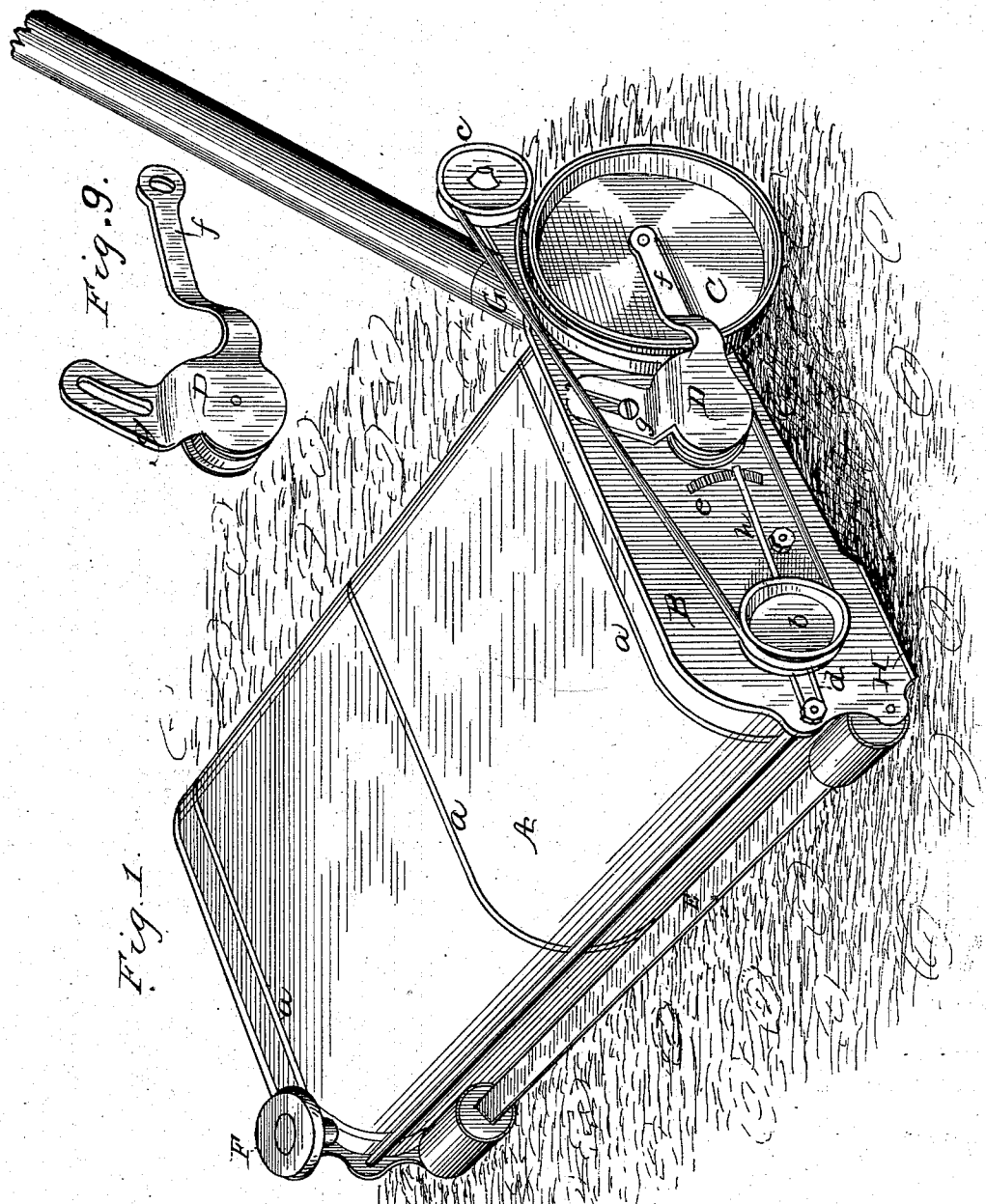
(Model.) 3 Sheets—Sheet 1.

