

No. 691,948.

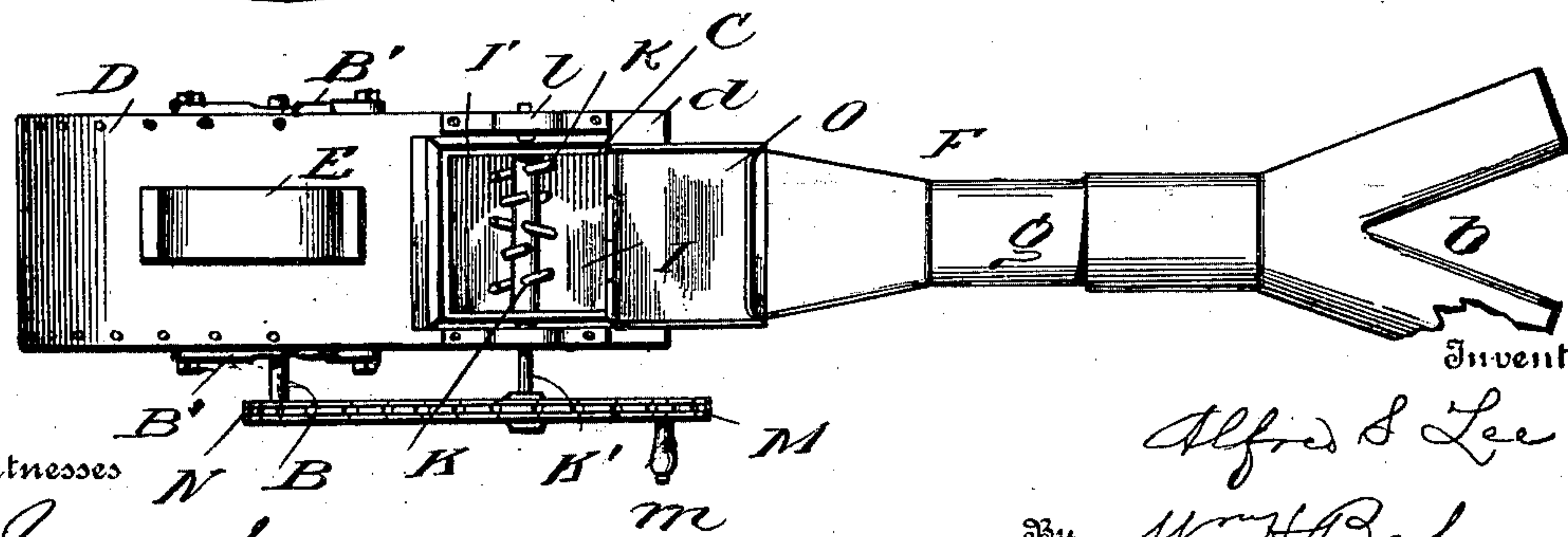
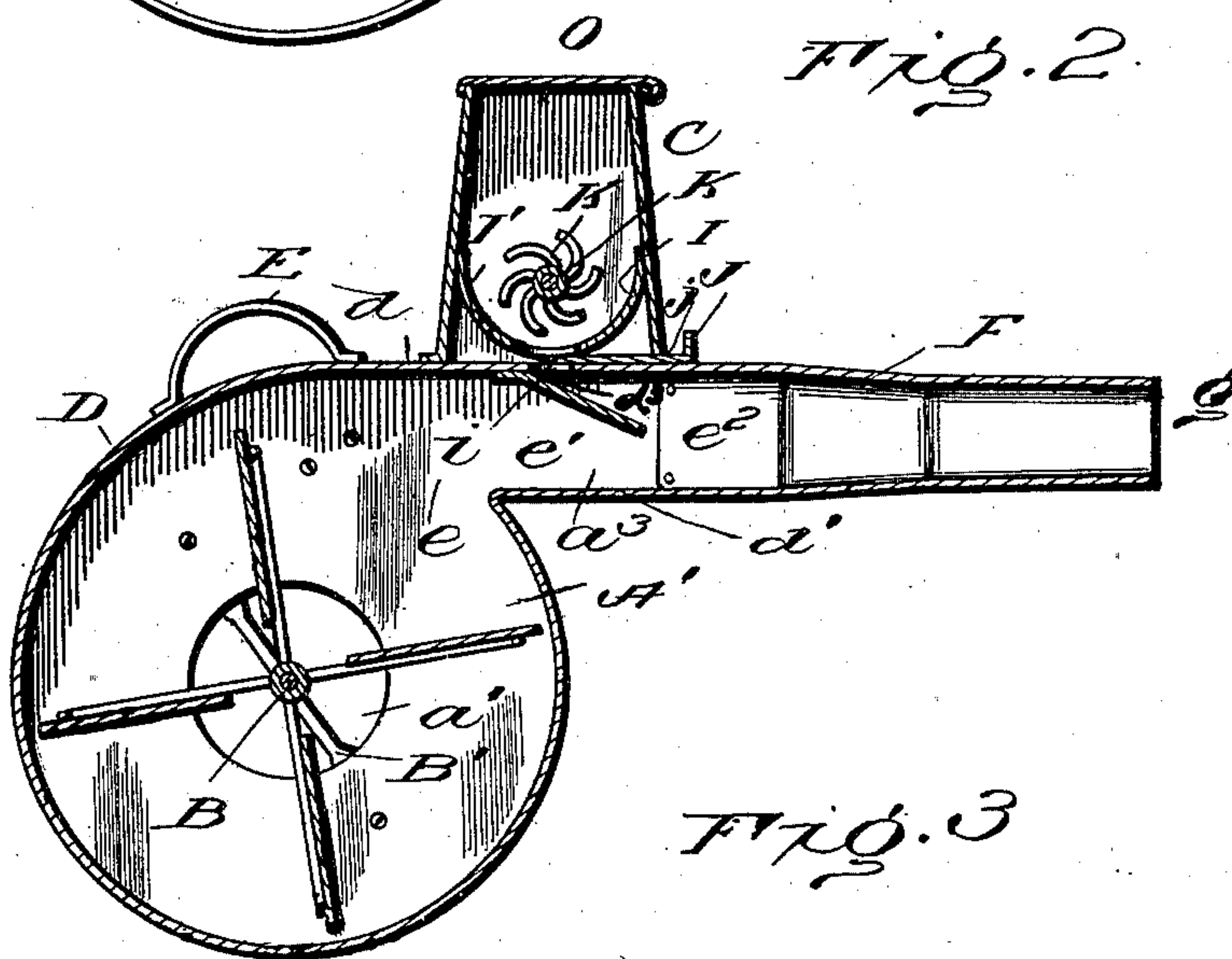
