

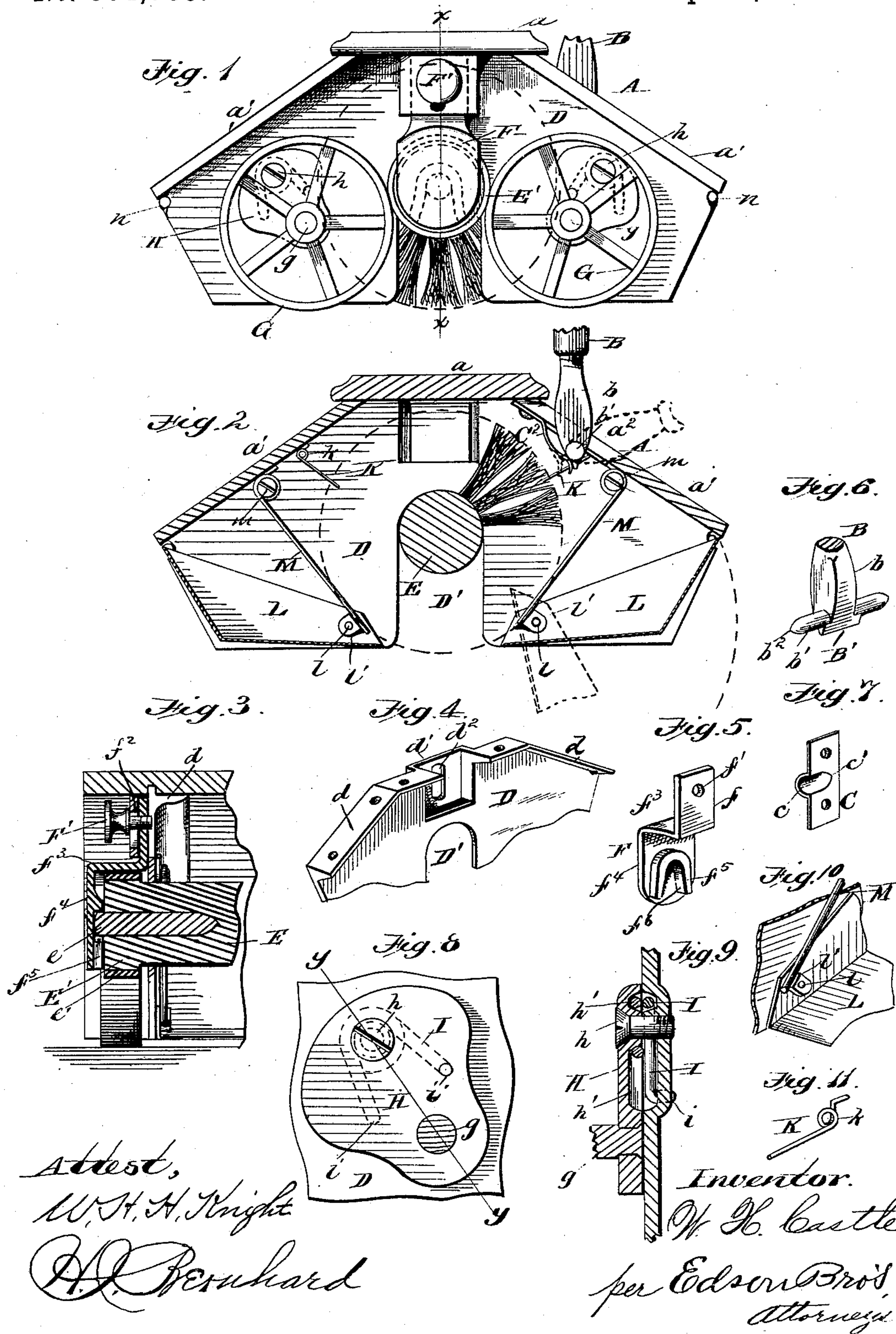
(No Model.)

