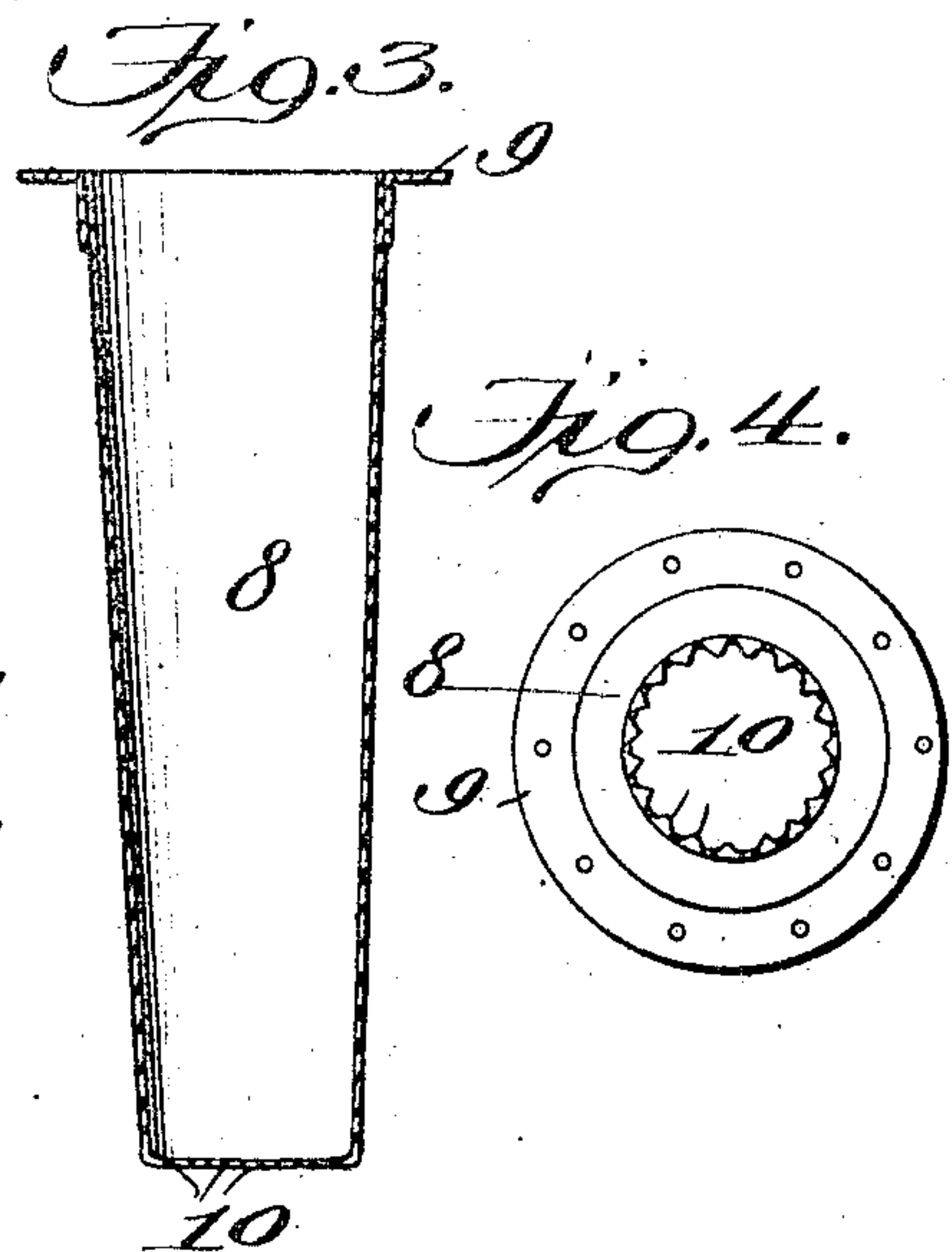
