

W. H. Hankinson,

Carpet Cleaner.

N^o 62,029.

Patented Feb/2, 1867.

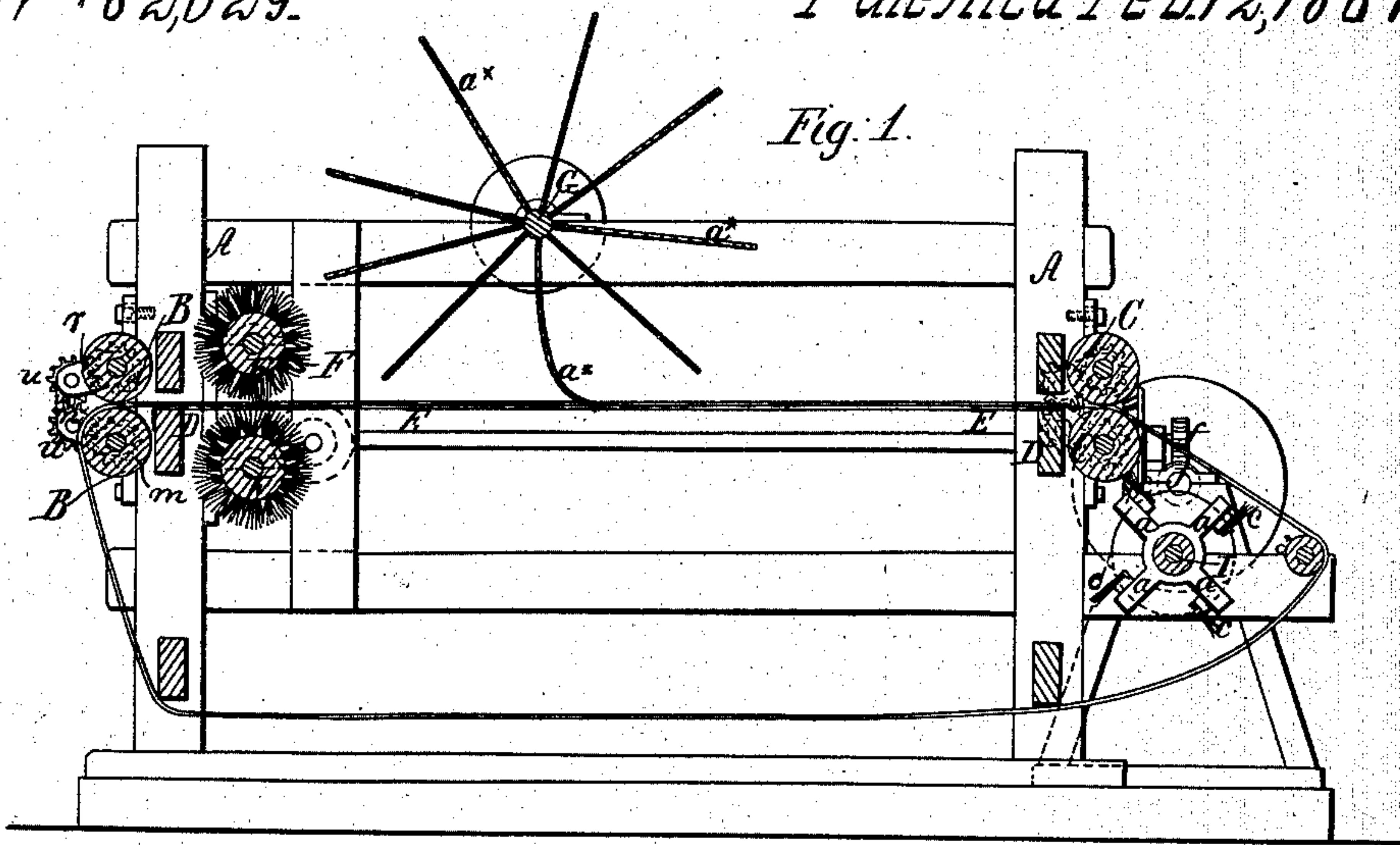
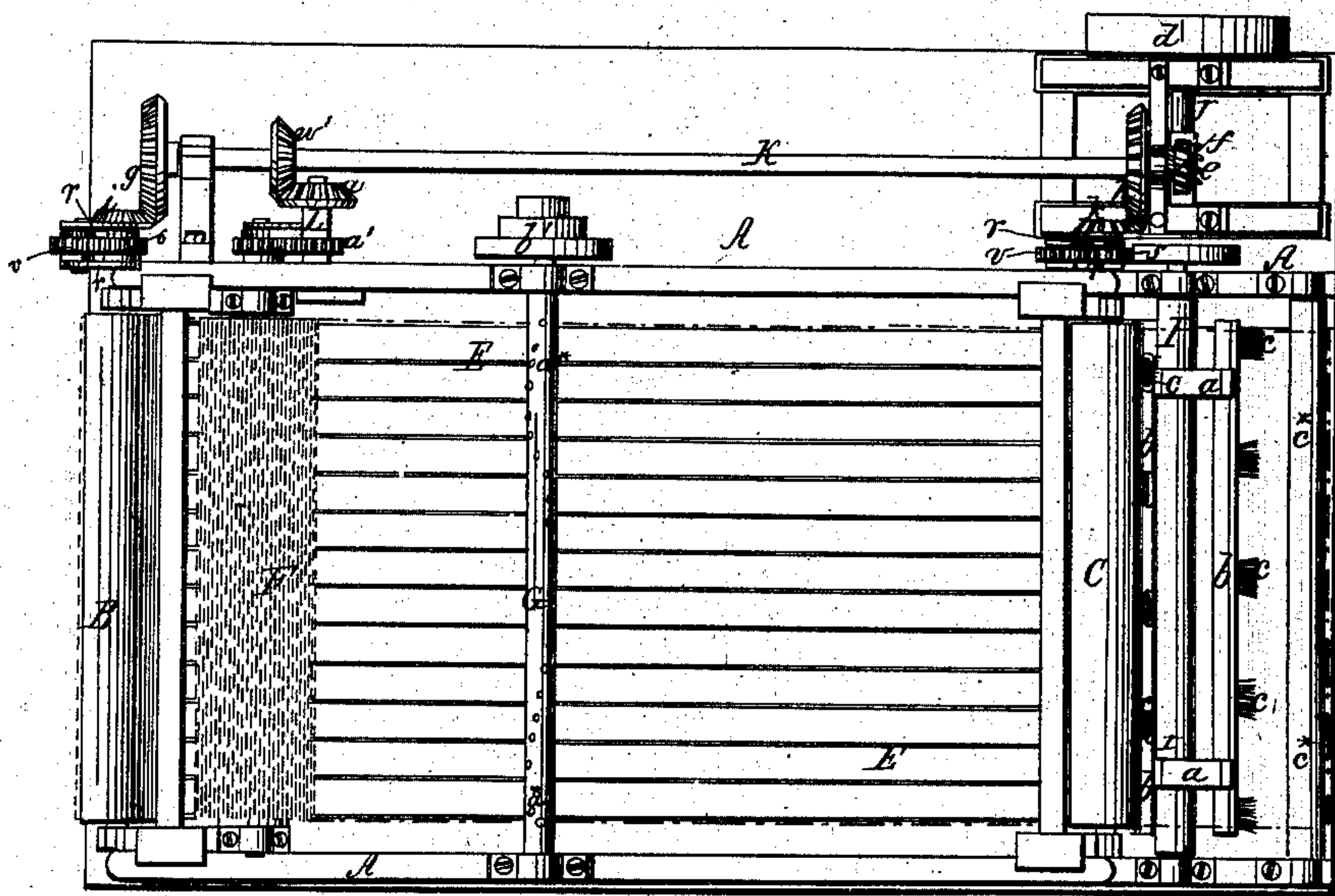