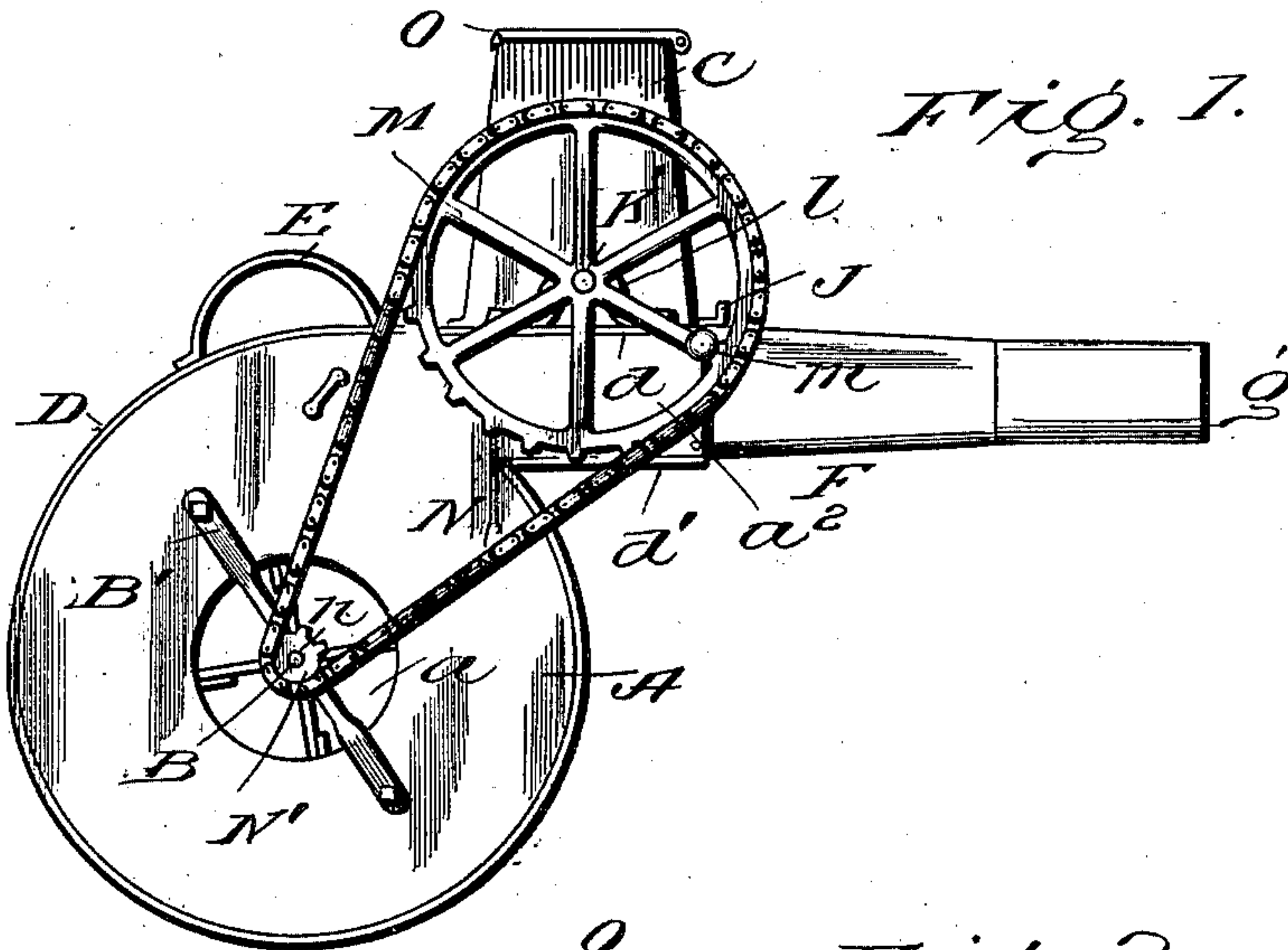
Patented Jan. 28, 1902.

