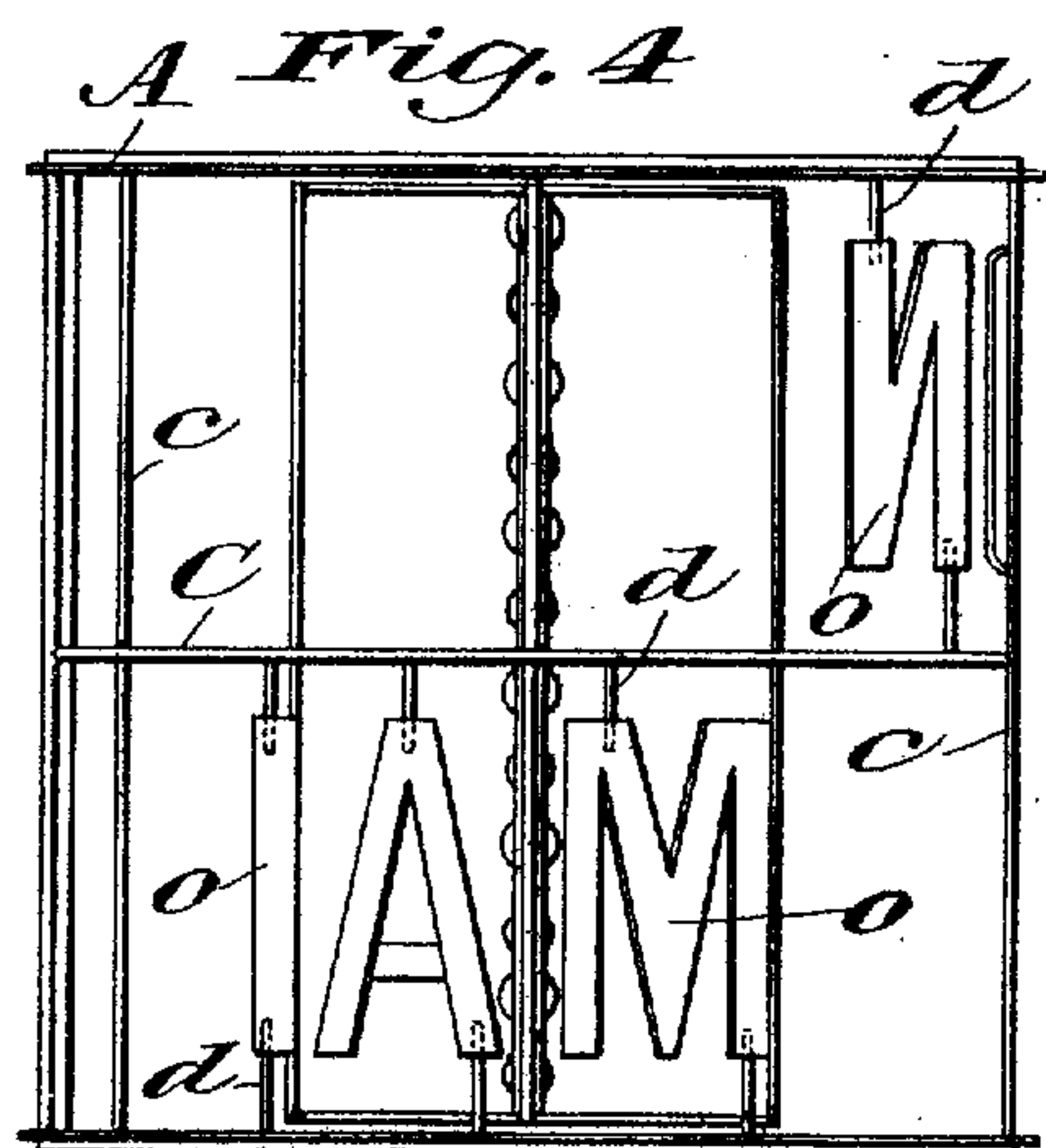
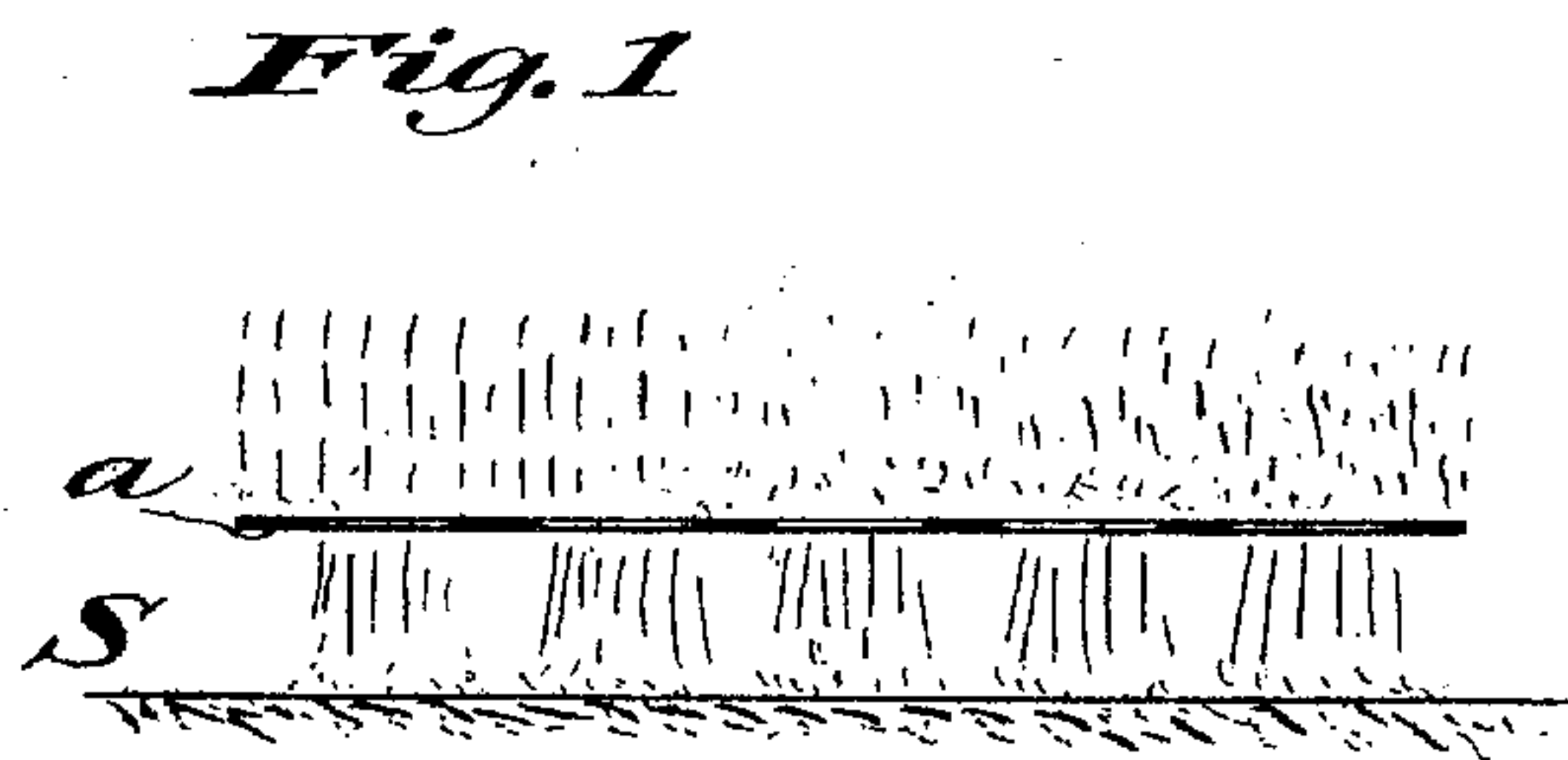
