(No Model.)

C. KING.

CARPET SWEEPER.

No. 563,388. Patented July 7, 1896.

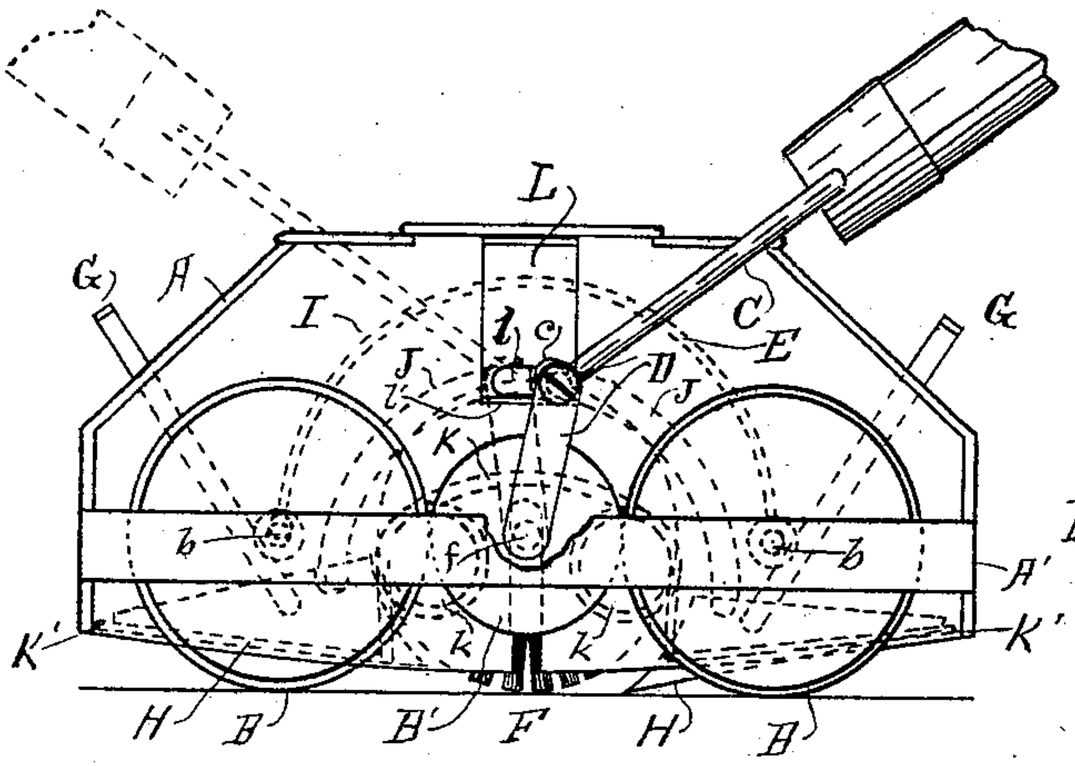


Fig. 1.

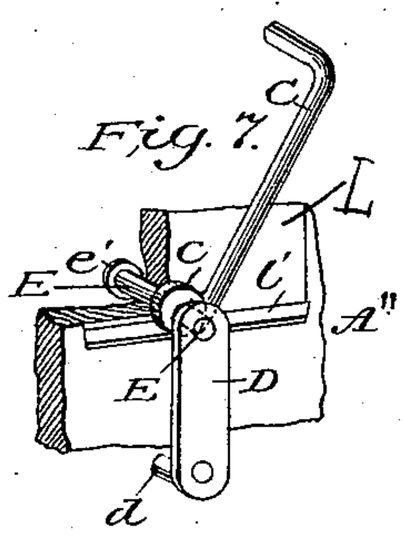


Fig. 7.

