

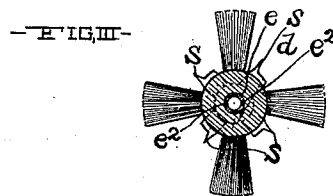
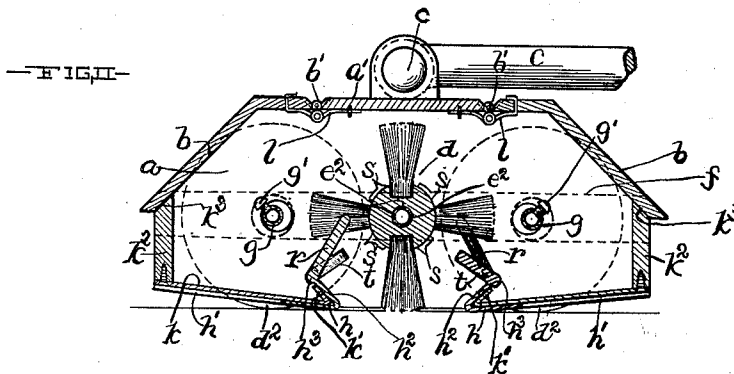
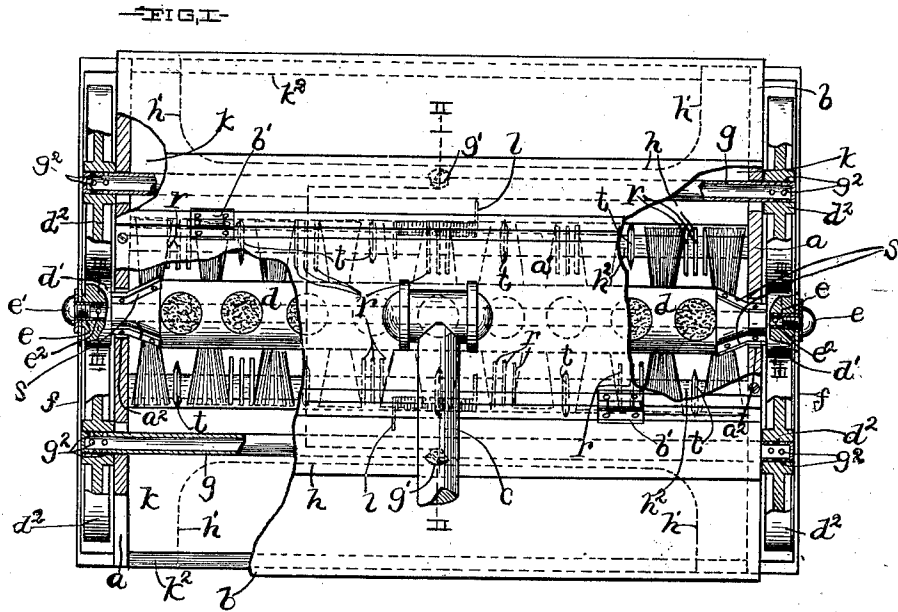
No. 655,896.

Patented Aug. 14, 1900.

S. E. DAVIS.
CARPET SWEEPER.

(Application filed Apr. 9, 1900.)

(No Model.)



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SOPHIE E. DAVIS, OF CLEVELAND, OHIO.

CARPET-SWEEPER.

SPECIFICATION forming part of Letters Patent No. 655,896, dated August 14, 1900.

Application filed April 9, 1900. Serial No. 12,186. (No model.)

To all whom it may concern:

Be it known that I, SOPHIE E. DAVIS, a resident of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Carpet-Sweepers; and I do hereby 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 pertains to make and use the same.

My invention relates to carpet-sweeping machines.

The object of my invention is to provide certain new and improved features designed to lighten the labor incidental to the use of carpet-sweeping machines and to provide improved means for removing pieces of thread or other fibrous material that may become entangled with the bristles of the brush and other parts of the machine.

With this object in view and for the purpose of realizing other advantages hereinafter appearing the invention consists in certain features of construction and combinations of parts hereinafter described, illustrated in the drawings, and particularly pointed out in the claims.

In the accompanying drawings, Figure I is a top plan, partly in section, of my improved carpet-sweeper, and portions are broken away in this figure to more clearly show the construction. Fig. II is an elevation, largely in section, on the line II II, Fig. I. Fig. III is a section of the brush on either one of the lines III III, Fig. I.