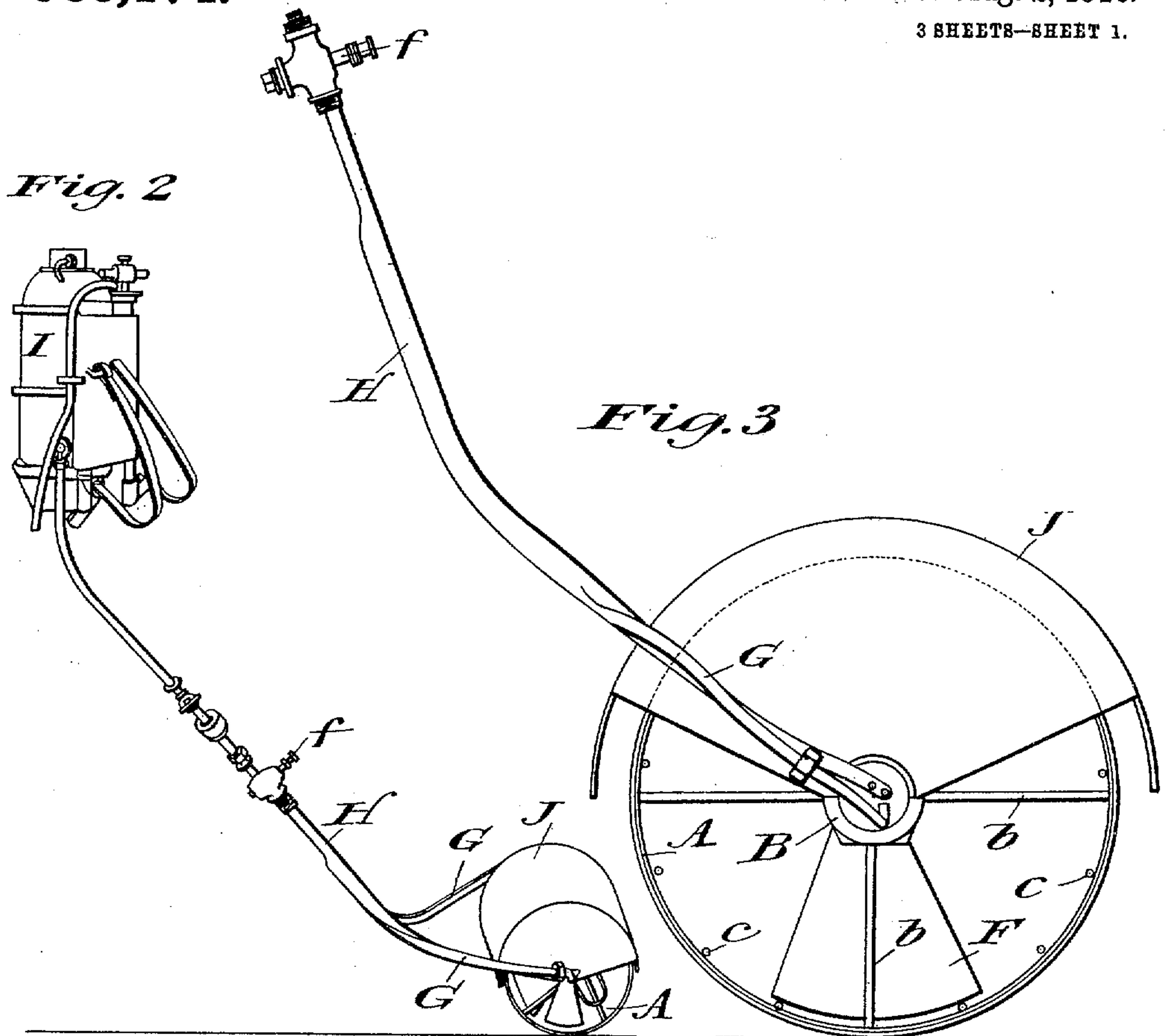


