Dec. 30, 1947. E. A. FRENCH 2,433,356

ADJUSTABLE WHEEL MOUNTING FOR TANK TYPE SUCTION CLEANERS

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Fig. 1.

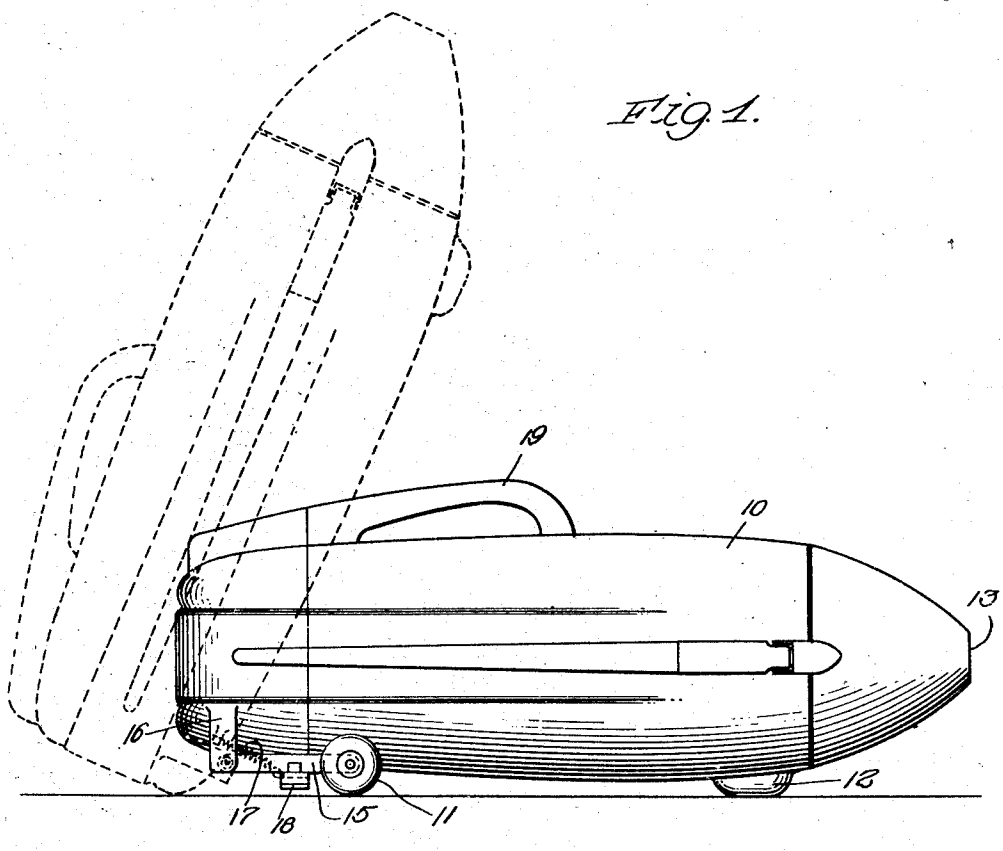
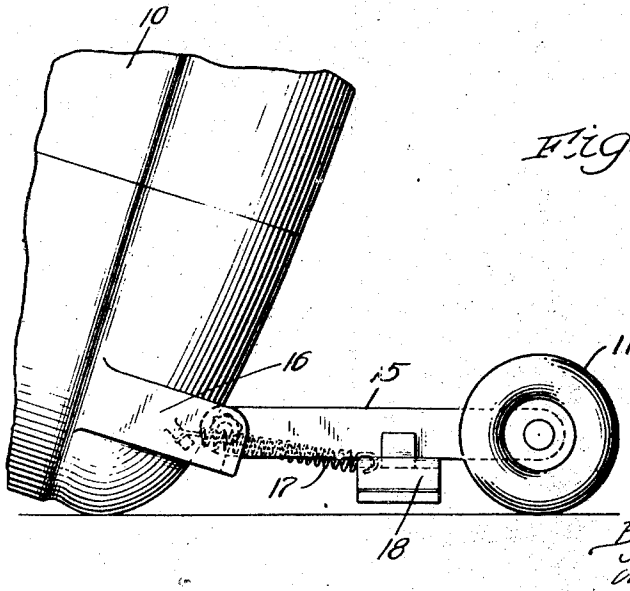


Fig. 2.