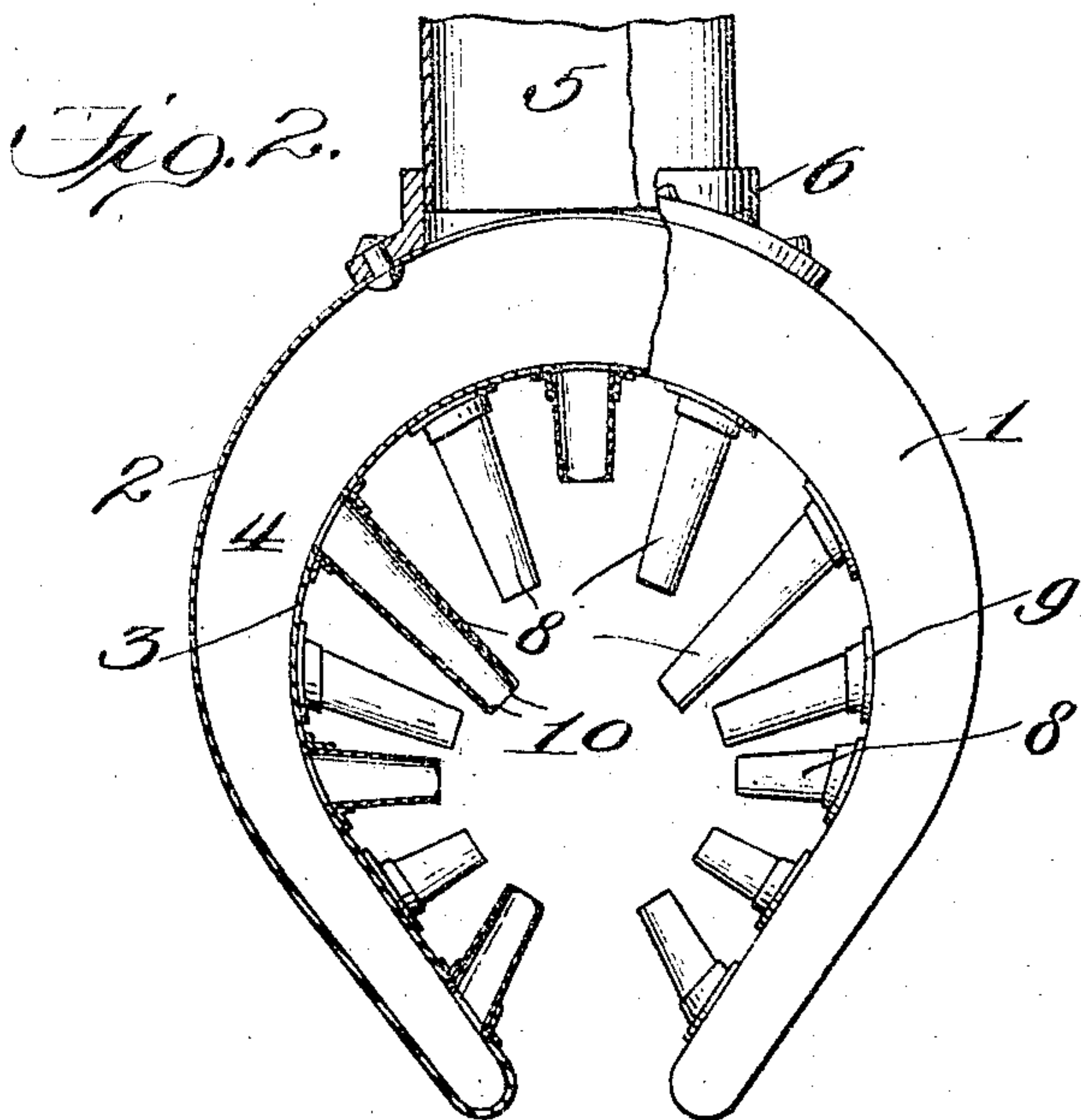
