No. 625,850. Patented May 30, 1899.

F. W. RICHTER.

FLOOR OR SIDEWALK CLEANER.

(Application filed Jan. 29, 1898.)

(No Model.)

FIG. 1.

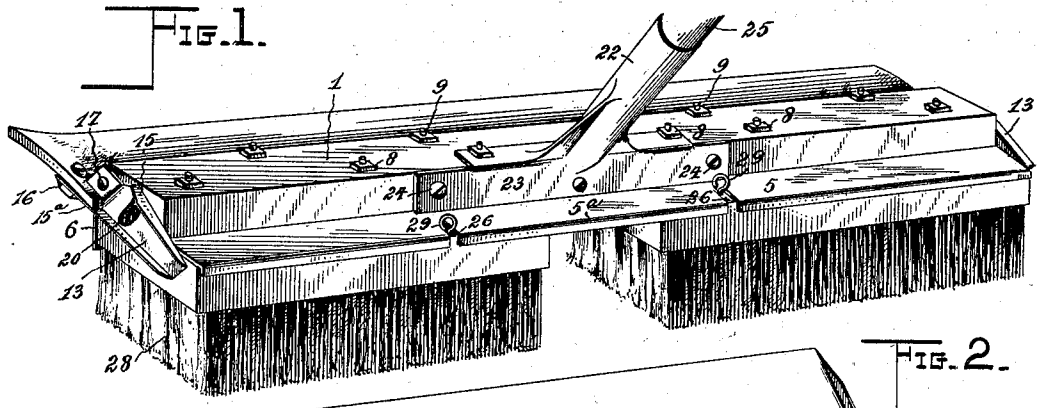


FIG. 2.

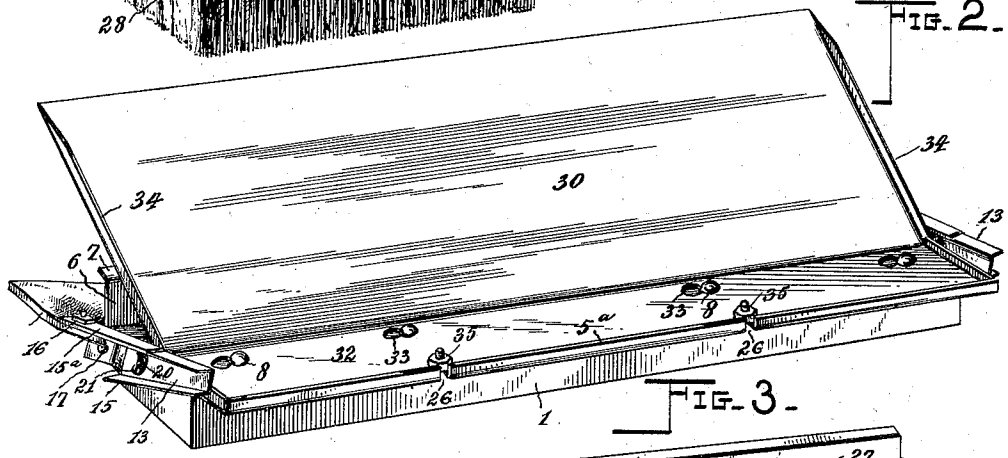


FIG. 3.

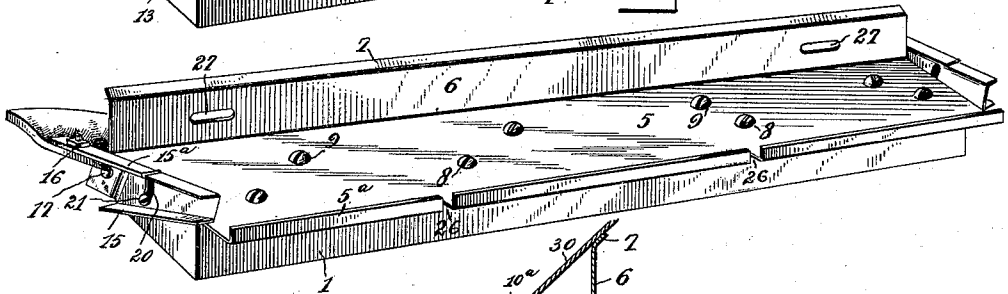


FIG. 4.

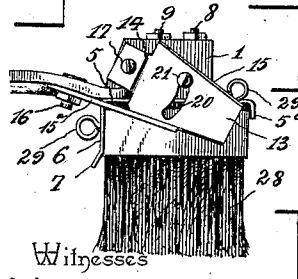


FIG. 5.

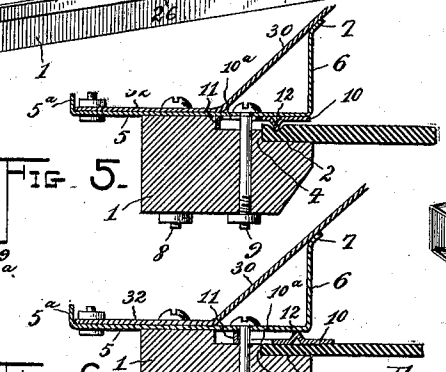
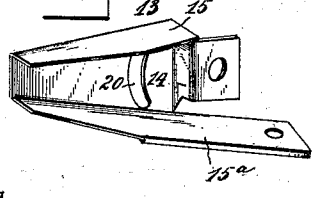


FIG. 6.

