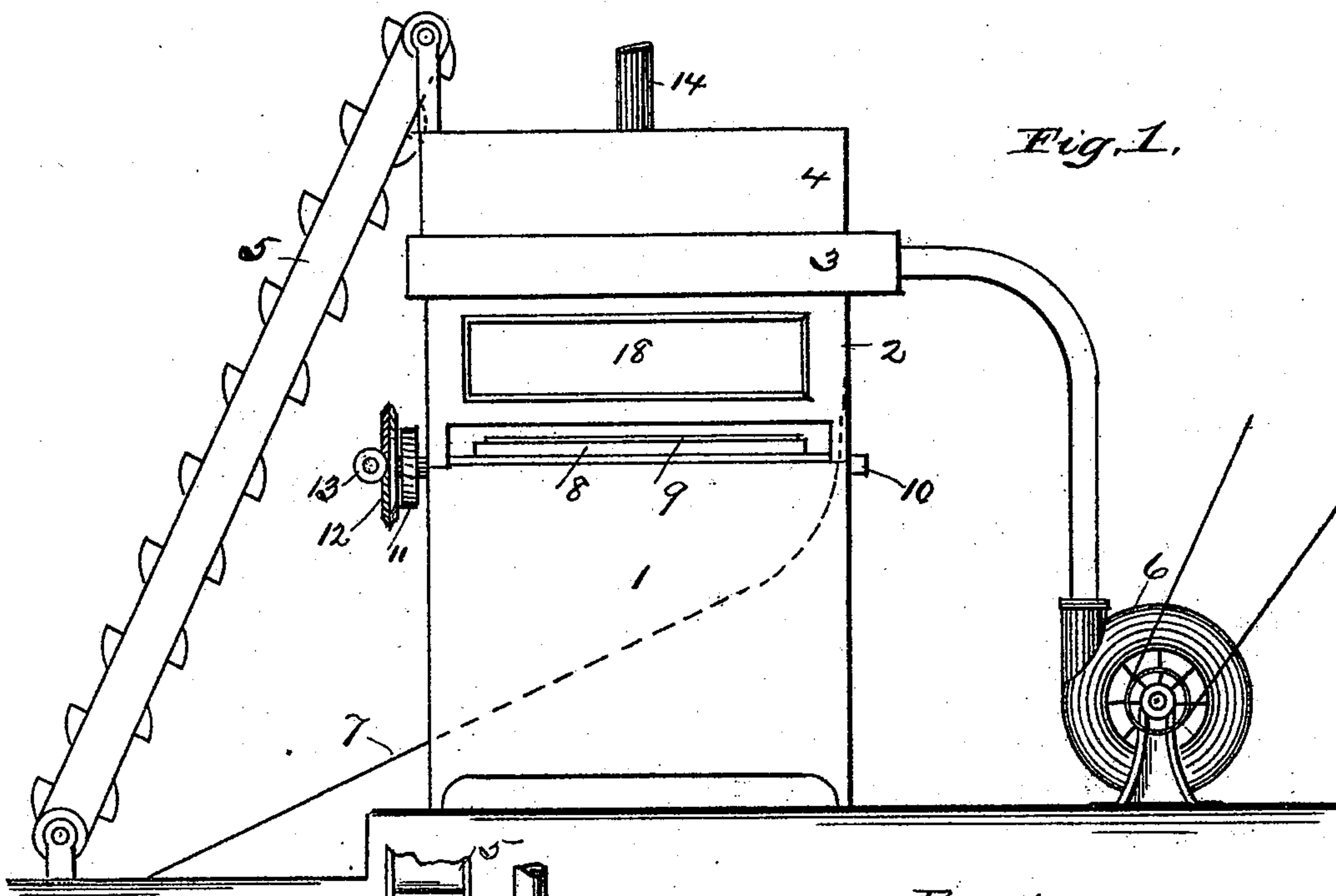


(No Model.)

J. MACHER.
APPARATUS FOR DECORATING GLASS.

No. 501,014.

Patented July 4, 1893.



WITNESSES:

H. E. Harrison.
J. A. Herrow

Inventor,
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att'y.

