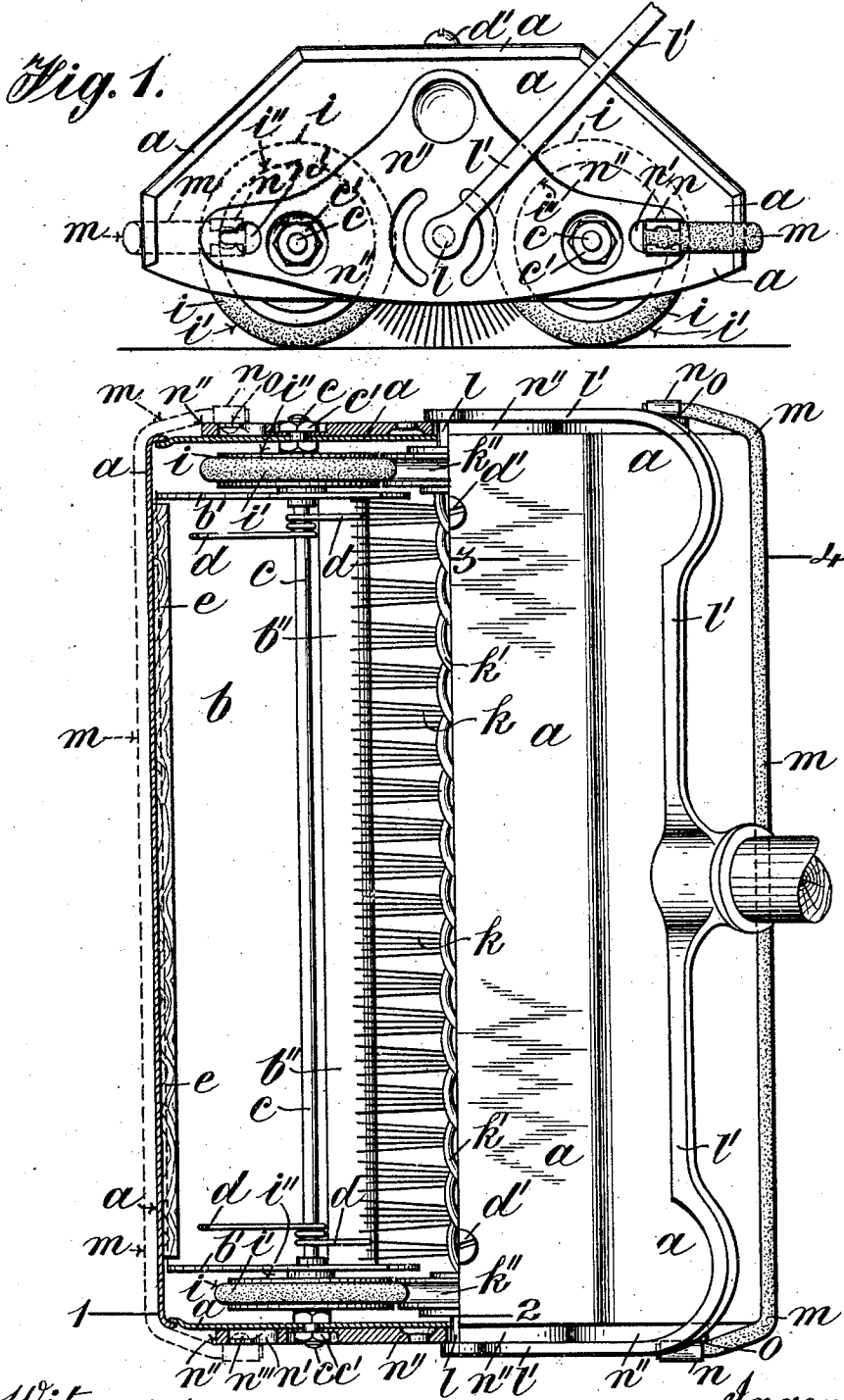


No. 837,936.

PATENTED DEC. 11, 1906.

F. KING.
CARPET SWEEPER.
APPLICATION FILED AUG. 15, 1904.

3 SHEETS—SHEET 1.



Witnesses.

Mabel Lee.
Wilfred Partington.

Inventor.
F. King.