FIG. 7.



Witnesses

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FREDERICK W. RICHTER, OF CHICAGO, ILLINOIS.

FLOOR OR SIDEWALK CLEANER.

SPECIFICATION forming part of Letters Patent No. 625,850, dated May 30, 1899.

Application filed January 29, 1898. Serial No. 668,437. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK W. RICHTER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Floor or Sidewalk Cleaner, of which the following is a specification.

This invention relates to floor or sidewalk cleaners, its object being to provide a device of this character of strong and durable construction having as permanent parts thereof two scrapers, one being of metal and the other of rubber or similar material, secured to the head of the cleaner, and said cleaner having provision for the detachable connection of a scrubbing-brush and a shovel, the latter being intended to remove snow from sidewalks.

With this object in view the invention consists of the novel details of construction, combination, and arrangement of parts, as will be hereinafter fully described, and particularly pointed out in the claims.

In the drawings, Figure 1 is a perspective view of a cleaner made in accordance with my invention, showing the scrubbing-brush in position, the handle of the cleaner being partly broken away. Fig. 2 is a similar view of the cleaner inverted, the brush being removed and the shovel in position. Fig. 3 is a similar view, the shovel being removed. Fig. 4 is an end view, the parts being arranged as shown in Fig. 1. Fig. 5 is a transverse sectional view illustrating the manner of clamping a thick rubber scraper to the head. Fig. 6 is a similar view showing the manner of clamping a thin rubber scraper to the head. Fig. 7 is a detail perspective view of the supporting-clip.

Like numerals of reference designate corresponding parts in the figures of the drawings.

1 designates a wooden block or bar, which will be hereinafter called the "head" of the cleaner, and the lower side of the head is rabbeted, as indicated at 2, and the recess thus formed serves as a seat for a rubber scraper or squeegee. In the angle of the recess is formed a rib 4, which will be preferably about as deep as the thickness of the thinnest squeegee used, so that its horizontal face will be flush with the lower face of said squeegee.

5 indicates the horizontal member of an angle-plate, which may be of any preferred kind of stout sheet metal, and 6 the vertical member thereof. The outer edge of this latter member is bent at an obtuse angle, as indicated at 7, and this member forms a metal scraper. The horizontal member 5 forms a base-plate for the scraper 6, and for the sake of brevity will be hereinafter called a "base-plate." The base-plate 5 seats against the lower face of the head and is firmly secured in place by two series of bolts, (indicated, respectively, by 8 and 9,) the latter of which extends through the rabbeted portion of the head.

The squeegee is secured in the seat of the head by a clamping-strip 10, constructed of sheet metal and provided with ribs 11 and 12, preferably formed by a die, but which may be otherwise constructed. The inner or rear rib 11 is formed by bending the longitudinal edge at right angles, and the front or outer rib is formed by a central longitudinal groove or bend V-shaped in cross-section to provide a sufficiently sharp edge. The clamping-plate is provided with a series of transverse slots 10^a and is secured to the head by means of bolts 9, which are arranged in the slots.

When the thin rubber squeegee is used, the clamping strip or plate will be so arranged that the ribs will project toward the base-plate, and the flat face of the clamping-strip will engage the face of the rubber scraper, as shown in Fig. 6 of the accompanying drawings, and when the bolts are tightened the rubber scraper will be firmly clamped between the strip and the horizontal face of the rabbet 2. The slots permit the clamping-strip to be drawn outward, as shown in Fig. 6, in order to support the thin rubber scraper.

When the thick scraper is used, the clamping-strip will be reversed and the flat face will be engaged by the base-plate 5. The rear rib 11 will rest upon the rib 4, and the outer rib 12 will be forced into the rubber scraper, as clearly illustrated in Fig. 5 of the drawings, the thick rubber squeegee being provided with a longitudinal groove to receive the said rib 12. By loosening the nuts slightly the thick rubber may be drawn out or replaced sidewise, and it may also be clamped in advance of the rib 12. The ribs

are of equal depth to the space between the horizontal face of the rib 4 and the lower face of the head, and the outer edge of the clamping-strip does not project beyond the head when the thick rubber scraper is employed in order to permit the scraper to bend in either direction, so that the device may be drawn or pushed along.

