Nov. 10, 1925. 1,561,250

F. KUNZE

CEILING CLEANING APPARATUS

Original Filed April 22. 1924 2 Sheets-Sheet 1

Fig. 1.

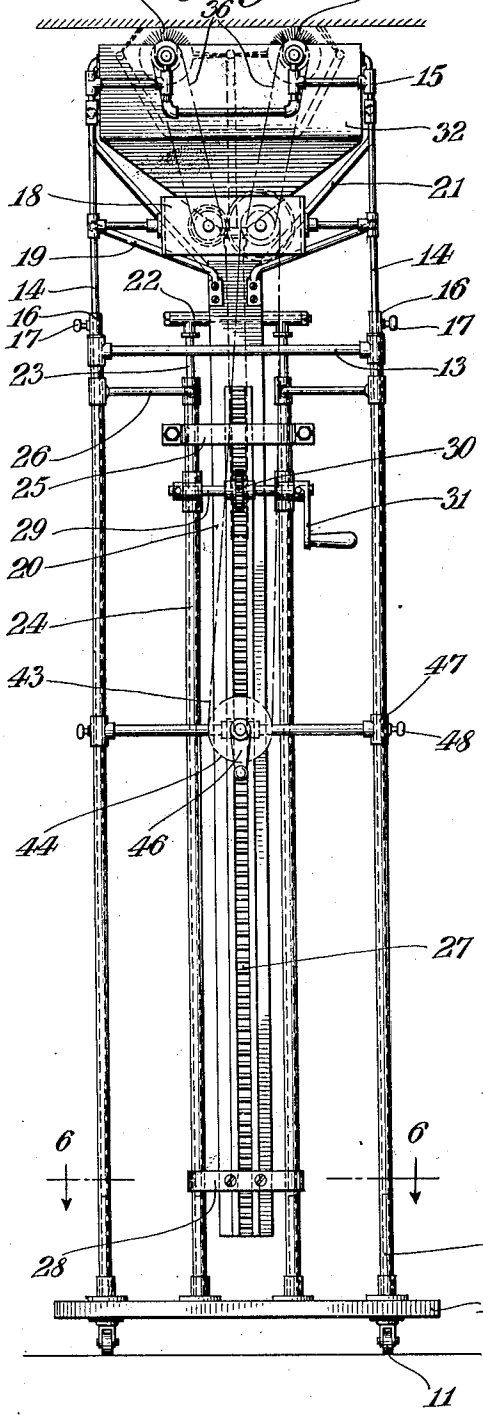
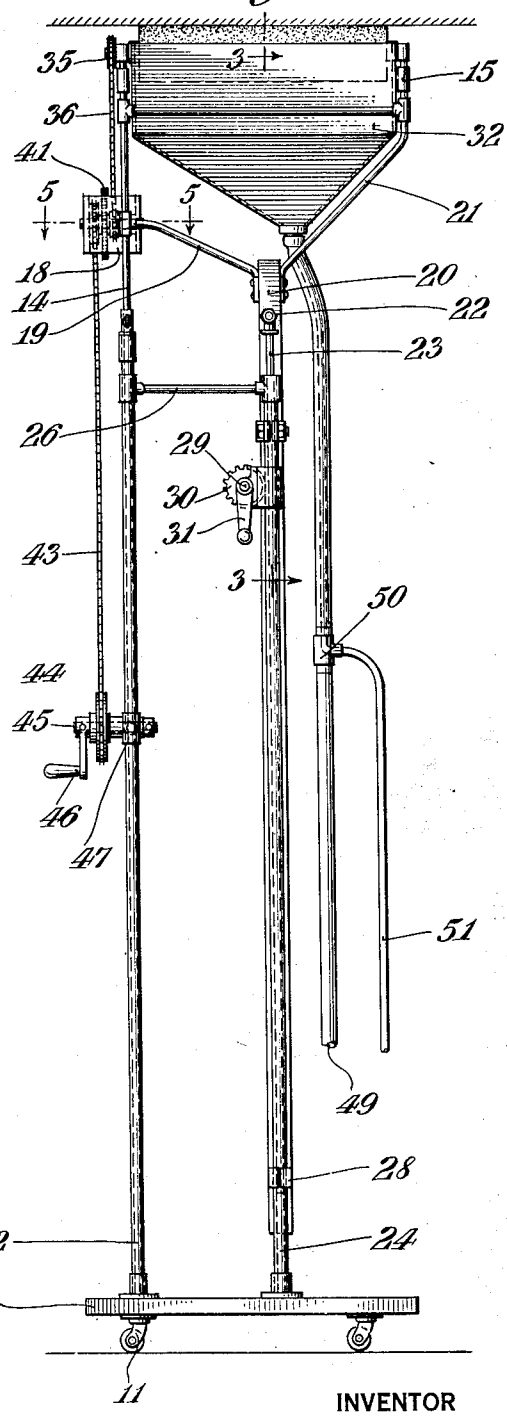