A. S. LEE.
INSECTICIDE DISTRIBUTER.

(Application filed May 20, 1901.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses

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2 Sheets—Sheet 2.

Fig. 4.

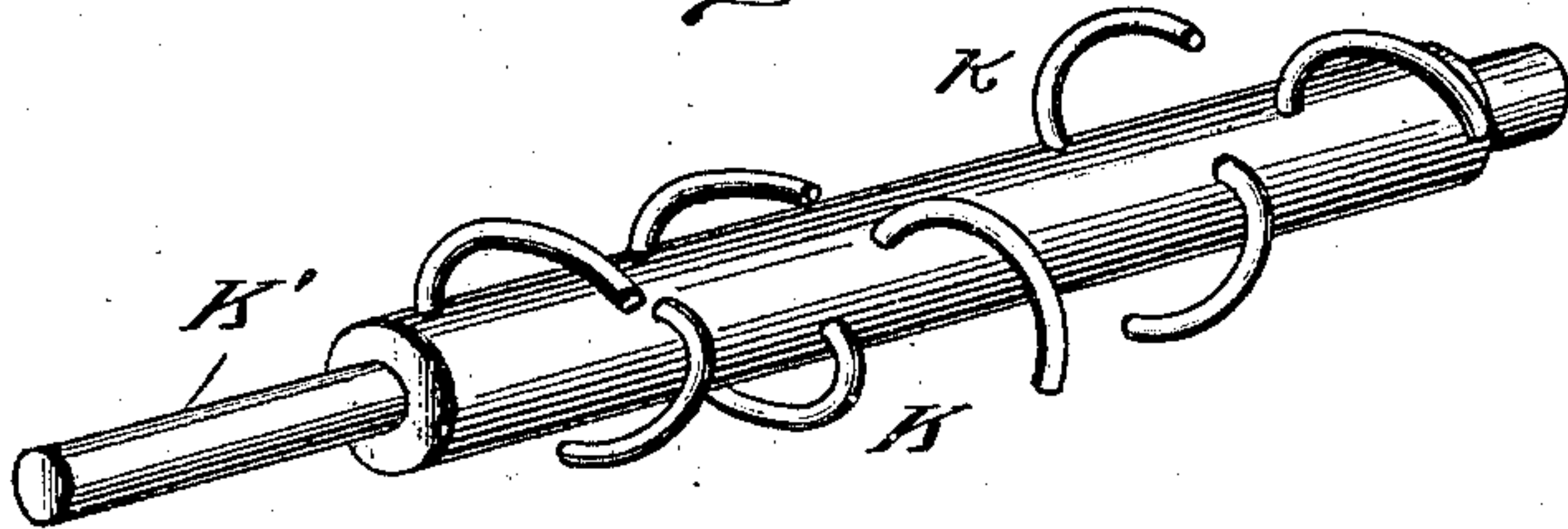


Fig. 5.

