No. 722,642. PATENTED MAR. 10, 1903.

J. W. SYKES.

CARPET SWEEPER.

APPLICATION FILED JAN. 17, 1902.

NO MODEL. 2 SHEETS—SHEET 1.

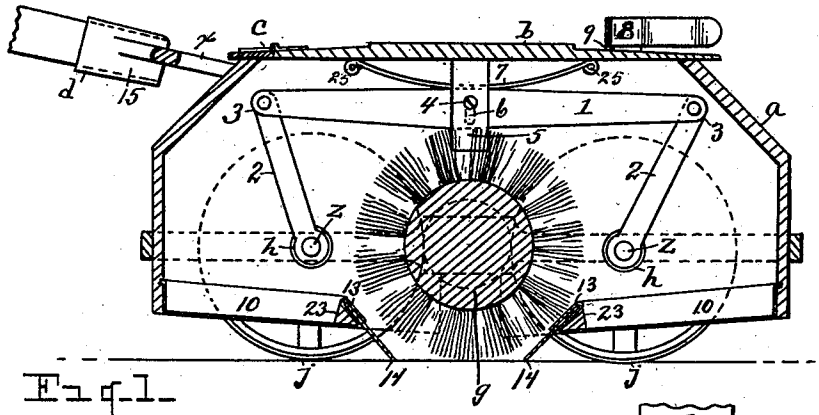


Fig. 1.

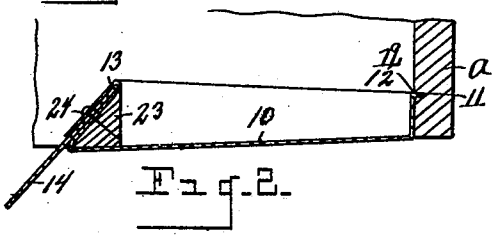


Fig. 2.

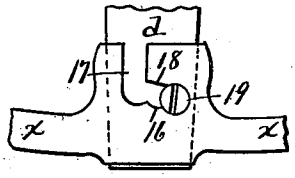


Fig. 4.

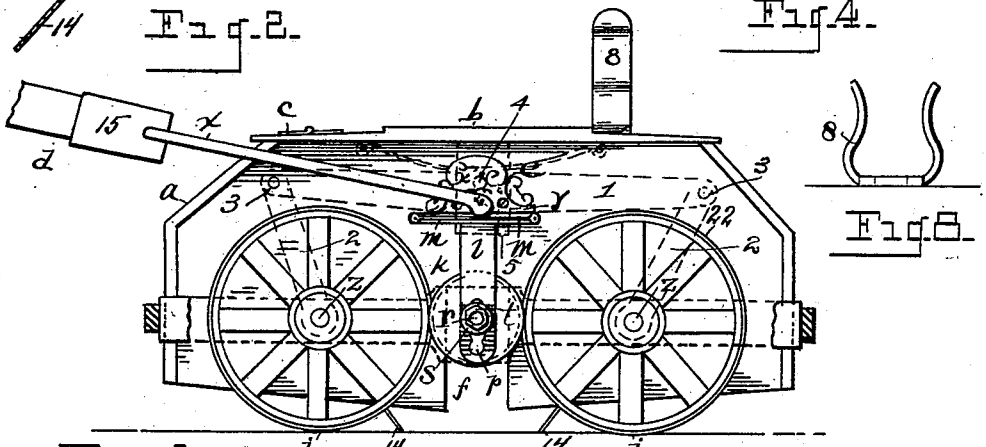


Fig. 3.

Fig. 8.

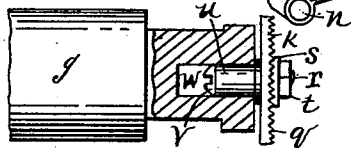


Fig. 5.

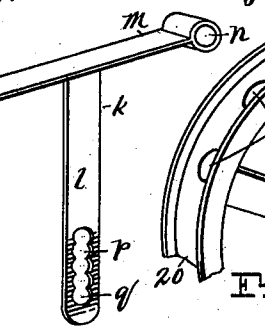


Fig. 7.

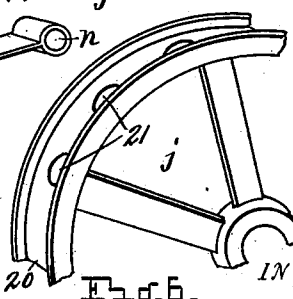


Fig. 6.

WITNESSES.

