Jan. 15, 1924. 1,480,588

W. J. WISE ET AL

ADJUSTABLE WHEEL FOR VACUUM CLEANERS

Filed Nov. 23, 1921

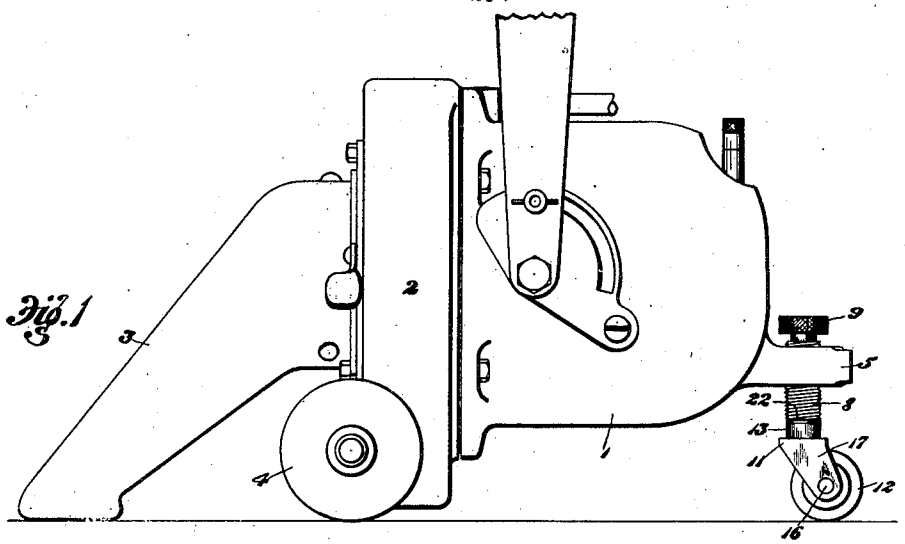


Fig. 1

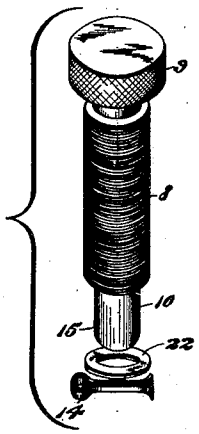


Fig. 3



Fig. 5



Fig. 6



Fig. 7

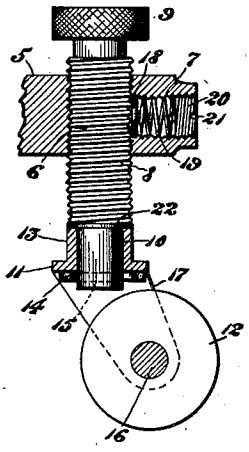


Fig. 2

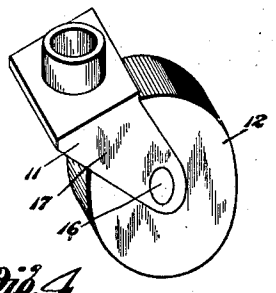


Fig. 4

Inventor

William J. Wise and
Thomas O. Adams

By Grease and Bond

Attorney

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UNITED STATES PATENT OFFICE.

WILLIAM J. WISE AND THOMAS O. ADAMS, OF NEW PHILADELPHIA, OHIO, ASSIGNORS TO THE WISE-McCLUNG MANUFACTURING COMPANY, OF NEW PHILADELPHIA, OHIO, A CORPORATION OF OHIO.

ADJUSTABLE WHEEL FOR VACUUM CLEANERS.

Application filed November 23, 1921. Serial No. 517,397.

To all whom it may concern:

Be it known that we, WILLIAM J. WISE and THOMAS O. ADAMS, citizens of the United States, both residing at New Philadelphia, in the county of Tuscarawas and State of Ohio, have invented a new and useful Adjustable Wheel for Vacuum Cleaners, of which the following is a specification.

This invention relates to vacuum cleaners and more particularly to an adjustable rear wheel for supporting the rear portion of the cleaner upon the floor, the wheel being vertically adjustable with reference to the vacuum cleaner and swiveled upon a vertical axis to turn in any direction as the cleaner is moved to and fro over the floor.