Fig. 2.



Witnesses;
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United States Patent Office.

W. H. HANKINSON, OF NEW YORK, N. Y.

Letters Patent No. 62,029, dated February 12, 1867.

IMPROVED CARPET BEATER AND CLEANER.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, W. H. HANKINSON, of the city, county, and State of New York, have invented certain new and useful improvements in Machines for Beating and Cleaning Carpets; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a portion of this specification, in which—

Figure 1 is a vertical longitudinal section of a machine constructed according to my invention.

Figure 2, a plan or top view of the same.

Similar letters of reference indicate corresponding parts in both figures.

This invention consists in certain novel arrangements of parts, whereby carpets, or other fabrics of like character, of any length or thickness, may be thoroughly cleansed from dirt or dust by the action of rotating brushes and brooms and by the operation of flexible beaters, without injury to the said fabrics and with a very moderate expenditure of time.

To enable others to understand the construction and operation of my invention, I will proceed to describe it with reference to the drawings.

The working parts of the machine are supported by a strong framework of any suitable construction, and which in the drawing is marked A. Situated at the forward end of this framework are two horizontal feed-rollers, B, which are situated one over the other. Placed at the rearmost end of the framework A, nearly or quite on a level with the rollers B, is another pair of similar feed-rollers, C. The shaft of the upper roller of each pair works in bearings, which are placed in suitable vertical guides formed upon the framework A, in order that the said upper rollers may be free to rise and fall, and thus adjust themselves to carpets of different thickness or to any variation in the thickness of the carpet. Situated at the inner side of the lowermost one of each pair of rollers B and C, parallel therewith and with its upper side, nearly or quite on a level with the upper side thereof, is a bar, D; and stretched or extended from one of these bars D to the other are a series of strong horizontal cords, E, which serve to support a portion of the weight of the carpet, as will be hereinafter fully set forth. Located in rear of the pair of rollers B, and just back of the bar D, adjacent to the said rollers, are two transverse cylindrical brushes, F, which are situated one above and the other below the supporting cords E, and which, having a rotary movement communicated to them by means hereinafter described, act upon the two sides of the carpet as it is passed through the machine to brush and clean the same. Situated transversely over the supporting cords E is a horizontal shaft, G, which has arranged spirally thereon a number of flexible "beaters," *a**, which may consist of pieces of rope of the proper length, and which by beating upon the carpet as it passes to the brushes F, assist materially in expelling the dust and dirt therefrom. Situated at the rearmost end of the framework A, below and in rear of the feed-rollers C, is a transverse rotating shaft, I, which is furnished with radial arms, *a*, to which are attached longitudinal bars, *b*, the said arms and bars constituting a kind of frame; and secured upon these bars *b*, at suitable distances apart, and in a position radial to the shaft I, are any number of stiff brushes, *c*, which may be made of broom-corn or other suitably stiff material, and which, in the operation of the machine, are designed to brush the inner side or surface of the carpet. The means by which the required movements are communicated to the several parts are as follows: The driving-shaft J is furnished with a driving-pulley, *d*, and has formed upon it a worm or tangent-screw, *e*, which gears into the pinion *f*, upon the rear extremity of the secondary shaft K, which is furnished with two bevel gear-wheels, *g* and *h*, of which the wheel *g* gears into a pinion, *i*, upon the extremity of the shaft of the lowermost roller B, while the other wheel *h* gears in like manner into a similar pinion, *k*, upon the shaft of the lowermost one of the other pair of rollers C. The mechanism by which, in each pair of rollers B and C, motion is communicated from the lower to the upper one thereof, is identical, the shaft of the lower roller in each case being provided at one end with a small spur-wheel, shown in dotted lines at *m*, in fig. 1, and having pivoted at one end thereto a curved link, *n*, the upper end of which is connected with the shaft of the upper roller by a straight link, *r*. The said shaft of the upper roller is furnished with a spur-wheel, shown in dotted lines at *s*, in fig. 1; and pivoted within the links *n r*, are two intermediate spur-gears, *u v*, of like character, these spur-wheels *m, s, u, v*, gearing together, and the joint between the links *n r* permitting the upper roller to rise in order to adjust itself to any thickness of carpet or fabric, or to any inequalities in the thickness thereof, without bringing the

aforesaid spur-wheels out of gear with each other. It shows a short shaft placed at right angles to the secondary shaft K, and connected therewith by two bevel-gears, $w w'$, and furnished at the inner end with a small spur-wheel, a' , which gears into one of the gears by which the shaft of the lowermost one of the cylindrical brushes F is connected with the shaft of the upper one thereof, the two shafts of the said brushes being geared together in the same manner as the two rollers of each pair of feeding-rollers, as hereinbefore set forth, the shaft of the uppermost of the brushes F working in vertically sliding bearings in the same manner as the shafts of the uppermost feeding-rollers hereinbefore described, so that the aforesaid uppermost brush may rest lightly upon the carpet during the operation of cleaning the same. The shaft G, carrying the beaters a^* , is rotated by a belt acting upon the band-wheel b' at the end thereof.

In using the machine, the carpet or other fabric, of any desired length, and of a width not exceeding the length of the feeding-rollers, has one of its ends first passed between the two feeding-rollers at the front of the machine and then back between the cylindrical brushes F, and over the supporting cords E, thence, between the two rearmost feed-rollers, and over the rotary frame which carries the stiff brushes c , and downward over the transverse supplementary roller c^* , from which it is carried forward underneath the parts just mentioned, and is joined by sewing to the other end of the carpet, so that the said carpet forms a kind of endless apron. Motion being given to the machine by the means hereinbefore described, the carpet is drawn back by the feed-rollers, and the cylindrical brushes F, rotating in a direction contrary to that in which the carpet is drawn, act upon the sides thereof, and brush the dust and dirt from the surfaces of the same. The flexible beaters a^* , as the carpet passes along, striking or beating upon the same with a force proportioned to the velocity of the shaft G to which they are attached, expel the dust and dirt from the interstices of the carpet, the carpet being sustained against the said blows by resting upon the supporting cords E. At the same time the stiff brushes c , acting upon the inner surface of the carpet, still further remove the dust and dirt therefrom. The carpet is thus carried around until, having several times passed through the machine, or, in other words been subjected to the brushing and beating action of the parts just mentioned, has become thoroughly cleaned, whereupon the two ends thereof are disconnected and it is withdrawn from the machine. The uppermost roller of each pair of feeding-rollers, and also the uppermost of the cylindrical brushes being capable of moving vertically, and being thus self-adjusting to the thickness of the carpet or other fabric, it follows that the machine is adapted to cleaning carpets of any desired thickness without any change being made in the machine. It is designed that the greater portion of the machine be suspended within a suitable "dust-room" or casing, in such manner that the dust from the carpet may not escape in front of the machine.

What I claim as new, and desire to secure by Letters Patent, is—

1. The two pair of feeding-rollers B and C, and the cylindrical brush F, made self-adjusting as described and arranged in relation with each other and with the supporting cords E, and flexible beaters a^* , substantially as herein set forth for the purpose specified.
2. The stiff brushes c , arranged upon a rotating frame, in combination with the feeding-rollers B C, and cylindrical brushes F, substantially as herein set forth for the purpose specified.

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Witnesses:

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