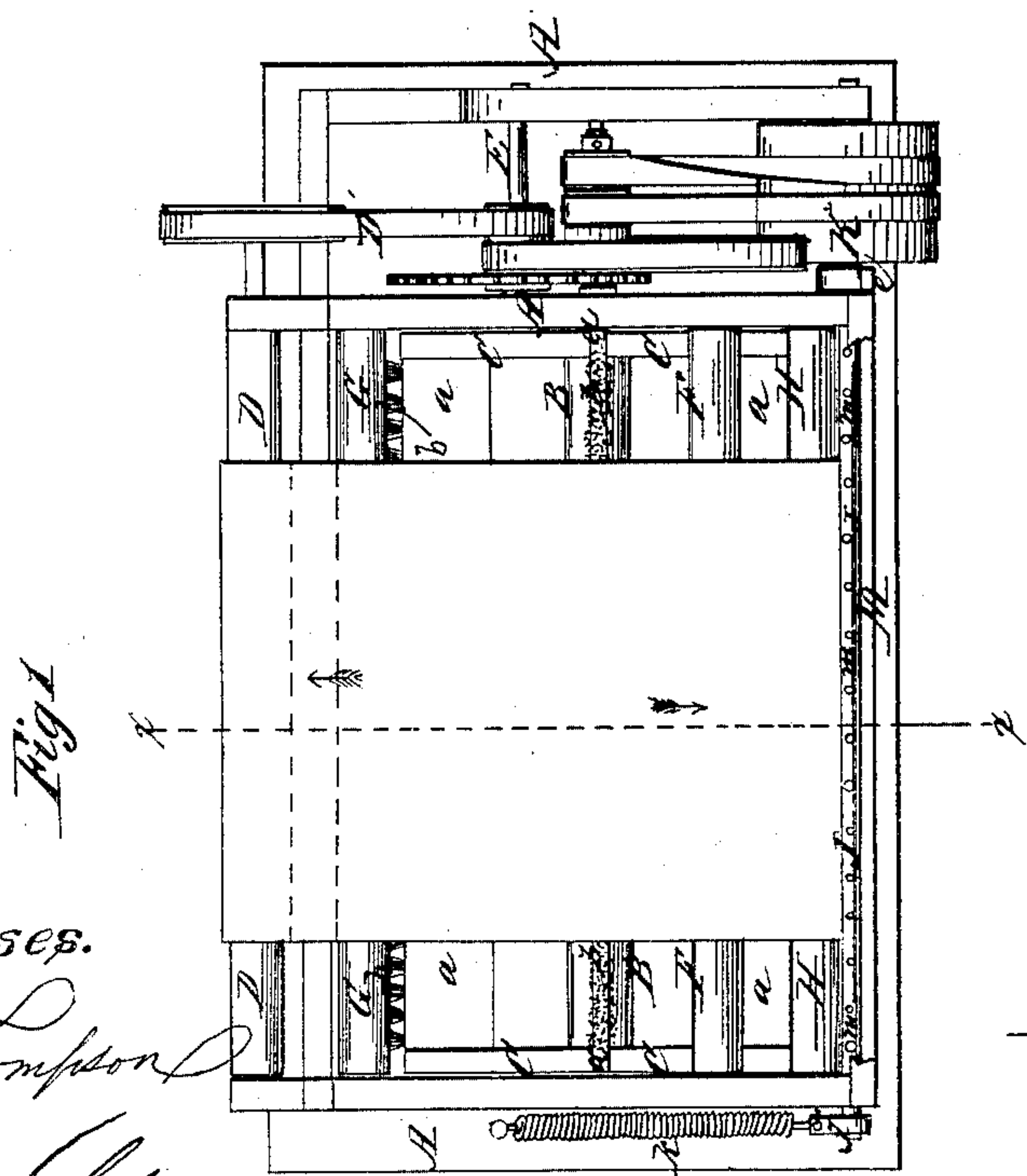
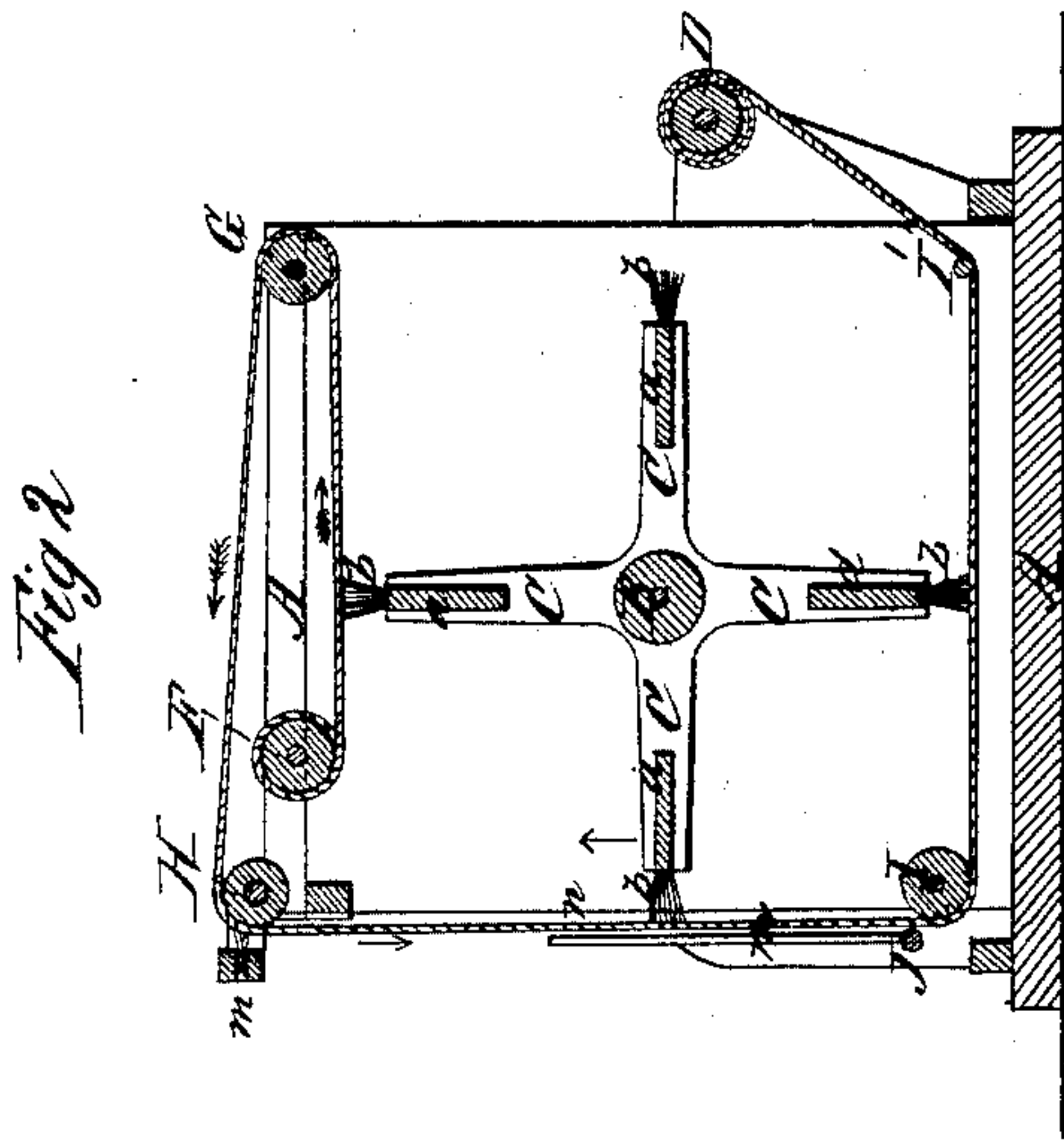


