No. 865,084. PATENTED SEPT. 3, 1907.

C. J. DEITCH & O. L. BIDDLE.

CARPET SWEEPER.

APPLICATION FILED FEB. 16, 1907.

3 SHEETS—SHEET 1.

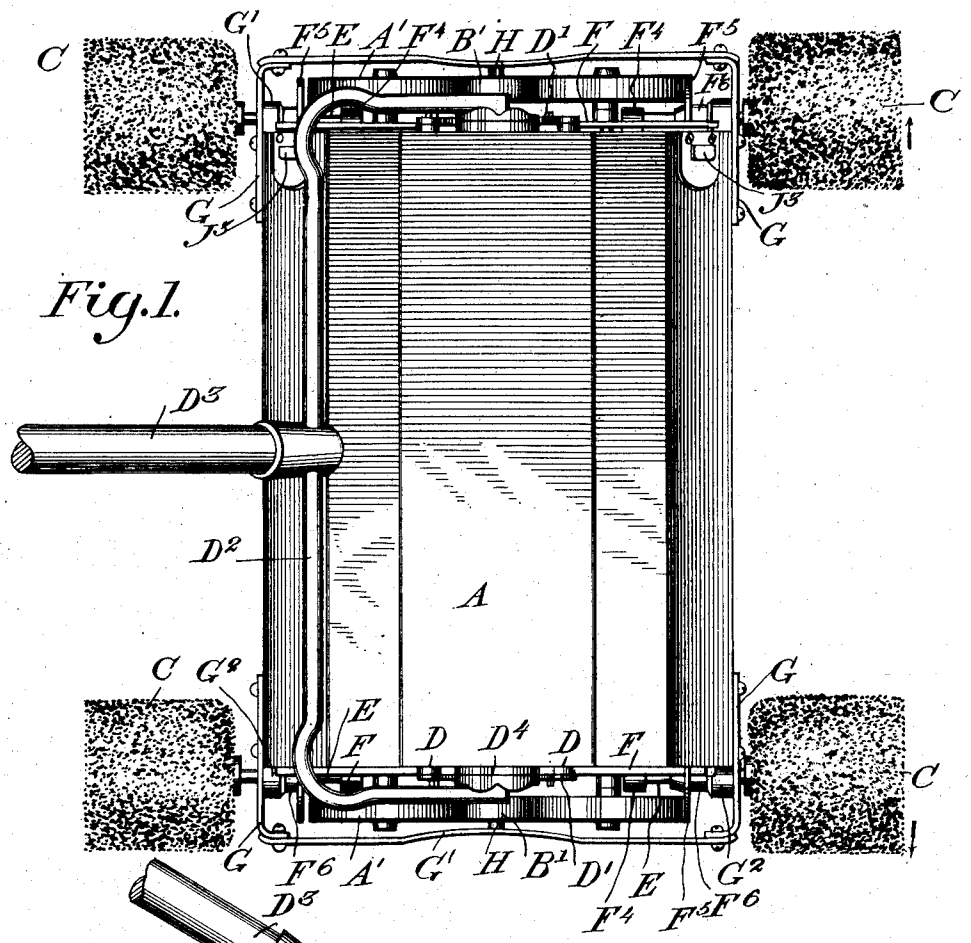


Fig. 1.

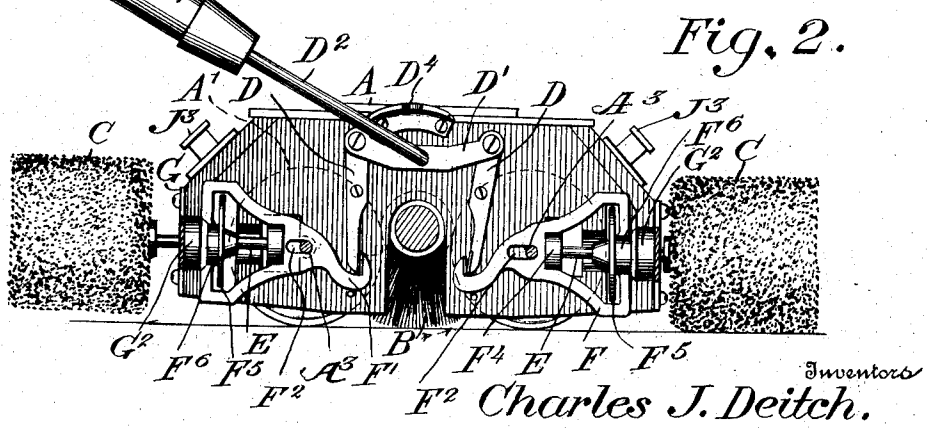


Fig. 2.