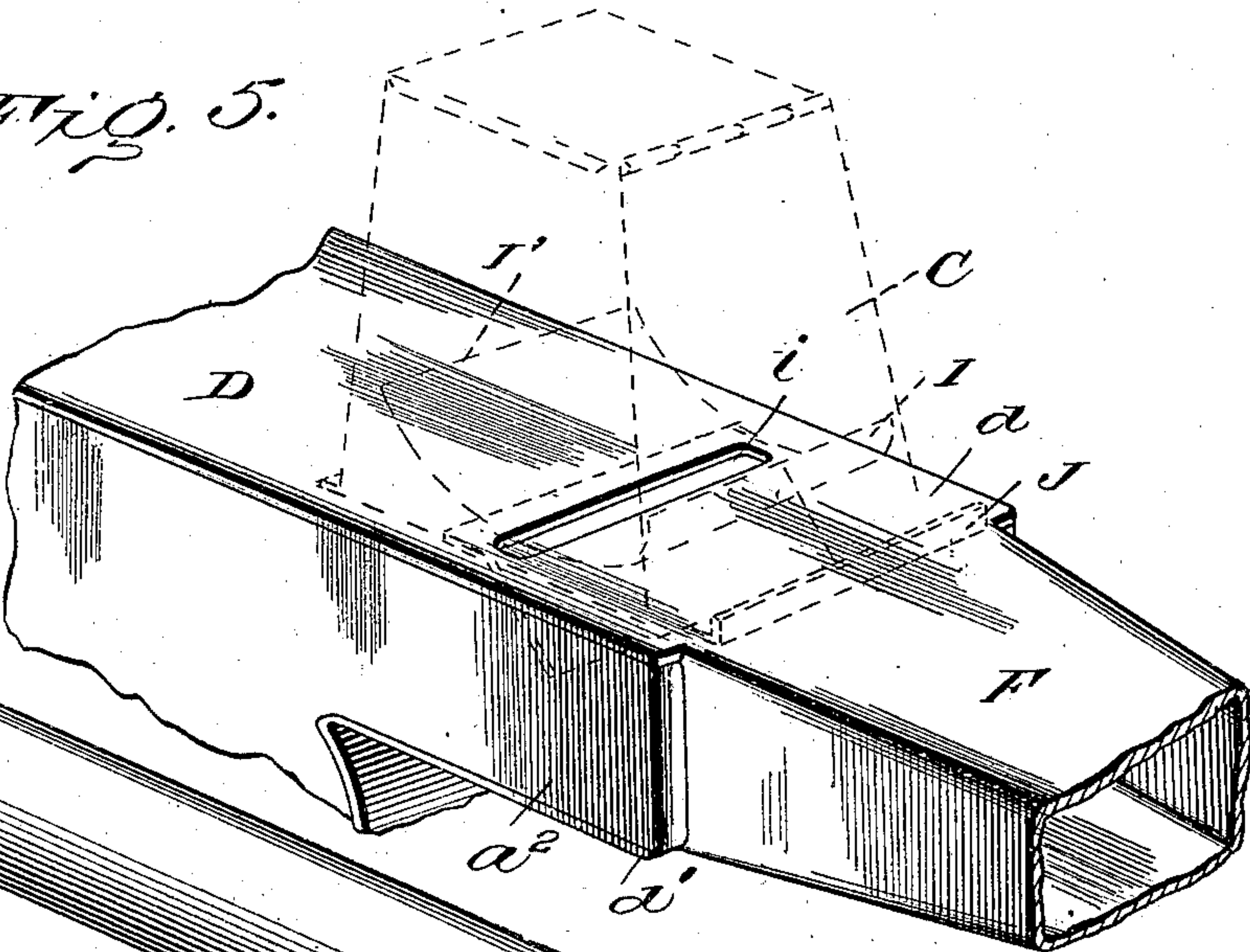


Fig. 6.

