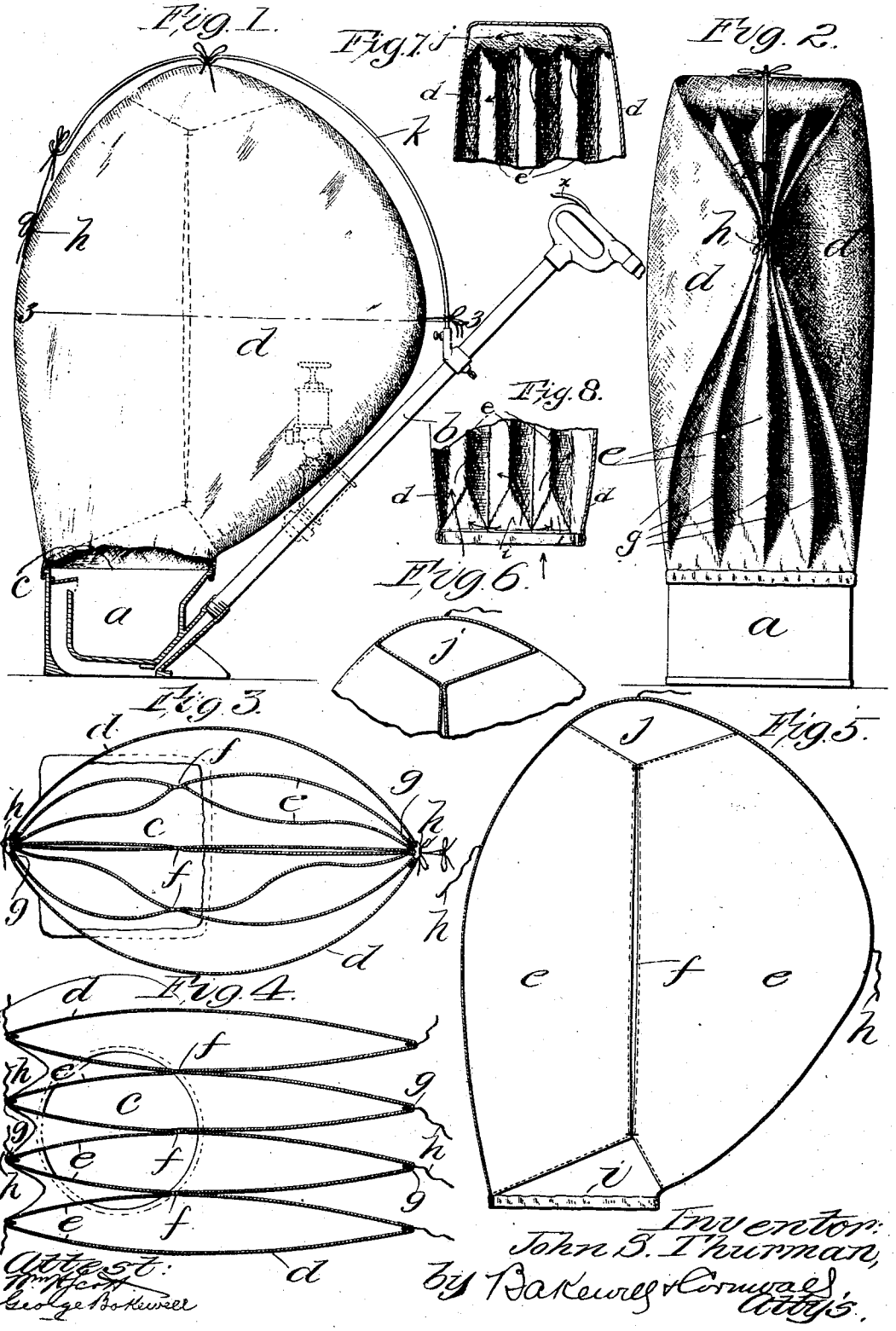
No. 688,559. Patented Dec. 10, 1901.

J. S. THURMAN.

DUST ARRESTING BAG FOR PNEUMATIC CARPET RENOVATORS.

(Application filed June 21, 1901.)

(No Model.)




Witnesses:
Thos. F. Cox
George Bakewell

Inventor:
John S. Thurman,
By Bakewell & Cornwall
Attys.

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# UNITED STATES PATENT OFFICE.

JOHN S. THURMAN, OF ST. LOUIS, MISSOURI.

## DUST-ARRESTING BAG FOR PNEUMATIC CARPET-RENOVATORS.

SPECIFICATION forming part of Letters Patent No. 688,559, dated December 10, 1901.

Application filed June 21, 1901. Serial No. 65,487. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN S. THURMAN, a citizen of the United States, residing at the city of St. Louis, State of Missouri, have invented a certain new and useful Improvement in Dust-Arresting Bags for Pneumatic Carpet-Renovators, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevational view, partly in section, of a carpet-renovator provided with my improved dust-arresting bag. Fig. 2 is a front elevational view of the same. Fig. 3 is a cross-sectional view on line 3 3, Fig. 1. Fig. 4 is a similar view showing the folds of the bag separated. Fig. 5 is a vertical sectional view of the bag, taken through one of the folds thereof. Fig. 6 is a similar view taken between one of the folds of the bag. Figs. 7 and 8 are fragmentary sectional views of the top and bottom of the bag, respectively, said views being at right angles to the view shown in Fig. 5 and on the line of the slit *f* shown in said figure.