G. DEZAVIS.
STENCILING APPARATUS.
APPLICATION FILED FEB. 7, 1908.

966,174.

Patented Aug. 2, 1910.

3 SHEETS—SHEET 1.



Witnesses
A. F. Connors
F. H. Wiman

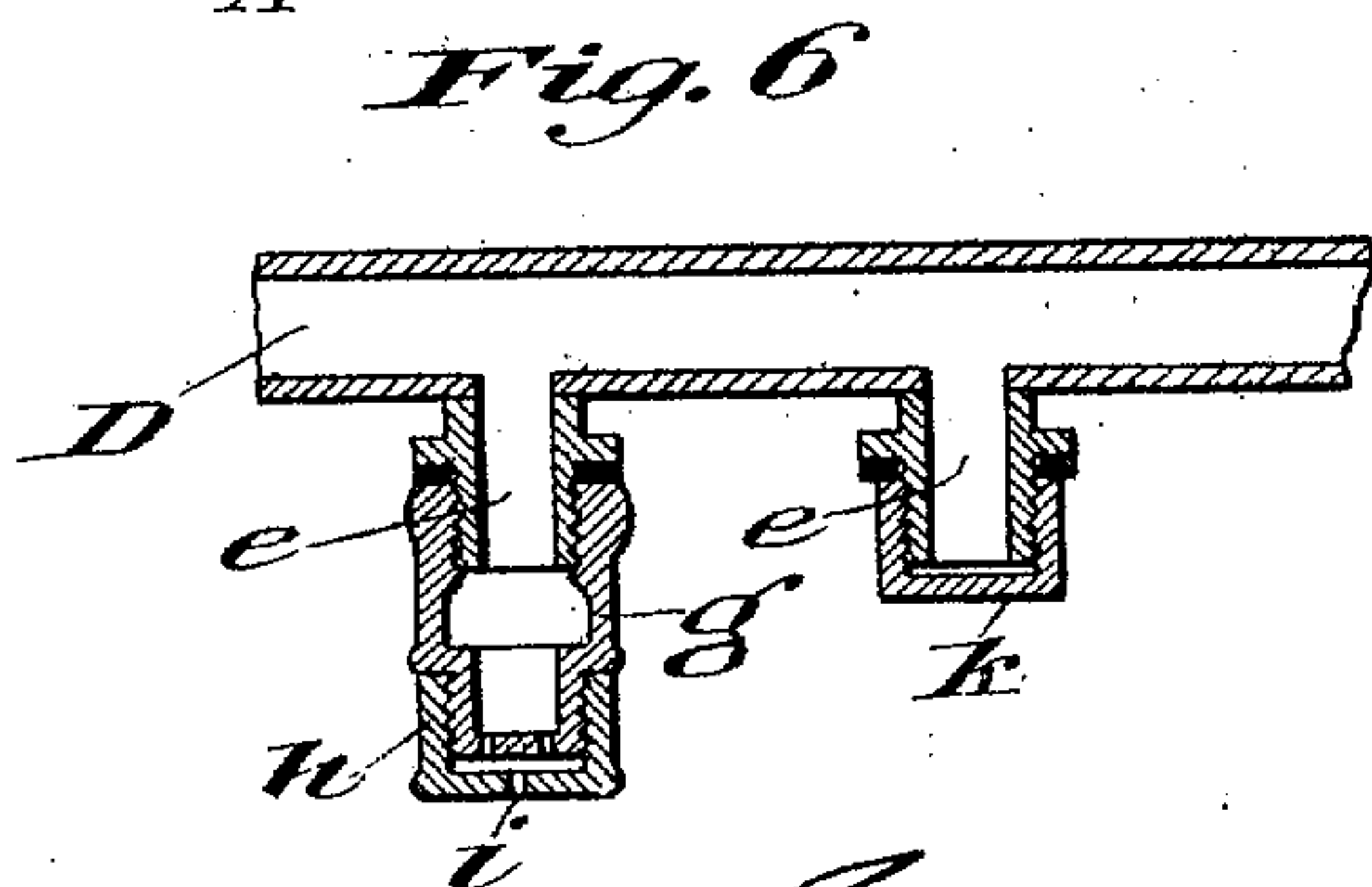
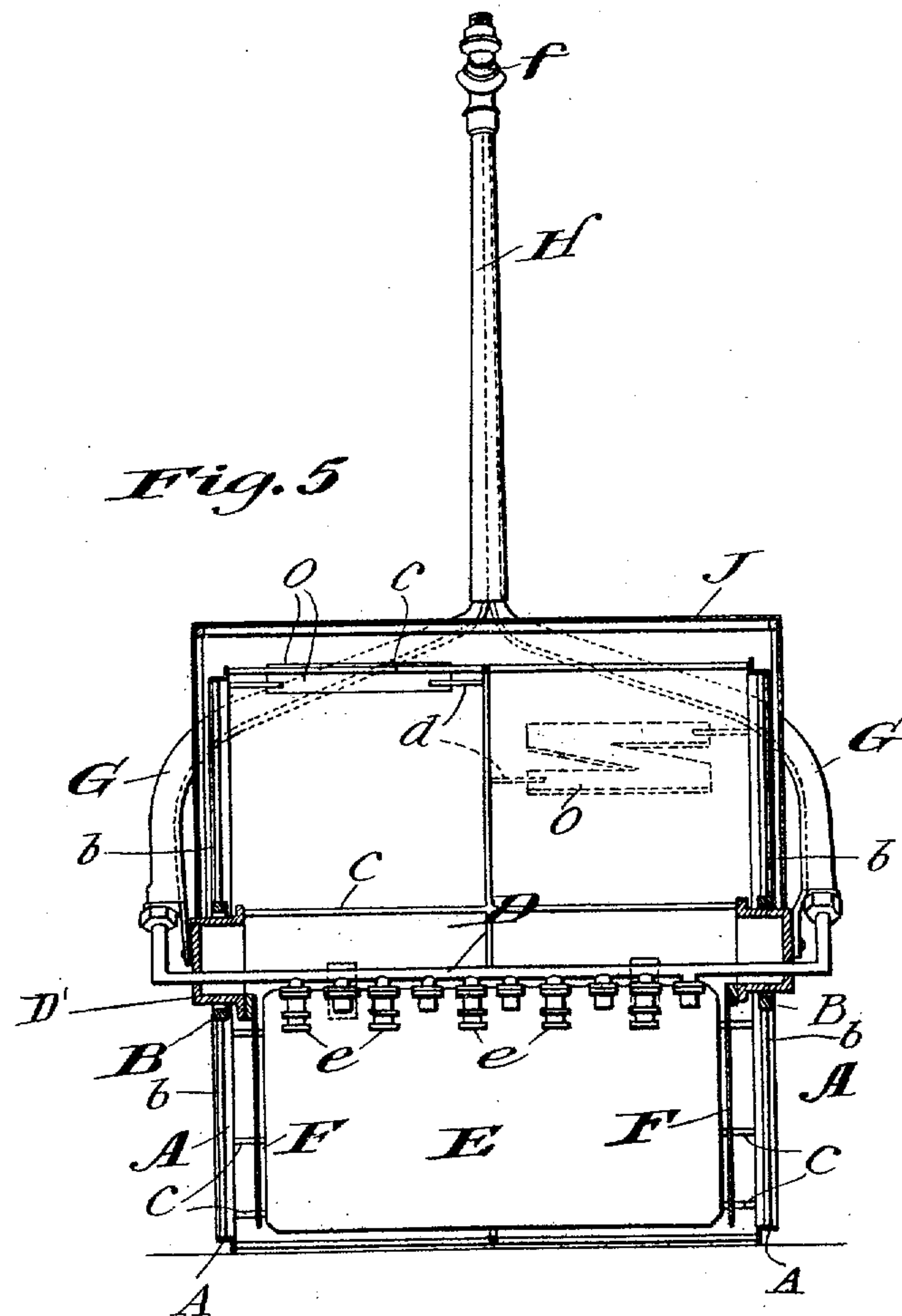
Inventor
Georges Dezavis.
By *[Signature]*
Attorney