2 Sheets—Sheet 1.

W. H. CASTLE.
CARPET SWEEPER.

No. 304,799.

Patented Sept. 9, 1884.



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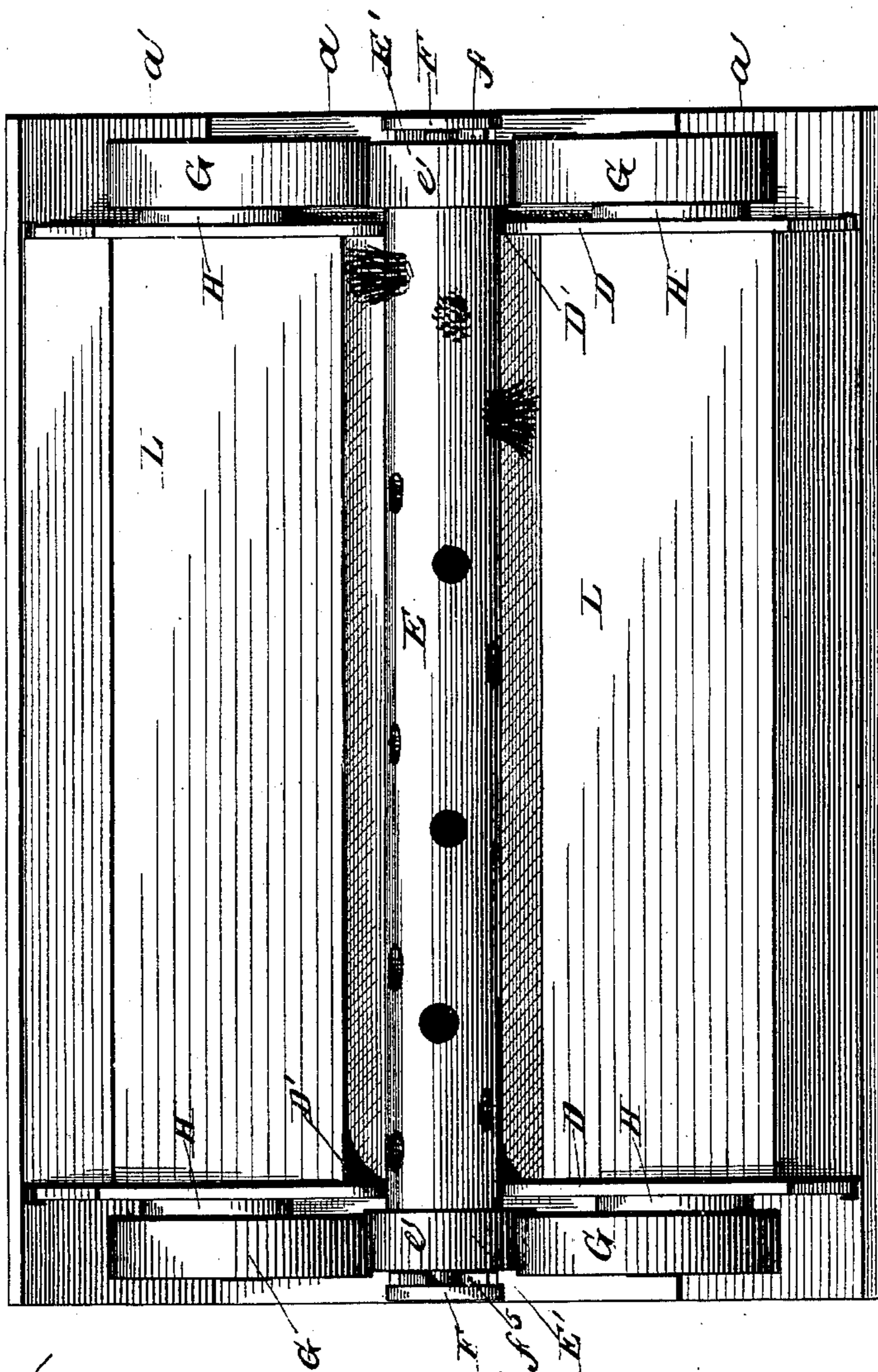
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Fig 12



attest:
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UNITED STATES PATENT OFFICE.