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Fig. 3.

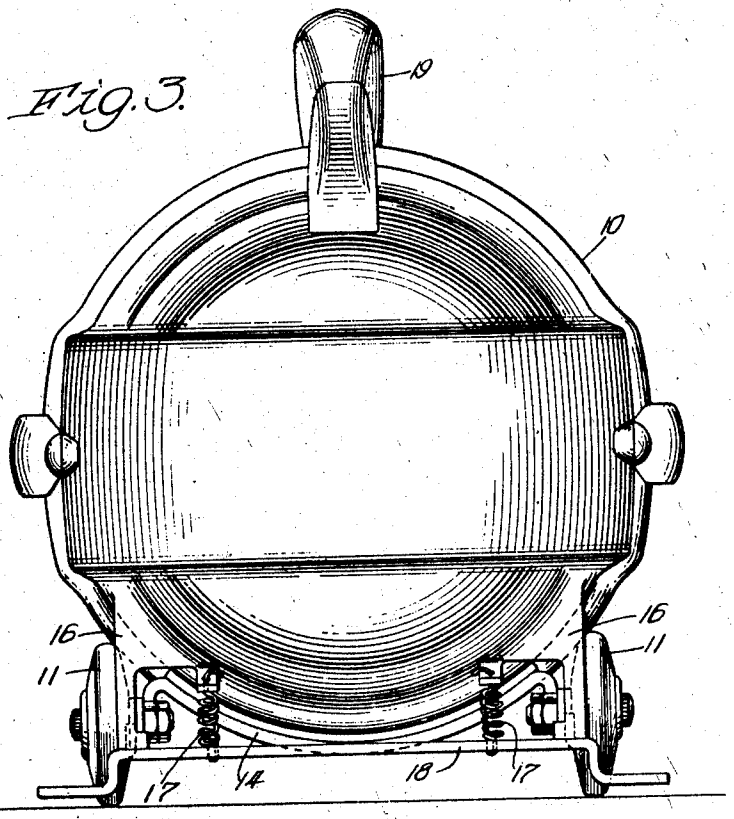
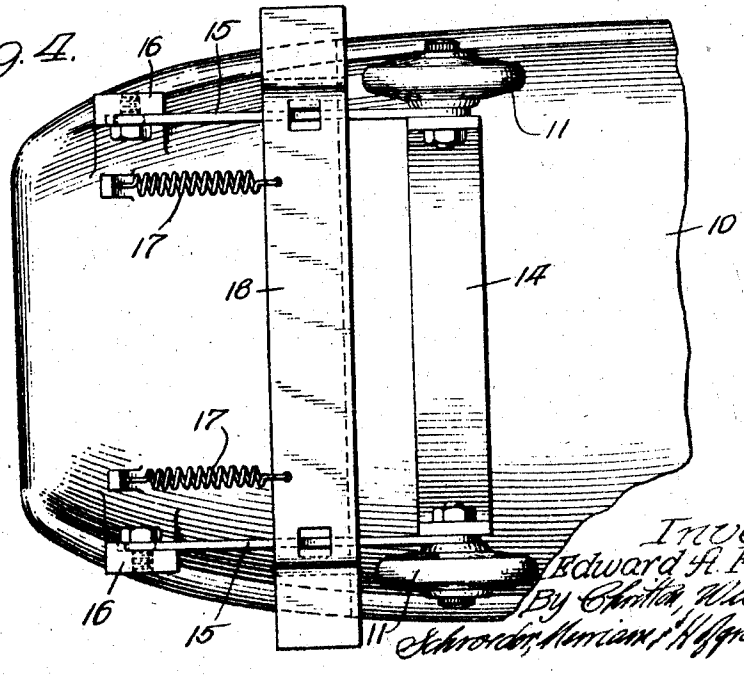


Fig. 4.



