

(No Model.)

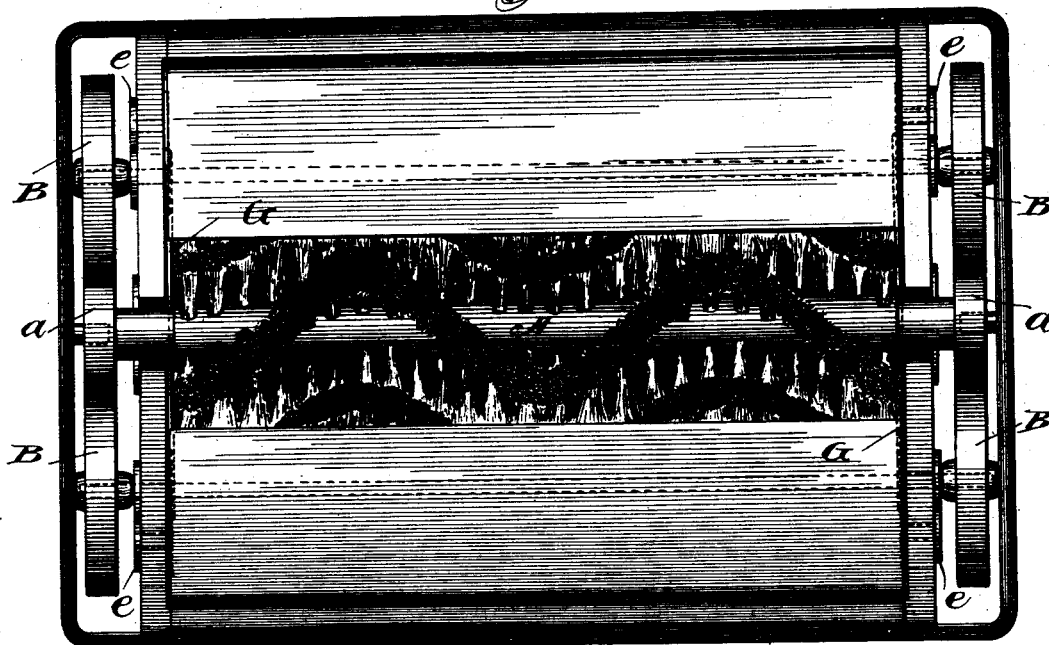
H. W. RU TON.  
CARPET SWEEPER.

2 Sheets—Sheet 1.

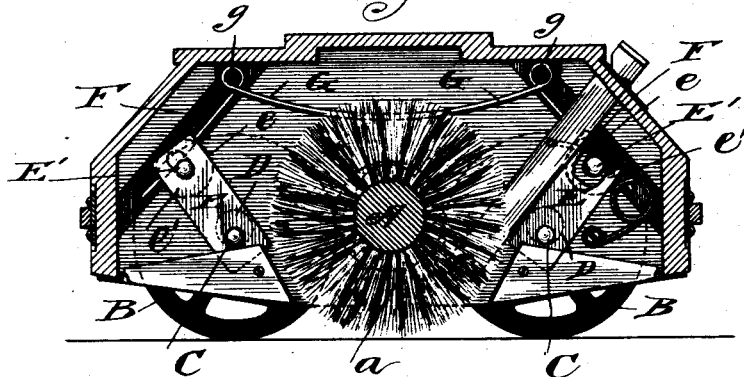
No. 525,721.

Patented Sept. 11, 1894.

*Fig. 1.*



*Fig. 2.*



Witnesses,  
*J. D. Mann,*  
*Frederick Goodwin*

Inventor,  
H. W. RU TON  
*By* *Offield, South & Zimmerman,*  
*Attys*

(No Model.)

H. W. RU TON.

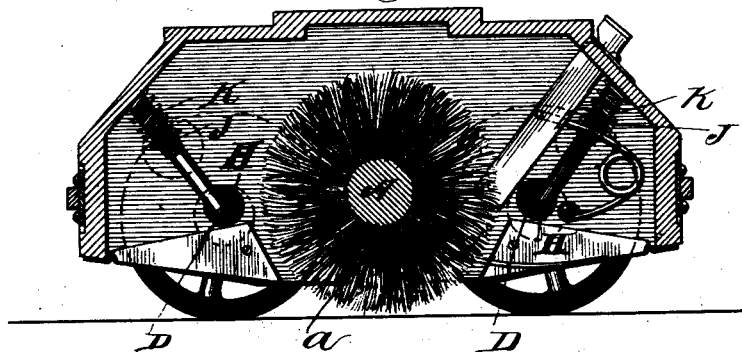
2 Sheets—Sheet 2.