Fig. 2.



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Fig. 3.

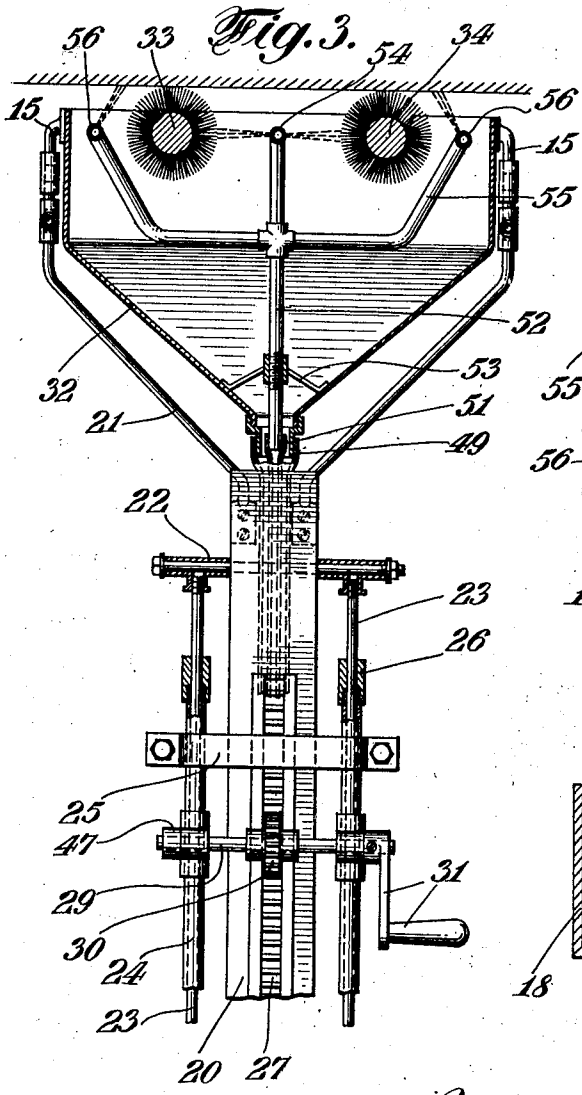


Fig. 4.

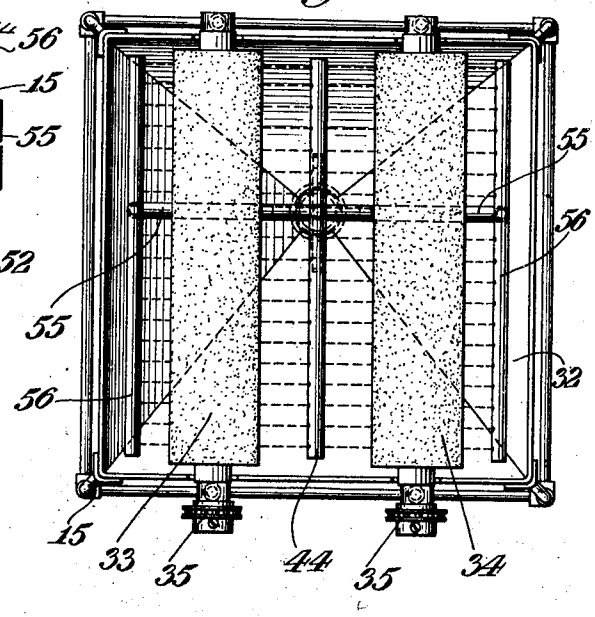


Fig. 5.

