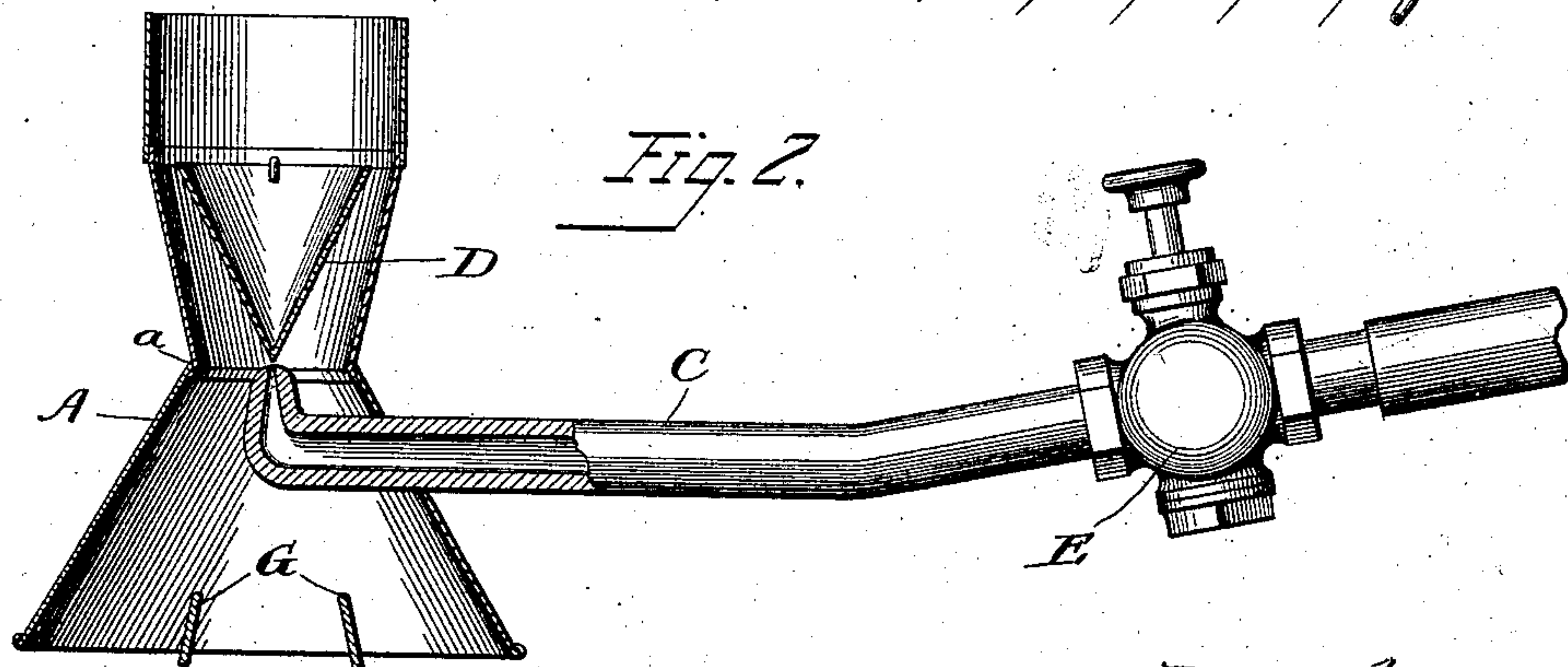
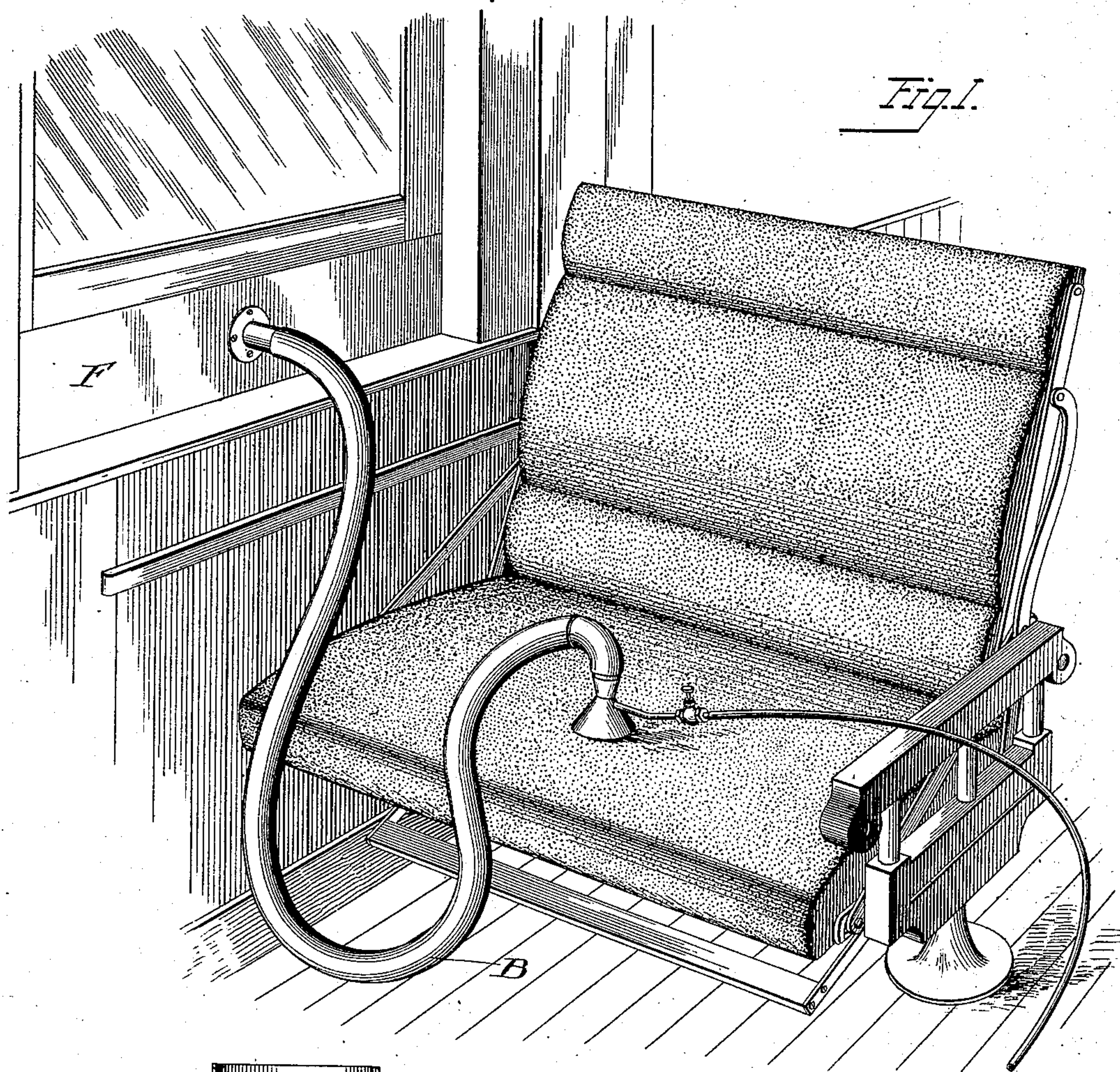