Witnesses

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Fig. 3.

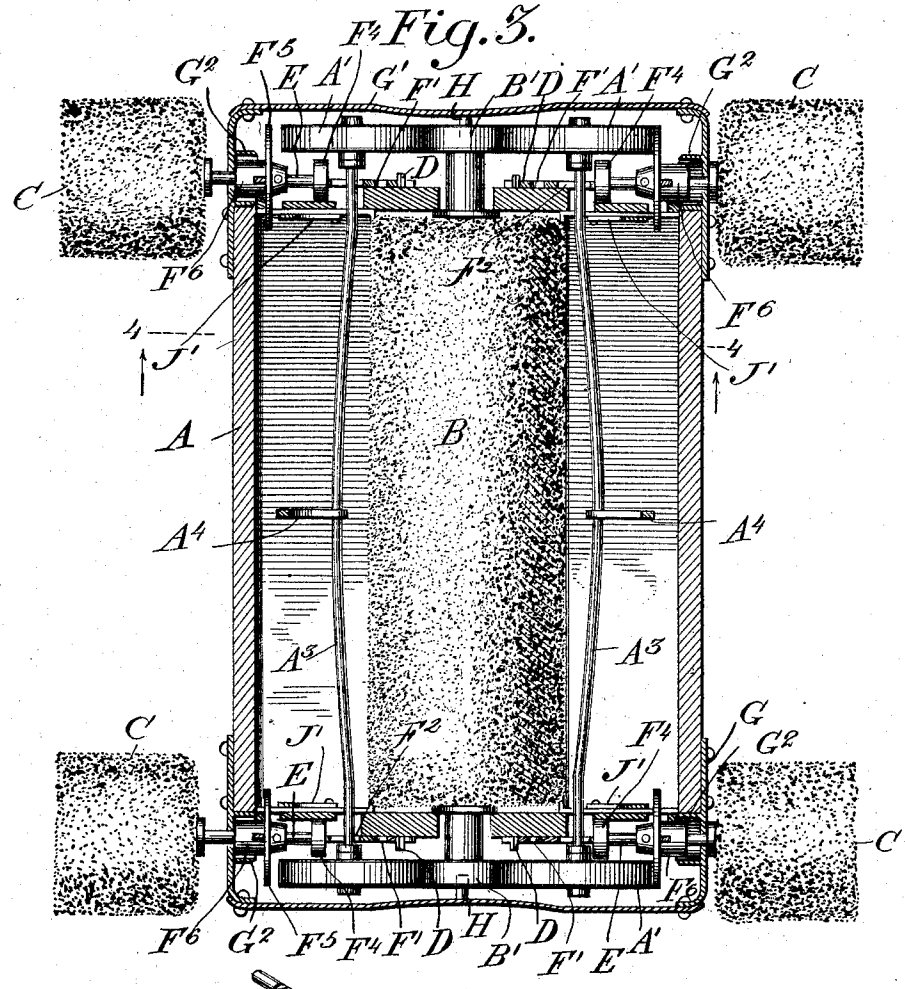
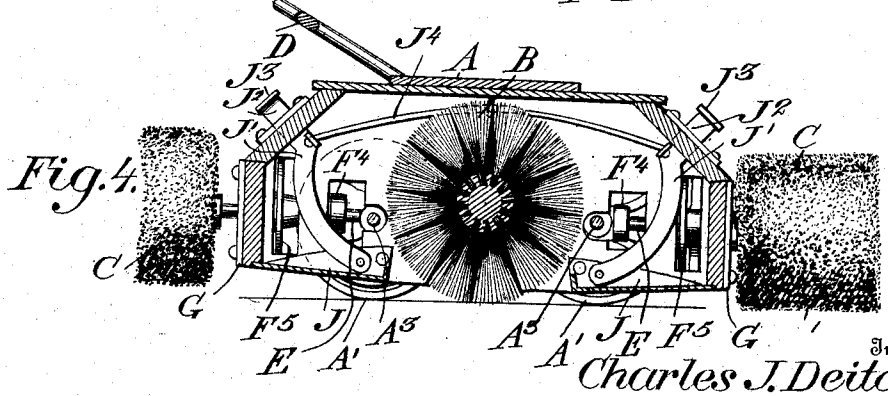