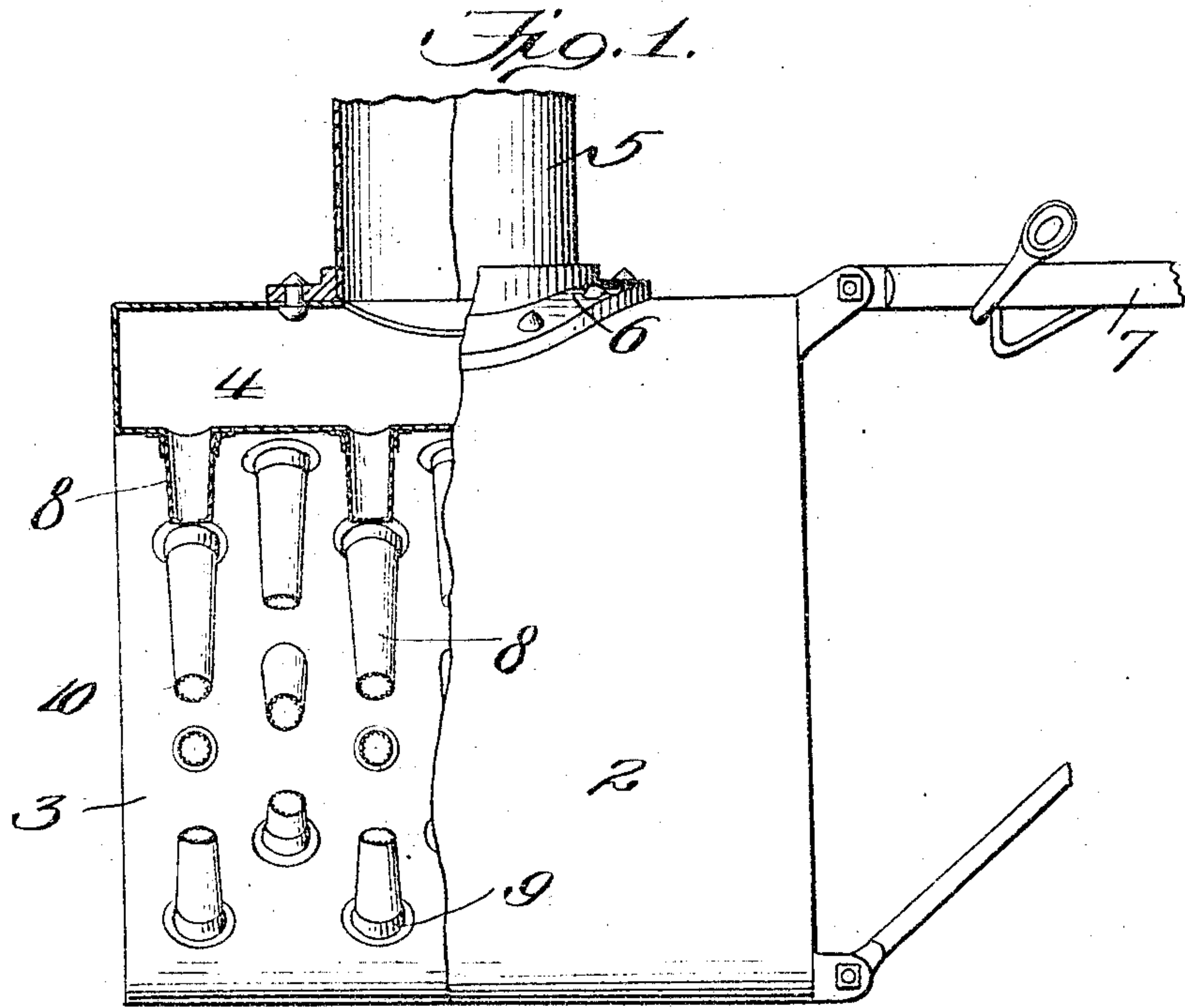