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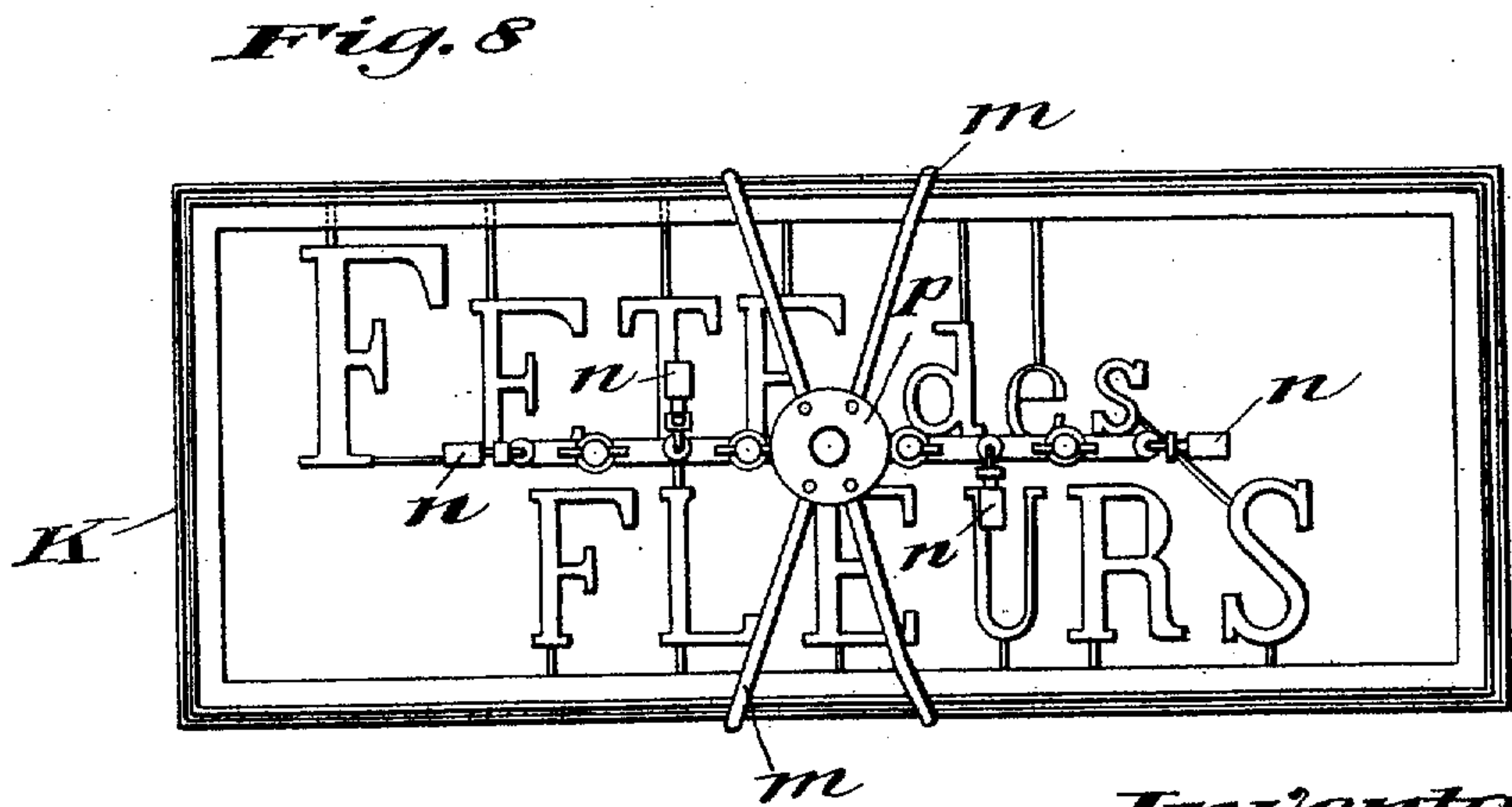
