(No Model.)

G. W. KELLEY.

CARPET SWEEPER.

No. 403,845. Patented May 21 1889.

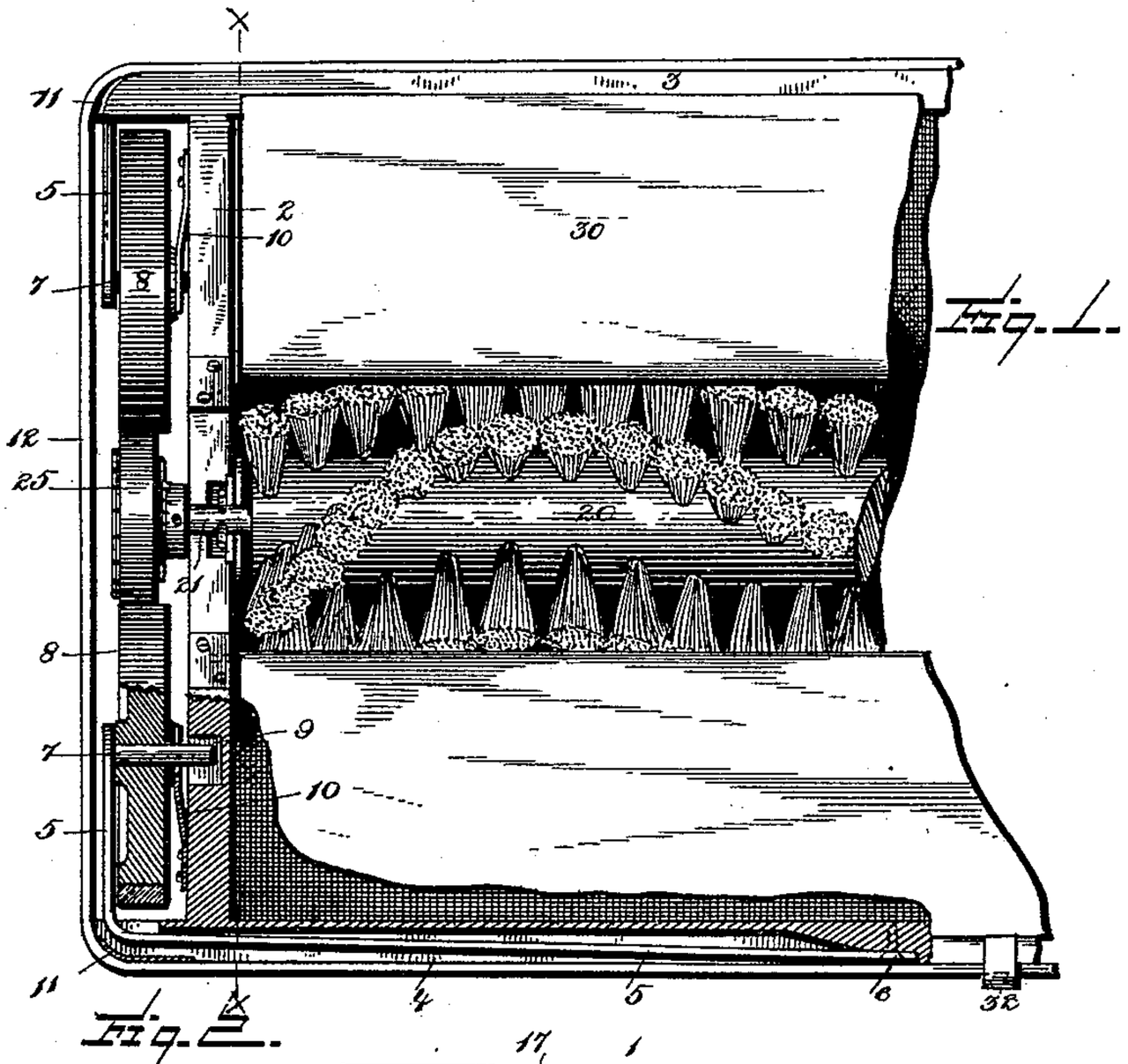


Fig. 1.

Fig. 2.