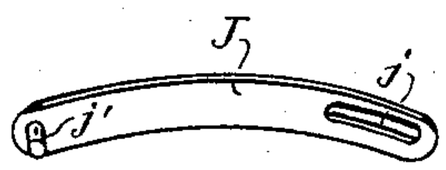
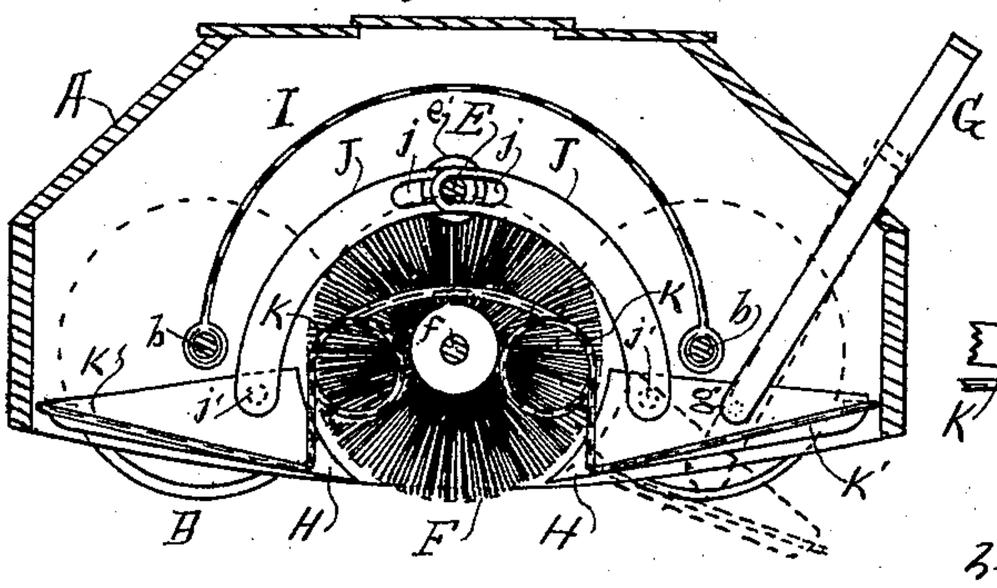


Fig. 4

Fig. 2.



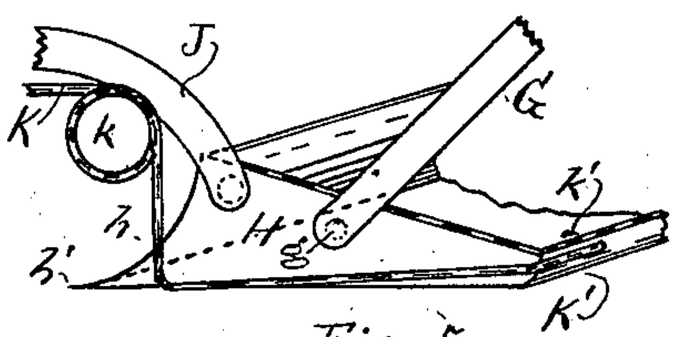


Fig. 5.

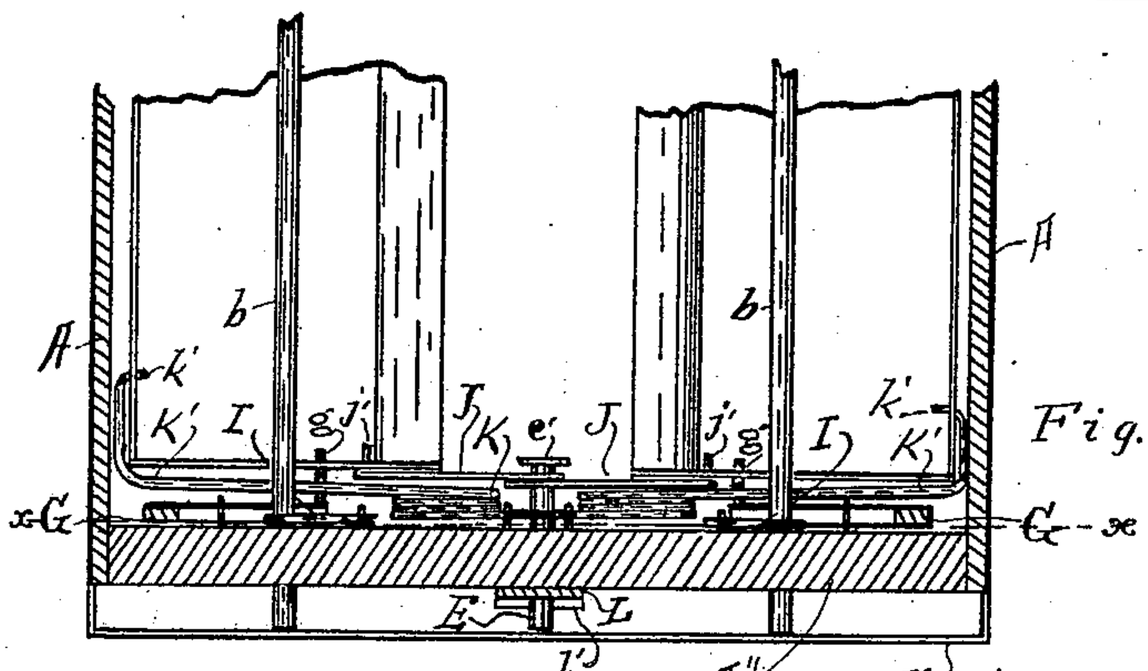


Fig. 3.

