

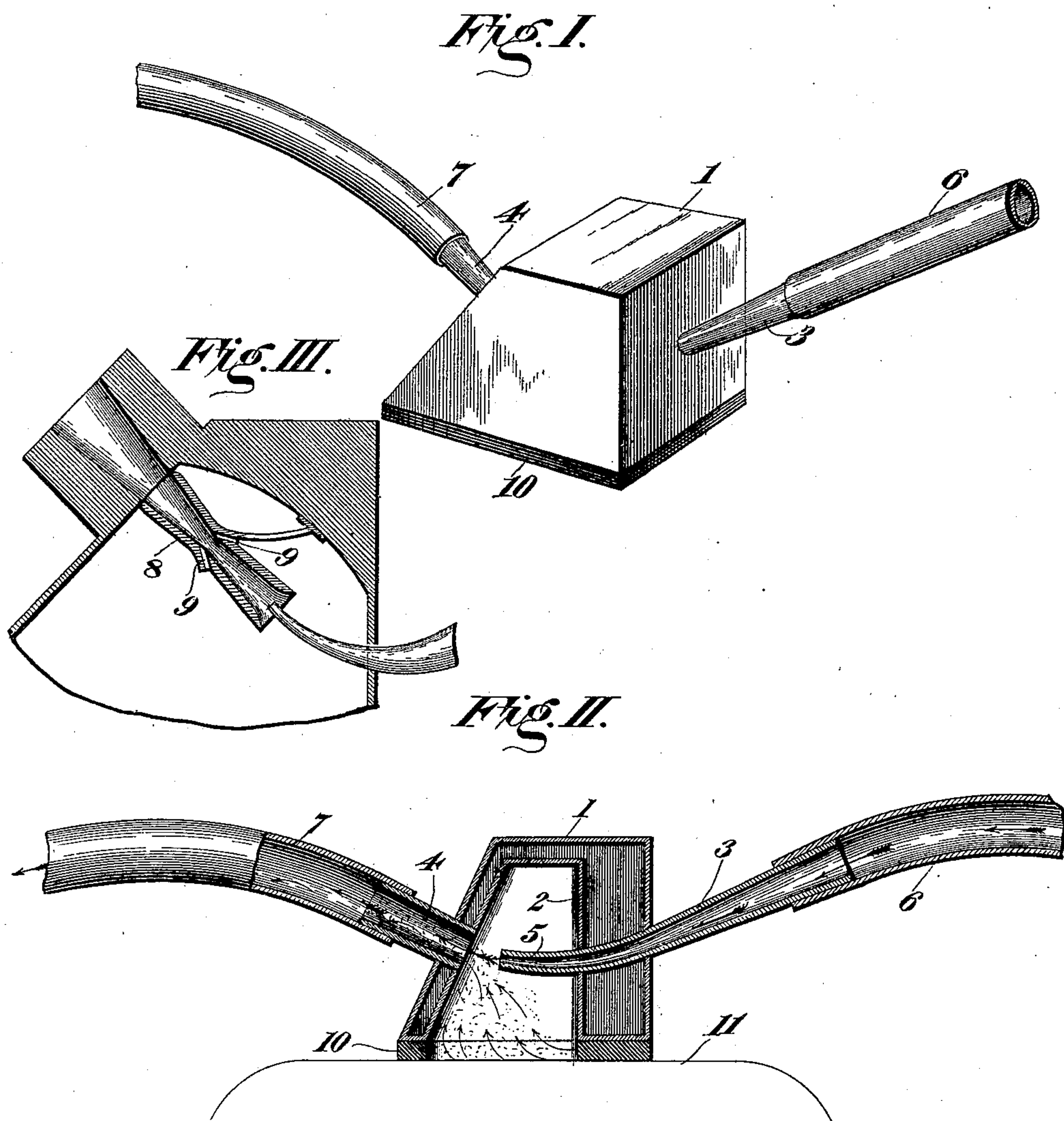
No. 618,908.

Patented Feb. 7, 1899.

C. ROBKEN.
DUST COLLECTOR.

(Application filed Feb. 26, 1897.)

(No Model.)



Witnesses

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UNITED STATES PATENT OFFICE.

CHARLES ROBKEN, OF ARGENTA, ARKANSAS.

DUST-COLLECTOR.

SPECIFICATION forming part of Letters Patent No. 618,908, dated February 7, 1899.

Application filed February 26, 1897. Serial No. 625,151. (No model.)

To all whom it may concern:

Be it known that I, CHARLES ROBKEN, of Argenta, in the county of Pulaski, State of Arkansas, have invented certain new and useful Improvements in Dust-Collectors, of which the following is a complete specification, reference being had to the accompanying drawings.

The object of my invention is to produce an apparatus adapted to thoroughly remove the dust from inaccessible crevices or depressions in upholstery or the like and keeping it separated from the outside atmosphere to collect it in a suitable receptacle.

My device, although especially designed for use in cleaning railroad-car furniture, is adapted to be employed for cleaning furniture generally, and particularly such as is heavy and difficult to move or which is fastened in fixed position.

