

G. H. HARTWELL, JR.
NOZZLE FOR COTTON PICKERS.
APPLICATION FILED AUG. 30, 1913.

1,109,525.

Patented Sept. 1, 1914

FIG. 1

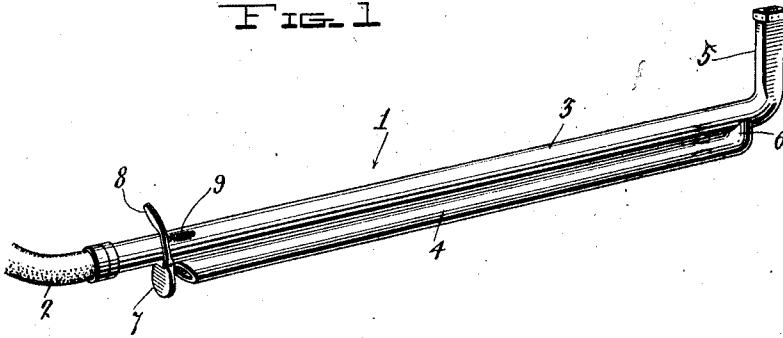


FIG. 2

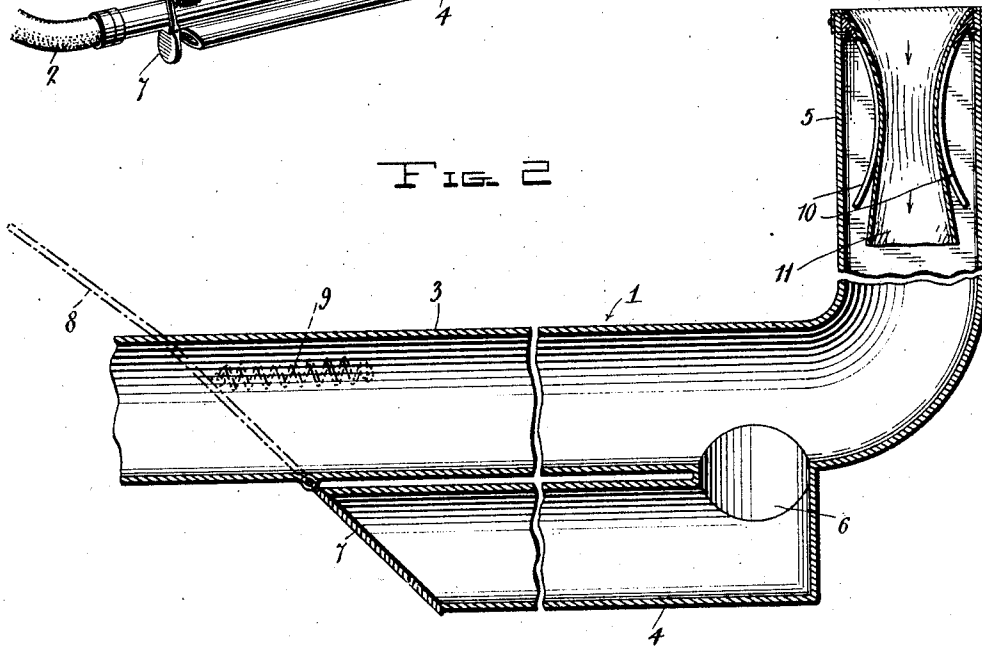


FIG. 3

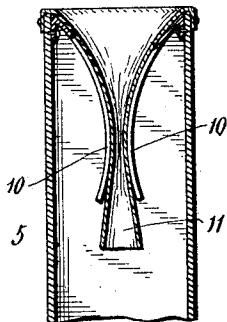


FIG. 4

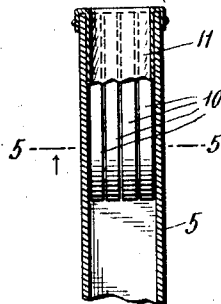
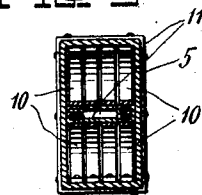


FIG. 5



Witnesses

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NOZZLE FOR COTTON-PICKERS.

1,109,525.

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To all whom it may concern:

Be it known that I, GEORGE HARRY HARTWELL, JR., a citizen of the United States, residing at San Antonio, in the county of Bexar and State of Texas, have invented new and useful Improvements in Nozzles for Cotton-Pickers, of which the following is a specification.

The present invention has reference to nozzles for cotton pickers, and it proposes, briefly, an improved device of the general type or character specified which is operable in such a manner as to permit the suction to be exerted suddenly upon a boll when the nozzle is placed thereover, whereby the boll is stripped by a quick jerk from the bur and drawn into and through the nozzle.

An embodiment of the invention is illustrated in the accompanying drawing, whereof:—

Figure 1 is a perspective view of the improved nozzle attached to a suction hose; Fig. 2 is an enlarged longitudinal sectional view of the nozzle; Figs. 3 and 4 are longitudinal sectional views, taken at right angles to each other, through the mouth-piece of the nozzle; and Fig. 5 is a transverse section taken on line 5—5, Fig. 4.

