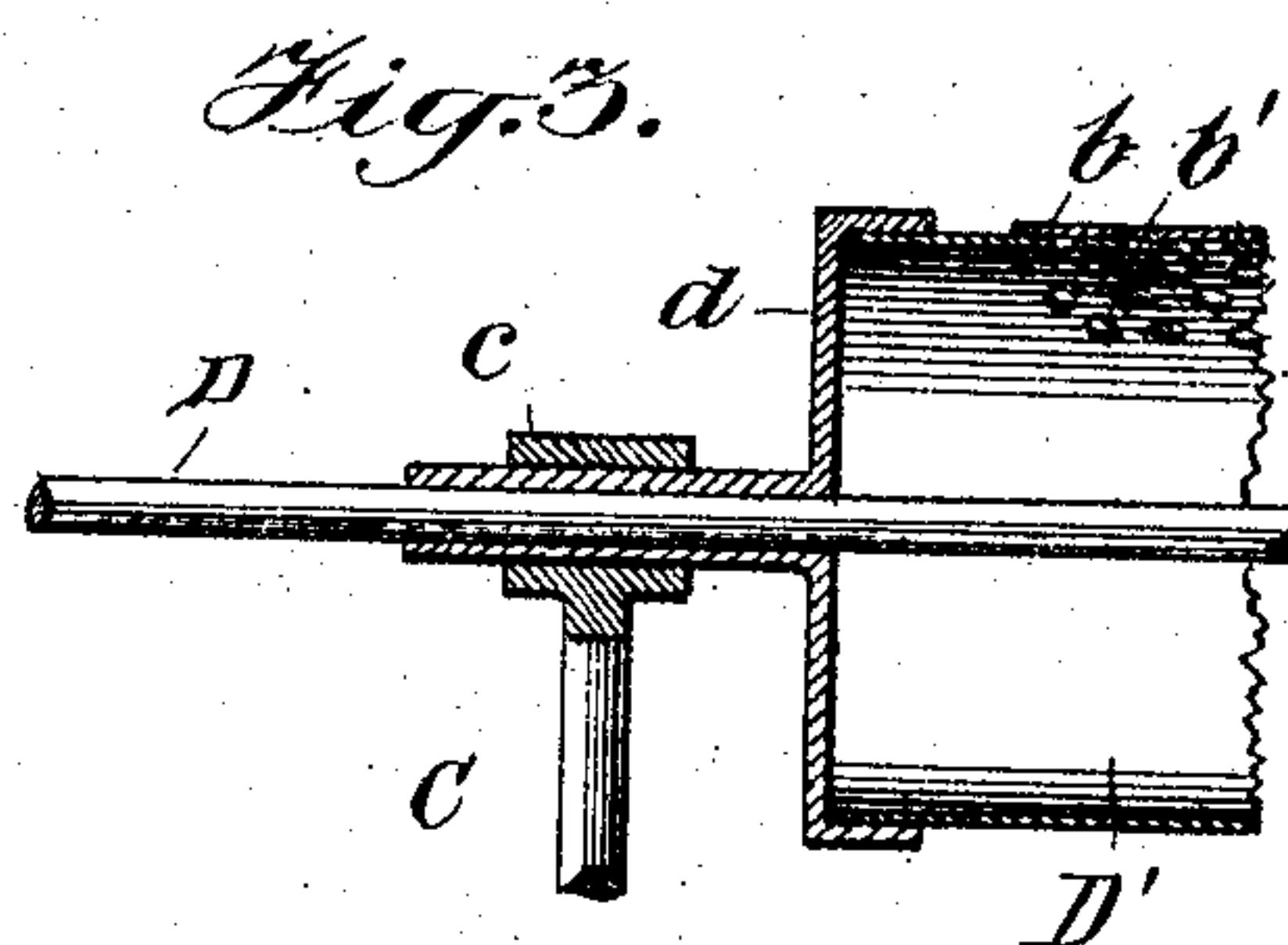
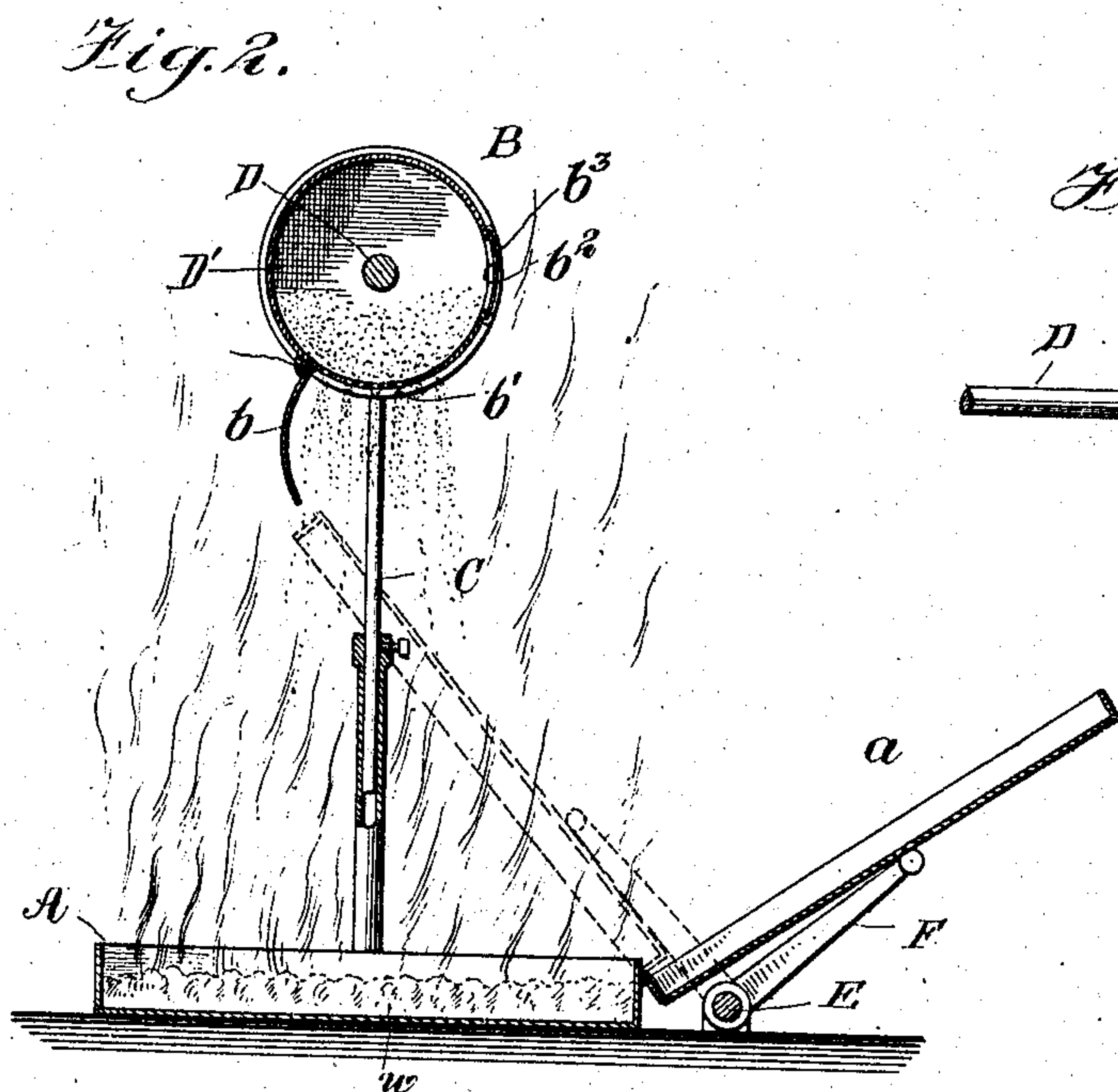