In the accompanying drawings, Figure I is a perspective view of one form of embodiment of my invention, showing pneumatic induction and eduction tubes or air supply and discharge pipes. Fig. II is a longitudinal central vertical section of the same, showing underneath it the contour line, as of a car-seat, and illustrating the direction of air-currents represented by arrows. Fig. III is a fragmental view of a casing, showing another form of the suction-creative apparatus comprehended by my invention.

Referring to the figures on the drawings, 1 indicates the outer shell, and 2 the inner shell, of a pneumatic chamber, which is preferably substantially cup-shaped, or of irregular contour, or of any preferred form, size, and proportions. The mode of constructing the chamber is susceptible of variation; but I prefer to employ inner and outer shells for the purpose of affording a strong support for the air-supply pipe 3 upon one side and the air-discharge pipe 4 upon the other without increasing too much the weight of the apparatus.

The air-supply pipe 3 terminates within the interior of the shell 2 in a nozzle 5, that is located opposite to and in operative proximity and relation to the air-discharge pipe 4.

The air-supply pipe 3 communicates, as by means of a flexible hose 6, with a source of compressed-air supply. (Not illustrated.)

Any available source of compressed-air supply may be employed and any preferred means of connecting it with the supply-pipe 3 may be used. A flexible hose connection, however, affords means of connecting the supply-pipe with the air-storage tank of a car and permits the ready introduction of the apparatus through a car-window, for example.

The discharge-pipe 4 communicates, as through a hose 7, with a dust-receptacle. (Not illustrated.) The dust-receptacle may be of any suitable construction and arrangement. It may be located remote from the apparatus and connected by a section of hose 7, of suitable length, or it may be attached to or form a part of the air-chamber. Such features afford occasion for the exercise of good mechanical judgment, preference, or convenience and are not essential to the operativeness of my invention.

In operation air supplied through the pipe 3 is discharged through the nozzle 5 into the interior of the pipe 4, producing at the inner end of the pipe 4, after the manner of an injector, a suction within the chamber, or, as illustrated, within the interior of the shell 2 proportionate to the force of the air-supply and the size and relationships of the cooperative elements.

My apparatus being susceptible of a wide variation as to size, I have illustrated in Fig. III means for accommodating one of larger dimensions. In that figure I show an intermediate tube 8, located between the nozzle 5 and the inner end of the tube 4. The intermediate tube 8 acts as a secondary nozzle to the tube 3 and is provided with a plurality of openings 9, which establish communication between the interior of the shell 2 and the intermediate tube. The effect of the intermediate tube is to increase the suction and discharge of air through the tube 4. In this figure of the drawings I have illustrated the casing as composed of a single shell, but the feature of the invention intended to be illustrated in that figure relates simply to the suction-creative mechanism and the form of the shell is immaterial, as previously specified.

Upon the lower edge of my air-chamber I prefer to provide a yielding or rubber buffer 10, which is designed to prevent injury to

polished wood in practice and to be compressed under the force of the suction against the object operated upon to form a seal around the lower edge of the casing or chamber to insure the entire suction created to be directed upon or through the inclosed surface.

11 indicates by way of illustration the surface of a car or other cushion.

10 In practice air being supplied through the tube 3 is discharged from the nozzle 5 into the tube 4 and creates a suction within the interior of the air chamber or shell 2. If, therefore, the open end of the air chamber or
15 shell 2 is applied to a surface to be cleaned, the suction produced within the chamber draws the outside atmosphere through the fabric to be cleaned, carrying with it any dust or foreign loose material, and discharges
20 the dust-laden air through the tube 4.

By the employment of my apparatus not only is a thorough cleaning of the body of a woven or textile fabric accomplished, but the effect of the suction produced by my apparatus is to draw the air-chamber and the
25 part to which it is applied together, thereby rendering the employment of my device in practice a simple, easy, and effectual one.

What I claim is—

30 1. In a dust-collector for cleaning upholstery and the like, the combination with a cup-shaped air-chamber, of an air-supply pipe,

and an air-discharge pipe supported in the walls of the air-chamber, and having their open ends located opposite to each other, whereby the air from the supply is discharged directly into the discharge-pipe, substantially as set forth. 35

2. In a dust-collector for cleaning upholstery, or the like, the combination with a cup-shaped air-chamber, air discharge and supply pipes, communicating with the interior of the chamber, respectively, and oppositely located with respect to each other, a nozzle upon the end of the supply-pipe opposite the discharge-pipe, and an intermediate tube provided with apertures, and located between the nozzle and the discharge-pipe, substantially as set forth. 40 45

3. In a dust-collector for cleaning upholstery or the like, the combination with a cup-shaped chamber and suction-creative apparatus communicating with the interior thereof, of a resilient strip or buffer surrounding the open side of the chamber and designed to be compressed by the force of the suction against the surface to be operated upon to form a seal, substantially as specified. 50 55

In testimony of all which I have hereunto subscribed my name.

CHARLES ROBKEN.

Witnesses:

F. M. OLIVER,
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