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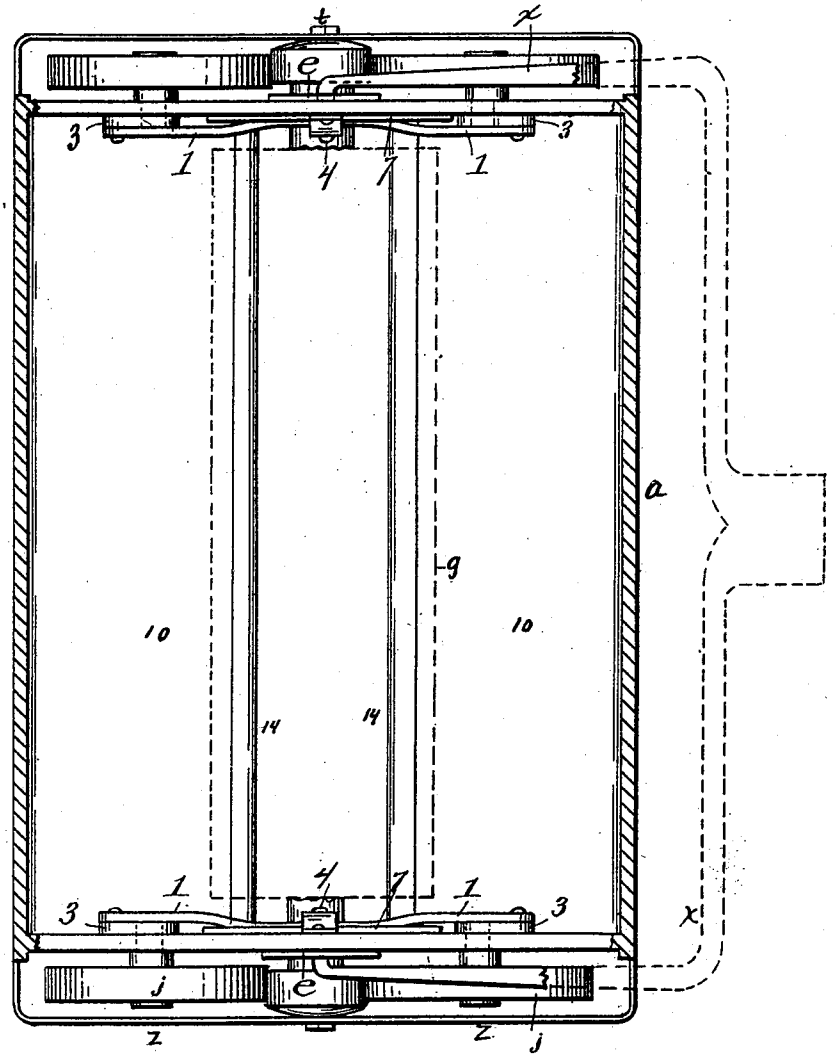


Fig. 9.

WITNESSES.

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UNITED STATES PATENT OFFICE.

JOSHUA W. SYKES, OF DETROIT, MICHIGAN.

CARPET-SWEEPER.

SPECIFICATION forming part of Letters Patent No. 722,642, dated March 10, 1903.

Application filed January 17, 1902. Serial No. 90,179. (No model.)

To all whom it may concern:

Be it known that I, JOSHUA W. SYKES, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented certain new and useful Improvements in Carpet-Sweepers; and I 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, which form a part of this specification.

My invention relates to certain novel features in carpet-sweepers; and it consists of the construction, combination, and arrangement of devices hereinafter described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a vertical cross-section showing features of my invention. Fig. 2 is a detail view in vertical cross-section showing parts of the invention. Fig. 3 is an end elevation of a sweeper, parts being in vertical section. Fig. 4 is a detail view showing the method of engaging the handle in the socket of the bail. Fig. 5 is a detail view showing the roller-bearing. Fig. 6 is a detail view showing a preferred construction of the rim of the wheels. Fig. 7 is a detail view of the slotted spring-arm. Fig. 8 is a detail view of the clamping device 8. Fig. 9 is a plan view of my improved sweeper, the upper portion of the case being removed.

The object of my invention is to provide a carpet-sweeper of superior efficiency, simplicity, and utility, and I carry out my invention as follows.

In the drawings the sweeper-case is indicated at *a*, constructed of any suitable form or style, the same being preferably provided with a lid *b* at the top, hinged, as indicated at *c*, to a top portion of the case.

The operating-handle is indicated at *d*, jointedly connected to the case in any suitable manner, as by intervening ears *e*, attached to the ends of the case. The ends of the case are preferably slotted at their lower edges, as indicated at *f*, to permit the rotary broom *g* being readily engaged in proper position. The ends of the case are also constructed with openings *h h* on opposite sides of the broom, through which the corresponding axis *z* is passed for carrying the driving-wheels *j*.

