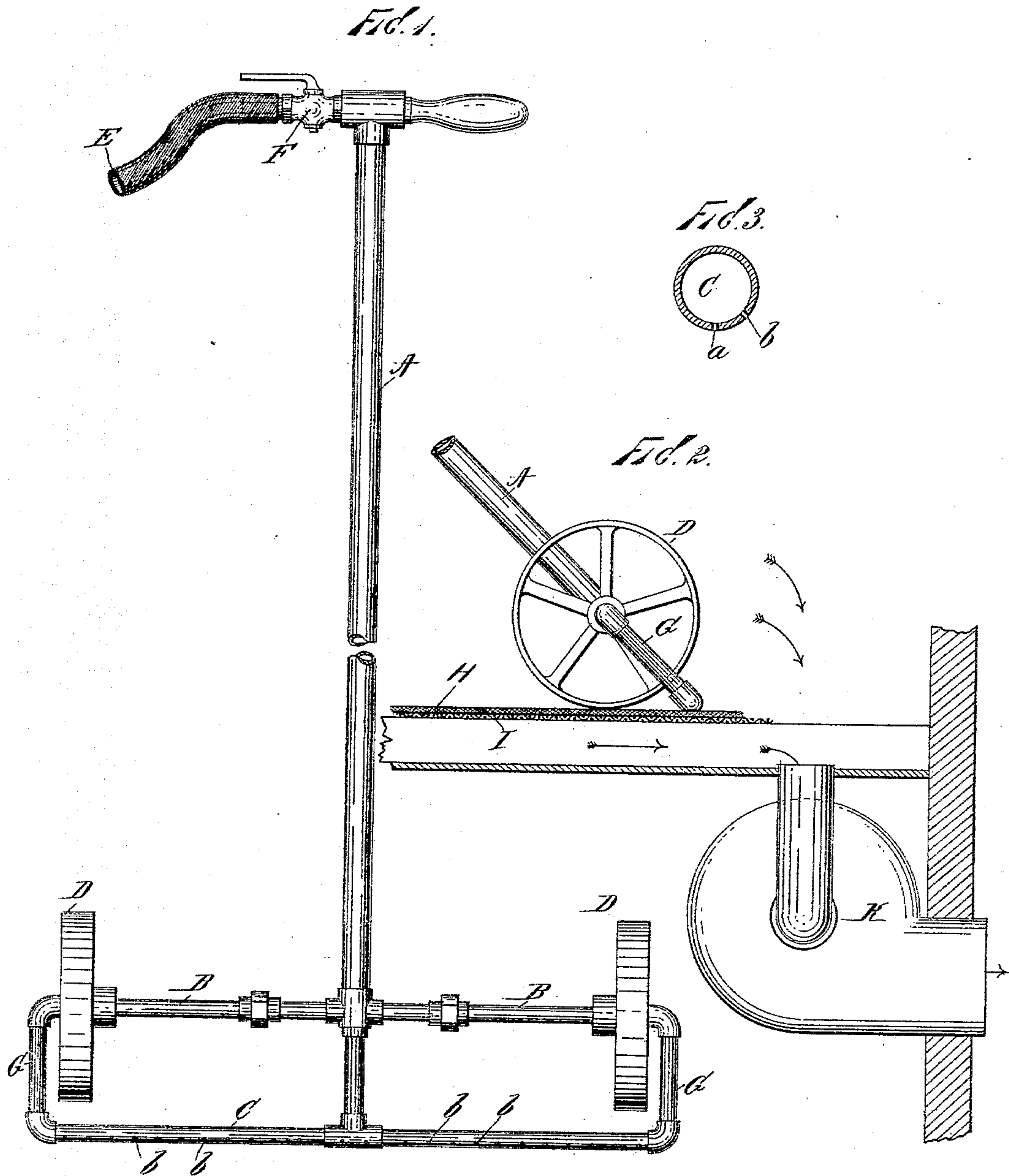


(No Model.)

F. RICHARDS.  
CARPET CLEANER.

No. 545,310.

Patented Aug. 27, 1895.



Witnesses:  
John Buckler,  
L. H. Osgood.

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# UNITED STATES PATENT OFFICE.

FRANK RICHARDS, OF NEW YORK, N. Y.

## CARPET-CLEANER.

SPECIFICATION forming part of Letters Patent No. 545,310, dated August 27, 1895.

Application filed September 15, 1894. Serial No. 523,080. (No model.)

*To all whom it may concern:*

Be it known that I, FRANK RICHARDS, a citizen of the United States, and a resident of New York, in the county and State of New York, have invented certain new and useful Improvements in Pneumatic Carpet-Cleaners, of which the following is specification.