(No Model.)

G. H. BROWN.
DUST EXTRACTOR.

No. 577,006.

Patented Feb. 16, 1897.



Witnesses
Martin H. Olsen,
Leonora Wiseman.

Inventor
George H. Brown
by Edward Rector
his atty

UNITED STATES PATENT OFFICE.

GEORGE H. BROWN, OF DUBUQUE, IOWA, ASSIGNOR TO THE CHICAGO PNEUMATIC TOOL COMPANY, OF CHICAGO, ILLINOIS.

DUST-EXTRACTOR.

SPECIFICATION forming part of Letters Patent No. 577,006, dated February 16, 1897.

Application filed June 15, 1896. Serial No. 595,575. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. BROWN, of the city of Dubuque, in the county of Dubuque and State of Iowa, have invented a certain new and useful Improvement in Pneumatic Dust-Extractors, of which the following is a description, reference being had to the accompanying drawings, forming part of this specification.

My invention has for its principal object the provision of a novel and efficient device for removing dust from the upholstered seats of railway-cars, whereby such seats may be thoroughly cleaned while in position in the car and the dust extracted from them be conveyed away and delivered outside the car.

My novel device is constructed and operates upon the principle of an injector, a current of compressed air being directed through a suitable casing in such manner as to create a vacuum in the lower part thereof, which causes the dust in or upon any fabric upon which the casing is placed to be drawn up through the latter and expelled with the air through a discharge-pipe connected to the casing.

The device is small and light and can be readily moved over the upholstered surface of the bottom and back of the car-seat to extract the dust from all parts thereof, while the discharge-pipe can be led out through the window of the car, so that the dust will be carried away and not permitted to settle back in the car.