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UNITED STATES PATENT OFFICE

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ADJUSTABLE WHEEL MOUNTING FOR TANK TYPE SUCTION CLEANERS

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11 Claims. (Cl. 280—43)

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This invention relates to an improved tank-type suction cleaner of the kind in which a tank rests upon the floor and the cleaning nozzle is attached to one end of the tank.

Suction cleaners of this type are in common use at the present time as they have various advantages over the ordinary floor type. However, one of the chief disadvantages is that the tank rests upon the floor and when it is necessary to remove the dust collecting bag to empty it, it is necessary to stoop over and either work in this stooped position or lift the tank from the floor. This requires a considerable amount of effort and for that reason many users are not entirely satisfied with the tank-type cleaner. In the cleaner of this invention I have provided a structure whereby the tank may be raised to an elevated position giving ready access to the front end of the tank from which the dust collecting bag may be removed. Such a structure reduces the labor required in using the cleaner and for this reason has decided advantages over the ordinary types.

The invention will be described in detail as exemplified in the embodiment shown in the accompanying drawings. In the drawings, Fig. 1 is a side elevation of my improved cleaner with the tank shown in elevated position by dotted lines; Fig. 2 is a drawing in elevation of the lower rear end section of the tank; Fig. 3 is a rear elevation of the tank; and Fig. 4 is a view of the bottom rear portion of the tank.

In the improved tank-type suction cleaner, as shown, there is the usual horizontal tank 10 adapted to rest on the floor on two wheels 11 at the rear of the tank and a fixed spacing member 12 near the front. The hose and wand connections are not shown but are made at the front of the tank as indicated at 13.

In the improved cleaner which is the subject of this invention it is provided that the tank 10 of the cleaner ordinarily rest in horizontal position. When it is desired to remove the dust collecting bag (not shown), the tank may be elevated at the front so that the front end extends up into the air at an angle to the floor. The tank is then maintained in this position until it is desired to lower it again. These results are accomplished by providing an axle structure 14 upon which the two rear wheels 11 are mounted and a pair of horizontal extensions 15 from each end of the axle 14 hingedly attached to the tank. This attachment can conveniently be accomplished by providing two fixed ears 16 mounted on the tank at right angles

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thereto and at points nearer the rear end of the tank than the wheels. In order to hold the wheels against the tank when it is in horizontal position, there is provided a pair of springs 17 each extending from the wheel structure to the tank. These springs are so arranged that when the tank is turned about its hinge to elevated position, the springs are then below the hinge and hold the tank in its elevated position. Then after the dust collecting bag or other means is removed and cleaned, the tank may then be lowered to its normal horizontal position.

In order to make the tank easy to raise and lower, there is provided a fixed foot bar 18 extending out on both sides of the tank beyond the horizontal extensions. There is also provided on top of the tank an ordinary handle 19. Thus the user can put his foot on the foot bar to hold the wheels down and raise the tank to elevated position by means of the handle. As can be seen, only a minimum amount of stooping and lifting is required. The springs which hold the tank in elevated position may conveniently be attached to this foot bar.

Although the invention has been described as related to one embodiment of the same, it is my intention that the invention be not limited by any of the details of description, unless otherwise specified, but rather be construed broadly within its spirit and scope as set out in the following claims.

I claim:

1. A tank-type suction cleaner adapted to rest on the floor or other base and comprising a tank, a pair of wheels supporting the tank located on opposite sides of the tank near one end thereof, an axle structure upon which said wheels are mounted, substantially parallel extensions from each end of the axle hingedly attached to the tank near said end, means for turning said tank about said hinge to elevate the tank with the end opposite the wheels extending at an angle to the floor and with each extension thereby assuming a greater angle with respect to the longitudinal axis of the tank, and means for maintaining the tank in said elevated position.

