(No Model.) 2 Sheets—Sheet 1.

W. McARTHUR.

Carpet Cleaning Machine.

No. 234,049. **Patented Nov. 2, 1880.**

Fig. 1

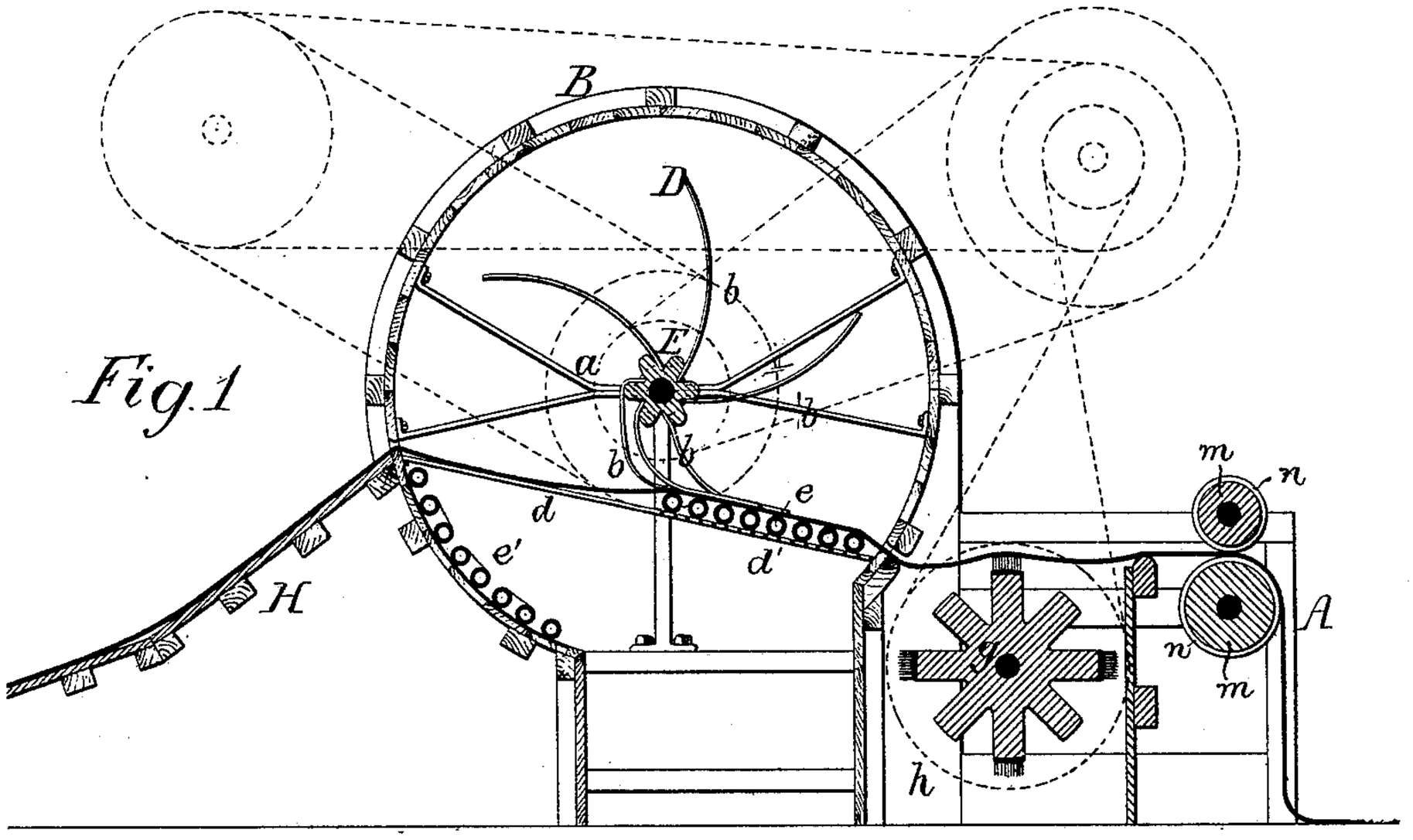
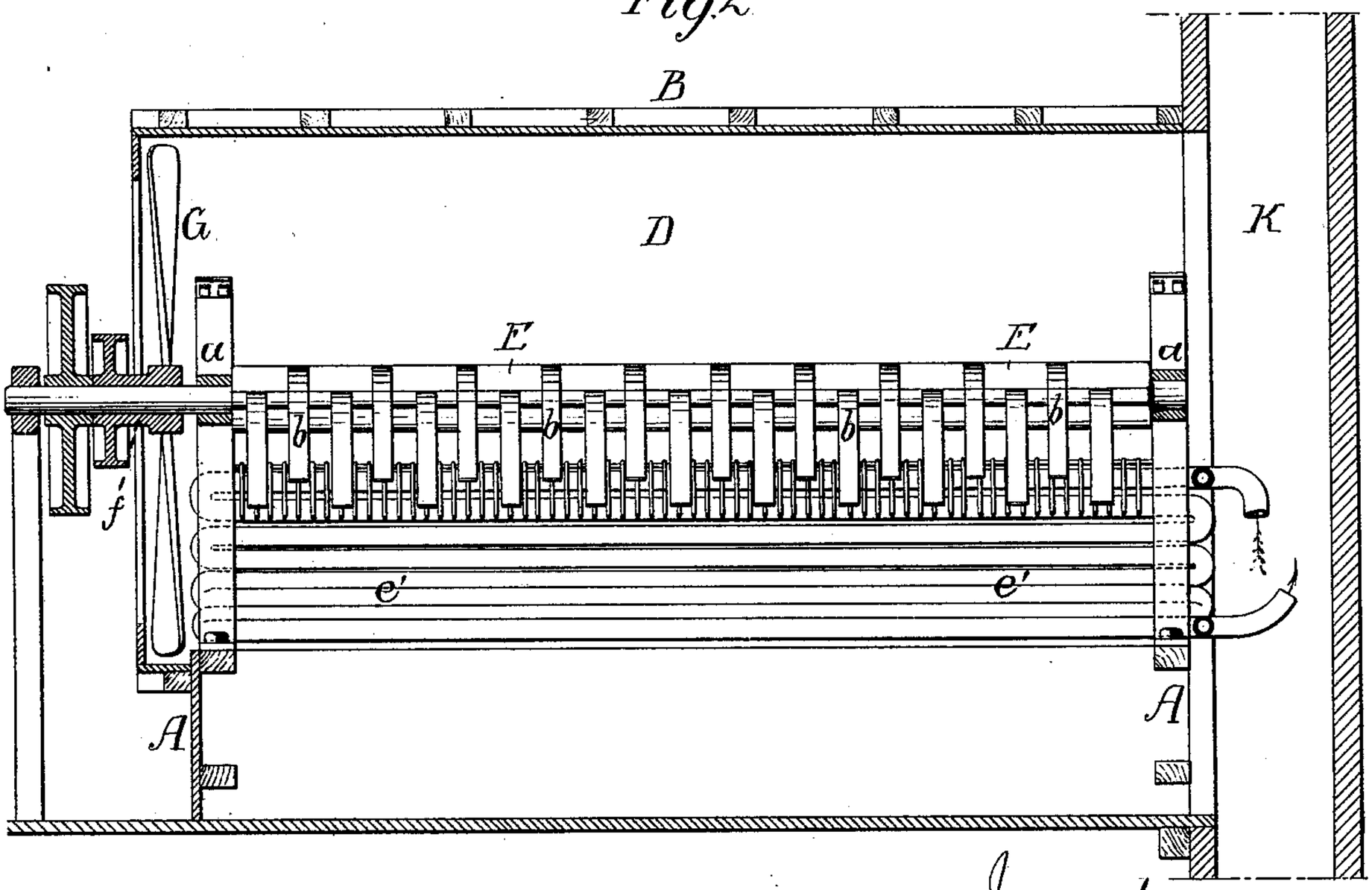


