R. E. SHAW.

MACHINE FOR GATHERING BOLL WEEVIL COTTON SQUARES.

APPLICATION FILED AUG. 19, 1912.

1,068,941. Patented July 29, 1913.

Fig. 1.

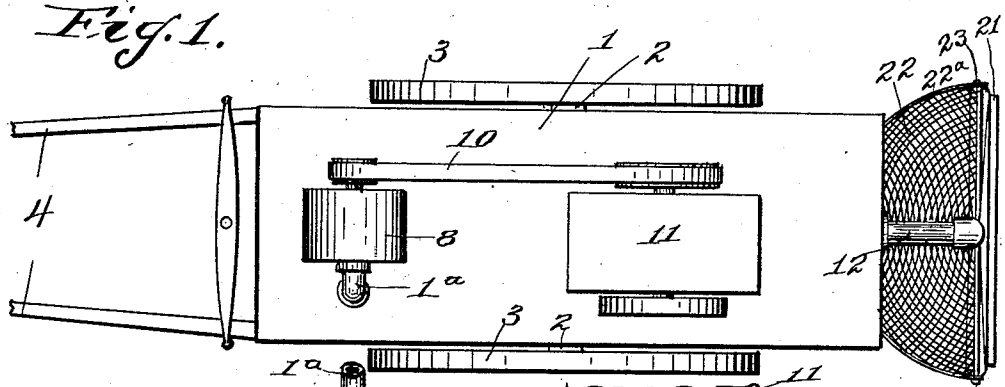


Fig. 2.

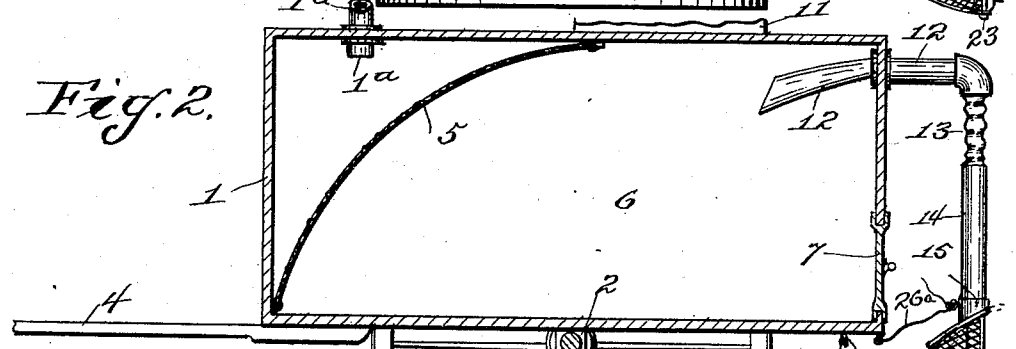


Fig. 5.

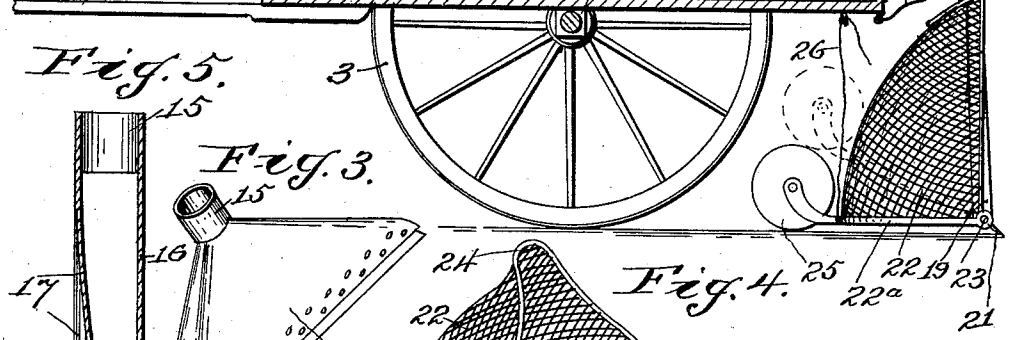


Fig. 3.

Fig. 4.

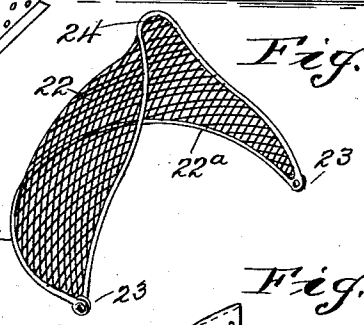


Fig. 6

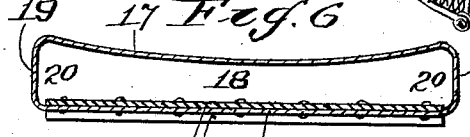
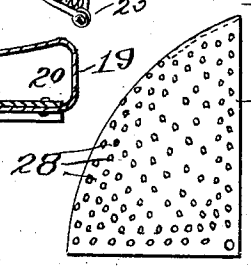


Fig. 7.



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UNITED STATES PATENT OFFICE.

ROBERT E. SHAW, OF WHATLEY, ALABAMA.

MACHINE FOR GATHERING BOLL-WEEVIL COTTON-SQUARES.

1,068,941. Specification of Letters Patent. Patented July 29, 1913.

Application filed August 19, 1912. Serial No. 715,822.

To all whom it may concern:

Be it known that I, ROBERT E. SHAW, a citizen of the United States, residing at Whatley, in the county of Clarke and State of Alabama, have invented certain new and useful Improvements in Machines for Gathering Boll-Weevil Cotton-Squares, of which the following is a specification.

This invention relates to machines for collecting boll weevil, and pertains especially to a machine for collecting cotton "squares" containing boll weevil eggs.