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COTTON PICKER.
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Patented Mar. 1, 1910.



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UNITED STATES PATENT OFFICE.

FRANK M. DANNELLY, OF DALLAS, TEXAS.

COTTON-PICKER.

951,059.

Specification of Letters Patent.

Patented Mar. 1, 1910.

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To all whom it may concern:

Be it known that I, FRANK M. DANNELLY, a citizen of the United States, residing at Dallas, in the county of Dallas and State of Texas, have invented new and useful Improvements in Cotton-Pickers, of which the following is a specification.

My present invention relates to improvements in cotton pickers or harvesters and more especially to the class wherein the cotton is removed from the boll by suction, and it has for its object primarily to provide an improved hood for cotton pickers of the type shown in Letters Patent, No. 685111 granted to me October 22, 1901, the hood according to my present invention being shaped to straddle a row of cotton plants and is elongated to form a longitudinal suction chamber the inner wall of which is provided with numerous inwardly extending suction tubes which are arranged in staggered relation longitudinally of the hood and are of different lengths whereby every portion of the plant will be reached by such tubes and the ripe cotton will be removed therefrom without injury to the plant.

Another object of the invention is to provide an improved cotton picker of this character wherein the capacity of the suction chamber of the hood and the aggregate capacity of the suction tubes will be substantially equal to the capacity of the suction pipe through which the cotton is conducted to an appropriate collecting receptacle whereby the velocity of the air through such parts will insure the passage of the removed cotton therethrough.

A further object of the invention is to provide an improved suction tube to act upon the cotton and remove it from the plant, such tube being preferably tapered, its inner reduced end having inwardly projecting teeth arranged in a plane at right angles to the axis of the tube which teeth permit the entrance of the cotton into the tube but prevent entrance of the boll or bur, although should such boll or bur enter the tube the increasing diameter thereof would prevent clogging.

To these and other ends, the invention consists in certain improvements, and combinations and arrangements of parts, all as will be hereinafter more fully described, the novel features being pointed out particularly in the claims at the end of the specification.

In the accompanying drawing: Figure 1

is a side elevation partly in section of a cotton picker constructed in accordance with my present invention; Fig. 2 is an end elevation partly in section of the cotton picker as shown in Fig. 1; Fig. 3 represents a longitudinal section of one of the suction tubes, the same being removed from the hood; and Fig. 4 illustrates the tube as viewed from its inner or smaller end.

Similar parts are designated by the same reference characters in the several views.

Certain features of the present invention are capable of use generally in connection with cotton pickers of various types, although in the accompanying drawing I have illustrated the invention as applied to a cotton picker of the class shown and described in my prior patent, No. 685111 granted to me October 22, 1901. It will be understood, however, that the invention is not limited to the precise construction and arrangement of the parts as shown in the drawing, as such modifications and changes may be made as may be desirable in applying the invention to different uses.

In the present instance, the apparatus consists of a hood 1 which is preferably yoke-shape, this hood having an outer wall 2 and an inner wall 3, these walls being spaced apart to form a suction chamber 4. The walls of the hood preferably approach one another toward the lower ends of the hood so that the upper or intermediate portion of the suction chamber will be larger or of greater capacity than its lower portions, and the upper portion of the outer wall 2 is provided with an outlet to which a suction pipe 5 is connected, this suction pipe being attached directly to the hood in the present instance through the medium of a flanged collar 6.

The inner wall 3 of the suction chamber forms a space within it sufficient to accommodate a row of cotton plants, it being understood that the device straddles the plants and is moved longitudinally of the row in any suitable manner such, for instance, as by attaching the apparatus to the forward end of a wagon tongue 7. Projecting inwardly from the wall 3 are the suction tubes 8 which are arranged in rows extending longitudinally of the suction chamber, the tubes in the several longitudinal rows being staggered so that the tubes will reach every portion of the plant. Certain of the tubes are also longer than others so that such

tubes will be able to reach inwardly toward the center of the plant and thereby remove cotton which is not exposed at the exterior of the plant. The size and number of suction tubes is preferably such that their aggregate capacity is preferably equal to the capacity of the suction chamber 4, and in turn the capacity of this suction chamber is preferably equal to the capacity of the suction pipe 5 so that the draft or suction through these parts will be substantially uniform at all points and it will not be possible for any cotton to remain either in the tubes or the suction chamber.