In the accompanying drawings, Figure 1 is a view showing the device in position for use upon a car-seat with the supply-pipe for the compressed air and the discharge-pipe leading through the car-window connected to it, and Fig. 2 a vertical section of the device itself on a larger scale.

The same letters of reference are used to indicate identical parts in both figures.

In the drawings, A represents a casing of sheet metal, having a flaring lower end and an upper end suitably shaped for the connection of the large flexible discharge-pipe B. Entering the lower flaring portion of the casing A at one side is a pipe C, whose inner end is bent upward and terminates in a nozzle immediately below the apex of an inverted cone

D, which is supported within the upper half of the casing A, as shown, leaving a narrow annular space around its upper edge between the latter and the surrounding casing A. The lower part of the upper half of the casing A is preferably tapered inward toward its junction with the upper end of the lower half of the casing at *a*, so as to somewhat conform it in shape to the exterior of the cone D within it. Compressed air is admitted to the device through the pipe C, which is connected by a flexible hose with the source of supply and is provided with a throttle-valve E to control the admission of the air. The air escaping from the upturned nozzle at the inner end of the pipe C is deflected around the cone D and passes upward through the narrow annular passage around the upper edge of the cone, thereby producing a current of air upward through the lower flaring portion of the casing. When the latter is placed upon the surface of the cushioned car-seat, a partial vacuum will be produced within the lower flaring part of the casing by this means and the particles of dust and other free matter upon or adjacent the surface of the cushion will be drawn upward through the casing and carried out the discharge-pipe B. The outer end of the latter may be fitted in and extend through a board F, adapted to be fitted into the window-opening of the car beneath the window and held in place by letting the window down upon it, as in the use of the ordinary wire screen in sleeping-cars. This will furnish an exit for the pipe from the car and prevent any of the dust being blown back into the car.

I also provide the lower flaring portion of the casing A with one or more cross-bars G, whose lower edges preferably project slightly below the lower edge of the casing, the purpose of which bars is to agitate the nap of the plush covering of the cushion as the device is moved over the same and thus facilitate the escape of the dust therefrom.

From the foregoing description it will be seen that by the use of my novel device the dust may be readily removed from the cushions and backs of car-seats without moving them from position and be conveyed outside the car through the discharge-pipe, so that it

cannot settle back upon them or in the car, as it does when it is simply beaten out or brushed off of them. The flexible discharge-pipe may be of sufficient length to permit a
5 number of seats to be cleaned without moving its discharging end from one window to another, or it may be shorter and be moved from window to window as one seat after another is cleaned.

10 It will of course be evident that the utility of my novel dust-extractor is not confined to the removal of dust from car-seats, but may be employed for the removal of dust from upholstered furniture generally, and from cushions, carpets, &c.

I am aware that it has heretofore been proposed to extract the dust from carpets, cushions, &c., by means of a current of compressed air directed into a casing having an
20 open end adapted to rest upon and be moved over the surface of the carpet or cushion and having a discharge-pipe connected to its upper end, and that it has also been proposed to extract the dust from such objects by withdrawing the air by means of a rotary fan
25 from a suitable casing having an open lower end adapted to rest upon and be moved over the surface of the cushion; but these devices are different in construction and operation
30 from mine.

Having thus fully described my invention, I claim—

1. The herein-described pneumatic dust-

extractor, comprising the casing A having a flaring lower end adapted to rest upon and
35 be moved over the surface from which the dust is to be extracted, the inverted cone D supported in the upper part of said casing, the air-inlet pipe C entering the casing and terminating in the upturned nozzle immediately
40 below the apex of the cone D, and the discharge-pipe B connected to the upper end of the casing, substantially as and for the purpose set forth.

2. The herein-described pneumatic dust-
45 extractor, comprising the casing A having the flaring lower portion provided with the cross bar or bars G, the inverted cone D supported in the upper part of the casing, the air-inlet pipe C entering the casing and terminating
50 in the upturned nozzle immediately below the apex of the cone, and the discharge-pipe B connected to the upper end of the casing, substantially as and for the purpose set forth.

3. The herein-described pneumatic dust-
55 extractor, comprising the casing A, inverted cone D, discharge-pipe B, and air-inlet pipe C arranged as shown, in combination with the board F having the discharging end of the pipe B fitted in an opening therein, sub-
60 stantially as and for the purpose set forth.

GEO. H. BROWN.

Witnesses:

H. M. LORMAN,
I. G. STUTSMAN.