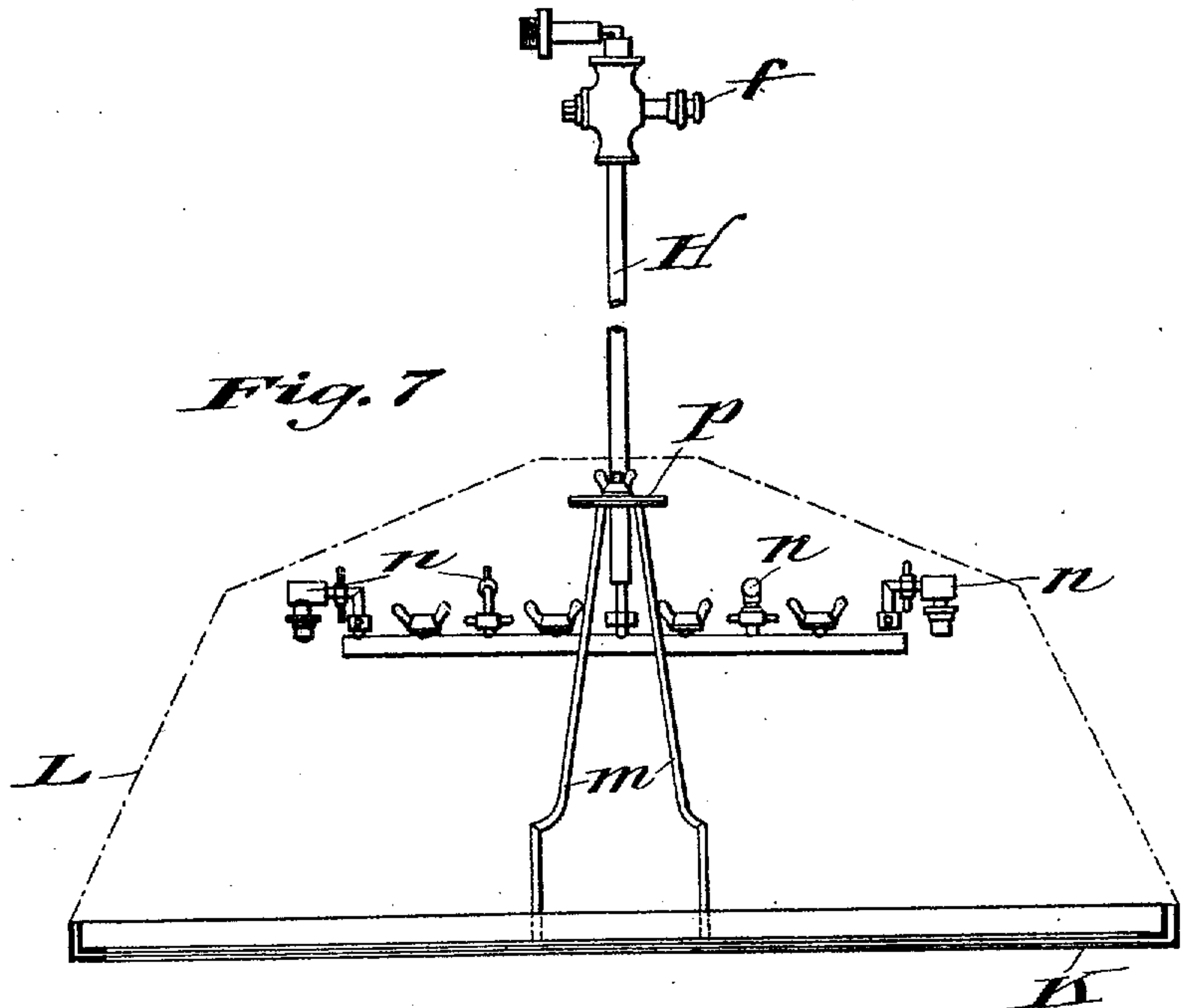
3 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