I provide in the present instance a suction tube of improved form, it being tapered longitudinally, the wider end being provided with a flange 9 or other means by which it is attached to the inner wall 3 of the suction chamber, and its opposite or smaller end is provided with a set of teeth 10 which are arranged in an annular row, these teeth projecting inwardly in a plane substantially at right angles to the axis of the tube. By tapering the tube in the manner described and providing the smaller end of the tube with teeth as shown, the ripe cotton will be permitted to enter the tube while the teeth will engage the cotton; they serve to reduce the entrance of the tube to a diameter smaller than the boll or bur and thereby prevent such boll or bur from entering the tube or becoming caught in the end of the tube in such a manner as would clog it. However, should a boll enter the tube by any possibility, it could not clog the tube for the reason that the tube is of greater diameter than the space formed between the teeth and, moreover, the increasing diameter of the tube would prevent such bodies from wedging or clogging the tube.

According to the present invention, the tubes so operate that the lint will be drawn in by the suction and the teeth engage the cotton and thereby hold it within the mouth of the tube while the chamber is moving along the row of plants, until the full action of the suction can take effect and thereby remove all of the cotton from the boll, these teeth also serving to reduce the area of the tube although they do not obstruct the entrance of the cotton. It will be understood, of course, that by decreasing the number of tubes, the velocity of the air current can be increased to any desired speed at the mouth or small end of the suction tubes for the purpose of increasing the suction power at that particular point, or the diameter at the mouth of the tubes can be decreased to produce the same result.

The suction chamber, it will be understood, is elongated or of a considerable length, and throughout its length extend rows of suction tubes which are arranged in approximately radial relation to a central

zone wherein the plant is located. Such an arrangement insures that every portion of the plant shall be reached by at least one suction tube and hence all ripe cotton will be removed from the plant.

I claim as my invention:

1. A cotton picker comprising a suction chamber having portions which extend laterally and are arranged to pass upon opposite sides of a row of plants, said sections communicating with a common outlet, and a plurality of suction tubes communicating at their outer ends with the chamber and arranged substantially radially so as to converge toward a central suction zone.

2. A cotton picker comprising a suction chamber in the form of a hood embodying a pair of laterally spaced opposed sections adapted to straddle a row of plants and connected by said hood to a common outlet, said chamber being elongated in the direction of its length, suction tubes projecting inwardly from the opposed sections of the suction chamber and converging toward a central suction zone which has an axis arranged longitudinally of the suction chamber, said tubes being arranged in horizontal rows with those in one row staggered with respect to those in adjacent rows.

3. A cotton picker comprising a suction chamber having in cross section substantially the form of a horseshoe which is elongated longitudinally of the cotton picker and has its opening downward, and a plurality of suction tubes projecting inwardly from the suction chamber and converging toward a central suction zone which has an axis parallel to the length of the cotton picker.

4. A cotton picker comprising a relatively long suction chamber having substantially the form of a horseshoe in vertical cross section, and a plurality of suction tubes arranged in rows extending longitudinally of the suction chamber and projecting inwardly therefrom toward a longitudinal axis to form a zone to receive the plant.

5. A cotton picker comprising a suction chamber having opposed walls, and a plurality of suction tubes arranged radially and communicating with said chamber and extending inwardly from said opposed walls toward a common longitudinal axis forming a zone to receive the plant.

6. A cotton picker comprising a relatively long suction chamber, and a plurality of suction tubes arranged radially and in rows extending longitudinally of the chamber and converging to form a longitudinal suction zone, the tubes in one row being staggered with respect to those in the adjacent rows.

7. A cotton picker comprising a suction chamber and a plurality of suction tubes arranged substantially radially and converging to form a central suction zone, each tube tapering uniformly from its point of junction

tion with the suction chamber to its mouth, each tube also having teeth which project inwardly into its mouth in a plane at right angles to the axis of the tube.

- 5 8. A cotton picker comprising a suction chamber which is of horseshoe form in vertical cross section to straddle a row of plants, the suction chamber having a pair of opposed longitudinally extending walls arranged substantially vertically, and a plu-
10 rality of suction tubes extending inwardly from the respective walls and communicat-

ing therewith, said suction tubes converging toward a common longitudinal axis and being arranged in rows extending longitudi- 15 nally of the suction chamber.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

FRANK M. DANNELLY.

Witnesses:

W. LESLIE WILLIAMS,
GEO. P. TUCKER.