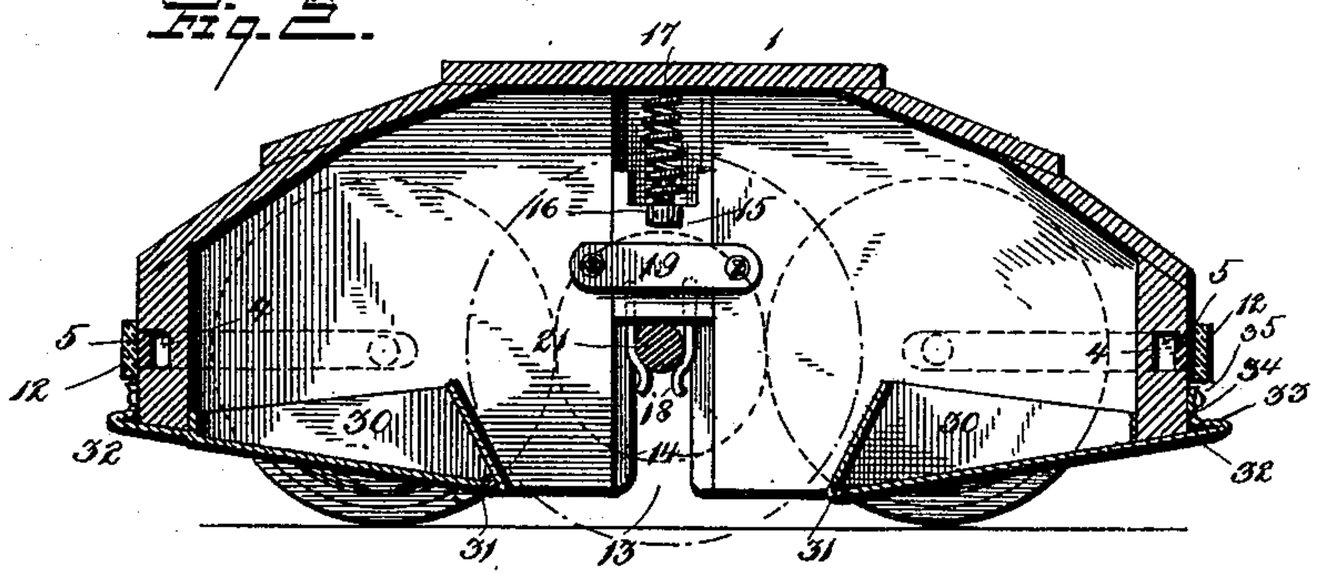


Fig. 3.

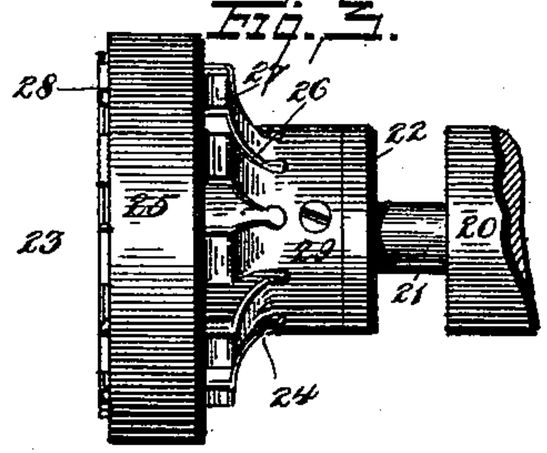
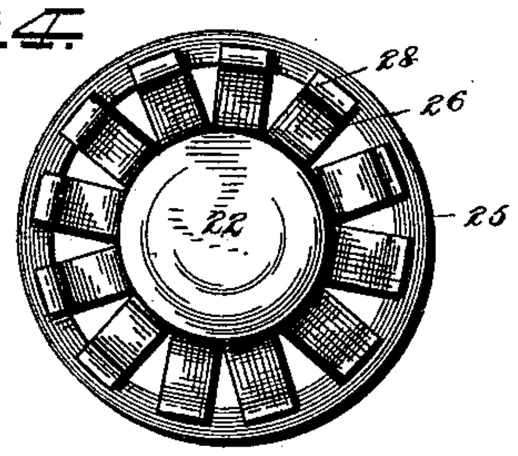


Fig. 4.



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UNITED STATES PATENT OFFICE.

GEORGE W. KELLEY, OF GOSHEN, INDIANA.

CARPET-SWEEPER.

SPECIFICATION forming part of Letters Patent No. 403,845, dated May 21, 1889.

Application filed May 26, 1888. Serial No. 275,167. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. KELLEY, a citizen of the United States, residing at Goshen, in the county of Elkhart, State of Indiana, have invented certain new and useful Improvements in Carpet-Sweepers, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention has relation to carpet-sweepers; and the objects and advantages of the invention will hereinafter appear, and the novel features thereof will be particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a bottom plan of one end of a carpet-sweeper constructed in accordance with my invention, a brush-shaft being mounted in position therein. Fig. 2 is a vertical transverse section on the line *x x*, Fig. 1. Figs. 3 and 4 are a side and end elevation, respectively, of the brush-shaft roll.

Like numerals of reference indicate like parts in all the figures of the drawings.

1 represents a sweeper-case, and it consists of the two end walls, 2, and the opposite longitudinal side walls, 3, which, as shown, project slightly beyond the ends of the case and are longitudinally recessed from each end for a portion of their lengths, as at 4.