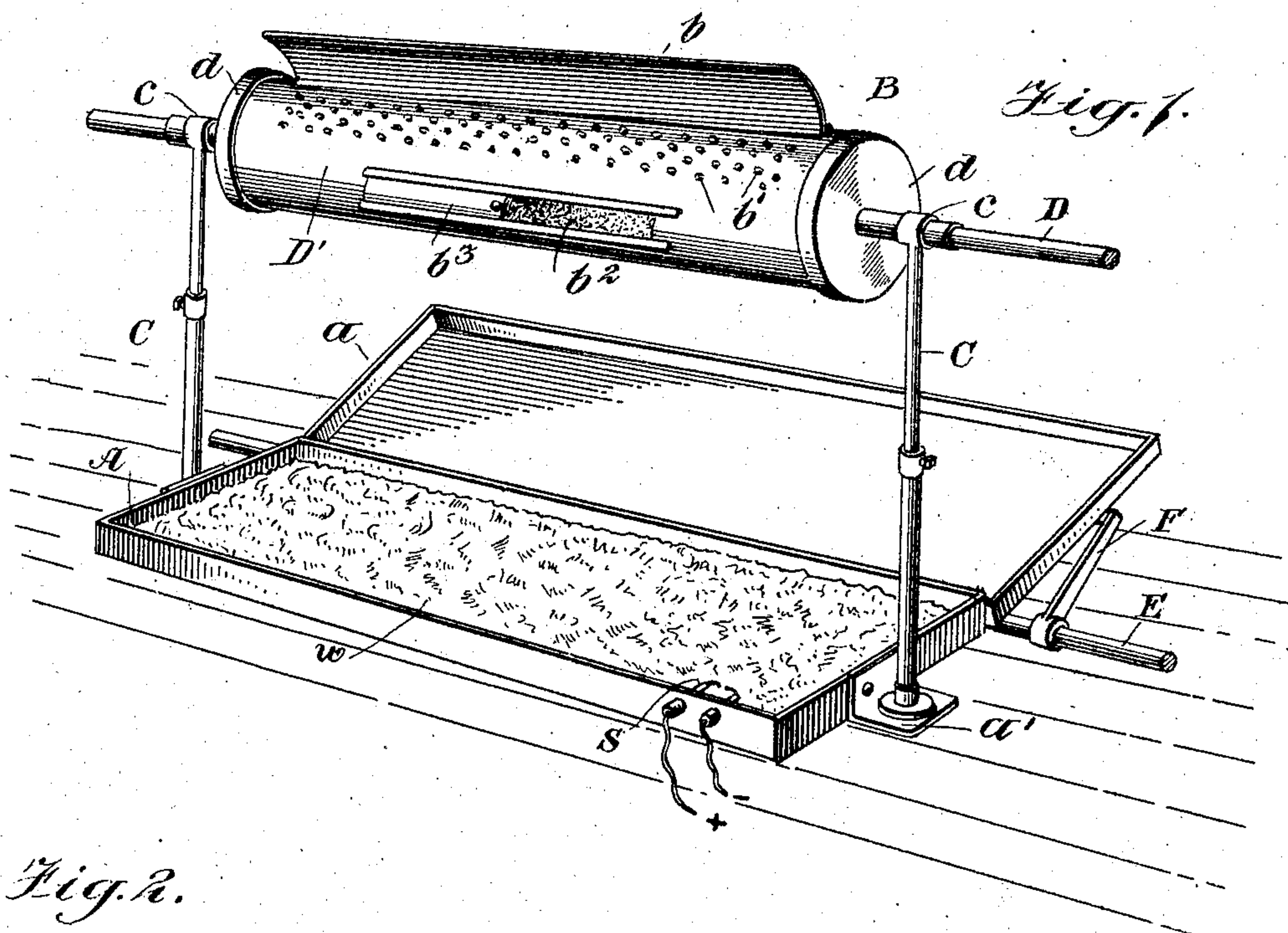