Fig. 2



Witnesses

Alexander Patterson

Harry Smith

Inventor

William McArthur

by his Attorneys

Howson & Son

(No Model.) 2 Sheets—Sheet 2.

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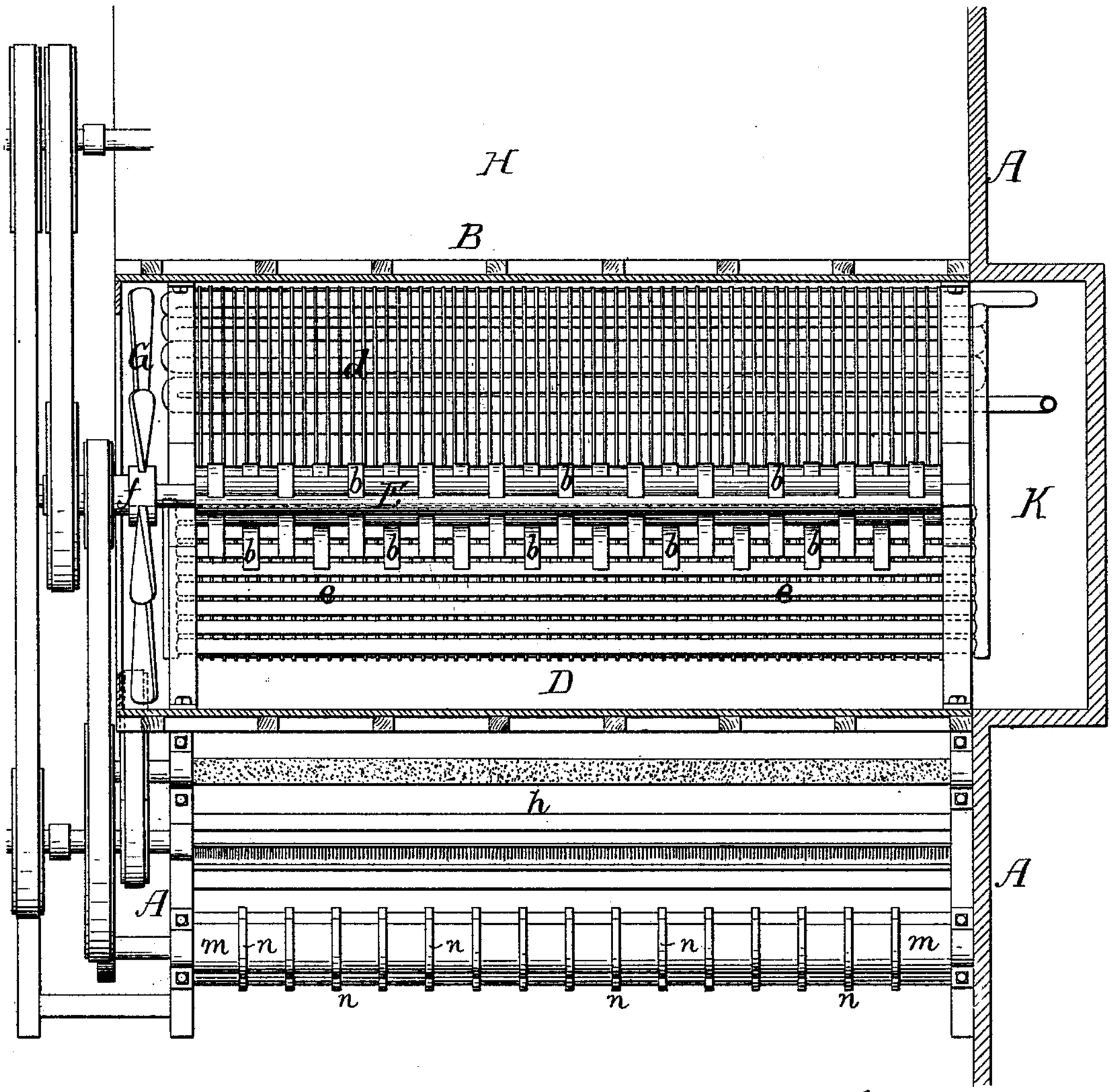
Fig. 3.



Witnesses
Alexander Patterson
Harry Smith

Inventor
William Mc. Arthur
by his Attorneys
Howson & Sons

UNITED STATES PATENT OFFICE.

WILLIAM McARTHUR, OF PHILADELPHIA, PENNSYLVANIA.

CARPET-CLEANING MACHINE.

SPECIFICATION forming part of Letters Patent No. 234,049, dated November 2, 1880.

Application filed July 27, 1880. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM MCARTHUR, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Carpet-Cleaning Machines, of which the following is a specification.

My invention relates to certain improvements in the carpet-cleaning machine for which Letters Patent of the United States, No. 57,532, were granted to me on the 28th day of August, 1866, the main objects of my present improvements being to increase the capacity of the machine, to insure the carrying off of the dust as it is beaten from the carpet, and to destroy any insects or vermin with which the carpet may be infested.

In the accompanying drawings, Figure 1, Sheet 1, is a longitudinal section of the machine; Fig. 2, a transverse section; and Fig. 3, Sheet 2, a sectional plan view.

A A are the opposite side frames of the machine, and B a box or casing extending from one side frame to the other, this box or casing inclosing the beating-chamber D, in which are bearings *a a* for the beater-shaft E, the latter projecting from one side of the machine, and having a pulley for the reception of a belt from a pulley on the main driving-shaft, as shown by dotted lines in Fig. 1. The beater-shaft is ribbed, and each rib carries a number of beater-straps, *b*, which are preferably made of a material similar to that of which rubber belting is made, the number of ribs on the shaft and the number and arrangement of straps on each rib being varied as circumstances may suggest.