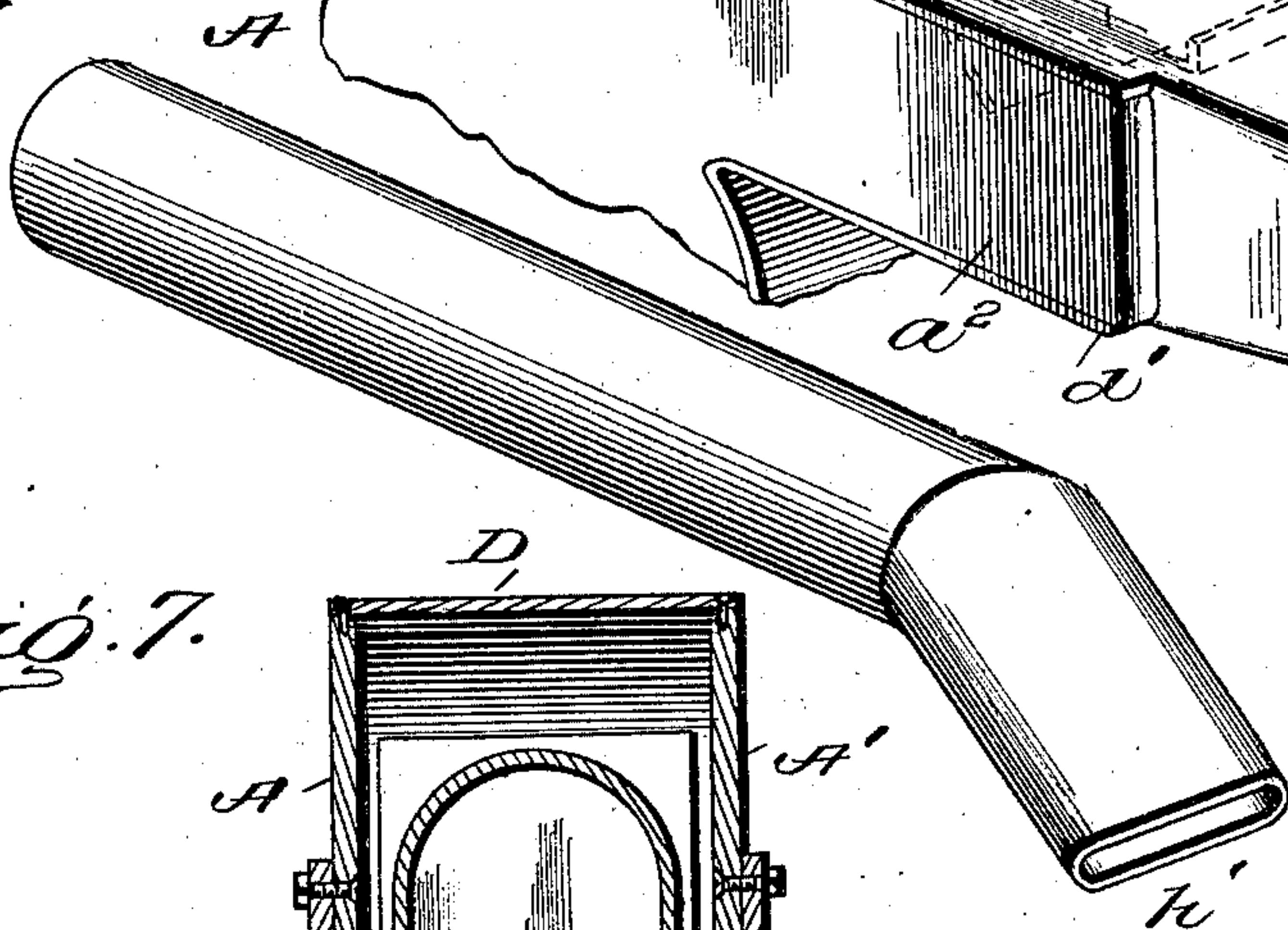