The object of the invention is to provide a one horse cart or vehicle of simple and inexpensive construction having novel and peculiar means for collecting cotton "squares" by pneumatic suction.

A further object of the invention is to provide, in a two wheeled vehicle, special means for confining the pneumatic suction within the radius of the suction nozzle so as to prevent any suction from the rear or back of the nozzle mouth, and so as to reduce the amount of air usually required in a such suction operation.

A still further object of the invention is to provide the back of the nozzle at its mouth with a drag flap or apron composed of flexible material and adapted to engage the surface of the ground, during the operation of the machine, so as to prevent suction from the back of the nozzle and to prevent the escape of the "squares" at the rear or back of the nozzle during the suction operation.

A still further object of the invention is to provide the suction nozzle with a forward fender for the purpose of protecting the growing cotton and young plants and to open the course or path for the suction nozzle.

In the accompanying drawings forming part of this application: Figure 1 is a top view. Fig. 2 is a sectional elevation partly broken away, the dotted lines showing the swinging movement of the fender. Fig. 3 is a detail perspective view of the suction nozzle. Fig. 4 is a detail perspective view of the fender. Fig. 5 is an enlarged sectional view of the nozzle. Fig. 6 is a section on the dotted line *x*—*x* Fig. 5. Fig. 7 is an elevation of a modified form of fender.

The same reference characters denote the same parts throughout the several views of the drawings.

In carrying out my invention I employ a cart or vehicle having a box-body 1, mounted on an axle 2, having wheels 3, and shafts 4. The body 1 has a wire gauze partition 5, forming a receptacle 6, into which the boll weevil "squares" are deposited, and the rear end of the receptacle 6 is provided with a sliding door 7, for removal of the "squares." A fan 8 is mounted on the body 1 and has a pipe 1^a leading into the body, and the fan is preferably operated by a belt 10, driven by a small engine 11, mounted on the body 1. A suction pipe 12 leads from the receptacle 6 and has a flexible section 13 to which is connected the suction nozzle 14, now to be particularly described.

The nozzle 14 has a head or pipe coupling end 15, whence the back portion 16 and the front portion 17 extend. The front 17 is concaved so that the opening or passage between the central portion of the back and the central portion of the front of the nozzle is gradually contracted from the head of the nozzle to the mouth of the nozzle and forms a contracted suction space 18 central of the nozzle. The back and front of the nozzle are joined by flaring ends 19 and the back and front of the nozzle extend entirely across the interval between two rows of growing cotton, and such ends form suction spaces 20. By this construction of the nozzle the current of air is more equally distributed so as to utilize the ends of the nozzle as well as the central portion thereof in a suction operation. This is important owing to the nozzle extending from row to row of the cotton, and the fact of the suction pipe being coupled central of the nozzle, would otherwise create such suction at the center of the nozzle mouth opening, as to leave insufficient suction at the ends of the nozzle which are adjacent the cotton growth.

In order to further control the air current at the mouth opening, to prevent "back suction" or suction from the rear of the nozzle, and to prevent the escape of boll weevil "squares" under the back portion of the nozzle during a suction operation, I attach to the back 16 of the nozzle a drag flap or apron 21, composed of leather, hard rubber or other suitable material, which depends below the edge of said back portion for engaging the ground and thereby closing the space between the ground and said edge, and also directing the boll weevil "squares" into the nozzle mouth.

Another essential feature of my invention

is to provide means for protecting the growing cotton and cotton plants during the travel of the machine therethrough, and to prevent the air currents from sucking young plants or stems into the nozzle. This I accomplish by means of a conical fender 22 composed of wire gauze or similar material, having a bottom rim 22ª pivoted to the nozzle ends 19, at 23 and projecting in front of the nozzle. The top of the fender has an opening 24 for the suction pipe, and the rear of the fender is open and conforms with the shape of the nozzle so as not to interfere therewith in the swinging movement of the fender. The front of the fender is provided with a surface riding wheel 25, which is connected with the under side of the box-body 1 by a chain or cord 26, and a cord 26ª is attached to the nozzle pipe for the purpose of adjusting the nozzle and limiting its movement rearwardly. A fender 27 having perforations 28, as shown in Fig. 7, may be used.

It will be observed that the fender rim is held above the ground by means of the wheel 25, so as not to interfere with the boll weevil "squares" to be collected by the nozzle, and that the swinging movement of the fender is governed and permitted by the said wheel. It is obvious that the cart may have a tongue instead of shafts.

I do not wish to be understood as confining myself to any particular size or material in the construction of the machine, nor to any special means for operating the fan, nor to one suction nozzle, but reserve the right to make such changes and variations in the practical application of the invention as may come within the scope of the appended claims.

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

1. In a machine for catching boll weevil cotton "squares", the combination with a pneumatic device, of a suction nozzle connected with said device and having a concaved front forming a contracted passage central of the nozzle.

2. In a machine for catching boll weevil cotton "squares", the combination with a pneumatic device, of a suction nozzle connected with said device, a conical fender pivoted to and projecting forward of the nozzle, and a surface wheel for supporting the fender.

3. In a machine for catching boll weevil cotton "squares" the combination with a pneumatic device, of a suction mouth connected with said device, a flexible drag depending from the rear of the mouth, an open work fender pivoted to and projecting in front of the mouth, and a surface wheel carried by the fender.

In witness whereof I hereunto set my hand in the presence of two witnesses.

ROBERT E. SHAW.

Witnesses:
SOLOMON J. VOGEL,
BERTRAM J. VOGEL.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."