

J. GRIFFIN.
Cotton Picker.

No. 31,165.

Patented Jan'y 22, 1861.

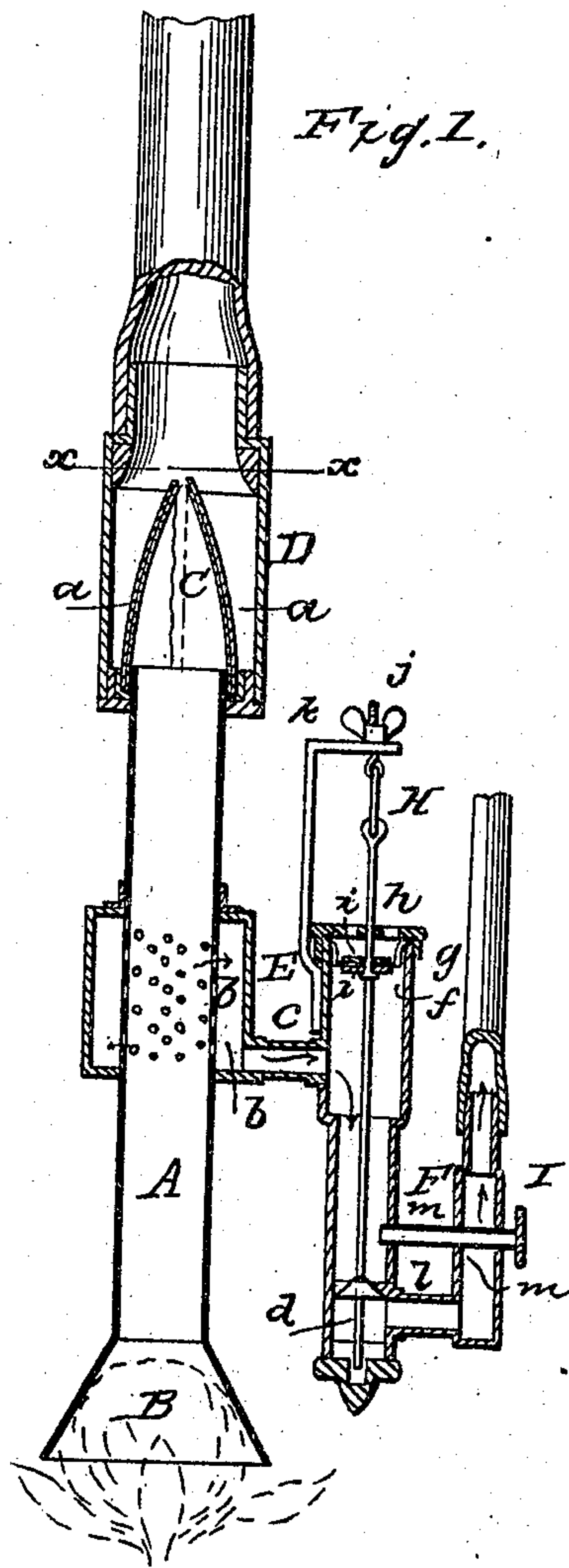


Fig. 3



WITNESSES

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UNITED STATES PATENT OFFICE.

JOHN GRIFFIN, OF LOUISVILLE, KENTUCKY.

IMPROVEMENT IN COTTON-PICKERS.

Specification forming part of Letters Patent No. 31,165, dated January 22, 1861.

To all whom it may concern:

Be it known that I, JOHN GRIFFIN, of Louisville, in the county of Jefferson and State of Kentucky, have invented a new and Improved Cotton-Picker; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a vertical central section of my invention; Fig. 2, a horizontal section of Fig. 1, taken in the line *x x*.

Similar letters of reference indicate corresponding parts in the two figures.

This invention relates to an improvement in cotton-picking cups for which Letters Patent were granted to me bearing date March 8 and November 22, 1859.