G. W. ZEIGLER.

CARPET SWEEPER.

No. 295,470. Patented Mar. 18, 1884.



Witnesses
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Leo. Duffy

Inventor.
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Fig. 2.

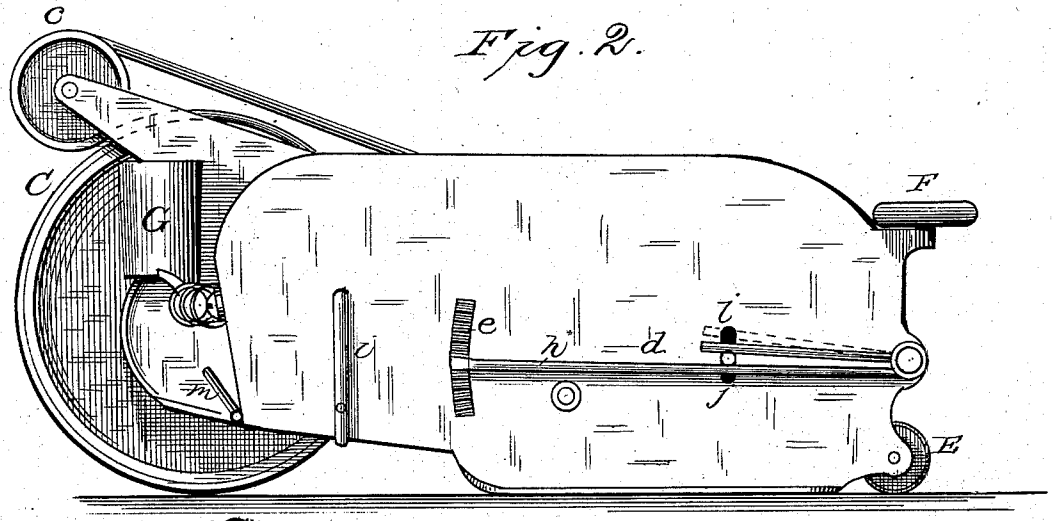


Fig. 8.



Fig. 10.

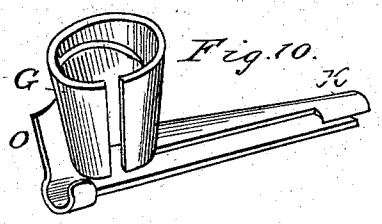


Fig. 3.

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Fig. 4.

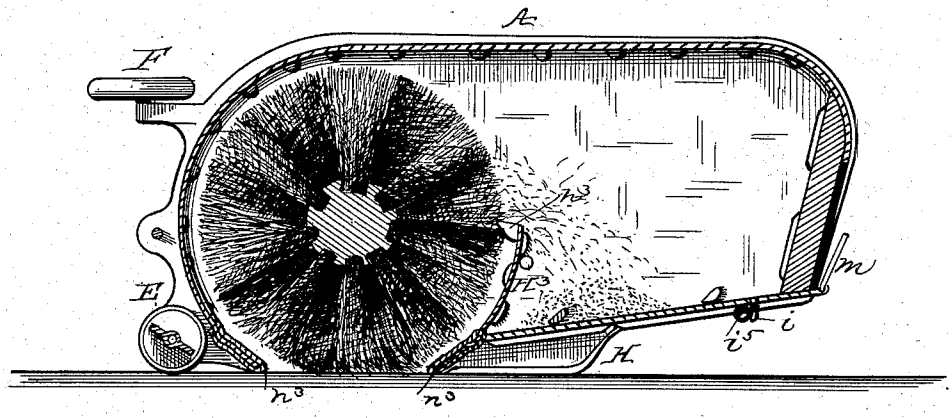


Fig. 5.