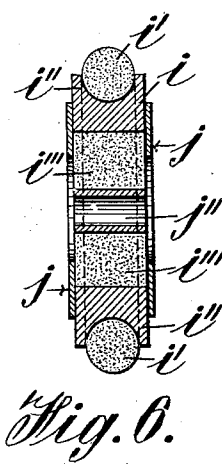
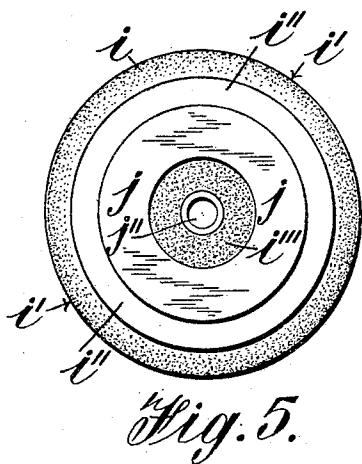
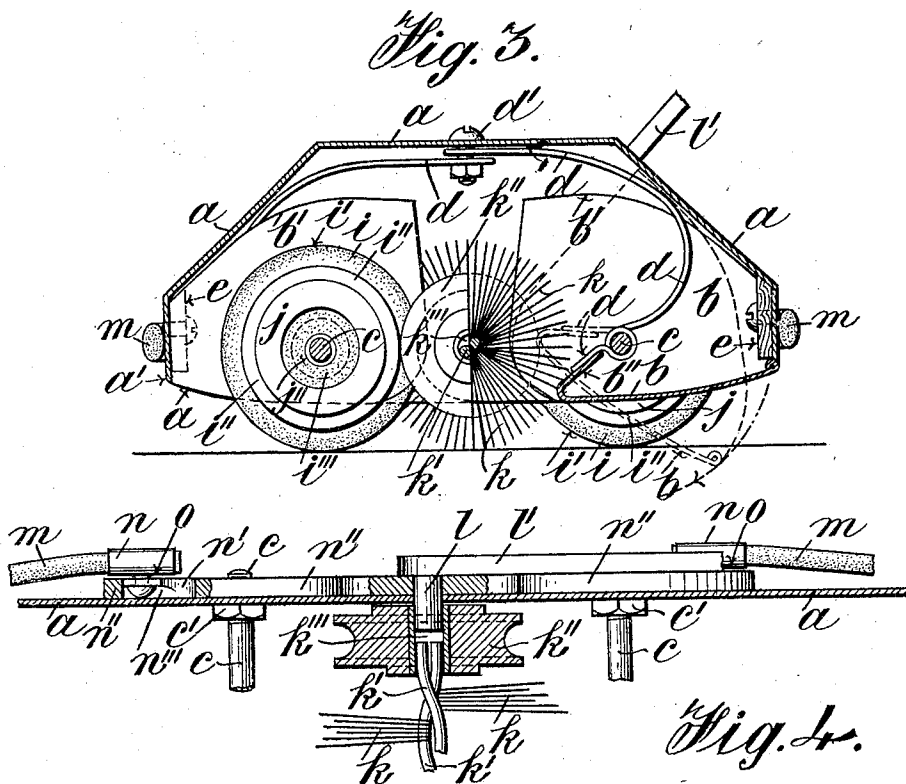
Inventor.
Frank King
By William B. Taylor
att'y.

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3 SHEETS—SHEET 2.



Witnesses.

Mabel Lee
Wilfred Partington

Inventor.

Frank King
By William D. Taylor
Atty.

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3 SHEETS—SHEET 3.

Fig. 7.

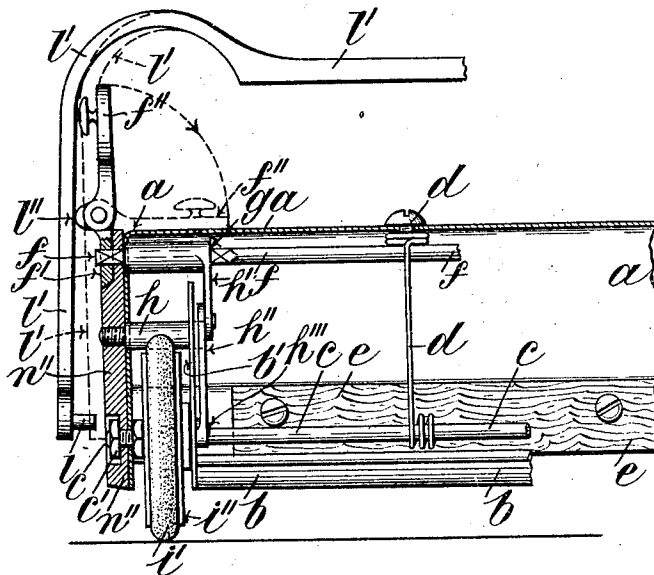
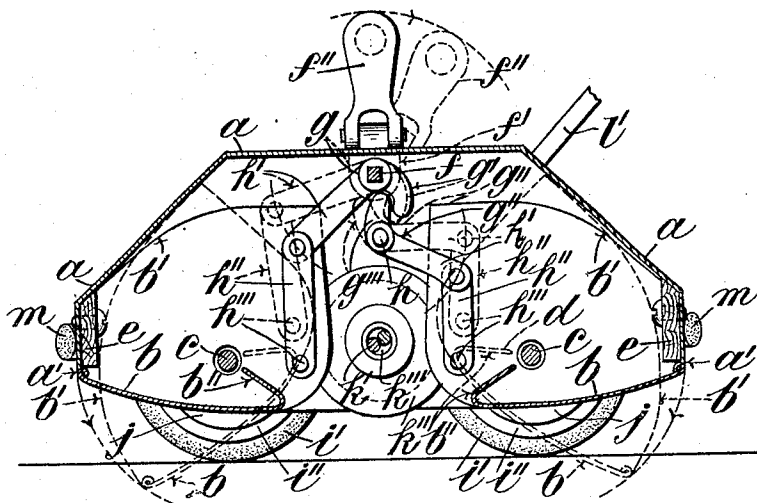