*H. L. Nichols,*

*Carpet Cleaner.*

*N<sup>o</sup> 28,398.*

*Patented May 22, 1860.*



*Witnesses.*

*Wm Thompson*

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# UNITED STATES PATENT OFFICE.

HENRY L. NICHOLS, OF NEW YORK, N. Y.

## CARPET-CLEANER.

Specification of Letters Patent No. 28,398, dated May 22, 1860.

*To all whom it may concern:*

Be it known that I, HENRY L. NICHOLS, of No. 135 Troy street, in the city, county, and State of New York, have invented certain new and useful Improvements in Carpet-Cleaning Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1, represents a plan view, of the machine, showing the wheel work for giving motion to the rollers and beaters. Fig. 2, is a transverse vertical section, taken through the machine of Fig. 1, as indicated by the red line  $x, x$ , marked thereon.

Similar letters of reference indicate corresponding parts in both figures.

The object of this invention is to combine in a novel manner with vibrating, beating, or whipping arms, stiff or elastic, a brush or broom cylinder and fans, for beating, brushing, and blowing off the dust from carpets, all at one and the same operation, and for brushing both sides of the carpet in its passage through the machine. The several parts that are brought together to effect these objects, viz, the perfect cleaning of carpets, will be exceedingly simple and compact, and not attended with any manual labor, more than carrying the carpet to the machine, and removing it therefrom when cleaned.

