Oct. 23, 1928. 1,688,759

J. T. SIMPSON

FLOOR SCRAPING MACHINE

Filed July 20, 1927

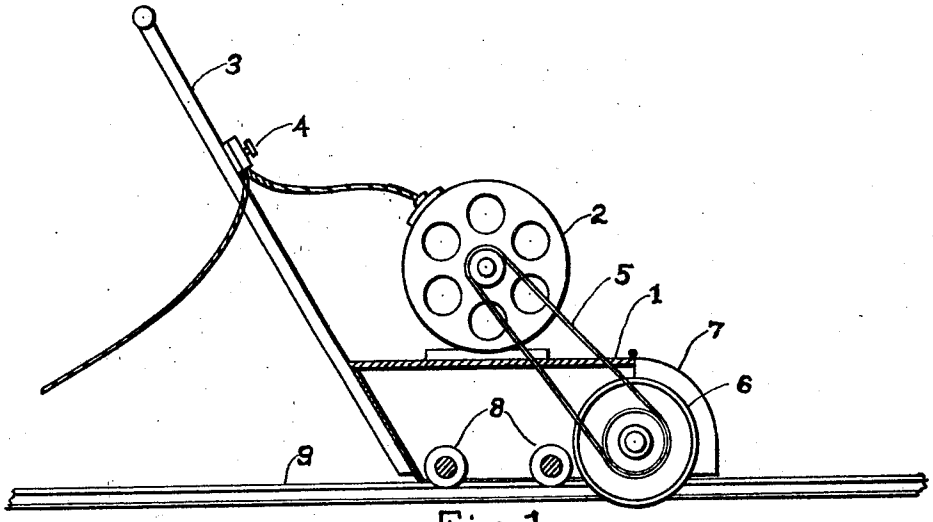


Fig. 1.

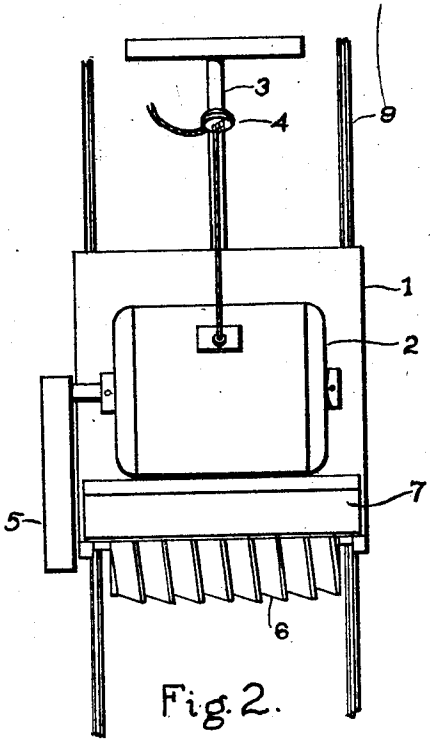


Fig. 2.

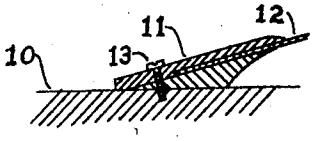


Fig. 3.

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UNITED STATES PATENT OFFICE.

JAMES THOMAS SIMPSON, OF MACON, GEORGIA.

FLOOR-SCRAPING MACHINE.

Application filed July 20, 1927. Serial No. 207,182.

This invention relates to a new and useful improvement in floor surfacing devices.

The main object of the present invention is to produce a machine which will give a smooth-cut surface rather than a scraped or rasped surface such as is produced by a machine using the usual scrapers, rasps or sandpaper.

Another object of the invention is to produce a machine which will deliver the shavings, etc., at one side of the machine rather than leave them scattered over the floor.

In the drawings:

Figure 1 is a side view of the machine with the near side of the case removed.

Figure 2 is a top view with the guard 7 turned back to show the cutting drum.

Figure 3 is a sectional view of the cutting-blade taken longitudinally of the drum 6.

The machine consists of the usual framework or housing 1 mounted on wheels 8 which run on the tracks 9, on which the device is propelled by hand. On top of the housing 1 is mounted the motor 2 controlled by the switch 4, and which drives the cutter-drum 6 through any appropriate driving means, such as a belt 5. The cutter-drum is carried by suitable bearings in the member 1 and is protected by the guard member 7.

The most important feature of the invention is the cutting-blade itself, which is shown in detail in Figure 3, in which 10 indicates the body of the drum 6, 12 indicates the cutting-blade, 11 indicates the cap-plate, and 13 indicates the screw holding the blade and cap to the drum. The fillet beneath the blade may be either a separate member or may be turned directly on the drum 10 itself. There may be from one to four blades, each encircling the drum at least once and extending from one end of the drum to the other like screw-threads. In the preferred form of the device, as illustrated, one blade is used on a drum having a diameter of approximately six inches and a length of about twelve inches, and the blade is so arranged as to have a pitch of one and one-half inches longitudinally of the drum, i. e. it encircles the drum eight times. The blade itself is set at an angle of approximately twenty-two and one-half degrees to the axis of the drum measured on any radial plane passing through the said axis, and is made of number twenty gauge spring steel one inch wide constructed to follow the blade-mount around the drum. The blade is held in position by the members 11 which have the same configuration and each are half the circumference of the drum. The members 11 are held by the screws 13.

This form of the machine should be operated at a drum speed of three hundred revolutions per minute. If more blades are used, the speed should be changed to correspond.

The machine should be moved at a rate of one and one-half inches for each fifteen inches travel of the blade longitudinally of the drum,—at a speed of three hunderd revolutions per minute it should be moved about thirty feet per minute.

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

1. A floor-surfacing device comprising a body adapted to be propelled along a floor, a motor on said body, a cutter-drum mounted in said body in such relation thereto as to operate upon a floor over which the device is to be propelled, power-transmitting means connecting said motor and said drum whereby said motor drives said drum, a spiral cutting blade on said drum set at a cutting-angle of approximately twenty-two and one-half degrees therewith, and means securing said blade in said relation to said drum, said means comprising a cap plate member extending parallel on the exterior surface of the spiral cutting blade, a fillet member, said fillet member being substantially parallel to said cap plate member and located on the interior surface of said cutting blade, and a bolted means securing said cap plate member, spiral cutting blade and fillet member together and as for the purpose set forth.

2. A floor-surfacing device comprising a body adapted to be propelled along a floor, a motor on said body, a cutter-drum mounted in said body in such relation thereto as to operate upon a floor over which the device is to be propelled, power-transmitting means connecting said motor and said drum whereby said motor drives said drum, a spiral cutting blade on said drum set at a cutting-angle of approximately twenty-two and one-half degrees therewith and encircling said drum a plurality of times, and means

securing said blade in said relation to said drum, said means comprising a cap plate member extending parallel on the exterior surface of the spiral cutting blade, a fillet member, said fillet member being substantially parallel to said cap plate member and located on the interior surface of said cutting blade, and a bolted means securing said cap plate member, spiral cutting blade and fillet member together and as for the purpose set forth.

In testimony whereof I have affixed my signature.

JAMES THOMAS SIMPSON.