WILLIAM H. CASTLE, OF ASHTABULA, OHIO.

CARPET-SWEEPER.

SPECIFICATION forming part of Letters Patent No. 304,799, dated September 9, 1884.

Application filed September 7, 1883. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. CASTLE, a citizen of the United States, residing at Ashtabula, in the county of Ashtabula and State of Ohio, have invented certain new and useful Improvements in Carpet-Sweepers; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to carpet-sweepers; and it consists of the construction, combination, and arrangement of parts substantially as hereinafter described, and pointed out in the claims.

Similar letters of reference in the various figures of the drawings denote similar parts.

Figure 1 represents an end view of my invention, the handle being partly broken away. Fig. 2 represents a transverse section through the sweeper, showing means for holding dust-pans and handle in proper position. Fig. 3 represents a longitudinal section, taken through one end, on the line *xx*, Fig. 1, showing means for adjusting the brush-roll. Fig. 4 represents a perspective view of a portion of one of the end or wheel castings. Fig. 5 is a perspective view of one of the brackets for holding and adjusting the brush-roll detached from the machine. Fig. 6 represents a portion of the lower end of the handle. Fig. 7 is a perspective view of one of the plates for holding said handle in place. Fig. 8 represents an enlarged view of one of the plates to which the supporting-wheels are journaled. Fig. 9 is a sectional view taken on the line *yy* of Fig. 8. Fig. 10 represents in perspective a portion of one of the dust-pans pivoted to the end casting and the means for holding said pan locked when in place. Fig. 11 represents a view of one of the pickers detached from the machine. Fig. 12 represents a bottom plan view of a carpet-sweeper embodying my improvements, the majority of the brushes having been removed.

In the drawings, A represents the sweeper, having the usual form of cover—*i. e.*, flat cen-

tral portion *a*, and sloping or inclined portions *a'*, one of said incline portions having a slot, *a''*, through which passes the shank *b* of the handle B. The handle B is of wood, (preferably,) as is usual, and is provided at its lower end with a shank, *b*, screw-threaded at its upper end, and having its lower end provided with laterally-projecting lugs *b'*, circular in cross-section, and terminating at their outer ends in points *b''*. (See Fig. 6.) The lugs *b'* rest in depressions *c'*, formed in plates C, secured to the lower surface of the inclined top portion, *a'*, that contains the slot *a''* at each side of said slot.

B' represents a rib or flange projecting downwardly from the lower end of the shank *b*, against which (when the handle is in position) bears a curved leaf-spring, *C'*, attached to the under surface of the casing above the slot *a''*, as will be readily seen from the drawings, the above-described spring being adapted to, in conjunction with the rib B' on shank, keep the handle in any desired position. It will be observed that the rib or flange B', upon the lower end of the handle-shank *b*, is at all times engaged by the spring *C'*, thereby being adapted to be held in any desired position, as above described.

D represents one end of the casing, consisting of a metal casting (the other end being of similar construction) having its upper inner edge provided with a flange, *d*, for its attachment to the cover, and provided at its middle with a cut-away portion or slot, *D'*, for the passage of the brush-roll E, as shown. The end castings, D, are further provided upon their outer surfaces, near the top thereof, with offsets *d'*, having the form of a rectangular loop or strap, open at its bottom, and having a slot, *d''*, formed therein, as shown, to receive the shank *f* (see Fig. 5) of a plate, F, that holds the brush-roll E in proper position. Said shank *f* is provided with a screw-threaded aperture, *f'*, which receives the screw-threaded shank *f''* of a thumb-screw, F'. The shank of the thumb-screw passes through the slot *d''* in the offset *d'* and into the aperture *f'* of the bracket, as will be observed in Fig. 3, and when it is desired to raise or lower said bracket F, for the purpose of adjusting the brush-roll, it is only necessary to loosen the screw F', as