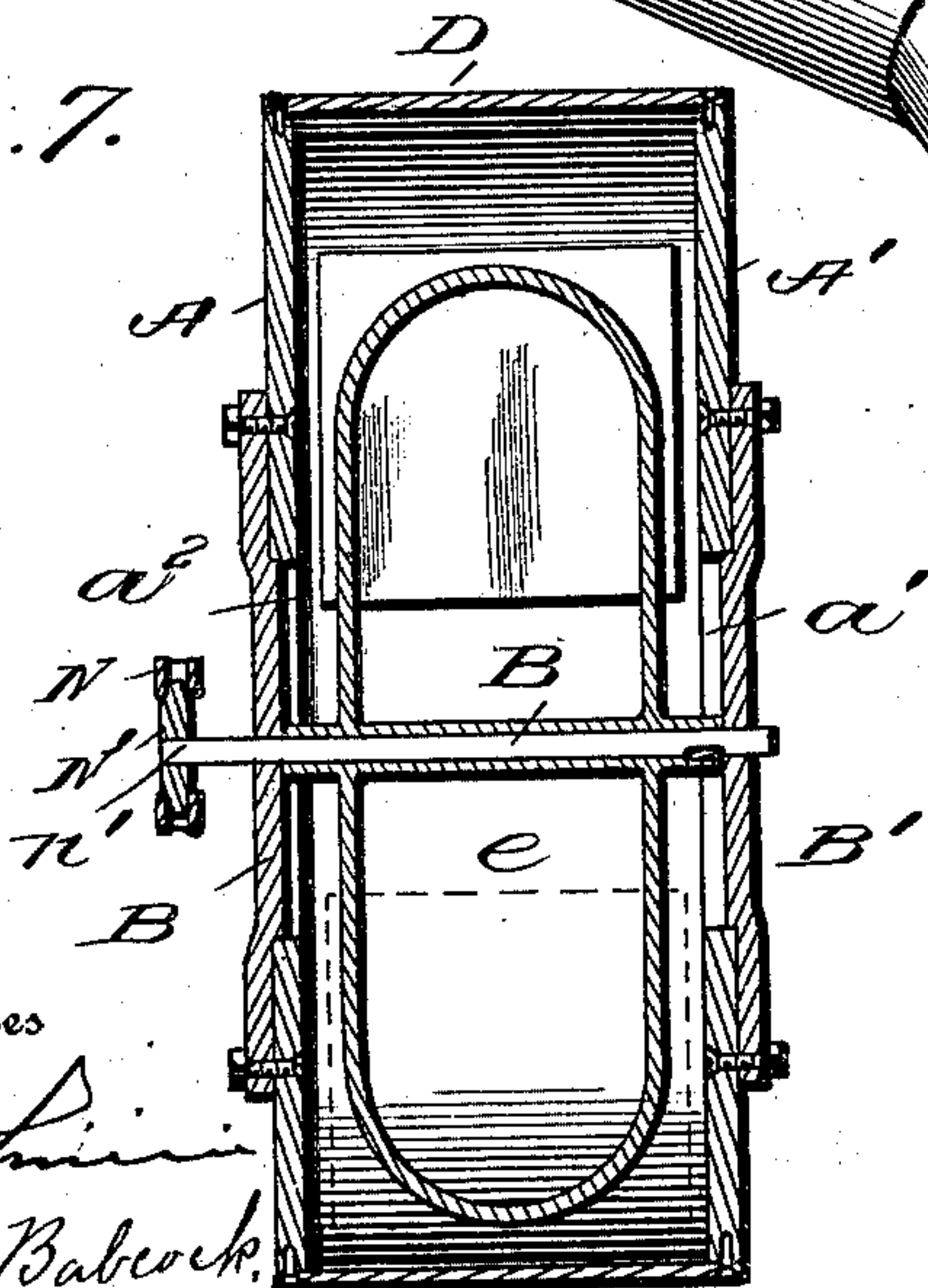