Fig. 8.

Witnesses.

Mabel Lee.

Wilfrid Partington.

Inventor.

Frank King
By William H. Taylor
att'y.

UNITED STATES PATENT OFFICE.

FRANK KING, OF MANCHESTER, ENGLAND.

CARPET-SWEEPER.

No. 837,936.

Specification of Letters Patent.

Patented Dec. 11, 1906.

Application filed August 15, 1904. Serial No. 220,742.

To all whom it may concern:

Be it known that I, FRANK KING, engineer, a subject of the King of Great Britain and Ireland, and a resident of Manchester, in the county of Lancaster, England, (whose post-office address is 41 Water street,) have invented certain new and useful Improvements in Carpet-Sweepers, of which the following is a specification.

This invention relates to improvements in carpet-sweepers, the object being to construct a simple apparatus for the purpose and one which will be cheap to manufacture and be at the same time efficient in operation.

My invention particularly relates to improvements in details of construction and general arrangement, which comprise an improved arrangement of and means for operating the dust-pans, means for disengaging the bail from the body of the machine, and an improved arrangement for securing the outer cushions provided to prevent the apparatus injuring furniture or the like with which it may come in contact.

My invention will be fully described with reference to the accompanying drawings, in which—

Figure 1 is an end elevation of a carpet-sweeper constructed in accordance with my invention; Fig. 2, a plan of same, partly in section; Fig. 3, a sectional end elevation on line 1 2 3 4 of Fig. 2; Fig. 4, a part-sectional plan, to an enlarged scale, showing the method of mounting and carrying the brush and the means for securing the outer cushions; Fig. 5, a side elevation showing one of the supporting-wheels; Fig. 6, a sectional elevation of same; Fig. 7, an end elevation, partly in section, showing the means for operating the dust-pans and for disengaging the bail from the framework of the machine; and Fig. 8, a partial longitudinal section.

In carrying out my invention I make the main body *a* of the carpet-sweeper in sheet metal. Instead of pivoting the dust-pans *b* directly to the inner sides of the casing, as is the case in other carpet-sweepers, they are mounted directly on longitudinal stays *c*, passing from end to end of the machine, such stays passing through the ends *b'* of the pans and being provided with nuts *c'*, or nuts and shoulders, one on either side of the ends of the casing, so that in addition to supporting the pans the stays also hold the ends of the casing rigidly. The dust-pans are con-

tinually pressed to the closed position by an arrangement of springs, each consisting of bent wire *d*, one end of which is passed round the screw *d'*, while the other is coiled round the stays *c*, so as to engage with the rear side *b''* of each dust-pan. The dust-pans are prevented moving too far at their front edges by projecting strips *e*, which may be of wood, arranged in the interior of the casing *a* and secured thereto.

The dust-pans *b* may have the dust and other material picked up discharged by pressing their back longitudinal edges toward the top of the machine; but in some cases I provide means whereby the dust-pans may be operated by mechanical means for the purpose described. To do this, I arrange a shaft or rod *f* longitudinally of the machine, having fixed thereon at each end a lever *f'*, to which is pivoted a hinged operating-lever *f''*, capable of being turned from a horizontal to a vertical position and of being moved to one side, as will be seen from Figs. 7 and 8. On the shaft *f* at each end is also mounted a lever *g*, provided with an extending arm *g'*, a similar lever *g''*, having an arm *g'''*, being pivoted on a stud *h*, secured in the end of the machine. Each of the levers *g* and *g''* has a second arm *h'*, which arms are coupled to links *h''*, pivoted at *h'''* to the dust-pans *b*. By moving the hinged operating-levers the arms *g'* and *g'''* engage with each other and through the link connections turn the dust-pans in the direction of the arrows in Fig. 7 to discharge the dust. The hinged operating-levers may be afterward turned down flat on the top of the casing.