will be readily understood. The offsets or loops d' are cast with and form part of the end castings, D, by which construction greater strength is insured to said loops, and the end castings themselves present a neater appearance. The bracket F is bent outwardly at f^3 , thence downwardly at f^4 , as shown; and upon the inner surface of the parts f^4 is cast a flange, f^5 , the inner edges, f^6 , of which furnish guides and stops for the vertical movement of the brush-roll. Each end of the roll is provided with outwardly-projecting pins that enter and move between the flange f^5 , and operate, in connection with said flanges, to guide the brush-roll vertically. The ends of the brush-roll are provided with slightly-enlarged portions E', circular in form, and preferably surrounded with a strip of rawhide or leather, e' , that rests upon and is supported by the peripheries of the supporting-wheels G, as shown in Figs. 1 and 12. The wheels G are journaled upon studs g , projecting from the lower ends of plates H, which are pivoted at h to the end D. Said plates, upon their inner sides and the portions of the ends directly beneath them, are provided with recesses h' , in which is placed a spring, I, coiled about the pivot h , and having one of its ends, i , secured to the casting D, and its other end, i' , secured to the plate H. By this construction it will be readily understood that the wheels G will be at all times kept against the surface of the brush-roll E', and it will be also readily understood that the brush-roll may be easily and quickly withdrawn from the sweeper, the spring I yielding to admit of such withdrawal.

K represents pickers attached to the inner surfaces of the incline portions a' of the top, and extend thence to the brush. Each picker K is made of wire and has, near the end secured to the cover, a twist, k , whereby it is caused to easily spring or give to pressure bearing against its point, the purpose of said pickers being to prevent strings, hair, &c., from winding about the brush-roll. There is a row of these pickers on each side the brush throughout its entire length, and they are spaced about one inch apart.

L represents the dust-pans, which are pivoted to the ends D at the points l , and are each provided upon its inner face with a projection, l' , having its upper and side edges at right angles to each other, as shown.

M represents springs attached at m to the ends D, and bearing upon the projection l' . It will be readily understood that the pressure of the spring M upon the projections will keep the pans closed, and that they will readily yield to downward pressure applied to the studs n or other portions of the pans L. The pans are turned, as shown in dotted lines, Fig. 2, for the purpose of discharging their contents. It will be seen that when force or downward pressure is applied to the sweeper it will cause the lower ends of the plates H to move toward each other, and thereby produce great friction between the surface of the wheels

and the drive-roll upon the end of the brush-roll, whereby the latter will be rotated. When said brush-roll is to be removed, it is only necessary to grasp and draw it outward, the spring I yielding to admit of such action. Each end of the sweeper is made alike—*i. e.*, provided with two wheels, G, and their described attachments. The end boards or plates are made of iron, in order to make the parts compact and extend the brush as near to the ends of the casing as possible.

The advantages of having a straight pan-spring which rests upon a rectangular washer or rib on the pan are that it requires less wire to make them, they do not have to be bent to a particular form, nor require much skill in adjusting them. My straight spring requires less labor and less material to apply and construct it than the bent spring heretofore in use, which is hinged at one end in order to allow the opposite end to pass and repass the pivot of the pan.

It will be observed that the wheels, hangers, set-screws, and bearings are all within the overhanging ends of the casing, whereby the sweeper can run close to the wall or to the furniture without scratching or injuring the same. Both bearings of the brush-roller being placed exteriorly to the end plates, D, the winding of threads, &c., thereon is avoided. When the handle is lowered to the position indicated by dotted lines in Fig. 2, the casing serves as a fulcrum therefor, and enables the operator to conveniently lift the sweeper over obstacles instead of rolling it.