The frame or casing of the machine comprises two parallel upright wooden side pieces *a* and *a*, arranged a suitable distance apart and rigidly connected together at the top by a horizontally-arranged wooden piece *a'*, that is secured to the side pieces *a* and *a* in any approved manner. Upon the top piece *a'* is mounted a handle *c* in the usual manner. Two covers *b* and *b* are hinged horizontally to the top *a'*, as at *b'*, at and longitudinally of opposite longitudinal edges, respectively, of the said top. The covers *b* and *b* afford access to the interior of the machine.

d represents a horizontally-arranged rotary brush that is loosely mounted upon the tubular axle or tube *e*, that extends through the side pieces *a* and *a* and extends through

and is supported from two metallic bars *f* and *f*, that are arranged at and a suitable distance from the outer side of the different side pieces *a* and *a*, respectively, but are attached at their ends in any approved manner to the said side pieces. This brush *d* is operated in the usual manner by means of the friction-wheels *d'* and *d'*. Two friction-wheels *d'* and *d'* are formed upon opposite ends, respectively, of the brush *d* between the side pieces *a* and *a* and the bars *f*.

Each friction-wheel *d'* is arranged centrally between and engaged by two friction-wheels *d''* and *d''*, that are loosely mounted upon different hollow axles *g* and *g*, respectively, that are arranged horizontally and at opposite sides, respectively, of the brush *d* and extend through the side pieces *a* and *a* of the frame of the machine. The wheels *d''* are the machine-supporting wheels and are consequently adapted to rest upon the floor that the brush is arranged to sweep. The axles *g* extend between and are prevented from endwise displacement by the bars *f*. Each axle *g* forms an oil-supply receptacle, is closed at its ends, and has its central portion provided with an inlet that is closed by a removable plug *g'*, that consists, preferably, of a screw engaging a correspondingly-threaded lateral hole formed in the axle. Each axle *g* has each end portion or wheel-bearing portion thereof provided with lateral orifices *g''* for conducting oil from within the axle to the bearings of the wheels upon the axle, and thereby maintaining the lubrication of the said bearings.

The brush-bearing axle or tube *e* is also an oil-receptacle and has each end thereof provided with an inlet that is closed by a removable plug, preferably a screw *e'*, that engages a corresponding internally-threaded inlet-forming end of the tube, and the said tube is provided with any suitable number of lateral orifices *e''* for conducting oil from within the tube to the bearings of the brush and the latter's wheels, and thereby maintain the lubrication of the said bearings.

Two bars *h* and *h*, that are arranged at opposite sides, respectively, of the brush and adjacent the bottom of the brush, extend between and are suitably secured to the side pieces *a* and *a* of the frame of the machine. Each bar *h* upon its outer side is provided

with two slightly-inclined arms h' and h'' , that are formed upon opposite ends, respectively, of the bar and extend outwardly and laterally of the brush along the different side pieces a and a' , respectively. The arms h' of each bar h form shelves or seats for a dust-pan k , that is removably placed upon the said shelves and is removable outwardly from between the side pieces a and a' , and when in position upon the aforesaid shelves is prevented from inward displacement by an upwardly and outwardly inclined flange h^2 , that is formed upon and arranged longitudinally of the said bar h . Each pan k at its forward end terminates in an upwardly-projecting flange k' , that extends from side to side of the pan and is inclined as required to conform to the flange h^2 of the engaging-bar h , and the said flange h^2 is provided with a downwardly-facing shoulder h^3 , arranged to snugly overlap the aforesaid flange k' when the pan is in position in the machine, and thereby prevent vibration of the pan during the operation of the machine. Each pan at its rear end is provided with an upright back or wall k^2 long enough to extend from the inner surface of one of the side pieces a to the inner surface of the opposite side piece a' , which back has its upper edge provided with a downwardly-sloping and outwardly-facing shoulder k^3 , that is overlapped, when the pan is in position on the aforesaid shelves, by a cover b , and a suitably-applied torsional spring l acts to retain the said cover in its closed position, and thereby prevents the pan below it from outward displacement; but obviously the pan can be readily removed from the machine by tilting the cover upwardly against the action of the aforesaid spring.

The flange h^2 of each bar h is provided at its upper edge with inwardly and upwardly inclined combs r and knives t , and the said combs and knives are arranged alternately at suitable intervals longitudinally of the bar. The said combs and knives extend into the sweep of the tufts or bristles of the brush. The knives cut or sever thread or string or other material that may become entangled with the bristles. The combs at one side of the brush or the combs at the other side of the brush will comb the bristles in the direction of the adjacent dust-pan, according as the brush during the operation of the machine is rotating in the one or the other direction. The combs at one side of the brush are arranged, therefore, alternately with the combs at the brush's opposite side. Each comb in the machine illustrated has three teeth, and the arrangement of the combs and the knives is very clearly shown in Fig. I.