Within the chamber D, and extending across the lower portion of the same, is an elastic bed, composed, in the present instance, of wire, one portion, *d*, of this elastic bed consisting of longitudinal wires only, while the other portion, *d'*, is composed of both longitudinal and transverse wires. On the portion *d'* of the bed is arranged a coil of pipes, *e*, through which live steam is caused to circulate, and beneath the portion *d* of the bed, and in proximity to the inner side of the casing B, is a coil of pipes, *e'*, also constructed for permitting the circulation of steam.

In one end of the chamber D is a rotary fan, G, which is carried by a sleeve, *f*, on the shaft E, said sleeve having a pulley which receives a belt from a pulley on a counter-shaft, as shown by dotted lines in Fig. 1, a belt from another pulley on this shaft passing round a pulley on a shaft, *g*, adapted to bearings in the frames A A, and having arms with brushes, as shown in Fig. 1, the rotary brush being contained in a chamber, *h*.

The carpet passes over an inclined table or bed, H, and thence through the beating-chamber D, being supported by the portion *d* of the elastic bed and by the coil of steam-pipes resting on the portion *d'* of said bed, the carpet, after issuing from the chamber D, passing over the chamber *h* and its brush, from whence it passes between the feed-rolls *m m*, which are provided with rings *n*, of rubber or equivalent elastic material, whereby the proper feeding of the carpet is effected without pressing down the piled surface of the same. The end of the chamber D opposite that in which the fan G is arranged communicates with a chimney, K, with which also may communicate the chamber *h*.

As the carpet first enters the machine and passes over the portion *d* of the elastic bed it is subjected to the action of the heat radiated from the pipes *e'*, and in order to obtain the full effect of this radiation I provide the casing B behind the pipes *e'* with a lining of bright metal or a similar reflecting-surface. The carpet then passes over the steam-pipes *e*, and during its passage, and while directly in contact with and subjected to the full force of the heat from said pipes, it is beaten by the straps *b* of the beater-shaft. The heat to which the carpet is subjected while being beaten insures the killing of moths or other insects or vermin with which the carpet may be infested. The dust and dirt beaten from the carpet are carried to and through the chimney by the blast of air which is caused to pass through the chamber D by the action of the fan G, no dust escaping into the room in which the machine is situated.

The fan being carried by a sleeve independent of the beater-shaft can be driven at any desired speed in respect to the said shaft, thus overcoming an objection to machines in which the fan is secured to the beater-shaft, in which

case the beater-shaft has sometimes to be driven at so low a speed as to prevent the proper action of the fan.

As the carpet leaves the beating-chamber D it is subjected to the action of the brush, whereby the loose dust on the face of the carpet is removed.

The carpet may be caused to pass through the machine at as rapid a rate as is desired, the speed depending upon the amount of beating to which it is desired to subject the carpet.

I claim as my invention—

1. The combination, in a carpet-cleaning machine, of flexible beaters, a coil of steam-heated pipes forming a beating-bed, and means for traversing the carpet over and directly in contact with said coil of pipes, as set forth.

2. The combination, in a carpet-cleaning machine, of beaters, a coil of steam-heated pipes forming a beating-bed and resting upon an elastic support, and means for traversing the carpet over and in contact with said coil of pipes, as specified.

3. The combination, in a carpet-cleaning machine, of beaters and a beating-bed consisting of a coil, *e*, of steam-heated pipes, with a supplementary coil of steam-pipes, *e'*, whereby the carpet is subjected to a preliminary heating before reaching the beating-bed *e*, as set forth.

4. The combination of the heated coils *e e'* with the elastic bed comprising the open portion *d* above the coil *e'* and the closer portion *d'* beneath the coil *e*, as set forth.

5. The combination of the open portion *d* of the carpet-supporting bed with the heating-coil *e'*, arranged beneath the same and having a reflecting-backing, as specified.

6. The combination, in a carpet-cleaning machine, of the casing B, the shaft E and its beaters, the chimney K at one end of said casing B, and the fan G, arranged at the opposite end of the casing, and operated independently of the shaft E, as set forth.

7. The combination of the shaft E, having beating-straps, with the sleeve *f*, carrying the fan G and adapted to the shaft E, but capable of turning independently thereof, as set forth.

8. The combination, in a carpet-cleaning machine, of beating devices and feed-rolls having a series of elastic rings, whereby the carpet is traversed without pressing down the piled surface, as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM McARTHUR.

Witnesses:

ALEXANDER PATTERSON,

HARRY SMITH.