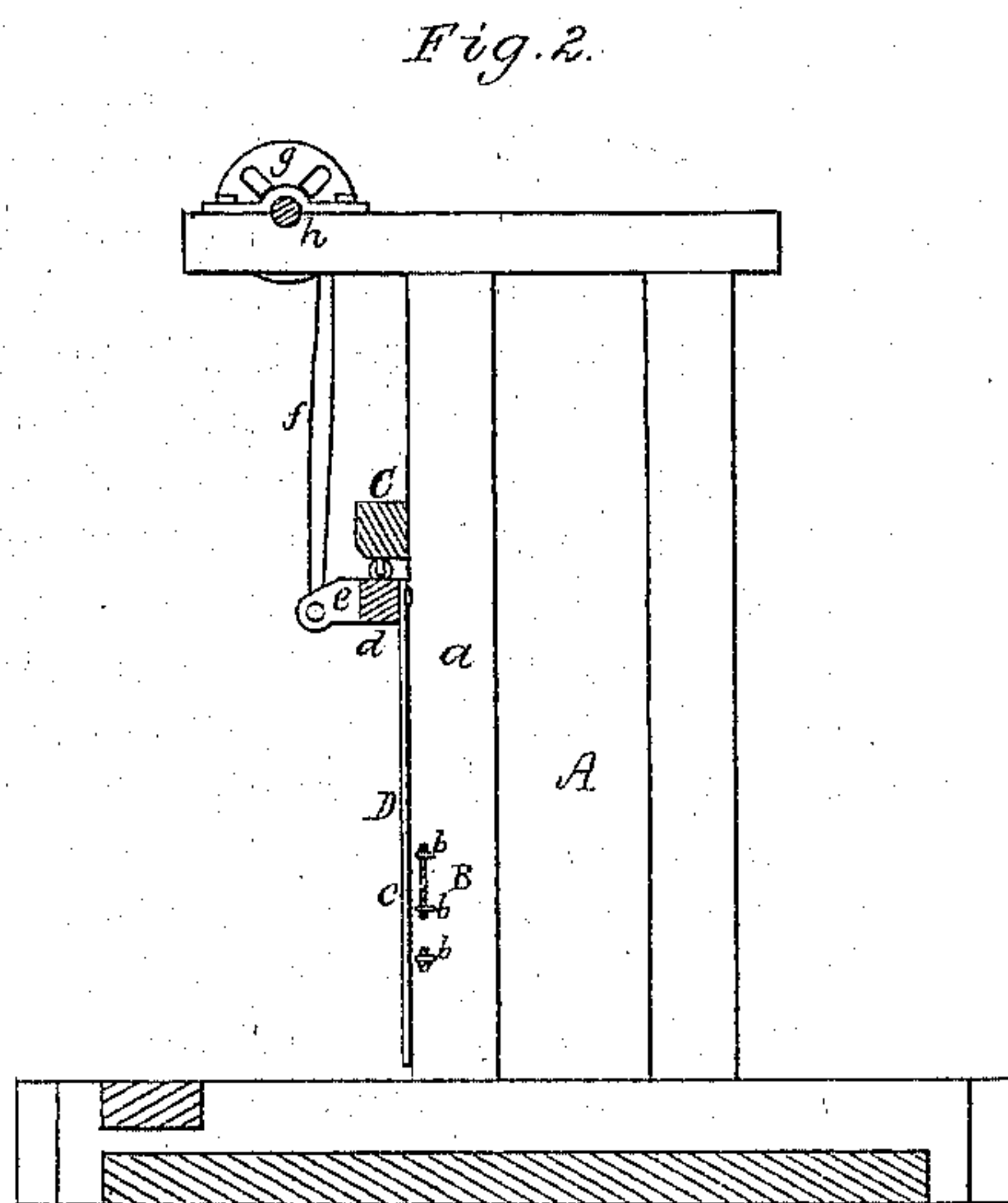