My invention relates to apparatus chiefly intended for removing dust and other loose foreign matters from carpets, and is hence denominated a "carpet-cleaner;" but the apparatus is equally intended for cleaning mats, rugs, cushions, curtains, and other textile materials or fabrics.

The object of my invention is to produce a simple and effective apparatus which may be moved over or upon the article to be cleaned while the latter remains stationary, delivering the air-blast under pressure and direction and on the portion of the article desired at the will of the operator to dislodge the foreign matters, and to provide for removing or carrying away dust, &c., as soon as it is dislodged.

To accomplish all of this and to secure other and further advantages in the matters of construction, operation, and use, my improvements involve certain new and useful peculiarities of construction and arrangements or combinations of parts, as will be herein first fully described, and then pointed out in the claim.

In the drawings, Figure 1 is a front elevation of the movable portion of my improved apparatus, and Fig. 2 is a side view representing the same in position upon an article to be cleaned, the article and perforated support for the same being shown in section, the movable apparatus in elevation. Fig. 3 is a cross-section of the discharge-pipe on a larger scale than other figures, showing apertures in the pipe.

In all the figures like letters of reference, wherever they occur, indicate corresponding parts.

The device shown in Fig. 1 is intended to be moved by hand, but obviously it may be otherwise moved to make it traverse the surface of the article to be cleaned.

It consists, essentially, of a main pipe A, cross-pipe B, and perforated discharge-pipe C. Upon the cross-pipe B are wheels D of

suitable size, so that the apparatus may be easily moved over or upon the surface of the article. But two of these wheels are shown, though more may be applied if the length of the cross-pipe is such as to require more.

The air-supply is led to the apparatus from any suitable source, directly or indirectly, by means of a flexible hose, as E, of sufficient length to permit the apparatus to be moved back and forth or in any direction as far as may be desired. The hose may connect with pipe A at any point. A convenient arrangement is indicated, the connection being made at the top and at a point within easy reach of the operator. A valve should be supplied at or near the point where the hose connects with the apparatus, and such a valve is indicated at F.

It is desirable to use the air usually at a considerable pressure, say from four to eight atmospheres. This air, entering pipe A, is conveyed to the discharge-pipe C, not only directly to the center of it, but to each end, by connections, as G, united with the cross-pipe, thus insuring a sufficient supply and a proper distribution of the air.

The perforations in the discharge-pipe C may be of such size, shape, number, and so distributed as may be found to effect the best results in expelling the dust, &c., from any particular quality of article to be operated upon. As indicated in Fig. 3, the perforations *a* and *b* are slightly separated for purposes which will hereinafter appear, though this arrangement is not always essential.

The length of the discharge-pipe or the width of material operated upon at each passage of the apparatus over it will be determined by the sufficiency of the air-supply or other considerations as to convenience of operation. The location of pipe C with respect to the wheels should be such that the normal position of the main pipe A may be at an angle of about forty-five degrees to the surface traversed, and by changing this angle the discharge-pipe may be brought nearer to or removed farther from the fabric, and it will be seen that by locating the perforations substantially as indicated in Fig. 3 the angles at which the blasts or jets of air are brought into operation may be varied also by inclining the main pipe.



The material being spread, as upon a floor or other flat surface, the apparatus is moved over it back and forth or in any other direction, the air-supply being turned on, and the air escapes with force from the perforations in the discharge-pipe, impinging upon the surface of the article and permeating the fabric, driving out the dust and other loose foreign matters. As some of the dust will be driven through the article, (represented at H, Fig. 2,) the surface upon or against which it is supported should consist of wire grating, as at I, or any sufficiently open, perforated, or porous material through which the dust may pass. The chamber in which the operation is conducted is provided with an exhaust-fan at the portion toward which the apparatus is directed when in operation, and as fast as the dust, &c., is removed from the article the current of air caused by the fan carries it away. Such a fan or exhaust apparatus is indicated at K.

The device is simple, cheap, easy to operate, and is found effectual for the purposes intended. By use of the apparatus any size of

article may be perfectly cleaned without the necessity of moving the article, which, as in the case of carpets, rugs, &c., is frequently difficult and expensive, owing to size and weight, and not uncommonly destructive of the article.

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

In an apparatus for cleaning fabrics, a perforated surface for supporting the article in a fixed position, a movable device for traversing the article and discharging compressed air therethrough and thereupon, and means substantially as described for withdrawing the dust and foreign matters dislodged, all combined for operation substantially as and for the purposes set forth.

Signed at New York, in the county and State of New York, this 14th day of September, A. D. 1894.

FRANK RICHARDS.

Witnesses:

JOHN BUCKLER,

WORTH OSGOOD.