UNITED STATES PATENT OFFICE.

JOHN MACHER, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, OF TWO-THIRDS TO RUDOLPH GLASSER, OF SAME PLACE.

APPARATUS FOR DECORATING GLASS.

SPECIFICATION forming part of Letters Patent No. 501,014, dated July 4, 1893.

Application filed July 5, 1892. Serial No. 439,068. (No model.)

To all whom it may concern:

Be it known that I, JOHN MACHER, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Apparatus for Decorating Glass; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to an improved apparatus for decorating glass, and consists in a sand blast discharged against a plate of glass previously prepared, together with the peculiar details of construction of the apparatus employed, as will be fully described herein-
after.

In the accompanying drawings, Figure 1, is a front elevation of my improved apparatus for decorating glass in accordance with my improved method. Fig. 2 is a side sectional elevation of the same. Fig. 3 is a front sectional elevation of the two discharge nozzles. Fig. 4 is a face view of a piece of the prepared glass.

To put my invention into practice I construct a box shaped frame 1, of a suitable size and form of construction, having an inner sloping base 7 to conduct the sand to the conveyor 5 after being discharged against the glass. This box shaped frame is provided with a covering 2, the sides of which slope inwardly, and having a window or transparent portion 18, which enables the operator to see the work within the said cover. Mounted across the frame 1 are two rollers 10, each of which is provided with a pulley 11, and connected by a belt to insure uniform motion, and one of the said rollers is provided with a gear wheel 12, and driving pinion 13, which serves as a means of rotating the said rollers. Operating on the tops of these rollers 10, is a table 8, which carries the plate of glass 9 to be operated on. This table passes through the apparatus from the front to the rear, through openings in the sloping sides of the

cover 2, and the said openings are covered by flexible material 19, to prevent the escape of the sand. Attached to the apex of the cover 2 is a downwardly projecting nozzle 16 which reaches within a short distance of the table 8. This nozzle 16 is connected to an oblong box 3, in communication with a blower 6. Projecting into this nozzle 16, is another 15 which extends upward and terminates in a hopper in which a quantity of sand is constantly kept. A vent pipe 14, is arranged in connection with the cover 2 for the purpose of letting the fine particles or dust of the sand escape.

Before placing the glass in position to be operated on by the apparatus, I provide an ordinary stencil formed of thin sheet brass or other substance, and having the desired pattern cut therein, after the manner well known in the art (see Fig. 4). By means of a paste composed of flour or other suitable substance, and a stencil brush a pattern 21 is formed on the surface of the glass 9, and when dry is ready to be operated on by the apparatus. This plate thus prepared is placed on the table 8, and the blower 6 put in motion, and the hopper 4 filled with sand of a sharp nature. The plate is carried through the apparatus, and the sand discharged from the nozzle 15, is met by the air blast and discharged against the glass from the nozzle 16 with great force thereby cutting the glass where not protected by the paste covering. The sand after striking the glass passes down the inclined base 7 within reach of the conveying apparatus, and carried upward and discharged into the hopper 4, to be again discharged from the nozzles against the glass.

After the plate has passed beneath the nozzles it will be found that where the glass has not been protected by the pasty matter it will be cut or made opaque, and the protected portion of the glass will be clear.

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

The combination with a box-shaped frame provided with a downwardly curved or sloped base and a cover having sloping sides, one of which is provided with a window or view-

opening, of the two rollers 10, provided with
pulleys 11, connected by a belt, the gear wheel
12, connected to one of the rollers, a driving
pinion 13, engaging the gear wheel 12, a table
5 for carrying the glass to be operated upon,
provided with a reciprocating motion to pass
it beneath the blast, and a nozzle 16 contain-
ing a nozzle 15 having a hopper 4, the oblong
box 3, connected with the blast-fan and the

conveyer 5, for returning the sand for re-use, so
substantially as specified.

In testimony that I claim the foregoing I
hereunto affix my signature this 3d day of
June, A. D. 1892.

JOHN MACHER. [L. s.]

In presence of—

JAS. J. MCAFEE,

J. J. PAINTER.