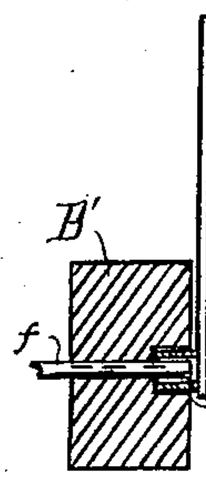


Fig. 6.

Witnesses.

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UNITED STATES PATENT OFFICE.

CHARLES KING, OF GRAND RAPIDS, MICHIGAN, ASSIGNOR OF ONE-HALF TO WALTER E. MOORE, OF SAME PLACE.

CARPET-SWEEPER.

SPECIFICATION forming part of Letters Patent No. 563,388, dated July 7, 1896.

Application filed July 11, 1895. Serial No. 555,655. (No model.)

To all whom it may concern:

Be it known that I, CHARLES KING, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Carpet-Sweepers, of which the following is a specification.

My invention relates to improvements in the manner of manipulating the brush and pans in a carpet-sweeper, and its objects are, first, to provide for varying the relative vertical position of the brush and the rollers to correspond with the length of the nap upon the carpet, as between a Brussels and an in-grain; and, second, to provide for alternately raising and lowering the points of the pans as the sweeper is run toward or from the operator. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is an end elevation of my sweeper with the internal levers, springs, &c., shown in outline. Fig. 2 is the same in section on the line *x x* of Fig. 3, showing the relative position of the several springs, levers, &c. Fig. 3 is a sectional plan of one end of the sweeper, showing a plan of the several levers. Fig. 4 is a perspective of the connection by which the pans are adjusted to receive the dust. Fig. 5 is a perspective of the end of the pan, showing the manner of supporting it on the case. Fig. 6 is a sectional view of the brush-support, and Fig. 7 is a perspective of one end of the handle-bow and eccentric with the connecting-rods removed.

Similar letters refer to similar parts throughout the several views.

A is the inclosing case.

A′ is the guard.

B B are the wheels that support the sweeper.

C is the handle-bow by which the sweeper is operated.

The brush F is hung in bearings at the ends in the usual manner, except that the bearing proper, *d*, is so arranged that the shaft *f* bears within, and the friction driving-wheel B′ bears upon the outer surface thereof. Each bearing is attached to a connecting-rod D, which is pivoted to a bearing-pin E, supported in a slot in the end of the case. The handle-bow is also pivoted to the bearing-pin E.

My appliance for raising and lowering the brush to correspond with the length of nap on the carpet consists of a plate L, having a narrow step *l′* at its lower end, and a small projection *c* on one side of the pivoted end of the handle-bow, forming an eccentric, so that with the handle-bow in the position of the solid lines in Fig. 1, the lesser radius of the eccentric will rest on the step *l′* and allow the brush to drop down, and when the handle is thrown over to the position indicated by the dotted lines the longer radius of the eccentric will be brought to bear upon the step and will raise the brush sufficiently to allow of easily sweeping a carpet having a long nap.

My appliance for adjusting the points of the pans consists of a slot *l* in the end of the case. The bearing E passes through this slot and receives the upper end of the connecting-bar D, so that said bar pivots on the brush-shaft and the upper end may be thrown to one side or the other of the slot. I then construct two connecting-rods J, one end of which is pivoted to the ends of the pans, as at *j′*, and the other end provided with slots, as *j*, that are designed to work over the bearing E, so that if the handle is thrown to the position of the solid lines in Fig. 1 the point of one pan will be thrown down to the floor or carpet, and if it is thrown to the other end of the slot the point of the other pan will be thrown down. The object of the slots *l* in these connections is to allow the height or position of the pan to vary to accommodate itself to any variations that may exist in the surface being swept. These connecting-bars also act as supports for the inner sides of the pans, by means of which they are pivoted to allow of the throwing of the opposite sides for emptying the dust out of them, as hereinafter more fully explained. For supporting the other or outer sides of the pans I provide a compound elastic spring K, which is securely attached to the end of the case and have outwardly-extending arms K′, that pass out and, bending at right angles, pass around the corner of the pan, and the ends, again bent at right angles, pass through the side of the pan, as at *k′*, to act the double purpose, first, supporting the outer sides of the pans, and, second, of allowing of sufficient throw to