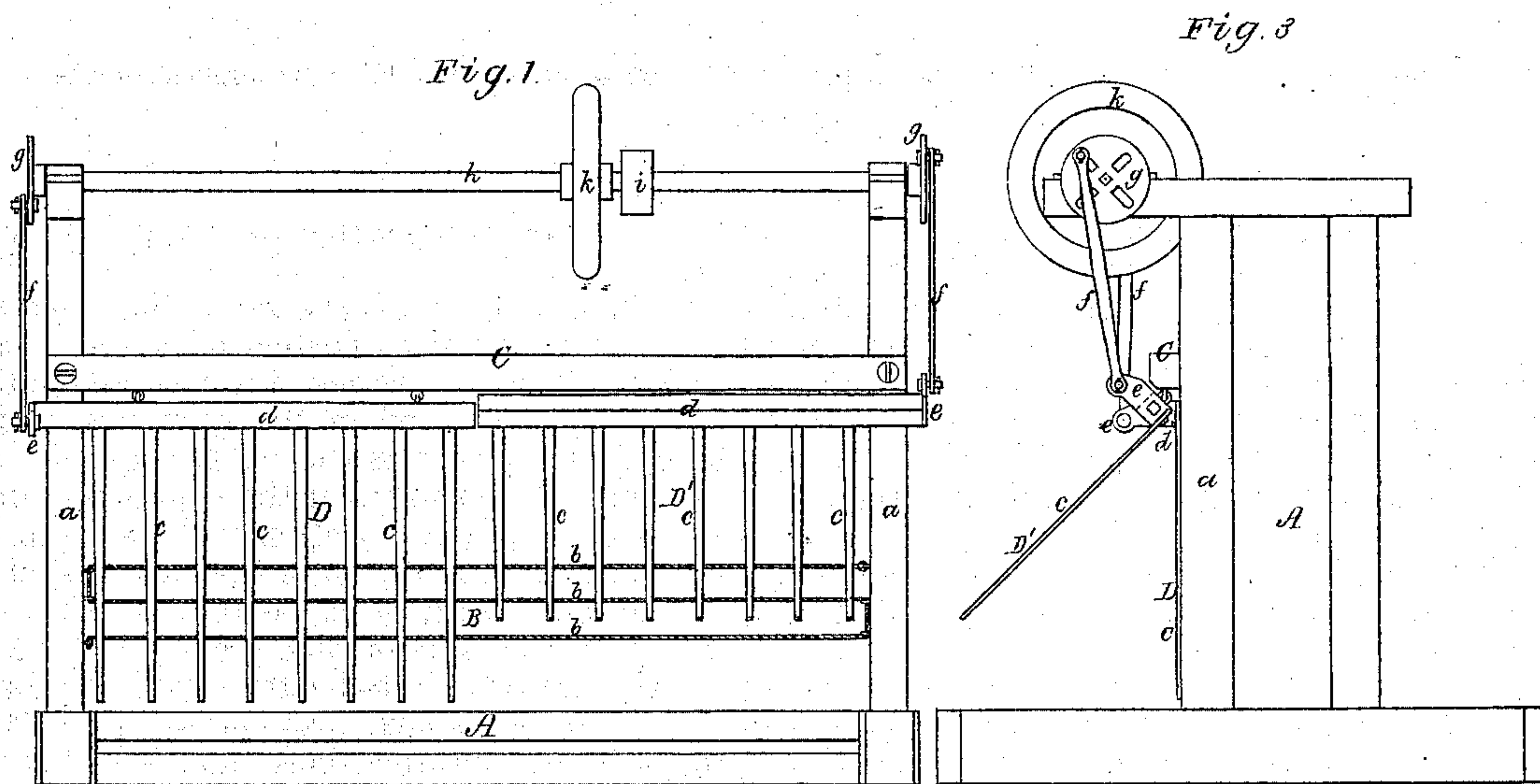