In said drawing, 1 denotes, in a general manner, the improved nozzle, and 2 the hose to which the same is attached. The first of these two parts or elements is preferably composed, as shown, of juxtaposed, parallel main and auxiliary tubes 3 and 4, the former having its rear end coupled directly to the hose in any suitable manner, and its front end bent laterally to produce the picking portion or mouth-piece 5 of the nozzle. The auxiliary tube 4 is somewhat shorter than the main tube and is joined thereto at its front end by an integral neck 6, which affords a means of communication between the tubes, its rear end being open and, preferably, cut away at an angle. The passage of the air current through the latter end of the auxiliary tube into that tube and thence through neck 6 into the main tube is controlled by means of a valve 7 which, in the present instance is pivoted to the main tube adjacent the rear end thereof, so as to close said end under certain predetermined conditions, this valve being operated by a finger-piece or handle 8, to which a controlling spring 9 is attached.

The mouth-piece 5 is rectangular in cross-section, and is normally closed by a yielding

device which is itself under the control of the valve 7, this device being here shown as consisting of two coacting, jaw-like, spring elements that are arranged opposite each other within said mouth-piece and between the front and rear walls thereof, as depicted in Figs. 4 and 5. These spring elements are preferably composed, each, of a series of structurally-separate fingers 10 that are attached at their outer ends to the outer edge of the mouth-piece and are in the nature of leaf springs, the two sets of spring fingers being bowed toward each other, so as to substantially prevent the passage of air through the mouth-piece under ordinary conditions, and being guided or held in place by the afore-mentioned front and rear walls of the said mouth-piece, between which walls they project, as shown in Fig. 5. The mouth-piece is further equipped with a tubular throat 11 of suitable textile fabric, leather or other flexible material, the throat extending between the spring fingers 10 and the above-specified walls, and being normally closed or constricted by the former, which bear thereagainst.

As above stated, the mouth-piece 5 is normally closed, and the free or rear end of the auxiliary tube 4 is normally open, so that the current of air which is caused to flow through the nozzle by the action of the usual suction fan or like device, (not shown), will enter the afore-mentioned end of tube 4 and pass through the latter into the main tube 3 by way of the connecting neck 6. When it is desired to operate the implement, however, the mouth-piece is placed over the boll and the valve 7 moved to closed position by a quick manipulation of handle 8, whereupon the course of the air current will be suddenly changed, the air then being forced to enter the nozzle through the mouth-piece. As a result, the air in entering, will force the two spring jaws apart and will jerk the boll quickly from its bur, the boll passing through the mouth-piece into the body of the nozzle, and thence through the hose in the usual manner.

Having described my invention, I claim:—

1. A suction nozzle comprising main and auxiliary tubes arranged side by side, the auxiliary tube having one end open and the other end communicating with the main tube; a valve located at the open end of the auxiliary tube, to control the passage of the air current through said tubes; means for

normally holding said valve in open position; means for closing said valve against the action of said holding means; and a yielding closure for the inlet end of the main tube under the control of said valve.

2. A suction nozzle comprising communicating main and auxiliary tubes, the former having its mouth-piece provided with a yielding, interiorly-located closure composed of a flexible, tubular throat, and a pair of spring jaws arranged upon opposite sides of said throat for normally constricting the same, said mouth-piece having a portion thereof constituting a pair of oppositely-arranged guides between which said throat extends and said jaws work; and a valve co-operative with the auxiliary tube for regulating the passage of the air current through that tube into the main tube, to control the operation of said closure.

3. A suction nozzle comprising main and auxiliary tubes arranged side by side, the auxiliary tube having one end open and a neck connecting its other end with the main tube; a movable valve for controlling the passage of the air current through said neck; and a yielding closure for the inlet end of the main tube under the control of said valve, said closure embodying a flexible, tubular throat, and a pair of jaws arranged upon opposite sides of said throat and consisting of sets of yielding fingers bowed toward said throat to normally constrict the same, said mouth-piece having a portion thereof constituting a pair of oppositely-arranged guides between which said throat extends and said jaws work.

4. A suction nozzle comprising main and auxiliary tubes arranged side by side, the auxiliary tube having one end open and a neck connecting its other end with the main tube; a valve for controlling the passage of the air currents through said neck; and a yielding closure for the inlet end of the main tube under the control of said valve, said closure embodying a flexible, tubular throat and a pair of yielding jaws arranged upon opposite sides of said throat for normally constricting the same.

5. A suction nozzle comprising main and auxiliary tubes arranged side by side, the auxiliary tube having one end open and a neck connecting its other end with the main tube; a valve for controlling the passage of the air current through said neck; means for normally holding said valve in open position; means for closing said valve against the action of said holding means; and a yielding closure for the inlet end of the main tube under the control of said valve, said yielding closure embodying a flexible, tubular throat and a pair of yielding jaws arranged upon opposite sides of said throat for normally constricting the same.

6. The combination, with a suction pipe of a nozzle therefor comprising main and auxiliary tubes arranged side by side, the main tube having its outlet end connected directly to said pipe, and the auxiliary tube having one end open and the other end communicating directly with said main tube; a movable valve for controlling the passage of the air current into said main tube from said auxiliary tube; and a yielding closure for the inlet end of said main tube under the control of said valve.

7. The combination, with a suction pipe; of a nozzle therefor comprising main and auxiliary tubes arranged side by side, the main tube having its outlet end connected directly to said pipe, and the auxiliary tube having one end open and the other end communicating directly with said main tube; a spring-controlled valve pivoted to one of said tubes and operable from the exterior thereof to control the passage of the air current into said main tube from said auxiliary tube; and a yielding closure for the inlet end of said main tube under the control of said valve.

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

GEORGE HARRY HARTWELL, JR.

Witnesses:

H. M. AUBREY,
IONE M. PECK.