To hold the rotary broom in position, my present invention contemplates the employment of a spring-arm *k*, secured to each end of the case. Each of the spring-arms is constructed with a downwardly-projecting portion *l* and laterally-projecting spring-arms *m m*, the ends of the arms being looped, as indicated at *n*, through which a rivet or analogous device may secure the device to the corresponding end of the case. The lower extremity of the portion *l* is constructed with an elongated slot *p*, corrugated at the lateral edges thereof, the faces of said lower portion being also preferably corrugated, as indicated at *q*. A trunnion *r* is passed through the slot *p* to engage and support the corresponding end of the broom-shaft. Upon the outer end of the trunnion there is preferably located also a washer *s*, corrugated on its inner face to mesh with the corrugation *q* upon the outer face of the portion *l* of the spring-arm, as indicated more particularly in Fig. 5. A nut *t* is engaged upon the outer end of the trunnion to secure the trunnion in position. On the inner end of each trunnion I prefer to locate a roller-bearing *u*, which may be held in place by a screw *v*, the roller-bearing projecting into a suitable recess *w* in the corresponding end of the broom-shaft. The pivotal ends of the bail *x* with which the handle *d* is connected are made cam-shaped, as indicated at *y*, and bear upon the upper surfaces of the spring-arms *m m*, as indicated more particularly in Fig. 3, the cam being of such shape that when the handle is thrown over on one side of the case of the sweeper the lower portions *l* of said spring-arms will be depressed by the action of the cam thereupon to force the rotatable broom into firmer contact with the carpet, while the cam is also so shaped that when the handle is thrown over to the other side of the case the broom may rise to normal position or so as to have a lighter contact with the carpet, the two positions of the handle effecting a hard or light pressure of the broom upon the carpet, as may be desired for different kinds of carpet. This difference of result in the action of the broom is readily produced without the necessity of changing any adjustment. However,

the elongated slot *p* in the lower extremity of the portion *l* in each of the spring-arms permits a ready vertical adjustment of the broom-shaft in said arms as may be required.

To carry the axes *z z* of the driving-wheels *j*, I provide a connecting-rod, (indicated at the numeral 1,) provided at its extremities with links 2 2, supporting the corresponding axis *z* at its lower end and jointedly connected at their upper ends with the connecting-rod 1, as indicated at 3. The lower ends of the connecting-links 2 2 converge, as indicated in Fig. 1. The connecting-rod 1 is formed with an elongated slot 6 intermediate its ends, said connecting-rod preferably passing through a clip 5, secured to the corresponding end of the case to permit the vertical movement of the rod in order that the rod may move vertically. A spring 7 exerts its tension upon the rod 1, its extremity bearing against the closed lid *b*. The spring 7 is secured to the adjacent end of the case, as by pins 23. A screw 4 may pass through said clip into the elongated slot 6 of the rod. The drive-wheels are arranged to drive the broom by friction in the customary manner, and it will be apparent that a spring tension upon the rod 1 tends to force the lower ends of the connecting-arms 2 closer together, thereby bringing the wheels into closer contact with the broom friction-roller, producing increased friction to drive the broom.

The lid *b* of the case is provided with a clamping device 8, preferably hinged to the case, as indicated at 9, the clamping device being constructed to engage the handle *d* when the lid is opened to hold the lid in open position when the case is to be emptied of its contents. By hinging the clamping device 8 it may be folded down when not in use; but I do not limit myself solely thereto, as it may be rigidly engaged with the lid within the scope of my invention.

The dust-pan is indicated at 10 10. As shown in Fig. 2, a feature of my invention consists in kerfing the case, as indicated at 11, to receive a flange 12 of the dust-pan and to support the adjacent edge of the pan in the case. At the inner edges of each of the dust-pans 10 I locate a strip of wood 23, preferably triangular in cross-section, to which the adjacent edges of the corresponding dust-pan is secured. The forward edge of the corresponding dust-pan is preferably bent upward and over, as indicated in Fig. 1, against the upper faces of the corresponding strip 23, forming a recess or loop between the adjacent portions thereof, (indicated at 13,) into which recess is engaged a carrier-plate 14. The plates 14 may be held in place by nails or tacks 24, driven into the adjacent wooden strip 23. The inner edge of each dust-pan being thus bent upward and over, forming thereby a loop to receive the upper edge of the carrier-plate 14, forms a very convenient method of engaging said plate in place.