5 represents L-shaped resilient arms or straps, which are mounted in the slots 4 and have one of their ends secured to the sweeper-case at the end of the recess by means of a screw, 6. The opposite ends of the arms 5 project around opposite the ends 2 of the case and parallel with the walls thereof, and at their ends are provided with inwardly-disposed bearing-studs 7, upon which are mounted for rotation the usual drive-wheels, 8. The studs 7 terminate, preferably, in recesses 9, formed in the end walls of the case. A flat spring, 10, bifurcated at one end to embrace the stud 7 and secured to the end wall of the case, bears lightly upon the drive-wheels 8 and serves to maintain them in a line with each other. At each end of the side walls are provided metallic guard-strips 11, which strengthen said walls and prevent the same from being crushed by contact with pieces of furniture or the walls of the room being swept. Around the case there is provided the usual rubber buffer, 12. By the construction thus described it is apparent that the rolls of a brush-shaft may be inserted between the drive-wheels in the usual manner, said wheels being capable of lateral displacement for that purpose by means of spring-arms 5, in which they are mounted.

Each end wall of the case is provided with the usual vertical slot, 13, in this instance formed with ways 14, in which is mounted a sliding plate, 15, having a stud, 16, formed at its upper end, and a coiled spring, 17, mounted on the stud and interposed between the upper wall or top of the case and said plate. Projecting from the lower end of the sliding plate 15 are opposite spring-arms, 18, adapted for the reception and retention of the brush-shaft hereinafter described, and from which said brush-shaft may be readily removed. A keeper-plate, 19, is secured to the inner wall of the case across the slot 13, and serves to retain the plate 15 within the ways 14.

Referring more particularly to Figs. 3 and 4, 20 represents the brush-shaft, which is formed in this instance with a reduced neck portion, 21, adapted to be inserted between the spring-arms 18 and the enlarged end portions 22, upon which is secured the brush-roll 23. An objection often met with in sweepers is the tendency of the brush-shaft to slip, by reason of insufficient friction existing between its pulley and the drive-wheels. More especially is this slipping apparent after the sweeper has been in use some time and become somewhat worn, for the reason that the springs usually employed to support the drive-wheels, either directly or indirectly, become lax and lose their rigidity or strength. This objection is also noticeable when the brush-shaft is adjusted nearer to the surface to be swept, in that there is more resistance offered to the rotation of the roll. For this purpose, and also for the purpose of providing as much frictional contact as possible between the drive-wheels and brush-roll, I provide a brush-roll pulley having a compressible or yielding body, 24, and upon this I mount the usual rubber or other ring, 25. In this instance I form a compressible or yielding body of a strip of metal by transversely slitting said strip, as at 26, at intervals at one edge to near

its opposite edge. This transversely-slit portion is then bent to substantially a right angle to the unslit portion, and is then rebent in line with the unslit portion, as at 27, and the ends preferably turned at an angle to that portion, as at 28. The strip thus cut is bent around the end of the brush-roll shaft to form the body, and secured thereto by screws 29, passing through the hub into the shaft. By this means it will be seen that the utility of the sweeper will be increased, and that a positively-driven brush-shaft is provided and the life of the machine increased. If desired, I may form the body 24 by taking a tube of a proper bore and slitting the same, as described, and afterward flaring the slit portions and bending them to the proper shape. Other forms of brush-rolls may be employed in connection with this form of sweeper, and other constructions of brush-rolls attaining the same object than this may be substituted, as I do not limit my invention in this regard.

30 represents dust-pans, which are mounted upon pivoted shafts 31, journaled in the case. Secured to the front edges of the dust-pans, or it may be a continuation thereof, are projecting catches 32, which extend beyond the longitudinal walls of the case, are then bent upon themselves, as at 33, and rebent in line with the case, as at 34, and perforated to take over a pin, 35, projecting from the case. These catches are made of spring metal and form a cheap and effective lock for the dust-pans.

If desired, the spring-arms 18 may be secured to a rigid piece—such as the plate 19—and the spring-plate bear lightly upon the sweeper-shaft. (See dotted lines, Fig. 2.)

Having described my invention, what I claim is—

1. In a carpet-sweeper, a case having its side walls projected beyond its end walls and longitudinally recessed, in combination with L-shaped spring-arms mounted in the recesses and projecting to the end of the case and provided with bearings, and drive-wheels mounted on said bearings, substantially as specified.

2. In a carpet-sweeper, a case the side walls of which are projected beyond the end walls, and are provided with longitudinal recesses, in combination with L-shaped spring-arms secured in the recesses and projecting to the ends of the case and provided with bearings, drive-wheels mounted on the bearings, and bifurcated springs secured to the case and bearing against the drive-wheels, substantially as specified.

3. The case 1, slotted, as at 13, and formed with ways 14, in combination with the sliding plate 15, having the stud 16, the interposed spring 17, the depending shaft receiving spring-arms 18, and the keeper 19, substantially as specified.

4. The shaft 20, having the reduced neck portion 21 and end portion, 22, in combination with the pulley 23, having the body portion 24, mounted on the end of the shaft, said body being slotted, as at 26, bent, as at 27 and 28, and an outer rim, 25, substantially as specified.

5. In a carpet-sweeper, a brush-roll provided with a pulley at one end, the same consisting of a strip of metal secured to the roll to form a cylinder or body and slotted from its outer to near its inner edge, the slotted portion being flared and terminating in bent ends, and a frictional band mounted on the flared portion, substantially as specified.

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

GEORGE W. KELLEY.

Witnesses:

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