the side of the pan to allow the dust to be emptied out, which is accomplished by means of the emptying-bars G, as indicated in Fig. 2. (See dotted lines of right-hand pan.) It will be seen from the description here given that the pans are supported entirely upon the connecting-bars J and the springs K K′ wholly independent of the frame A, and, as the bars G are pivoted to them between these two bearing-points, a downward pressure of these bars will cause the outer sides of the pans to be thrown down in consequence of the greater elasticity of the springs.

In Fig. 3 the end A″ of the case A is shown some distance from the ends of the pans for the purpose of more fully showing the relative positions of the connecting-bars, springs, &c., and the spring I, that supports the ends of the shafts or rods *b*, that carry the wheels B, is cut away to make the view still more open and the position of the several parts more apparent.

I find it very advantageous to increase the throw of the end K′ of the spring K by means of the coil *k*, as indicated in the several drawings.

In Fig. 3 I show the connecting-bars J as connected with or pivoted to the pans by means of a pivot-pin *j*′ and the emptying-bars G by means of pins *g*, which I consider the best and most economical form of connection, but do not desire to restrict myself to this or any other specific means for this purpose.

I provide a head *e*′ on the inner end of the bearing E, so that there will be no danger of the connecting-bars J becoming disconnected therefrom.

My object in placing the slots in the upper end of the bars J instead of in the lower end is to provide for a perfect pivot-bearing for the throwing of the pan, at the point of connection between the bar and the pan, which can be attained only by the use of a close-fitting pivot-joint, as shown, while it is necessary to have a given amount of play to provide for the motion of the pan when passing over a carpet, which object is best attained with the slots at the upper end, as shown.

The concave surface *h* on my pan enables me to have a sharp point *h*′, which insures the taking up of any and all objects that may be on a carpet, an object that cannot be attained with the ordinary obtuse point in general and universal use in carpet-sweepers.

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

1. In a carpet-sweeper, a case, a brush, supporting-wheels, and dust-pans pivotally supported upon movable bearings within the case, in combination with pivoted supports for the brush, the upper end of said supports pivoted to the handle-bow, slots in the ends of the case, and connecting-rods connecting the handle-bow and the ends of the pans to raise and lower the same by the action of the bow in said slots, substantially as and for the purpose set forth.

2. In a carpet-sweeper, a case, a brush, supporting-wheels and dust-pans pivotally supported upon movable bearings within the case, in combination with a pivoted connection to support the brush and connect it with the ends of the handle-bow, eccentrics on the ends of said bow, a step for said eccentrics to act upon to raise and lower the brush, slots in the ends of the case so the pivot-bearing between said support and the ends of the bow may be thrown from side to side, bars connecting the ends of the handle-bow with the ends of the pans, slots in said bars where connected with the handle-bow, and a spring-support for the outer sides of the pans, substantially as and for the purpose set forth.

3. In a carpet-sweeper, a case, a brush, supporting-wheels, dust-pans pivotally supported upon movable bearings within the case, in combination with a pivoted support for the brush, a handle-bow pivoted to the upper ends of said supports, a slot in each end of the case for the passage of bearings connecting the handle-bow and the supports the inner ends of said connecting-bearings connected to bars having slots through their upper ends, the lower ends of said bars pivotally connected to the inner edge of the ends of the pans, a flexible spring secured to the ends of the case and arranged to support the outer edges of the pans suspended independent of the frame, substantially as and for the purpose set forth.

4. In a carpet-sweeper, the case, brush, and handle-bow, in combination with dust-pans each having a concave face corresponding with the convexity of the brush, and a sharp point for receiving the dust from the brush, said pans adjustably suspended within the case, slots in the ends of the case for the ends of the handle-bow, and connecting-rods attached at one end to the ends of the handle-bow and at the other end to the ends of the pans to adjust the edges of the pans vertically by the change of position of the handle-bow when reversing the motion of the sweeper, substantially as and for the purpose set forth.

Signed at Grand Rapids, Michigan, July 3, 1895.

CHARLES KING.

In presence of—
WALTER E. MOORE,
ITHIEL J. CILLEY.