The object of the within-described invention is to obtain a device which will be automatic in its action, and thereby greatly facilitate the manual operation of the device, and also economize in the consumption of power required to produce the necessary exhaust and suction within the tubes to which the picking-cups are attached.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A, Fig. 1, represents a metal tube, of suitable diameter, which is provided with a flaring or trumpet-shaped end piece, B, at one end and with a valve, C, at the opposite end. The valve C may be constructed of a thin gutta-percha or india-rubber tube or pocket, having metal springs *a a* attached to its outer side at opposite points, said springs having a tendency to keep the valve gently closed. (See Figs. 1 and 3.) The valve C is encompassed by a tube, D, which is attached at one end to tube A and at the opposite end to a flexible tube, which conducts the cotton from the bolls into the receiver. The tube A, at about its center, is encompassed by a tube, E, the ends of which are closely fitted to the tube A, the joints being air-tight, and the tube A is made to communicate with E by means of perforations *b*. (Shown clearly in Fig. 1.) The tube E is made to communicate with a tube, F, by means of a small pipe, *c*. The tube F has a rod, G, fitted longitudinally in it, and the lower end of the

rod G is provided with a conical valve, *d*, which fits against a corresponding-shaped seat, *e*, within the tube F. The opposite end of rod G passes through an india-rubber head, *f*, which may be secured to the end of tube F by an annular nut, *g*, provided with a cross-bar, *h*, to serve as a support to rod G. The elastic head *f* is sufficiently full to admit of a certain degree of play of the rod G, and the rod is secured to the head by metal disks *i i*, one being at each side of the rubber and forming an air-tight and secure connection. The outer end of the rod G has a spring, H, attached to it, and this spring is connected to a screw-rod, *j*, which passes through an arm, K, attached to tube F. The screw-rod *j* has a thumb-nut, *k*, on it for the purpose of regulating the tension of spring H. The part of the tube F below or at the outer side of valve *d* communicates by means of a small pipe, *l*, with a tube, I, to which a suction-tube is attached, and the tube F communicates with tube I at the inner side of the valve *d* by a pipe, *m*, much smaller in diameter than *l*, the pipe *m* having a small opening, *m'*, in it.

The operation of the above-described parts is as follows: When the device is in operation a suction is produced in the tube I, and the end B being open, there will be a suction in tube A, pipe *c*, tube F, and pipe *m*, as indicated by the red arrows; but the spring H is so adjusted as to keep the valve *d* closed, so that the suction or draw in pipe *l* cannot open it when the end piece, B, is open. When the end piece, B, is placed over a cotton-boll the suction in A is of course greatly increased and the tension of spring H is overcome so that the draw will be through both pipes *l m*. The boll will then be detached from the standing stalk, and will have sufficient impetus given it to pass through tube A and through the flexible tube into the receiver. The valve C closes forcibly under the suction in A when the end piece is placed over the boll, the suction being sufficient to press the springs *a a* toward each other. When, however, the cotton passes the perforations *b* and strikes the valves the compressed springs *a* cause the valve to fly open and the cotton passes through without much friction. It will be seen that the closing of the valve C is essential in order

to produce a powerful suction on the cotton, and it will also be seen that the springs *a a* perform an important function, as they cause the valve to fly open when the cotton strikes it. As soon as the cotton passes the perforations *b* the suction in the tubes *A F* is diminished and the valve *d* closes, and as the suction is then through the small pipe *l* only it will be seen that the suction is not very great, and therefore not much power is expended in keeping up the exhaust or suction while the implement is being adjusted by the operator from boll to boll.

This device, therefore, is perfectly automatic

in its operation, requiring no manipulation whatever, with the exception of adjusting it to the bolls.

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

The arrangement, for joint operation, of the tubes *A F I*, valves *C d*, and pipes *l m*, essentially as and for the purpose set forth.

JOHN GRIFFIN.

Witnesses:

B. F. CAMP,

JOHN K. LANE.