CARPET SWEEPER.

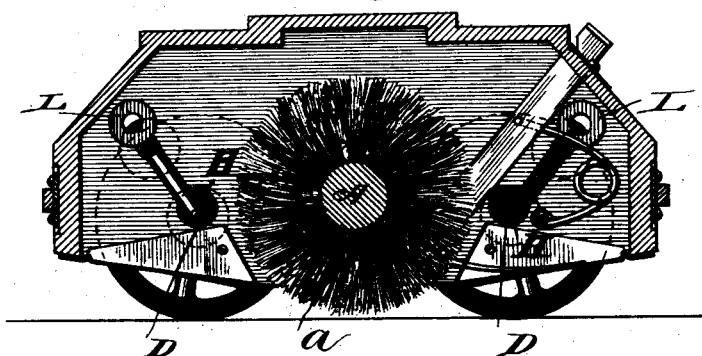
No. 525,721.

Patented Sept. 11, 1894.

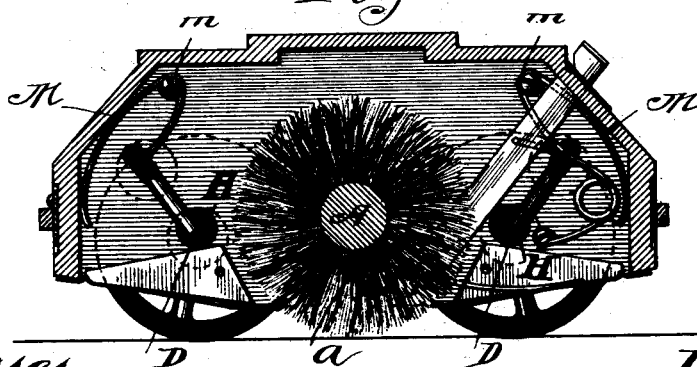
Fig. 3.



*Fig. 4.*



*Fig. 5.*



Witnesses,  
J. D. Mann,  
Frederick Goodwin

*Inventor,*  
HERMAN W. RUSON

By Official Seal & Signature,  
Attest.

# UNITED STATES PATENT OFFICE.

HIRAM W. RU TON, OF GOSHEN, INDIANA, ASSIGNOR TO THE GOSHEN  
SWEEPER COMPANY, OF GRAND RAPIDS, MICHIGAN.

## CARPET-SWEEPER.

SPECIFICATION forming part of Letters Patent No. 525,721, dated September 11, 1894.

Application filed April 8, 1892. Serial No. 428,273. (No model.)

*To all whom it may concern:*

Be it known that I, HIRAM W. RU TON, a citizen of the United States, residing at Goshen, in the county of Elkhart and State of Indiana, have invented certain new and useful Improvements in Carpet-Sweepers, of which the following is a specification.

My invention relates to certain improvements in that class of carpetsweepers wherein the brush roller is driven by frictional contact with the driving wheels. In carpetsweepers of this class, in order to secure the proper driving of the brush roller, the friction must be variable, and to this end the friction wheels must be so mounted that their axes may change with relation to the axis of the brush roller.

My invention is intended to provide for this variable adjustment of the driving wheels with relation to the brush roller; and the principle of my invention consists in mounting the journals or axles of the friction wheels loosely within a bearing and in connecting such journals to arms whose movements are governed by suitable controlling springs. By means of this arrangement of parts, the journals of the wheels are permitted a radial movement, and also a movement in the arc of a circle, the length of the arc described being defined by the wall which constitutes the bearing for the journals of the friction wheels. The form of the spring may be greatly varied, and in the accompanying drawings I have shown several forms, all of which are adapted to enforce and control the radial and circular movement of the journals of the friction wheels as above described.

In said drawings, Figure 1 is a bottom plan view of a carpet sweeper containing my improvements. Fig. 2 is a transverse section through the brush roller showing the inner side of one of the end walls of the case and the controlling spring in elevation. Figs. 3, 4 and 5 are similar views of modified forms of controlling springs.

In the drawings, A represents the brush roller which is journaled to rotate in the usual manner and provided with the friction disks *a, a*.