H. W. BATES.
Carpet-Cleaners.

No. 140,990.

Patented July 22, 1873.



Witnesses.
S. W. Piper
L. N. Miller

Hiram W. Bates.
by his attorney
R. H. Ledy

UNITED STATES PATENT OFFICE.

HIRAM W. BATES, OF ALLSTON, MASSACHUSETTS.

IMPROVEMENT IN CARPET-CLEANERS.

Specification forming part of Letters Patent No. **140,990**, dated July 22, 1873; application filed April 11, 1873.

To all whom it may concern:

Be it known that I, HIRAM W. BATES, of Allston, of the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Machines for Cleaning or Beating Carpets; and do hereby declare the same to be fully described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a front elevation, Fig. 2 a transverse section, and Fig. 3 an end elevation, of my improved carpet-beater.

It is composed of a series of supporting vibratory lines and two reciprocating series of beaters, arranged in a frame in manner, and having the beaters provided with mechanism to operate, all as hereinafter shown and explained.

In the drawings, A denotes the frame, between whose vertical standards *a a* is stretched tightly and horizontally a series, B, of ropes *b b b*, standing in or about in a vertical plane, such ropes being arranged at, or about at, equal distances asunder. To a horizontal bar, C, connecting the two standards *a a* and disposed above the ropes, two series, D D', of beaters are hinged, each of such series being composed of a collection of elastic bars, *c c c*, and a carrying head or bar, *d*, fastened together and arranged in manner as represented. From the outer end of each of the bars *d* a short arm, *e*, projects. These arms are jointed to connecting-rods *f f*, pivoted at their upper ends to two cranks or crank-wheels, *g g*. These latter are fixed to the ends of a horizontal shaft, *h*, arranged and provided with a driving-pulley, *i*, and a fly-wheel, *k*, as shown. While the said shaft may be in revolution a vibratory motion is to be imparted to the series D D' of beaters, so as to cause the two to strike alternately or successively against the supporting ropes or lines, the cranks and arms being arranged so as to produce such effects.

The several beaters of each series extend over half or about half the length of the lines, and are to be placed at about the same distance apart as are the lines. A carpet to be beaten is to be laid against the lines, and between such and the beaters, such carpet, while

being beaten, being struck or whipped by them alternately.

By this method of operation the dust will be more effectually expelled from the carpet than it will by one series of beaters extending across it, because when the carpet is struck by one set of beaters the other is out of contact with the carpet, and the supporting-lines are so thrown into vibration as to beat against the back of that portion of the carpet, such to be whipped by the other beater. This throws from the front side of such portion of the carpet the dust which its beater raised on its back of its bars by its next previous stroke. Thus the strained vibratory lines and the two series D D' of beaters, arranged as described, and having mechanism to cause the two series to beat successively against the lines, or the carpet when supported by them, co-operate in a manner to drive the dust in opposite directions from the carpet, and particularly to displace or cast from it that which at each blow of a set of beater-bars will be forced to the surface by the blow and held there by the bars. The vibrations of the lines caused by the two series of beaters acting successively are also such as to expel from the back of the carpet the dust to better advantage than would result were a single set of beaters used to beat it over across the entire length of the levers.

I am aware that beaters or whips are not new in a machine for beating dust from carpets, and therefore make no claim to such.

Such beaters, or devices of like kind, are shown in the carpet-cleaner described in the United States Patent No. 32,473, dated June 4, 1861; but they all act simultaneously, and the carpet, while being beaten, rests on a series of bars supported by ropes. In my machine I have no such bars, as they serve to obstruct the escape of the dust, especially between them and the carpet, and instead of the beaters acting simultaneously, in my machine the two sets act successively in opposite directions, in order that the vibrations of the lines or ropes caused by either set of beaters, on striking the carpet, may cause the ropes to beat from the carpet the dust previously raised on it by the other beater.

What, therefore, I claim as my invention or

improvement in a carpet-cleaning machine provided with supporting-lines and beaters is—

The two series *D D'* of whips *c c c* and the separate shafts *d d*, constructed and arranged together and with the series of lines *b b b*, as described, and provided with mechanism by which said two series of whips or beaters, when in operation, are actuated successively

on opposite sides of the medial line of a carpet, one series being made to approach while the other is caused to depart from the carpet, all substantially as explained.

HIRAM W. BATES.

Witnesses:

R. H. EDDY,
S. N. PIPER.