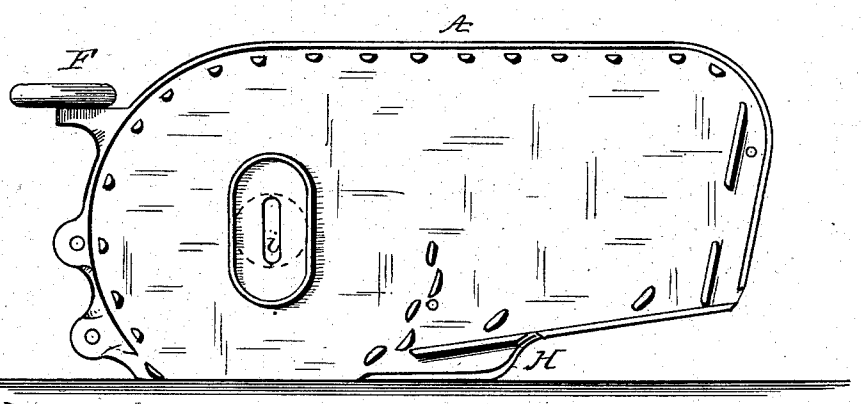
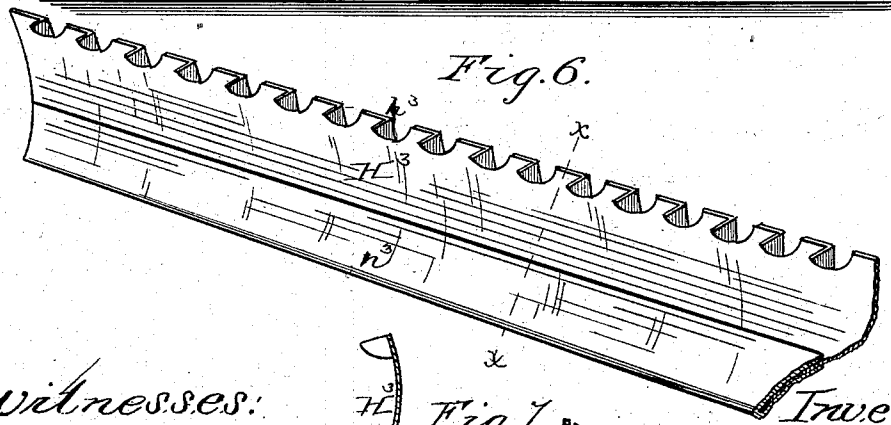
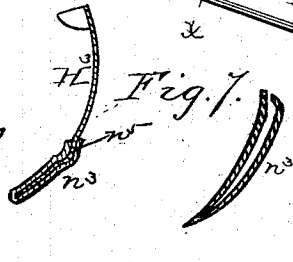


Fig. 6.



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Fig. 7.



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UNITED STATES PATENT OFFICE.

GEORGE W. ZEIGLER, OF NORWALK, OHIO.

CARPET-SWEEPER.

SPECIFICATION forming part of Letters Patent No. 295,470, dated March 18, 1884.

Application filed June 20, 1883. (Model.)

To all whom it may concern:

Be it known that I, GEORGE W. ZEIGLER, of Norwalk, in the county of Huron and State of Ohio, have invented certain new and useful Improvements in Carpet-Sweepers; and I do hereby declare that the following is a full, clear, and exact description of the invention, which 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 of reference marked thereon, which form part of this specification.

This invention relates to carpet-sweepers; and its object is to provide a sweeper possessing superior advantages in point of simplicity, inexpensiveness, durability, interchangeability of parts, and general efficacy of parts.

The invention consists, substantially, in the construction and combinations of parts, as will be hereinafter described, and distinctly pointed out in the claims.

In the drawings, Figure 1 represents a perspective view of my carpet-sweeper. Fig. 2 is an end view, showing the spring-journal adjusting mechanism and other details. Fig. 3 is a view, looking toward the back of the machine. Fig. 4 is a vertical cross-section through the body of the sweeper. Fig. 5 is an inside view of one end of the apparatus. Fig. 6 is a detached view of the toothed brush-cleaner and removable shoe. Fig. 7 is an end view of the brush-cleaner and shoe. Fig. 8 is a plan view of the adjustable spring-journal and lever. Fig. 9 is a view of the double-armed bracket; Fig. 10, a perspective view of the handle-holder, clearly showing the section of screw-thread in the slitted socket.