Fig. 4.



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3 SHEETS--SHEET 3.

Fig. 5.

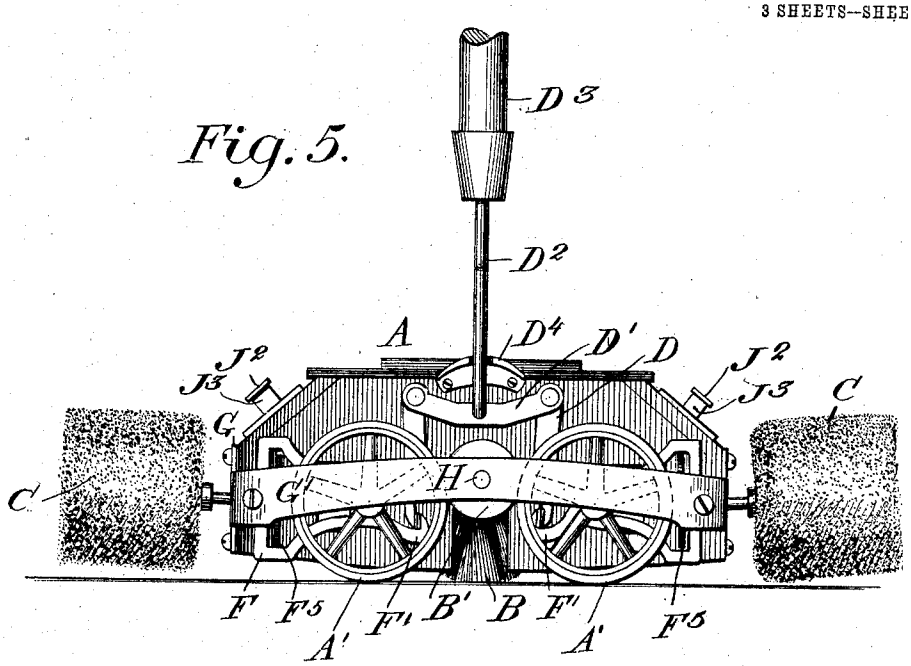
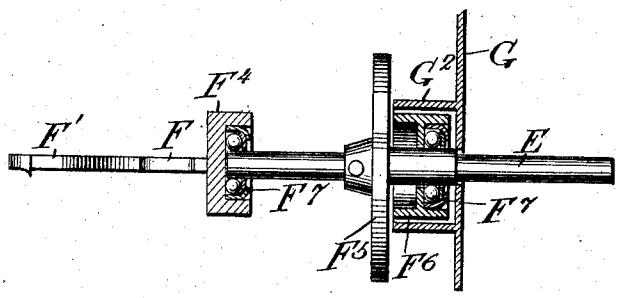


Fig. 6.



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UNITED STATES PATENT OFFICE.

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CARPET-SWEEPER.

No. 865,084. Specification of Letters Patent. Patented Sept. 3, 1907.

Application filed February 16, 1907. Serial No. 357,691.

To all whom it may concern:

Be it known that we, CHARLES J. DEITCH and OSCAR L. BIDDLE, both residing at Elkhart, in the county of Elkhart and State of Indiana, have invented a new and useful Improvement in Carpet-Sweepers, of which the following is a specification.

This invention is an improvement upon carpet sweepers and more especially upon the sweeper for which patent was granted, October 17, 1905, No. 801,882. In the patent above referred to the brushes are shown arranged at right angles to a main brush carried by a carpet sweeper casing and certain means are also shown for throwing the brushes first mentioned in and out of gear.