The above and other objects may be attained by providing a rearwardly extending bearing lug upon the sweeper casing and locating a vertical screw therethrough, a bracket being swiveled upon the lower end of the screw and carrying the rear wheel of the cleaner.

A preferred embodiment of the invention thus set forth in general terms is illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a vacuum cleaner of the horizontal motor type provided with the adjustable wheel embodying the invention;

Fig. 2, an enlarged sectional view of the bearing lug of the sweeper and the adjustable wheel;

Fig. 3, a perspective view of the adjusting screw and cotter pin;

Fig. 4, a perspective view of the wheel bracket and wheel;

Fig. 5, a perspective view of the disk which prevents accidental movement of the adjusting screw;

Fig. 6, a detail perspective view of the tension spring which holds the disk under tension; and

Fig. 7, a detailed perspective view of the screw which adjusts the tension upon the spring.

Similar numerals of reference indicate corresponding parts throughout the drawings.

Although the invention is illustrated upon a vacuum cleaner of the horizontal motor type it will be understood that the same is applicable to a cleaner of the vertical motor type.

The motor casing 1, fan casing 2, nozzle 3 and front wheels 4 may be of any common form, the motor casing being provided with the rearwardly extending bearing lug 5 provided with the vertical, tapped bore 6 and the horizontal tapped bore 7 communicating therewith through the rear end of the lug.

The vertical adjusting screw 8 is mounted through the tapped bore 6 and provided upon its upper end with the knurled head 9, by means of which the screw can be vertically adjusted within said bore.

A reduced shank 10 is provided upon the lower end of the adjusting screw, the bracket 11 which carries the rear wheel 12 being provided with the vertical bearing portion 13 which is rotatably mounted upon said shank and held in place thereon as by the cotter pin 14 which is located through a transverse bore 15 in the lower end portion of the shank. The wheel 12 is journaled upon the axle 16 which is carried in the rearwardly inclined arms 17 of the bracket.

A disk 18 is mounted within the horizontal tapped bore 7 and held in frictional engagement with the adjusting screw 8 by means of the tension spring 19, the tension being adjusted upon said spring by means of the headless screw 20, which is slotted at 21 for the reception of a screw driver.

A fiber washer 22 is mounted upon the reduced shank 10 of the adjusting screw 8 being interposed between the shouldered portion of said screw and the bearing portion 13 of the wheel bracket. This fiber washer thus separates the two metal parts and prevents the same from galling as the wheel bracket revolves.

By adjusting the screw 8 within the bearing lug 5 the wheel 12 may be raised or lowered with reference to the motor casing, thus adjusting the nozzle 3 vertically with reference to the floor, this adjustment of the nozzle being necessary for operating the vacuum cleaner upon the rugs or carpets having nap of different lengths.

The bracket carrying the rear wheel being adjustable upon the shank 10 of the adjusting screw, it will be seen that the rear wheel will turn freely in any direction allowing the sweeper to be easily turned as it is moved to or fro upon the floor in the operation of cleaning.

It will thus be evident that an adjustable

rear wheel is provided which may be easily and quickly adjusted vertically with reference to the casing of the vacuum cleaner, and held in any desired adjustment, the wheel being swiveled to turn in any direction upon the floor as the sweeper is operated.

We claim:

1. A castor for a vacuum cleaner or the like having an outwardly extending lug, a vertically adjustable screw located through the lug, a head upon the upper end of the screw for operating the same, a wheel swivelled upon the lower end of the screw, said lug having a horizontal tapped bore, a disk in said bore frictionally engaging the screw, a tension spring engaging the disk and an adjusting screw for adjusting the tension upon the spring.

2. A castor for a vacuum cleaner or the like having an outwardly extending lug, a vertically adjustable screw located entirely through the lug, a head upon the upper end of the screw for operating the same, a wheel swivelled upon the lower end of the screw, means within the lug for frictional engagement with the screw and means for adjusting the tension upon said friction means.

In testimony that we claim the above, we have hereunto subscribed our names.

WILLIAM J. WISE.
THOMAS O. ADAMS.