Fig. 7.



Witnesses

For Invention
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UNITED STATES PATENT OFFICE.

ALFRED S. LEE, OF RICHMOND, VIRGINIA.

INSECTICIDE-DISTRIBUTER.

SPECIFICATION forming part of Letters Patent No. 691,948, dated January 28, 1902.

Application filed May 20, 1901. Serial No. 61,117. (No model.)

To all whom it may concern:

Be it known that I, ALFRED S. LEE, a citizen of the United States, residing at Richmond, in the county of Henrico and State of Virginia, have invented certain new and useful Improvements in Insecticide-Distributers; 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 appertains to make and use the same.

The chief object in this invention is to provide a satisfactory distributor for insect-killing material of an unusually heavy kind. When such material is used with ordinary distributors, it tends to clog and pack, so that it will be discharged irregularly, sometimes a handful being thrown out at once. For avoiding this it becomes desirable to make the containing and discharging surfaces exceedingly smooth, to avoid corners as far as possible, and to adopt such a construction of the hopper and the feeding and stirring devices as will best tend to prevent or break up any accumulation of such material. To attain these ends and for the general improvement of the machine in simplicity and efficiency, I employ the construction and combination of such parts as hereinafter more particularly set forth and claimed.

In the accompanying drawings, Figure 1 represents a side elevation of a distributor embodying my invention, taken on the side where the gearing is mounted. Fig. 2 represents a vertical longitudinal section of the same, both of these views being without the final length of interchangeable discharge-nozzle. Fig. 3 represents a plan view of the same with the bifurcated nozzle or spout in place and the hopper-cover open. Fig. 4 represents a detail view of the stirrer, showing the bent fingers. Fig. 5 represents a detail view of the bottom of the hopper and the regulating-slide, that part of the slide which is below the bottom of the plate being indicated by dotted lines. Fig. 6 represents a detailed view of another form of the spout which is not bifurcated.