The stay-rods *c*, to which the pans are pivoted, also serve as the axles upon which india-rubber-shod rollers or wheels *i* for supporting the sweeper are mounted. The wheels are preferably arranged in the interior of the casing between the ends of such and the ends of the dust-pans. The wheels *i* are of special construction, consisting of a ring of india-rubber *i'*, mounted upon a wooden, papier-mâché, or other suitable grooved ring *i''*, which has secured to it internally a ring of rubber *i'''*. The rings *i''* and *i'''* are secured together by external plates *j*. The rubber ring *i'''* is provided with a central metal bush *j''*. By means of the interior rubber ring *i'''* sufficient resiliency can be obtained to enable a good driving grip to be employed when the brush-pulley is pushed in contact with the wheels by the bail.

The sweeping-brush is of the usual cylindrical formation; but the bristles *k* are secured between two longitudinal wires *k'*, which are twisted together, so as to tightly embrace the bristles at the center of their length. Grooved disks *k''* are fixed at the ends of the wires and engage with the supporting-wheels *i* of the sweeper previously described and by which they are driven. An important feature of my invention consists in novel means for supporting the brush in position. This is carried out by forming axial holes *k'''* in the grooved disks, as is clearly illustrated in Fig. 4, and by passing the inwardly-extending ends *l* of the bail or handle frame *l'* through the casing of the sweeper into the holes, the handle-frame having sufficient elasticity to enable this to be done. In this way such ends not only support the brush, but also form the pivots for the bail and enable the latter to be held at any suitable angle. The holes in the grooved disks *k''* are bushed with metal, as illustrated in Fig. 4.

By the arrangement just described the brush may be readily removed from the casing of the machine by withdrawing the pivots of the bail. This may be done by hand; but in some cases I employ mechanical means for so doing. In such a case the bail is raised to the vertical position, and the dust-pan-operating levers *f'''* are provided with extensions *l''*, capable of engaging with the end arms of the bail and pressing them outward from the broken-line to the full-line position, as indicated in Fig. 8, as the levers *f'''* are raised to the vertical position.

The outer cushions for preventing injurious contact of the sweeper with furniture or the fittings of a room consist of strips of india-rubber, thick tape, or other suitable material *m*, such as is at present used; but my improved means of attaching them to the casing *a* consists in securing or clamping to each end of the strip a metallic button *n*, having an enlarged head capable of passing through a hole *n'* in the end brackets *n''*, secured to the machine-casing by the stays *c*. Each button has also a shank adapted to pass into a slot *n'''* in the bracket *n''* and a base-plate *o* for clamping to the strip. The buttons are first passed through the holes and their

shanks drawn into the slots, after which the cord is stretched round the exterior of the casing, as indicated in Fig. 2.

It will be seen from the drawings that a carpet-sweeper constructed in accordance with my invention is of a most simple, cheap, and convenient form, with all the operative parts arranged in the interior of the outer casing *a*.

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

1. In a carpet-sweeper, a casing having openings in its side, a brush within the casing, a bail, projections on the bail extending through the openings of the casing and engaging the brush, levers mounted on the casing, and projecting arms carried by the levers adapted to engage the bail for the purpose set forth.

2. In a carpet-sweeper, a casing, stay-rods extending longitudinally of the casing, dust-pans pivoted to the rods, springs surrounding the rods and having their lower ends bearing against the rear longitudinal edges of the dust-pan and their upper ends secured to the top of the casing.

3. In a carpet-sweeper the means for mechanically operating the dust-pans consisting of a longitudinal shaft mounted in the casing of the machine, hinged cranks mounted at the exterior ends of the shaft, levers arranged on the ends of the shaft in the interior of the casing, a second set of levers pivoted on studs secured to the casing of the machine, interlocking arms on the first and second sets of levers, links pivoted to the levers and having pivotal connections with the dust-pans substantially as described.

4. In a carpet-sweeper the combination of a casing, longitudinal rods passed through the ends of the casing and rigidly secured thereto, dust-pans pivoted on the longitudinal rods, springs for controlling the closing of the dust-pans, and wheels for supporting the casing mounted on the longitudinal rods substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two witnesses.

FRANK KING.

Witnesses:

WILLIAM W. TAYLOR,
JNO. R. THORNHILL.