No. 781,191.

PATENTED JAN. 31, 1905.

S. DE VALL.
THEATRICAL DISPLAY DEVICE.
APPLICATION FILED JUNE 15, 1904.



WITNESSES:

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UNITED STATES PATENT OFFICE.

SAMUEL DE VALL, OF HOBOKEN, NEW JERSEY.

THEATRICAL DISPLAY DEVICE.

SPECIFICATION forming part of Letters Patent No. 781,191, dated January 31, 1905.

Application filed June 15, 1904. Serial No. 212,667.

To all whom it may concern:

Be it known that I, SAMUEL DE VALL, a citizen of the United States, and a resident of Hoboken, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Theatrical Display Devices, of which the following is a specification.

My invention relates to an improvement in theatrical display devices for producing fire effects; and it consists of the parts and combinations thereof, which will be particularly defined in the claims.

The object of my invention is to produce a device of this character which shall be simple and cheap in its construction and which is, however, capable of producing superior effects and of being more readily controlled, as well as being safe in its operation.

The drawings illustrate my invention in a form which is now preferred by me.

Figure 1 shows my device in perspective, the cover being turned back from the ignition-bed. Fig. 2 is a sectional end elevation of the device. Fig. 3 is a longitudinal section showing one end of the holder for the combustible material.

In theatrical and spectacular devices it is quite common to use fire effects, and a device by which this may be simply and safely done is very much desired. The device as herein shown and described is believed to accomplish these results.

My device comprises two principal parts—namely, an ignition-bed, which is so constructed that it may be kept heated to such a point that it will quickly ignite any combustible material placed thereon, and a holder for the combustible material so constructed and placed in such manner as to produce flames when desired.