A and A' designate, respectively, the counterpart wooden sides of the fan-frame, having central holes a a' and forward extending arms a^2 a^3 , the latter being just below the base of the

hopper C and forming the beginning of the sides of the discharge-passageway. Brackets B' are fastened to the outside of these wooden parts A and A', affording bearings for a rotary fan B, which is provided with suitable gudgeons turning therein at the center of the holes a a' . The two wooden sides A A' are connected by a continuous scroll of sheet metal D, forming the remainder of the fan-case, and extended forward in the front at d d' to form the top and bottom of the beginning of the discharge-passageway as far as the outer end of the parts a^2 a^3 aforesaid. The upper forward extension d of said scroll or strip is cut away to leave an opening d^3 , Fig. 2, below the bottom of the hopper C. The handle E is fastened to said strip or scroll above the top of the middle of fan-chamber e , which is within the said case, and has an outlet e' into the first section e^2 , with the outlet-passageway formed by the said parts a^2 a^3 d d' . This passage communicates with a tapering discharge-pipe section F, of sheet metal, which is attached at its rear end to the parts aforesaid, inclosing the said passage e^2 , and to the forward end of the tapering section is soldered the more gradually tapering section g . The latter is practically cylindrical at its outer end and receives a removable final nozzle or spout, which may be bifurcated, as shown in Fig. 3, so as to discharge on two rows of tobacco or other growing crops at once, or may be only a single section with a flattened discharge-tip, as shown at h' in Fig. 6, the degree of flattened tip being variable according to the force. These forms of spout, nozzle, or discharge end are interchangeable as needed. Whichever form be employed, the air drawn in through holes a a' is discharged by the fan in the usual way through opening e into the passage e^2 , where it receives the insecticide-powder from the hopper C, this powder being then carried with it through the tube-section above mentioned and discharged out through the said nozzle. The said hopper is of sheet metal, like all the other parts of the distributor except the side pieces A A', the fan, stirrer, gearing, and bearing-brackets. Instead of tapering downward this hopper tapers upward, or may be defined as internally flaring or expanding downward from top to bottom, its base being much broader than the

top for the purpose of preventing the powder from packing therein. The bottom of this hopper is formed by two curved plates I I', which leave a slot *i* or long opening between 5 them, the concave bottom thus presented doing away with corners and preventing the lodgment of the insecticide therein. A hand-operated regulating-slide J, working through an opening *j* at the front of the base of the 10 hopper, passes under the forward concave plate I and opens or closes more or less of opening *i* at will to regulate the dropping of the insecticide into the passage *e*². A stirrer K, consisting of a transverse shaft provided 15 with bent fingers *k*, is arranged transversely in said hopper just above opening *i* and journaled in bearings *l* on the top of the casing exterior to said hopper. These fingers are curved in the direction of rotation and arranged in alternate or quincunx order that 20 their ends being presented forward may act on the powder to the best advantage, that part of the fingers nearest to the shaft also acting on it as straight radial rods, while 25 their arrangement insures their action taking place at different points simultaneously. One end K' of the stirrer-shaft is extended laterally to receive a sprocket-wheel M, having a handle *m* and connected by an endless chain 30 N with a similar extension *n* of a pocket-pinion N' on one of the fan-gudgeons. The cover O of the hopper is hinged for convenience of opening. The horizontal partition provided with perforations may, if desired, be arranged across the hopper above the stirrer, 35 acting as a sieve to prevent the insecticide from descending in masses to said stirrer, so

that it will constitute an additional guide against clogging; but it is usually necessary. The metallic surface of the interior of the 40 hopper being smooth and polished will not allow the arrest of any particle along the sides or at the bottom thereof. The curvature of these fingers corresponds to that of the concave bottom, so that they may be 45 used in close proximity thereto and with the best effect.

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

In an insecticide-distributor, the combination of a metallic fan-case having wooden sides and a spout, with a fan turning in said case and journaled in said sides, a metallic hopper 50 mounted above the point of junction of the said spout and case and flaring downward, a concave, slotted, metallic bottom for said hopper, discharging into the beginning of the said 55 spout, a deflecting-plate attached to the top of said spout and extending forward under an opening therein below the slot in said bottom, a rotary stirrer arranged in the said 60 hopper above the said slot and provided with alternately-arranged staggered and oppositely-inclined fingers, bent forward in the 65 direction of rotation, and operating-gearing connecting the shafts of the fan and stirrer, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

ALFRED S. LEE.

Witnesses:

O. H. TUNSTER,
EUGENE JONES.