This invention is an improvement in such means, and a further object of the invention is to provide the carpet sweeper with dumping dust pans, and means for dumping said pans by pressure of the foot.

The invention consists of the novel features hereinafter fully described, pointed out in the claims and shown in the accompanying drawings, in which,

Figure 1 is a plan view of the sweeper. Fig. 2 is an end view of the sweeper casing, a guard being removed and certain shafts and brackets being shown in section. Fig. 3 is a horizontal section taken through the sweeper casing and showing the interior of the said casing. Fig. 4 is a section on the line 4—4 of Fig. 3. Fig. 5 is an end view of the casing, the parts being shown in elevation. Fig. 6 is a horizontal section taken through certain bearings arranged at the ends of the casing, the shaft carrying the corner brushes, a friction disk carried by said shaft and a hook member formed upon a movable bracket being shown in plan.

In these drawings A represents a casing in which is mounted a main brush B. The casing is supported upon wheels A′ which are mounted upon the ends of rods A^3 which extend through the casing and are connected to the same midway their ends by brackets A^4. The outer end portions of the roller upon which the brush B is carried are provided with small friction wheels B′ which rest between the wheels A′ at each end of the casing and are rotated by engagement with said wheels. The rods A^3 pass loosely through the ends of the casing and are permitted a slight play so that the brush B will rotate in the proper direction according to the direction in which the casing A is moved.

At each corner of the casing are small brushes C which are mounted at right angles to the brush B and are designed to rotate so as to throw the sweepings into the path of the brush B. The brushes C correspond to the brushes F shown in the patent above referred to and the brush B corresponds to the similarly designated brush shown in the said patent and to which reference is had.

Upon each end of the casing A are pivoted at D^5 two sets of levers D, said levers being arranged upon opposite sides of the wheels B′, and substantially in a vertical position. The upper ends of these levers are connected together by means of links at opposite ends of the casing which are connected by a bail D^2 the ends of which are pivotally journaled in the links midway the ends of the links. The bail carries a handle D^3 and is also engaged by locking plates D^4 arranged at opposite ends of the casing which plates have a compound curved edge engaging the end portions of the bail as the handle is swung from one side of the casing to the other, and by their frictional contact serve to lock the bail and handle against accidental movement from one side of the casing to the other.

The brushes C are mounted upon shafts E which are journaled at their inner ends in movable brackets F. These brackets are substantially triangular in outline, the central portion being cut away, the apex of each bracket is extended to form hook members F′ which project toward the levers D and engage the lower ends of said levers. The apex portion of each bracket is also slotted as shown at F^2 and through said slot passes a rod A^3 which limits sliding movement of the bracket. In the apex portion of each bracket is also formed a bearing box F^4 in which boxes are mounted in suitable ball bearings the inner ends of the shafts E.

Upon each shaft E and within the cut out portions of the brackets F are mounted friction disks F^5, said disks being fixed to the shafts E and adapted to engage the peripheries of the wheels A′ which are preferably provided with rubber tires. The shafts E are also supported by brackets G which are carried by the sides of the casing A and project beyond the ends of the casing. The brackets G carry upon their inner faces sleeves G^2 in which slide sleeves F^6 carried by the brackets F and which hold suitable ball bearings F^7, within which the shafts E rotate, the said shafts also passing loosely through the brackets G. The brackets G are connected at each end of the casing by end braces G′ which not only serve as guards for the projecting ends of the rods A^3 but also furnish bearings for stub pins H which fit into the friction wheels B′. Within the casing A and upon opposite sides of the brush B are arranged pivoted trays J, which receive the sweepings from the brush B, the sides of the trays adjacent the brush carrying the pivot pins and the sides opposite the brush dropping during the dumping operation. At one end each of these trays J has pivoted to it a curved rod J′ which carries a straight outwardly projecting portion J^2 which is angled as shown at J^3 to provide a support for the foot

and the rods J′ have connected to them at the upper ends of the curved portions ends of a spring wire J⁴ which are secured midway its ends by any suitable means to one end of the casing A. By depressing with the foot one of the rods J′, the dust tray connected to the lower end of said rod is swung upon its pivotal point and its outer edge falls, thus dumping the sweepings collected upon said tray. As soon as the foot pressure is released the spring J⁴ will return it to its normal position.