GEORGES DEZAVIS, OF PARIS, FRANCE.

STENCILING APPARATUS.

966,174.

Specification of Letters Patent.

Patented Aug. 2, 1910.

Application filed February 7, 1908. Serial No. 414,700.

To all whom it may concern:

Be it known that I, GEORGES DEZAVIS, a citizen of the French Republic, residing at Paris, France, have invented certain Improvements in Stenciling Apparatus, of which the following is a specification.

The apparatus which forms the subject of this invention is intended for marking or reproducing advertisements, notices, or other devices on roads, pavements, or other surfaces, and is combined and arranged in such manner as to reproduce the advertisements or devices by means of finely divided liquid or powdered color projected by compressed air through a perforated plate or stencil so that the liquid or powdered color is atomized and caused to pass only through the openings of the plate or stencil on to the road or pavement. If for example the design to be applied is composed of letters forming an advertisement, the letters may be open or full. In the former case the color passing through the opening will form colored letters upon the ground and in the second case the color will pass around the full letters and produce upon the ground a colored background on which the letters will appear in the natural color of the surface.

The following description with reference to the accompanying drawings will enable the underlying idea of means to be understood and the apparatus embodying the same to be constructed.

In the drawings Figure 1 is a diagram illustrating the action of the apparatus; Fig. 2 is a perspective view of a form of the apparatus wherein the device for marking the advertisements is in the form of a roller; Fig. 3 is a separate side elevation of the roller on a larger scale; Fig. 4 is a plan thereof; Fig. 5 is a front elevation partly in section; Fig. 6 is a detail section on a larger scale showing one of the atomizing nozzles; Fig. 7 is an elevation partly in section showing a form of apparatus to be carried in the hand; Fig. 8 is a plan thereof.

The improved apparatus comprises a closed spray or atomizing chamber in which an atmosphere of finely divided liquid or powdered color is produced by the action of compressed air, the finely divided color being discharged through atomizing nozzles. The bottom of this chamber, indicated at *a*, Fig. 1, is suitably cut away to form the letters, devices or designs, which it is desired to apply in color to the ground or surface.

The bottom *a* of the chamber in fact acts as a stencil to the ground or surface, indicated at *S*, Fig. 1, the finely divided color projected by the pressure of the compressed air in the chamber passing through the openings formed in the bottom *a*. When the apparatus is intended to be run upon the ground (see Figs. 2 to 5) it may, for convenience, be made in the shape of a roller or drum formed of end rings *A* and spokes *b* connected to the hub *B*.

In the construction shown in Figs. 2 and 5, the rings *A* are stayed at the circumference by bars *c* fixed at their middle to an intermediate ring *C*. A light and substantial roller is thus formed which rests on the ground by the rings *A* and is nevertheless sufficiently strong to support the letters, designs or the like forming the advertisement, which are indicated at *o*, *o* in the drawings, out of contact with the roadway and at a proper distance above the same to avoid the clogging of said letters or designs from the collection of dust or dirt. Said letters or designs *o* are fixed on the cross bars *c* by rods *d* secured by screws or otherwise.

In the construction of the device shown in Figs. 2 to 5, the two hubs *B* turn freely upon members *D'* at opposite ends of the axle *B* which is in the form of a pipe and carries the spraying means including atomizing nozzles *e* disposed at equal distances apart all along the axle and the walls of the chamber are formed by two radial plates *E* and two cheeks or end plates *F*. The bottom of this sector-shaped chamber is open and is adapted, when the drum or roller is moved along the ground, to be traversed by the stencils formed at the perimetral surface of said roller by the letters or designs *o* and their supporting means. The ends of the hollow axle *D* are herein shown connected to bent pipes *G* which fit around the drum and are connected to a pipe *H* fitted with a push valve *f* connected to a reservoir containing a supply of colored liquid or powder the surface of which is exposed to the pressure of compressed air. The apparatus *I*, as herein shown, is provided with straps to enable it to be carried on the back of the operator who guides the revolving drum by means of the pipe *H* which serves as a steering handle.