A is the top of the sweeper, which is provided with ribs *a*, (two or more.) While I am aware that ribs in tin or sheet metal work are common and well known, nevertheless they serve a peculiar purpose in this machine. Experience has demonstrated that these tops will not retain their form if made without the ribs or beads, and hence they become an important factor in the make up of my sweeper.

B is the end of the sweeper, to which is attached the working mechanism consisting of the driving-wheel C, double-armed bracket D, belt-wheels *b c*, and spring-journal-adjusting mechanism *d*, with the rack *e*.

Upon the front of the machine, and in close proximity to its bottom, I locate what I term a "carpet-beater," E, provided at its ends with rollers, so that when the machine is in motion the beater rapidly revolves, and, being in contact with the carpet, beats or loosens the dust and sand out of the carpet, while the brush sweeps it into the box.

F is the anti-friction roller, which prevents the abrasion of the walls when the machine is in close proximity thereto. The double-arm bracket-piece D retains the driving-wheel in position by one of its arms *f*. The other arm, *g*, has an elongated slot, in which is a screw, which secures it to the end of the machine. The body of the bracket D has on its inner face a spindle, on which the belt-tightening wheel is mounted, and which may be adjusted by means of the screw and slotted arm *g*.

The adjusting-lever and spring-journal bearing, as clearly shown by Figs. 2 and 8, is one of my novel improvements and is an important feature. This spring is secured to the end of the sweeper by one of the stay-rods that holds the machine together. The spring has two arms, one of which is longer than the other. The long arm *h* is flattened and provided with a tooth-like projection, *l*, which meshes into a rack, *e*. The end of the brush-shaft *j* projects through the end of the sweeper, and works in an elongated hole, *i*, which permits the vertical adjustment of the brush when worn or for other purposes. The ends of the shaft *j* are journaled between the arms of the spring-lever, so that when the brush is to be raised or lowered in the machine the long arm *h* of the spring is simply moved up or down on the rack *e*. Thus is produced a spring supported and adjusting lever in a single piece, which works satisfactorily and efficiently, and provides for any lateral play or motion, and thus jarring and rattling are prevented.

Referring to Fig. 3, which shows the handle side of the machine, G is the handle-piece, provided with a sleeve, *k*, all in a single piece, and which works on the shaft that carries the main driving-wheel. It is usual to provide handle-sockets with screw-threads; but I do away with this and simply have a section of a screw or thread, which retains the handle in

position much better than if the socket were screw-threaded its entire length. The socket will be clearly seen by reference to Fig. 10, which shows it slitted, so that when the handle is screwed in the top of the socket, which is slightly larger than the base, it springs the socket slightly open, and when the handle is in position the socket closes upon the handle, holding it firmly, so that as the handle wears the yielding action of the slitted socket provides for this wear, and thus the handle is always held tightly in position. The sleeve *k* has at the end of it a spring, so that when the handle is thrown up the spring forces it in contact with a lip-piece, *o'*, on plate B, which holds the handle in a vertical position. The lip piece or projection *o* on the sleeve rests against the disk formed on the end of plate B. This handle-socket and sleeve are cast in one piece of malleable iron, being bent into shape after casting. Thus the socket for the handle is made without a core.

The bottom of the machine slides in and out, but when out it will automatically close itself by means of a spring, *i*, which is secured to the end of the machine and extends under the bottom of the same to near the middle thereof, where it engages a projection, i^5, so that when the bottom is pulled out by means of the ring *m* the spring will throw it back to its position.