The operation of the parts above described are as follows:—With the handle D³ in the position shown in Figs. 1 and 2 the casing A when pushed by said handle in advance of the person using the sweeper would cause the brush B to rotate in the direction shown by the arrow and will cause the brushes C in advance of said casing to rotate in the direction shown by the arrows applied to them. The brushes C upon the opposite side of the casing would be inoperative as their rotation would only be desirable when the direction of the movement of the casing was reversed. It will be observed that when the handle D³ is in the position shown the lever D adjacent the brushes C to be rotated will be thrown into the position shown in Fig. 2, that is that their lower ends incline rearwardly and as these ends are in engagement with the hook members F′ of the brackets F in which are journaled the rollers E carrying the said brushes C and as such brackets have a sliding movement by reason of the slots F², the said brackets will be moved by the levers D toward the brush, which movement of the brackets will produce a corresponding movement upon the part of the shafts E, and this movement will bring the friction disks F⁵ into engagement with the forward wheels A′ with resulting rotation of the brushes C. When the sweeper is moved in the opposite direction the movement of the parts will be reversed, since those parts that have been in advance of the casing during the previous movement would now be in the rear of the casing, and the wheels A′ and brushes C which were front wheels and brushes will become rear wheels and brushes. The drawing back of the handle, therefore, will shift the mechanism shown at the end of the sweeper in the drawing so that the friction disks F⁵ which had been out of engagement with the wheels A′ as mentioned in the first part of the operation, would not be brought into engagement with said wheels and the brushes C shown upon the left hand side of the various figures would be rotated while the brushes C which had formerly been in operation, would become idle through the disengagement of the friction disks mounted upon their shafts becoming disengaged from the wheels A′ coöperating with them.

Having thus fully described our invention, what we claim as new and desire to secure by Letters Patent, is:—

1. In a carpet sweeper, a wheeled casing, a main brush, corner brushes at right angles to the main brush, shafts upon which said corner brushes are mounted, slidable brackets in which said shafts are journaled, friction disks carried by the shafts adapted to be brought into engagement or removed from engagement with the sweeper wheels as the brackets are shifted, means connected with the casing for shifting said brackets to bring said disks alternately into such engagement as the sweeper is moved in opposite directions, and a bail having a handle and connected with said shifting means to move the sweeper and shift the brackets.

2. The combination with a wheeled casing, a main brush, supplemental brushes at right angles to the main brush, movable brackets at the ends of the casing, shafts supporting the supplemental brushes, and journaled in said brackets, friction disks carried by said shafts and adapted to engage the wheels of the casing, pivoted levers adapted to shift said brackets, the levers shifting the brackets at each end of the casing in opposite directions, a link connecting each set of levers, a bail having its ends mounted in said links and a handle connected to the bail as and for the purpose set forth.

3. In a carpet sweeper of the kind described, a casing, wheels supporting said casing, a main brush, a bracket having a central cut out portion, the apex of the bracket being slotted, and extended to form a hook member, a bearing box formed in the apex of the bracket, a shaft having its inner end journaled in said bearing box, a supplemental brush mounted upon the said shaft, a friction disk mounted upon the shaft in proximity to one of the wheels and within the cut out portion of the bracket, a rod carried by the casing and extending into the slot of the bracket, a lever pivoted intermediate its ends upon the end of the casing, the lower end of said lever engaging the hook member of the bracket to shift the disk into and out of engagement with said wheel, a bail, a handle connected to said bail and means connecting the bail to said lever as and for the purpose set forth.

4. In a carpet sweeper having a main brush and supplemental corner brushes at right angles to said main brush, said sweeper being supported upon wheels, sliding brackets carried at each end of the casing, shafts upon which said supplemental corner brushes are mounted, said shafts journaled in the sliding brackets, friction disks carried by said shafts to engage the wheels of the sweeper, pivoted levers engaging the brackets, links connecting the upper ends of the levers, and a bail having its ends pivoted in said links as and for the purpose set forth.

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