B, B represent the driving wheels and C the

journals thereof. If desired, two of the wheels may be journaled on the same shaft, said shaft being extended across the case parallel to the brush holder, as indicated in Fig. 1 by the dotted lines, or each wheel may have its separate journal, as shown in Figs. 3, 4 and 5. The journals of the wheels are loosely mounted within an aperture D in the end walls of the case, which are preferably circular in form, and to these journals are rigidly connected arms arranged radially with reference to said apertures or enlarged bearings, which arms are backed up by or seated against resisting springs. In the construction shown in Figs. 1 and 2, these arms are flat metal strips E, through which the extended journals of the driving wheel pass, while the upper ends of these flat strips have pins E' which project through elongated apertures *e'* in the end walls of the case and have their ends headed down over disks or washers *e*. These pins serve to confine and direct the radial movement of the journals of the driving wheels. The inner ends of the case of the sweeper are channeled or grooved, as shown at F, and within these channels lie the ends of a spring rod G, having one or more integral coils or turns *g* therein. The ends of the rod G rest upon the upper sides of the pins E' and normally tend to force the driving wheels to the lower limit of their radial movement, while pressure exerted upon the sweeper through the handle will tend to move the journals out radially, so as to increase the frictional pressure of such driving wheels upon the brush roller, and the frictional effect is further increased by the tendency of the wheels to swing with their journals in the arc of a circle, the end of which will touch the circular walls of the aperture through which said journals pass.

In the construction shown in Figs. 3, 4 and 5, the wheels B are mounted each upon separate journals H, which are cranked and have their cranked ends projected through an aperture in the end wall of the case.

In the construction shown in Fig. 3, a recess or groove J leads from the aperture through which the cranked end of the journal is passed, and in this groove is located the coiled spring K, one end of the coil being

seated on the top wall of the case of the sweeper, while the opposite end has a bearing upon the cranked end of the journal.

In the construction shown in Fig. 4, a circular aperture is formed in the end wall of the case, bisecting that through which the cranked end of the journal passes, and in this larger aperture is located a section of rubber tubing L against which the cranked end of the journal impinges.

In the construction shown in Fig. 5, a spring M, coiled between its ends about a fixed pin m, has one member bearing upon the side of the case and the short arm thereof resting upon the top of the journal H.

The several modifications above described operate in the same manner as does the preferred form of the invention shown in Figs. 1 and 2, that is, in each case the movements of the journal arms are controlled or modified by the springs against which they are seated, the normal action of the spring in each case being to force the journals to the lowest limit of their movement and to exert constantly a yielding pressure upon such journals while the sweeper is in use. These springs also permit a limited swinging movement of the wheels, this movement extending through the arc of a circle, the length of which is defined by the diameter of the aperture through which the journals pass.

It will be apparent from the above description that this invention is not limited to the precise form or arrangement of the springs for controlling the movements of the radial arms, so long as such springs are arranged in such manner as to permit of the described movements.

I claim—

1. In a carpet sweeper, the combination with the sweeper case, brush roller and driving wheels, the latter having journals and the case having enlarged apertures through which the journals project and in which they may move both vertically and laterally, of arms rigidly connected to such journals and projected radially therefrom and adapted to move endwise, and springs bearing on said arms and normally tending to force them toward the brush roller, substantially as described.

2. In a carpet sweeper, the combination

with the sweeper case, brush roller and driving wheels, the latter having journals and the end walls of the sweeper case having enlarged apertures in which the journals are loosely mounted and in which they may move both vertically and laterally, crank arms rigidly connected with said journals, said cranks extended radially from the journals and a spring rod coiled between its ends and fastened to the sweeper case at the coil and having its free ends bearing upon the rigid arms of the journal on opposite sides of the brush roller, substantially as described.

3. In a carpet sweeper, the combination with the sweeper case, brush roller and driving wheels, said driving wheels having their journals loosely mounted in bearings in the end walls of the sweeper case and cranked the cranks thereof having pins projected through elongated apertures in the end walls of the case, grooves in said end walls bisecting the elongated apertures and a spring rod coiled between its ends and having said ends adapted to engage the rigid arms of the journals, substantially as described.

4. In a carpet sweeper, the combination with the sweeper case, brush roller and two pairs of driving wheels arranged on opposite sides of the brush and at the ends of the sweeper case, said driving wheels having their journals loosely mounted in the end walls of the case, rigid arms radially connected to such journals and a spring rod coiled between its ends and having said ends bearing upon the rigid arms of the journals, whereby to control their radial movement, substantially as described.

5. In a carpet sweeper, the combination with the sweeper case, brush roller and driving wheels, the journals whereof are loosely mounted in apertures in the end walls of the sweeper case, rigid arms radially connected to such journals and the ends of said arms projected through elongated apertures in the ends of the sweeper case and springs engaging the projections on the arms, substantially as described.

HIRAM W. RU TON,

Witnesses:

L. M. AYERS,

S. C. BREIDING.