I am aware that various modifications in the detail of construction can be made without departing from the principles or sacrificing the advantages of my invention, the preferred means for carrying it out having been shown and described; and I would therefore have it understood that I do not confine myself to the exact form and construction shown.

I am aware of patents to C. L. Travis, No. 293,988 and No. 293,989, dated February 19, 1884, and make no claim to the devices therein shown and described.

I attach especial importance to the feature of my invention which comprises means for keeping the bearing-rolls pressed continuously against the brush-roll, to support the same, and also permit of its ready removal, as described; and I would have it understood that I do not limit myself to the particular construction of the plates H and springs I, since it is obvious that these parts can be modified in various ways without departing from the principle of my invention.

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

1. In a carpet-sweeper, the combination, with the brush-roll, the brackets having bearings therefor, the plates eccentrically pivoted to the end castings, and each carrying a drive-wheel, the four drive-wheels wholly supporting the brush-roll, and means, substantially as de-

scribed, for continuously pressing said wheels against the brush-roll, as and for the purposes set forth.

2. In a carpet-sweeper, the combination with the brush-roll, the brackets having guiding-slots for the bearings thereof, the plates eccentrically pivoted to the end castings, and each carrying a journal-stud at its lower end, the four drive-wheels mounted on said studs and wholly supporting the brush-roll, and means, substantially as described, for continuously pressing said wheels against the brush-roll, as and for the purposes set forth.

3. A carpet-sweeper mounted upon four wheels, each of said wheels being journaled to the outer surface of a plate, and each of said plates being pivoted eccentrically to the end castings within the overhanging ends of the sweeper-top, and provided with a spring that normally holds its attached wheel in contact with friction-bands upon the ends of the brush-roll, the said plates adapted to receive positive movement toward each other when downward pressure is applied to the sweeper, all combined substantially as herein described.

4. In a carpet-sweeper having four wheels, the plates H, constructed substantially as herein described, having the recessed portion h' and spring I, and pivoted eccentrically to the end castings of the sweeper within the overhanging ends of the top thereof, in combination with the wheels journaled upon studs projecting outwardly from the lower ends of said plates, whereby the periphery of each of said wheels is made to bear against and support the brush-roll at each end thereof, and, when downward pressure is applied to the sweeper, said plates and wheels will receive positive movement toward each other, as and for the purpose set forth.

5. In a carpet-sweeper, the metal end castings, D, constructed substantially as herein described, having the interior flanges, d , offset d' ,

having open bottom, and slot d'' , in combination with the bracket F, brush-roll E, wheels G, and sweeper-body A, as and for the purpose set forth.

6. In a carpet-sweeper, the brackets F, constructed substantially as described, having the shank f , provided with screw-threaded aperture f' , outwardly-bent portions f'' , and downwardly-bent portion f''' , provided with flange f'''' , in combination with the offsets d' , projecting from and made integral with the end castings, D, and thumb-screws F', whereby the bracket F is rendered adjustable up or down in said offsets, substantially as herein described.

7. In a carpet-sweeper, the combination of the dust-pans provided at or about their pivotal points with projections l' , having their edges at right angles to each other, with springs M, the free ends of which bear upon said projections l' , substantially as shown and described.

8. In a carpet-sweeper, the handle-shank b , constructed as described, and having its lower end provided with a rib, B', said shank being provided upon its sides with laterally-projecting spurs b' , journaled in plates C, secured to the lower surface of the inclined portions a' of the top at each side of the slot a'' , in combination with the spring C', whereby said spring is held at all times in connection with the rib B' of the shank, and the handle securely held in any desired position, substantially as herein described, and for the purpose set forth.

9. In a carpet-sweeper, the combination of the brush-roll E with a series of pickers, K, constructed as described, and having the twist or turn k , as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM H. CASTLE.

Witnesses:

JOSEPH FORREST,
JOS. R. EDSON.