The form of the ignition-bed which I prefer and which is shown in the drawings consists of a pan A or equivalent device constructed of some material, as iron, which is not injured by the heat, and within said pan is placed a body *w*, of refractory and absorbent material, which when the device is to be used is charged with volatile hydrocarbon—such, for instance, as alcohol. For convenience in ig-

nitening this hydrocarbon I prefer to employ an electric sparking device, the terminals S of which are shown as projecting through a side wall of the ignition-bed with their ends adjacent. The wires leading from these sparking terminals may be conveyed to a battery at any convenient point and the circuit closed after the usual manner by a switch or push-button. A spark passing between these terminals will ignite the vapor arising from the bed, and thus ignite the whole surface of the bed. I prefer to use a hydrocarbon such as alcohol, the flames of which give practically no light, in order that the ignition-bed may be kept lighted without producing a flame effect. To produce the flame effect, a combustible of such character that when ignited it will produce a flame is discharged upon this ignition-bed during the time when the flame effect is desired. A material commonly used for such purpose is lycopodium powder, which when brought in contact with a flame will blaze up, producing a very considerable flame for a small amount of powder. My device is designed for using a material of this character, although it is evident that the same device or one essentially like it might be used with a different material. The holder for this powder is mounted over the ignition-bed and provided with means by which the discharge of the powder upon the ignition-bed may be made intermittent and controlled as to time. The means for accomplishing this result as preferred by me and represented herein consists of a cylinder D', mounted to turn in bearings above the bed and provided at one side with holes or sieve-like openings *b'*, through which the powder may be sifted upon the ignition-bed. For convenience in closing these discharge-openings when desired I have shown a plate *b* as hinged by one edge to the cylinder B and of such size that when it is swung downward it will cover all of the discharge-openings *b'*.

For convenience in charging or filling the cylinder I have shown it as being provided with a hole *b²*, which may be covered by a slide *b³*. The combustible-holder B is provided with a central shaft D, which may extend to any point desired and which is provided with

means by which the holder may be readily turned. This shaft is mounted in bearings carried by supports C, said supports consisting of a rod and sleeve which are telescoped one within the other, one of which is secured as a standard to the floor, the two being held in adjusted position by means of set-screws or other convenient device. By this means the height of the holder above the ignition-bed may be varied, thereby in a measure varying the character of the flame effect.

It is a matter of convenience and quite desirable to be able to extinguish the flames upon the ignition-bed whenever desired and from a distance. This may be done by placing a cover over said ignition-bed. A convenient preferred means for doing this is shown, consisting or providing a cover *a*, hinged by one edge to an edge of the ignition-bed, so that when swung in one direction it will fall down upon the ignition-bed, and thus extinguish the flames. For conveniently closing this cover I have shown a shaft E, having an arm F engaging and supporting the cover when it is thrown backward and adapted when the rod E is rocked to raise the cover and throw it forward over the ignition-bed. It is evident that this shaft and its arm F may be permanently connected to the cover in such a way that the cover may be raised in the same manner and from a distance.

In using my device the ignition-bed is charged with a volatile hydrocarbon and the apparatus placed in position, the height of the cylinder B being whatever is found to best produce the effect desired. The cylinder when not in use is turned to such a position that the discharge-openings *b'* are above the level of the powder in the cylinder, the cylinder of course being presumed as being supplied with powder. When the flame effect is desired, the bed is lighted by the electric sparking device and the cylinder turned so as to discharge the powder upon said bed and maintained in this position during the time while the flame effect

is desired. When the use of the apparatus is no more desired, the ignition-bed is covered by throwing its cover backward, which results in extinguishing the flames.

It is evident that the construction of my device as herein shown and described may be widely varied without, however, departing from the essential principles of my invention.

I do not, therefore, wish to be limited to the exact construction shown and described.

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

1. A theatrical display apparatus comprising an absorbent bed adapted to be charged with a volatile hydrocarbon, an electric-spark ignition apparatus for said hydrocarbon, means for discharging a combustible powder upon said bed at will and means for controlling the height from which said discharge is made.

2. A theatrical display apparatus comprising an absorbent bed adapted to be charged with a volatile hydrocarbon, means for igniting said hydrocarbon, a cylinder having perforations through which a combustible powder may be charged upon said bed at will and means for controlling the height from which said discharge is made.

3. A theatrical display apparatus comprising a bed of absorbent refractory material adapted to be charged with a volatile hydrocarbon, means for covering said bed at will, an electric igniting device for said hydrocarbon and a cylinder mounted to turn in bearings over said bed and having perforations on one side through which a combustible powder may be discharged.

Signed at New York, in the county of New York and State of New York, this 27th day of May, A. D. 1904.

SAMUEL DE VALL.

Witnesses:

CHAS. L. WOLF,
M. BENDER.