J. RAE.

Carpet-Cleaning Machine.

No. 203,853. Patented May 21, 1878.

Fig: 1

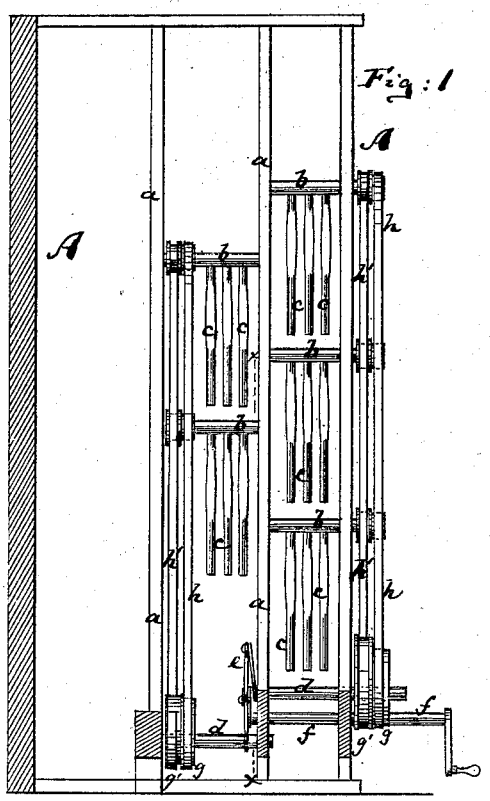


Fig: 2

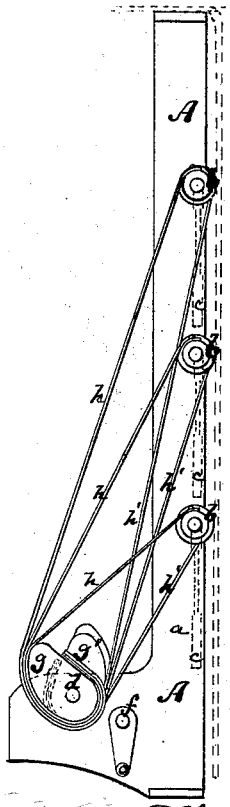


Fig: 4

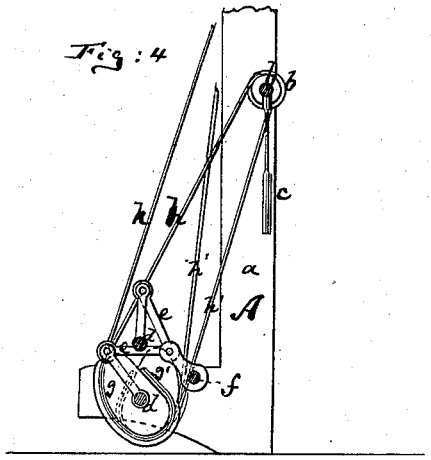
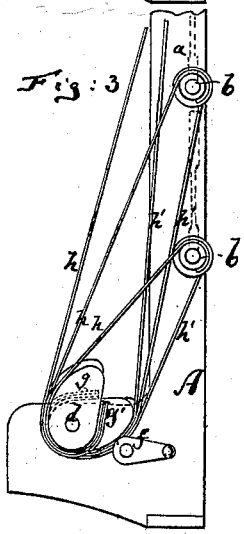


Fig: 3



Witnesses

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UNITED STATES PATENT OFFICE.

JOHN RAE, OF NEW YORK, N. Y., ASSIGNOR TO THOMAS M. STEWART, OF SAME PLACE.

IMPROVEMENT IN CARPET-CLEANING MACHINES.

Specification forming part of Letters Patent No. **203,853**, dated May 21, 1878; application filed April 16, 1878.