The bristle-bearing body of the brush has each end portion thereof gradually reduced in diameter at the inner sides of the side pieces a and a' toward the friction-wheel d' , formed upon the said end portion, and the said diametrically-reduced portions are pro-

vided with radially-arranged knives s that extend inwardly and longitudinally of the brush from the friction-wheels d' . The side pieces a of the machine's framework are suitably slotted, as at a^2 , to accommodate the location and operation of the knife-bearing portions of the bristle-bearing body of the brush. The said knives extend, therefore, through the said members of the framework and are adapted to sever pieces of thread or lint that find access to and become wound upon the said portions of the brush, not only within the side pieces a , but at the sides of the said members of the framework. The knives s prevent, therefore, the accumulation of thread, lint, or other material upon the brush between the wheels d' and the outer sides of the side pieces a and a' and within the said members a around the brush and around the bristle-bearing body of the brush at the inner sides of the said members a . Obviously the tension of any thread wound upon a knife-bearing portion of the brush gradually increases as the thread is wound around the knives until it becomes sufficient to cause the thread to be severed by the knives.

What I claim is—

1. In a carpet-sweeping machine, the combination with the casing or framework and the suitably-supported and suitably-operated rotary brush, of two stationary bars arranged at opposite sides, respectively, of the brush and provided, respectively, with alternating combs and knives that extend into the sweep of the bristles of the brush, substantially as and for the purpose set forth.

2. In a carpet-sweeping machine, the combination with the framework or casing and the suitably-supported and suitably-operated rotary brush, of the two bars h having, respectively, arms h' and h'' , and a flange h^2 , and the removable dust-pans, all arranged and operating substantially as shown, for the purpose specified.

3. In a carpet-sweeping machine, the combination with the framework or casing and the suitably supported and operated rotary brush, of the bars h provided, respectively, with arms h' and h'' , and a flange h^2 having the shoulder h^3 and the removable dust-pans k having the flanges k' , all arranged and operating substantially as shown, for the purpose specified.

4. In a carpet-sweeping machine, the combination, with the framework or casing, and a suitably-operated and suitably-supported brush arranged centrally of the said casing, of two suitably-supported and removable dust-pans at opposite sides, respectively, of the brush and provided each with a back k^2 , two covers b and b' hinged to the top of the casing and normally arranged over the different dust-pans, respectively, and resting upon the back of the respective pan, and means acting to retain the covers in their closed positions, substantially as shown and described.

5. In a carpet-sweeping machine, the combination with the frame, comprising two side pieces *a* and *a* connected at the top and centrally by a top piece *a'*, and the suitably-supported and suitably-operated rotary brush below the top piece, of two suitably-supported removable dust-pans at opposite sides, respectively, of the brush and having the backs *k*² that are provided at the top with the downwardly and outwardly sloping shoulders *k*³, the covers *b* and *b* hinged to the aforesaid top piece, and means acting to retain the covers in their closed positions, all arranged and operating substantially as shown, for the purpose specified.

6. In a carpet-sweeping machine, the combination with the suitably-supported and suitably-operated rotary brush, of knives upon the peripheral surface of the ends of the bristle-bearing body of the brush, substantially as and for the purpose set forth.

7. In a carpet-sweeping machine, the combination with the framework, comprising two side pieces *a* and *a* suitably connected together at the top, and the suitably-supported and suitably-operated rotary brush arranged between the said side pieces and having the end portions of its bristle-bearing body extending through the said side pieces, of knives mounted upon the said end portions of the bristle-bearing body and extending through

the aforesaid side pieces, substantially as and for the purpose set forth.

8. A carpet-sweeping machine having a rotary brush provided, at one end, with a suitably-driven wheel, and loosely mounted upon a hollow axle that has an oil-inlet, means for closing the said inlet, and orifices for conducting oil from within the axle to the bearings of the said wheel, the framework or casing of the machine, and bars or members *f* supporting the aforesaid axle and rigid with the said casing, substantially as and for the purpose set forth.

9. A carpet-sweeping machine having the following: a casing or framework, a suitably-supported rotary brush provided with the friction-wheels *d'*, the friction-wheels *d*², and the suitably-supported axles bearing the last-mentioned wheels, which axles are hollow and provided with oil-inlets and having orifices for conducting oil from within the axles to the bearings of the wheels upon the axles, and bars or members *f* all arranged and operating substantially as shown, for the purpose specified.

Signed by me at Cleveland, Ohio, this 28th day of March, 1900.

SOPHIE E. DAVIS.

Witnesses:

C. H. DORER,
A. H. PARRATT.