2. A tank-type suction cleaner adapted to rest on the floor or other base and comprising a tank, a pair of wheels supporting the tank located on opposite sides of the tank near the rear end thereof, an axle structure upon which said wheels are mounted, substantially parallel extensions from each end of the axle hingedly attached to the tank at points nearer the rear end of the tank than the wheels, means for turning the

tank about said hinge to elevate the front end of the tank and with each extension thereby assuming a greater angle with respect to the longitudinal axis of the tank, and means for maintaining the tank in said elevated position.

3. A tank-type suction cleaner adapted to rest on the floor or other base and comprising a tank, a pair of wheels supporting the tank located on opposite sides of the tank near the rear end thereof, an axle structure upon which said wheels are mounted, substantially parallel extensions from each end of the axle hingedly attached to fixed ears mounted on the tank at points nearer the rear end of the tank than the wheels, a handle on top of the tank for turning it about said hinge to elevate the front end of the tank and increase the angle between each extension and the longitudinal axis of the tank, and means for maintaining the tank in said elevated position.

4. A tank-type suction cleaner adapted to rest on the floor or other base and comprising a tank, a pair of wheels supporting the tank located at opposite sides of the tank near the rear end thereof, an axle structure upon which said wheels are mounted, substantially parallel extensions from each end of the axle hingedly attached to fixed ears mounted on the tank at right angles thereto and nearer the rear end of the tank than the wheels, means for turning the tank about said hinge to elevate the front end and increase the angle between each extension and the longitudinal axis of the tank, said means consisting of a handle on top of the tank and a fixed foot bar on the said parallel extensions for holding the wheels down, and means for maintaining the tank in said elevated position.

5. A tank-type suction cleaner adapted to rest on the floor or other base and comprising a tank, a pair of wheels supporting the tank located at opposite sides of the tank near the rear end thereof, an axle structure upon which said wheels are mounted, substantially horizontal parallel extensions from each end of the axle hingedly attached to fixed ears mounted on the tank at right angles thereto and nearer the rear end of the tank than the wheels, means for turning the tank about said hinge to elevate the front end and increase the angle between each extension and the longitudinal axis of the tank, said means consisting of a handle on top of the tank and a fixed foot bar on the said parallel extensions for holding the wheels down, and springs extending from the foot bar to the tank so constructed and arranged that they hold the wheels against the tank when said tank is in horizontal position but when the tank is in elevated position they hold it in said elevated position by reason of then being below the said hinge.

6. A tank-type cleaner adapted to rest on the floor or other base and comprising a tank structure, a pair of wheels supporting the tank located on opposite sides of the tank near the rear end thereof, an axle structure upon which said wheels are mounted, substantially parallel extensions from near each end of the axle hingedly attached to the tank at points nearer the rear end of the tank than the axle structure, means for turning the tank about said hinge to elevate the front end of the tank with the wheels remaining on the floor, and means for maintaining the tank in said elevated position with the tank balanced on the wheels and the rear lower portion of the tank structure.

7. The tank-type cleaner of claim 6 wherein said extensions have substantially the same position relative to the floor when the tank structure is in lowered and in elevated position.

8. A tank-type cleaner adapted to rest on the floor or other base and comprising a tank structure, depending substantially parallel ears fixed to the tank structure near the end thereof and extending from opposite sides of the center of the tank structure toward the floor, substantially parallel extensions hingedly connected to said ears and extending toward the front end of the tank structure, an axle held by the front ends of said extensions with the axle passing under the tank structure, wheels on the ends of said axle for supporting the rear end of said tank structure, means for turning the tank about said hinges to elevate the front end of the tank with the wheels remaining on the floor, and means for maintaining the tank in said elevated position with the tank balanced on the wheels and the rear lower portion of the tank structure.

9. The tank-type cleaner of claim 8 wherein said extensions have substantially the same position relative to the floor when the tank structure is in lowered and in elevated position.

10. The tank-type cleaner of claim 8 wherein said extensions are substantially parallel to the floor when the tank structure is in lowered and in elevated position.

11. The tank-type cleaner of claim 5 wherein the cleaner is balanced on the wheels and the rear lower portion of the tank when the tank is in elevated position.

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