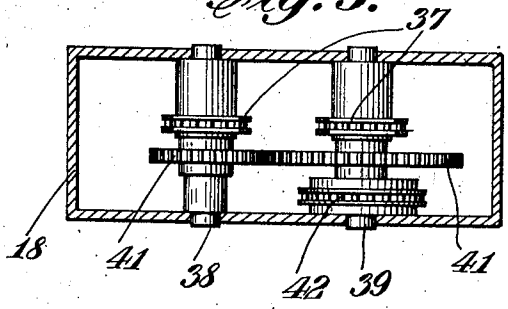
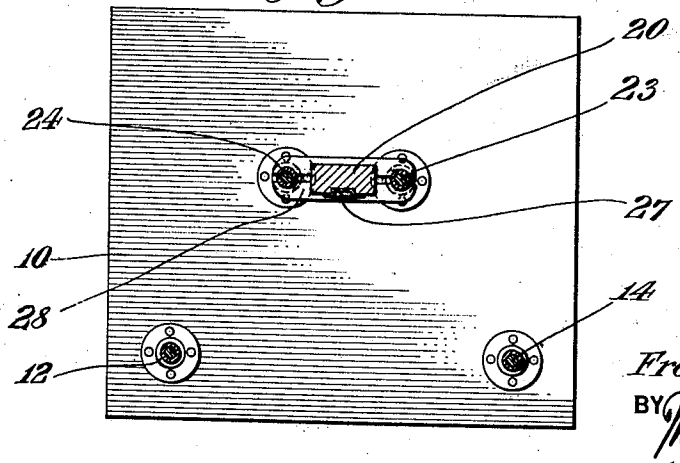


Fig. 6.



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Patented Nov. 10, 1925. 1,561,250

UNITED STATES PATENT OFFICE.

FREDRECK KUNZE, OF BRONX, NEW YORK.

CEILING-CLEANING APPARATUS.

Application filed April 22, 1924, Serial No. 708,120. Renewed October 8, 1925.

To all whom it may concern:

Be it known that I, FREDRECK KUNZE, a citizen of Germany, residing at Bronx, in the county of Bronx and State of New York, have invented certain new and useful Improvements in Ceiling-Cleaning Apparatus, of which the following is a specification.

This invention relates to improvements in apparatus for cleaning ceilings or other like flat horizontal surfaces parallel to the floor on which the machine operates.

One of the objects of the invention is to provide a wheeled or castored platform, having rigid upright standards, with a tank, the supports of which are adjustable in the uprights and means for raising or lowering the same.

Another purpose is to produce a pair of cylindrical brushes arranged over the tank and having means for rotation whereby a scouring effect upon the ceiling is produced.

A further aim is in the provision of a water supply, directed partially to the brushes and partially to the ceiling direct, the used water being received in the tank and conducted outwardly to any convenient point of disposal.

A still further object is to provide a simple apparatus that can be effectively operated by a single person standing on the floor and who is thus able to freely move, operate and control the apparatus.

These several aims and objects are attained by the novel construction, combination and arrangement of parts hereinafter described and shown in the accompanying drawings, forming a material part of this disclosure, and in which:—

Figure 1 is a front elevational view of an apparatus made in accordance with the invention.

Figure 2 is a side elevational view of the same.

Figure 3 is an enlarged partial vertical sectional view taken on line 3—3 of Figure 2.

Figure 4 is a top plan view of the apparatus ready for operation.

Figure 5 is an enlarged transverse sectional view taken on line 5—5 of Figure 2.

Figure 6 is a transverse sectional view taken on line 6—6 of Figure 1.

Referring to the drawings more in detail, the numeral 10 designates a rectangular platform, mounted on pivoted castors 11, permitting movement in any direction over a relatively level surface, as the floor indicated.

Fixed near the corners of the platform, adjacent one of its longer sides, are a pair of tubular uprights 12 connected near their upper ends by a cross bar 13 and slidably engaged in the uprights are the elements 14 of a tank supporting frame generally designated by the numeral 15.