This invention relates to a new and useful improvement in dust-arresting bags designed for use in connection with pneumatic carpet-renovators, the object being to increase the area of the bag, so that the air will have a better opportunity by reason of the increased area to pass through the meshes of which the bag is composed, the dust entering the bag with the air being arrested. The increased area thus provided enables the bag to be used a much longer period of time, as it does not have to be cleaned so often, the great area permitting the free escape of air.

Heretofore bags have been used in connection with pneumatic carpet-renovators for arresting the dust, permitting the air to escape through the meshes of the bag; but these bags which have heretofore been used have been plain—that is, not provided with any means whereby a greater surface area is available for the passage of air.

With these objects in view my invention consists in the construction, arrangement, and combination of the several parts of my device, all as will hereinafter be described and afterward pointed out in the claims.

In the drawings, *a* indicates the carpet-renovator, which is provided with a handle *b*, through which compressed air is admitted into the machine, said compressed air passing at an angle down into and through the carpet to be renovated, the air then passing upwardly through the machine and carrying with it the dust it has collected from the carpet, said dust-laden air passing through an opening in the top of the machine (indicated at *c*) and into the dust-arresting bag. The volume of compressed air admitted into the machine is controlled by a suitable valve *x*, located at the outer end of the handle. The compressed air is preferably supplied by means of a flexible hose, the amount admitted to the machine, as before stated, being controlled by the valve at the outer extremity of the handle, and in operation the renovator is moved forwardly and backwardly over the carpet to be cleaned, similar to the method of using an ordinary brush carpet-sweeper.

The bag shown in the accompanying drawings consists of a series of folds arranged substantially in bellows form, the chambers formed by these folds being connected by communicating openings adjacent the points of attachment of the folds to each other, while top and bottom chambers connect the fold-chambers.

*d* indicates what I will designate as the "side walls" of the bag, while *e* represents what I will designate as the "intermediate walls," which are secured together at their inner edges, leaving a slot or communicating opening *f* between the compartments formed by these walls, while the outer ends of said intermediate walls are connected together at *g*, as shown in Fig. 4. By this arrangement there are provided a series of compartments which communicate with each other through the vertical slits *f*, and when the dust-laden air is introduced into these compartments by reason of the intercommunication thereof the pressure is substantially the same in all of them, and consequently the walls forming these compartments will be evenly distended, and when so distended by reason of the great surface area presented to the air the air will

readily escape and the dust be arrested by the meshes of the material entering into the composition of the bag.

In order to restrain the expansion or distension of the folds of the bag, I prefer to provide some means at the edges *g* whereby the folds may be secured together. This means is indicated in the drawings as pieces of string or tape *h*.

The intermediate walls *e*, before referred to, are so folded at their lower edges as to extend over the renovator proper and provide a chamber *i* immediately above said renovator, which chamber may, for purposes of distinction, be called a "distributing-chamber." The dust-laden air first enters this chamber *i* and thence passes into the several chambers hereinbefore referred to as the "compartment-chambers." The upper ends of the intermediate walls *e* are also folded and secured together in such manner as to provide a chamber *j*, extending across the top of the bag and communicating with all of the compartment-chambers. This chamber *j* assists the slits *f* in preserving an equal pressure in all of the compartment-chambers.

In order to support the bag in proper position above the renovator, I arrange an overhanging arm *k*, to which the bag is secured by suitable tape at appropriate points. I prefer to use an elastic band around the mouth of the bag for effecting a tight joint between the mouth of the bag and the upper portion of the casing of the renovator.

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

1. A bag of the character described comprising side and intermediate walls forming compartment-chambers, and a distributing-chamber communicating with said compartment-chambers; substantially as described.

2. A bag of the character described comprising side and intermediate walls, the inner edges of said intermediate walls being connected together in such manner as to provide openings for establishing communication between the several compartment-chambers; substantially as described.

3. A bag of the character described comprising side and intermediate walls forming compartment-chambers, said intermediate walls being folded at their lower edges to form a distributing-chamber which communicates with all of the said compartment-chambers; substantially as described.

4. A bag of the character described comprising side and intermediate walls, said intermediate walls being folded at their upper ends to form a chamber which communicates with the compartment-chambers; substantially as described.

5. A bag of the character described comprising side and intermediate walls, and means for securing the outer edges of said intermediate walls together; substantially as described.

6. A bag of the character described comprising side and intermediate walls forming compartments which communicate with each other, and means arranged at the edges of the bag for restraining the expansion of the bellows-like folds formed by the connection between said side and intermediate walls; substantially as described.

7. The combination with a carpet-renovator, of a handle secured thereto, through which compressed air is admitted to the renovator, of an overhanging frame mounted upon said handle, and a bag supported from said frame, said bag comprising side and intermediate walls which form a mouth for inclosing the discharge-opening of the renovator, said side and intermediate walls being so connected as to form a bellows-like structure for increasing the surface area, whereby the dust-laden air entering the bag is permitted to escape through the meshes thereof, the dust in the air being arrested by the bag; substantially as described.

In testimony whereof I hereunto affix my signature, in the presence of two witnesses, this 19th day of June, 1901.

JOHN S. THURMAN.

Witnesses:
F. R. CORNWALL,
GEORGE BAKEWELL.