To all whom it may concern:

Be it known that I, JOHN RAE, of the city of New York, county and State of New York, have invented a new and Improved Machine for Cleaning Carpets, of which the following is a specification:

Figure 1 is a front elevation, partly in section, of my improved machine for cleaning carpets. Fig. 2 is an edge view thereof, showing the beaters in their lowermost position. Fig. 3 is an edge view of the same, with the beaters in their uppermost position; Fig. 4, a vertical transverse section on the line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts in all the figures.

This invention relates to an improvement in machines for cleaning carpets; and has for its object to impart to the beaters a motion which will cause them to strike the carpet gently, and with more effect than in the carpet-cleaning machines heretofore used.

In the carpet-cleaning machines as heretofore generally made the beaters received their motion through a rack and pinion or other rigid connection. This rigid connection caused a sudden and violent stroke of the beaters, that was injurious to the fabric and not very effective in cleaning the same.

Now, my invention consists in combining, in a carpet-cleaning machine, each of the shafts that carry the beaters by means of two straps with two actuating-cams placed at or at about right angles to each other, and receiving oscillating motion from the driving mechanism. In this manner a flexible yielding motion will be imparted to the beaters, causing them to strike the carpet gently and with great effect.

The invention also enables me to regulate with great exactness, by the shape of the cams, the velocity of motion of the beaters on approaching toward and receding from the carpet, all as hereinafter more fully described.

In the drawing, the letter A represents the frame of my improved carpet-cleaning machine. The same is made of wood or other suitable material, and provided with two or more parallel uprights, *a a*, between and into which the shafts *b b*, that carry the beaters *c c*, are hung.

The carpet (indicated by dotted lines in Fig. 2) is fed from the top of the machine gradually downward behind the beaters, which, being revolved in a half-circle upward and downward, strike the carpet at each extremity of motion, thereby cleaning the carpet. All this, however, is not part of my invention, which consists of the combination of parts hereinafter described.

d is a shaft hung in the frame A, and connected by a suitable link, *e*, to a crank on the rotary driving-shaft *f*, so that oscillating motion is imparted to the shaft *d*. Instead of having but one shaft, *d*, two or more such shafts may be used according to the number of rows of beaters.

Fig. 1 shows two shafts, *d*, in the frame A. Upon each shaft *d* are rigidly secured two cams or eccentrics, *g* and *g'*, each of about semi-elliptic shape, and both of equal size, and placed at about right angles to each other.

To the cam *g* are secured, and around its curved portion are laid, the ends of several straps, *h*, each of which straps connecting at its other end with one of the shafts *b*. To the curved edges of the cam *g'* are also secured several straps, *h'*, which likewise connect to the respective shafts *b b*, but opposite to the sides to which the straps *h* are connected, as clearly shown in Fig. 2.

During the operation of the machine the straps *h* will serve to draw the beaters into their lowermost position, while the straps *h'* will draw them into their uppermost position.

When motion is imparted to the cams *g g'* the series of straps *h h* and *h' h'* will be alternately set in operation, and thereby impart oscillating motion to the shafts *b b;* thereby the beaters *c c* are turned up and down, striking the carpet at or near the terminus of each motion. Thus, in Fig. 2 the cam *g* is shown in a position where it has, by the straps *h*, drawn the beaters *c* into their lowermost position. In Fig. 3 the cam *g'* has again raised the beaters into their uppermost position.

By means of the straps *h* and *h'* a yielding elastic motion will be imparted to the beaters, which will cause them to strike the carpet gently and effectively. Moreover, by curving the cams *g g'* to a greater or less extent at

different parts of their circumference, I may cause the motion of the beaters to vary, causing them to approach the carpet with greater velocity, and to recede with less velocity.

I claim—

The combination, in a carpet-cleaning machine, of the frame A, with the shafts *b*, carrying beaters *c*, and with the oscillating cams *g* *g'* and straps *h* and *h'*, all constructed and arranged so that oscillating motion is imparted to the beaters with varying velocity, substantially as and for the purpose herein specified.

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Witnesses:

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