The rods 14 pass through collars 16, provided with winged set screws 17, the collars resting on the extreme upper ends of the uprights 12. A bracket 18 is supported centrally between the rods 14 and extending convergingly inward from the rods are a pair of support rods 19 fixed at their inner ends to a slide 20, similar support rods 21 extending from the opposite side of the slide to the rear elements of the support frame 15.

Fixed to the upper part of the slide 20 is a cross-piece 22 having fixed in it a pair of downwardly extending rods 23 slidable in a pair of uprights 24 fixed near the center of the platform.

The uprights 24 are held in fixed relation by a rigid cross-bar 25 near their upper ends and further held by braces 26 extending between the uprights 12 and 24.

Secured to the slide 20 is a toothed rack 27 extending substantially its full length and also fastened to the slide, near its lower end, is a yoke 28 its ends being slidable on the uprights 24.

A spindle 29 is mounted in brackets fixed transversely on the uprights 24, the spindle having a pinion 30 actuated by a crank 31 and by operation of which the tank support 15 can be adjusted relatively to the platform 10.

Secured in the support frame 15 is a tank 32, having lower converging walls and having mounted in its upper rectangular portion a pair of cylindrical brushes 33 and 34, the peripheries of both brushes extending above the uppermost portion of the apparatus.

These brushes are provided with sprockets 35 over which are trained chains 36 driven by sprockets 37 mounted on spindles 38 and 39 rotatable in the bracket 18. The spindle 38 has fixed to it a pinion 40 and the spindle 39 has a spur gear 41 meshing with the pinion, said spindle 39 having on it another sprocket 42 driven by a chain 43.

This chain is actuated by a sprocket 44 fixed on a spindle 45, provided with an operating crank handle 46, the spindle being housed in a bracket 47 slidable on the uprights 12 and held when in adjustment by the winged screws 48.

Fixed to the apex at the converging walls of the tank 32 is a discharge pipe 49 leading to any convenient place to receive waste water.

A T fitting pipe 50 is disposed in the pipe 49 and entering its side opening is a smaller pipe or tube 51 communicating with a source of water supply, this pipe 51 passing through the pipe 49, into the apex of the tank and engaging the lower end of a fixed tube 52 extending vertically in the tank to which it is connected by supports 53.

At the top of the tube 52 is a header 54 perforated on opposite sides and adapted to direct streams of water directly upon the brushes 33 and 34, midway between which it is extended.

Branches 55 from the pipe 52 are engaged with other headers 56 adapted to deliver streams of water obliquely upward upon the ceiling in proximity to the brushes, effectively moistening the surface, and it is to be noted that all the water is received in the tank after use, no splashing or wetting of the ground surface being an accompaniment to the use of the device.

It will be understood that a motor may be installed at any convenient point on the apparatus for driving the brushes, in place of the handle indicated.

The pressure of the brushes against the ceiling is easily regulated and the machine moved about as may be desired accomplishing the several expressed purposes in a satisfactory manner.

Although the foregoing is drawn to a specific embodiment of the invention, it will be obvious that minor changes and modifications may be resorted to without conflicting with the spirit and scope of the appended claims.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. A ceiling cleaning apparatus comprising a platform having a pair of spaced tubular uprights, a frame having extensions movable in said uprights, rack and gear means for raising and lowering said frame, a tank mounted in said frame, a pair of cylindrical brushes journaled in the frame, the peripheries of the brushes extending above the edges of the frame and tank, and means for rotating said brushes.

2. A ceiling cleaning apparatus comprising a movable platform, provided with a vertically adjustable frame, a tank carried by said frame, a pair of spaced cylindrical brushes mounted in said tank to extend above the edges thereof, positive means for driving each of said brushes, a fluid supply pipe having a perforate header to deliver water to each brush, other headers for moistening the surface operated upon by said brushes, and means for drawing water from said tank.

3. A ceiling cleaning apparatus comprising a movable platform, tubular uprights fixed on the platform, a frame having rigid extensions slidably engaged in said uprights, a rack carried by said frame, a pinion carried by said uprights meshing with said rack, means for actuating said pinion, means for limiting the downward movement of said frame, a tank carried by said frame, and a pair of spaced cylindrical brushes mounted in said tank to extend from side to side thereof.

In witness whereof I have affixed my signature.

FREDRECK KUNZE.