My invention to effect these ends, consists, firstly, in the employment of a series of fan boards, carrying on their extreme edges suitable brushes or brooms, which, being arranged in a suitable relation to certain rollers, over which the carpet is made to pass, give the carpet a thorough sweeping, and keep up a constant blast of air that at the same time blows off the dust, and in conjunction with the fans and brooms, operating as will be hereinafter shown, is arranged a vibrating beating rack, that receives a rapid motion from the driving gear, and beats or whips the carpet during the operation of the fans and brooms, as will be hereinafter described and represented.

My invention further consists in arranging the rollers over which the carpet passes, in such a manner that both sides of the carpet are submitted to the action of the brooms and fans in once passing through the machine.

To enable those skilled in the art to fully understand my invention, I will proceed to describe its construction and operation.

In the drawings, A represents the frame-work for supporting the machinery for cleaning carpets, which may be of any desirable length. On one side of this frame is placed the mechanism, that, receiving motion from any prime mover, gives motion to the several parts for conducting the carpet through the several operations, of beating, sweeping, and fanning. This machinery will be hereinafter described in the operation of the parts.

B, is a shaft passing horizontally and longitudinally from end to end of the frame A, having its journal bearings in said frame, that carries four or more radial arms C, C, on each end, to each pair of which is applied a wide board  $a$ , shown clearly in Fig. 2, which boards create a very strong blast of air when rapidly rotated which is brought to impinge directly upon the carpet for driving off the dust that is beaten and swept out by brooms and beating arms. The brooms  $b, b$ , are attached to and project from the outer edges of the boards  $a$ , a suitable distance to come into contact with the carpet at three points. The fan-boards  $a, a$ , should be made adjustable to or from the axis of motion of the shaft B, so that as they wear out they may be distended, for in some cases the carpet will require a double action of the brooms, and this action may be obtained by simply increasing the diameter of the circle described by the brooms.

D is a roller upon which the carpet is wound up after passing it through the machine. This roller is driven by a belt  $D'$ , communicating with the main shaft E, in the direction of the arrows Figs. 1 and 2.

F, is the roller upon which the carpet is first wound, and from which it is unrolled to be submitted to the brooms and beaters, from this roller, the carpet passes under roller G, parallel with roller F, and over this roller, back to roller H, and over this roller, down to the bottom of the machine and under roller I, from this roller I, it passes under bar  $I'$ , and thence to roller D.

J, is a rod carrying on one end a toothed sector  $e$ , and on the opposite end an arm  $j$ , to which latter is attached a spring  $k$ . The rod J, is furnished with a number of stiff or elastic rods  $m, m$ , of a suitable length. The spring  $k$ , keeps these rods in a per-



pendicular state against a rope *n*, that is stretched across the frame A, and in front of which the carpet is passed. The rod J, with its arms *m*, forms the beating device 5 for striking or whipping the carpet very rapidly, while it is moving through the machine over the rollers, above described. These beating arms are brought up in close contact with the carpet, so that the carpet 10 will be struck by them their entire length, as shown in Fig. 2. The sector rack on the end of rod J, is actuated by a similar rack on a drum (K) shaft so as to produce the motion-requisite, or any other suitable mechanical device may be applied to the rod J, 15 for giving the required movement to it. The fixed bar M, at the top of the frame may be furnished with brooms or brushes if desired, but the rotary brushes will most likely 20 answer all purposes.

Having thus described the several essential features of my invention, I will proceed briefly to describe the operation of beating and sweeping and fanning the dust from the 25 carpet, while it is being passed through the machine. The carpet first receives a beat-

ing from the rods *m*, that are kept in constant rapid motion, and on the opposite side of the carpet, it is acted upon by the brushes and fans, it then passes on to the winding 30 up roller D, but while the brushes are acting upon one side of the carpet at the points where it is beaten, they are acting upon the opposite side of the carpet as it is passed from roller F to roller G. When the carpet 35 has thus passed once through the machine its motion may be reversed and re-beaten, swept, and cleaned, and if necessary the operation may be again repeated, and so on, until the carpet is perfectly clean. 40

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

The rotary brush and blast-boards, *a*, in combination with vibrating beating arms 45 *m*, *m*, arranged substantially as, and for the purposes set forth.

HENRY L. NICHOLS.

Witnesses:

B. GROUCE,

WM. THOMPSON.