Fig. 4 shows a central section of the machine, in which is seen one of the carrying-shoes H. These shoes project slightly below the body of the machine. They are somewhat flat and have what might be termed a "toe," *n*, and are made smooth, so that they do not at all wear or scrape the carpet. The pieces that form the mouth or opening are provided with detachable pieces n^3, so that when they become worn new ones may be substituted. Heretofore when these mouth-pieces were worn the machine had to be discarded. These mouth-pieces are so constructed that they will slide over each other to a shoulder or groove, n^5, which they engage, and are firmly held together, and at the same time may be readily removed. These mouth-pieces form another prominent feature of my invention. The rear mouth-piece, H^3, is provided with teeth h^3, whose edges are parallel to the hairs of the brush, and also flat, so that they go between the hairs or bristles of the brush while in operation, as well as clean them by scraping, and thus keep them perfectly clean of litter and threads. This rear mouth-piece consists of an elongated strip slightly concave, its upper edge having a series of slits, and the free ends of the portions between said slits being bent at right angles to form teeth.

At Fig. 5 will be seen an inside view of one of the ends of the machine, in which is shown an elongated recess formed by a projecting flange, the dotted line representing the ends of the brush-shank. This recess is made in this form to permit the raising and lowering of the brush, and the flange is for the purpose of preventing threads or other foreign substances from being twisted around the brush shank or hub.

All the parts of this machine are interchangeable, and may be duplicated at any time, and some of its parts I wish to claim as articles of manufacture.

I am aware that the drive-wheel of a carpet-sweeper has been heretofore connected with a pulley on the brush-shaft by means of an endless belt, which latter also passes over pulleys on an adjustable bracket. I therefore do not broadly claim this.

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

1. In a carpet-sweeper, the combination of the brush-driving pulley, the auxiliary pulley in rear of the drive-wheel, the drive-wheel, the belt passing around the pulleys and over the drive-wheel, the bracket having one arm pivoted to the stud-bearing of the drive-wheel, and another slotted arm adjustable on the frame by means of a set-screw, and a tightening-pulley journaled in this two-arm bracket, substantially as set forth.

2. In a carpet-sweeper, the combination, with the rotary brush, of the pivoted adjusting-lever having a long and a short arm, between which the journal of the brush is supported, said lever being adjustable on its pivot to vertically adjust the brush, substantially as set forth.

3. In a carpet-sweeper, the combination of the casing provided with vertical slots, the rotary brush having journals working in said slots, the lever pivoted to the casing and bent to form a short arm and a long arm, between which the journal of the rotary brush is received, a rack on the side of the casing, and a projection on the end of the long arm for engaging this rack, substantially as set forth.

4. In a carpet-sweeper, a case provided with a carpet-beater having friction-rolls at its ends, substantially as set forth.

5. In a carpet-sweeper, the combination, with the case carrying the rotary brush, of a carpet-beater arranged across the front lower edge of the case, and provided with friction-rollers at its ends, substantially as set forth.

6. The combination, in a carpet-sweeper having the flanged ends, as described, of the sliding bottom provided with the ring *m*, and the spring *i*, for returning the bottom and retaining it in position, substantially as set forth.

7. In a carpet-sweeper, the combination of the casing carrying the rotary brush, the mouth-pieces having the removable shoes attached to their lower ends, the rear mouth-piece being provided with teeth, the shoe H, and the removable bottom, substantially as set forth.

8. In carpet-sweepers, the rear mouth-piece consisting of the elongated strip H^3, slightly concave, and having on its upper edge a series of slits, the free ends of the portions between

said slits being bent at right angles, substantially as and for the purpose set forth.

9. In a carpet-sweeper, the improved adjusting-spring having a long and short arm, between which the journal-bearings are to be supported, substantially as set forth.

10. In a carpet-sweeper, the improved handle-socket provided with the interior screw-threads and with a longitudinal slot, whereby it is adapted to clasp the handle and take up the wear of the same, substantially as set forth.

11. In a carpet-sweeper, the combination, with pieces forming the mouth of the sweeper, and provided with the shoulder *n*⁵, of the removable spring-shoes sprung over said shoulder and binding against the same, substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

GEORGE W. ZEIGLER.

Witnesses:

B. F. MORSELL,

EDWARD E. ELLIS.