The socket of the bails is indicated at 15, and the handle *d* is preferably engaged therewith by a bayonet-joint, as indicated at 16, Fig. 4. To this end the socket is formed with a longitudinal opening (indicated at 17) and with a laterally-extended communicating opening 18, through which a screw 19 may be passed, the lateral edges of the opening 18 being preferably corrugated, as shown.

I prefer to construct the rim of the wheels *j* with a recess 20 to retain the rubber tire, the periphery of the rim being also constructed with a series of additional recesses 21, forming a suction to hold the rubber tire 22 in place upon the wheel.

It will be understood that a rod 1 and the links 2 are located at both ends of the casing.

In Fig. 1 one of the rods 1 and links 2 are shown in full lines at one end of the casing. In Fig. 3 is indicated in dotted lines a rod 1 and links 2 at the opposite end of the casing.

The opening *h* is of sufficient size to admit of the play of the axle *z* therein.

What I claim as my invention is—

1. In a carpet-sweeper, the combination of a case, the driving-wheels, a vertically-movable connecting-rod, links supporting the drive-wheels at their lower ends, and jointedly connected with said connecting-rod toward opposite extremities thereof, and a spring exerting its tension upon said connecting-rod, said links converging toward their lower ends, as set forth.

2. In a carpet-sweeper, the combination of a case, the drive-wheels, a vertically-slotted connecting-rod, links supporting the drive-wheels at their lower ends, and jointedly connected at their upper ends with said connecting-rod toward opposite extremities thereof, a spring exerting its tension upon said connecting-rod, and means to engage the rod with the case, substantially as set forth.

3. In a carpet-sweeper, the combination of a case, the driving-wheels, a vertically-movable connecting-rod, links supporting the driving-wheels at their lower ends and jointedly connected with said connecting-rod toward opposite extremities thereof, a spring exerting its tension upon said connecting-rod, said links converging toward their lower ends, as set forth, spring-arms to support the broom and a handle bearing upon said arms constructed to depress said arms.

4. In a carpet-sweeper the combination of a case, the driving-wheels, a vertically-movable rod, links supporting the driving-wheels at their lower ends and jointedly connected with said rod toward opposite extremities thereof, a vertically-movable spring-arm provided with an elongated slot at its lower end, a rotatable broom having an adjustable engagement in said slot, and a handle arranged to bear upon the spring-arm with different tensions when the handle is thrown over to opposite sides of the case.

5. In a carpet-sweeper, the combination of a case, the driving-wheels, a vertically-mov-

able connecting-rod, links supporting the drive-wheels at their lower ends, and jointedly connected with the connecting-rod toward opposite extremities thereof, a spring exerting its tension upon said connecting-rod, said links converging toward their lower ends, as set forth, spring-arms to support the broom, a trunnion engaged in said arms, a roller-bearing on the inner end of the trunnion, and a broom-shaft recessed to receive the roller-bearing.

6. In a carpet-sweeper, the combination of a case, a spring-arm provided with an elongated slot in which the broom has an adjustable engagement, and having one face thereof corrugated adjacent to said slot, a trunnion passed through said slot to support the broom-shaft in said arm, a corrugated washer to mesh with the corrugated surface of the arm, and means to hold the washer and trunnion in place, substantially as set forth.

7. In a carpet-sweeper, the combination of a case provided with a lid, a handle, and a clamp supported on the lid to engage the handle to hold the lid in open position, as set forth.

8. In a carpet-sweeper, the combination of a case formed with a lid, a handle, and a clamp hinged to the lid to engage the handle to hold the lid in open position, as set forth.

9. In a carpet-sweeper, the combination of a case, a rotatable broom, spring-arms provided with laterally-extended portions engaged with the case, and with a downwardly-projecting portion to support the broom-shaft, and a handle arranged to exert a tension upon said spring-arms, for the purpose set forth.

10. In a carpet-sweeper, the combination of a case, and a dust-pan, said dust-pan provided with a flange, and said case kerfed to receive said flange to support the pan in the case, as set forth.

11. In a carpet-sweeper, the combination of a dust-pan, a transverse wooden strip toward one edge thereof, a carrier-plate, one edge of said dust-pan formed with a loop adjacent to the front face of the strip to receive the upper edge of said plate, and means to hold the plate in the loop, as set forth.

12. In a carpet-sweeper the combination of a case, driving-wheels, a vertically-movable connecting-rod, and links supporting the driving-wheels at their lower ends and connected with said rod toward their upper ends, said links converging toward each other at their lower ends.

In testimony whereof I sign this specification in the presence of two witnesses.

JOSHUA W. SYKES.

Witnesses:
N. S. WRIGHT,
J. M. POLAND.