In the use of the apparatus constructed as above described a suitable quantity of colored fluid is introduced into the reservoir

I by means of a pump I¹ or the like, herein shown connected with the reservoir I and which likewise serves for introducing compressed air into the reservoir to exert the required pressure upon the liquid. The operator carrying the reservoir I pushes the drum or roller along the ground, and when the apparatus is in a suitable position for marking an advertisement he presses the button of the valve *f*; the colored fluid is then forced by the compressed air from the reservoir to the hollow axle D and issues through the nozzles *e*. As shown in Fig. 6, each of the nozzles *e* comprised in the spraying means, is preferably formed with a removable screw cap *g* having a number of apertures through which the colored fluid is projected. To increase the atomizing action a second cap *h* may be screwed on the end of the cap *g*, a certain space being left between the two caps so as to form a sort of chamber in which the colored fluid whirls before it issues in a finely divided condition through the orifice *i*. It may not always be necessary to use all the atomizing nozzles of the hollow axle D. To provide for this case the cap *g* may be unscrewed and the nozzle *e* closed by a plain cap *k* as seen in Fig. 6. By this construction, the series of nozzles *e*, *e*, disposed at suitable intervals along the length of the pipe or axle D are adapted to discharge the colored spray opposite to different parts of the stencil *a* as the latter traverses the lower open end of the atomizing chamber, and are capable of adjustment so as to accommodate the spray discharged from them to the requirements of different parts of such stencil, accordingly as the same may be more or less open. In order to protect the top of the drum from dust and dirt which might tend to smudge the edges of the letters or spacings of the stencil a curved cover J is herein shown extended over the upper part of the drum or roller.

The form of hand apparatus shown in Figs. 7 and 8 comprises a pipe H for the supply of the colored liquid or powder; this pipe is fitted with a push valve *f* which the operator presses when he desires to turn on the colored liquid or powder to be atomized. The pipe H serves as a handle for holding and carrying the apparatus and has a flange or plate *p* to which are fixed arms *m* connected to a frame K of rectangular shape for example, which supports the letters or stencil forming the advertisement or the like. Above this frame is a box or casing L which, when the valve is operated, is filled with an atmosphere of colored liquid or powder produced by the compressed air acting on the liquid or powder contained in the reservoir from which the pipe H is supplied. This pipe is connected at its lower end with spraying means including a horizontal pipe D fitted with adjustable atomiz-

ing nozzles *n* which may be set in different directions so as to distribute the colored spray or dust throughout the chamber. In order to reproduce an advertisement with this portable apparatus it is only necessary to place it upon the ground and press the button of the valve *f*; the atomized liquid is immediately projected into the chamber and passes through the openings in the bottom supported by the frame K, so that the color is uniformly projected and spread on the desired surface.

What I claim and desire to secure by Letters Patent is:—

1. An apparatus of the character described having spaced rounded members in axial alinement and capable of rolling contact with a roadway, a box supported between said members and provided with a chamber the bottom of which has a stencil adapted to be positioned adjacent to the roadway, a tubular member extended at the axis of said rounded members, means for supplying colored fluid under pressure to said tubular member, and a spraying device within said box and connected with the tubular member and adapted to discharge a spray of colored fluid within said chamber and through the stencil at the bottom thereof to print the roadway beneath said stencil.

2. An apparatus of the character described having a rotatory member, the perimetral surface of which is provided with stencils, a box inclosed within said member and having an opening adapted, in the rotatory movement of said member, to be traversed by the stencils at the perimetral surface of said member, and a spraying device within said box and capable of operation to discharge a spray of colored fluid within the same and through the opening therein and through the stencils at the perimeter of the rotatory member to print a surface adjacent to said stencils.

3. An apparatus of the character described having spaced rounded members in axial alinement and adapted for rolling contact with a roadway, stencils extended between the perimetral portions of said spaced rounded members adjacent to but out of contact with the roadway, a box between said rounded members and having an open bottom adapted to be traversed by said stencils and a spraying device within the box and adapted to discharge a spray of colored fluid through the open bottom thereof and through the stencils to print the roadway beneath said stencils.

4. An apparatus of the character described having spaced rounded members in axial alinement and adapted for rolling contact with a roadway, stencils extended between the perimetral portions of said members, a box between said members and hav-

ing an open bottom adapted, in the rotation
of the members to be traversed by the sten-
cils carried by said supporting parts, a pas-
sage produced at the axis of rotation of
5 said members, means for supplying colored
fluid under pressure to said passage, and a
spraying device within said box and con-
nected with the passage and capable of op-
eration to discharge a spray of colored fluid
10 through the open end of the box and

through said stencils to print the roadway
beneath the same.

In witness whereof, I have hereunto
signed my name in the presence of two sub-
scribing witnesses.

GEORGES DEZAVIS.

Witnesses:

GABRIEL BELLIARD,
JOHN BAKER.