The ends of the rubber scraper or squeegee extend beyond the ends of the head, and in order to support these projecting ends I provide a clip 13 at each end of the head, each clip consisting of a piece of metal, one end of which is reduced in width and offset, as indicated at 14. The edges of the remaining portion are bent to form flanges 15 and 15ª, which will afford convenient finger-holds, and this portion will preferably taper longitudinally away from the offset. The flange 15ª is extended past the offset portion 14 and is secured to the adjacent end of the rubber scraper or squeegee by a bolt 16. Each clip is provided with a curved slot 20 in the flanged portion, through which a set-screw 21 passes into the end of the head 1. When the clips are rocked on their pivots 17, so as to bring the rear ends to their highest position, as indicated in Fig. 2, the set-screw will be at the lower end of the curved slot 20, and when in this position the front edge of the squeegee or rubber scraper will be practically straight or very slightly curved at its ends; but the ends of the squeegee will be firmly supported and prevented from giving away while being used. Sometimes it is advisable to bend the projecting ends of the squeegee inward toward each other, and when so bent they will prevent water from escaping beyond them, and the work will therefore be more effective. In order to effect this bending, the set-screw 21 will be loosened and the clip turned on its pivot until the opposite end of the slot 20 is in engagement with the set-screw, and this movement of the clip will have the effect of bending the projecting ends of the squeegee inward, as shown in Fig. 1. The pivot 17, upon which the clip turns, passes through the offset portion 14, as shown.

22 indicates the handle-socket, which is provided with integral plate portions 23, arranged at a right angle to each other to seat against the top and rear faces of the head, respectively, and these plates are clamped to the head by some of the bolts 8 and by a series of screws 24. The socket will extend from the plates in such manner as to form substantially equal obtuse angles with the respective plates in order to give the handle 25 the proper inclination to operate effectually either the metal or the rubber scraper.

The parts so far described constitute permanent parts of the cleaner.

The base-plate 5 is provided with a series of slots 26, opening out at its rear edge 5ª, which is bent downward to form a longitudinal flange, and the scraper 6 is provided with a series of slotted openings 27.

28 indicates scrubbing-brushes, the backs of which will seat against the lower face of the base 5 and the rear face of the scraper 6, between the same and the longitudinal flange 5ª. A series of screw-eyes 29 are secured to the backs of the brushes, and these screw-eyes are adapted to enter slots 26 and the slotted openings 27 and be turned transversely of them, and thus securely clamp the brushes in position. Two brushes are preferably used with a space of about an inch between their opposing ends; but I do not intend to limit my invention to the use of two brushes, as it is obvious that one brush only can be used or more than two, if preferred.

The heads of the bolts 8 and 9 will be rounded and will project but slightly beyond the surface of the base-plate 5; but, if desired, the openings for the bolts may be countersunk to let the heads in flush with the base-plate. The nuts on these bolts will engage the top face of the head, and the bolts must be long enough to permit the nuts to be loosened and the bolts to be moved longitudinally in their seats for a purpose to be hereinafter referred to.

30 indicates a snow-shovel and will preferably be made of a piece of sheet-steel. The snow-shovel, which may be of any desired length, preferably extends from one end of the head to the other and is bent longitudinally at an obtuse angle to provide a short member 32 and enable the same to seat snugly upon the lower face of the base-plate 5, while the longer member will bear against and be supported by the forwardly-inclined portion 7 of the scraper 6, as clearly illustrated in Fig. 2 of the accompanying drawings. A series of keyhole-slots 33 are formed in the short member 32, and in order to secure the snow-shovel in position the nuts of some of the bolts 8 must be loosened sufficiently to permit them to be moved endwise to engage the keyhole-slots of the snow-shovel. The snow-shovel is provided at its ends with flanges 34; but, if desired, instead of bending the flanges 34, so that they will extend upward from the face of the shovel, they may be bent in the opposite direction to form strengthening-flanges and to provide a smooth unbroken face for the shovel or blades, so that the same may be employed for shoveling snow from a sidewalk. The short member of the shovel or blade is provided at its longitudinal edge with perforations to receive bolts 35, which engage the slots at the rear edge of the base-plate.

From the foregoing description it will be seen that I have provided a very strong and durable cleaner adapted to clean floors or sidewalks and that provision is made for the ready attachment of a scrubbing-brush or snow-shovel. It will also be seen that either a heavy or light squeegee may be employed and that the same may be conveniently changed.

It will be understood that changes in the form, proportion, and minor details of con-

struction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having thus described the invention, what I claim is—

1. A floor-cleaner comprising a block provided at one of its edges with a longitudinal recess, a rubber scraper or squeegee seated in the recess and projecting beyond the block, a metal scraper overhanging the recess and holding the rubber scraper or squeegee therein, and fastening devices securing the metal scraper to the block, said fastening devices being located in rear of the rubber scraper or squeegee, whereby the latter is adapted to be removed from the recess without withdrawing the fastening devices, substantially as described.

2. A floor-cleaner, comprising a head having a longitudinal recess in one face, a rubber scraper or squeegee seated in said recess, a metal scraper having a base-plate extending at an angle therefrom, and seated against the face of the head having the recess, a clamping-strip seated between the base-plate and squeegee, bolts passing through the base-plate, the clamping-strip and the head, and a handle secured to the head, substantially as described.

3. A floor-cleaner comprising a head having a rabbet formed in one face and a rib in the angle thereof, a rubber scraper or squeegee seated in said rabbet in advance of the rib, a ribbed clamping-strip supported at its inner edge in said rib in the rabbet, and engaging the squeegee, a metal scraper having a base-plate extending at an angle thereto, and seated on the face of the head having the rabbet and also on the clamping-strip, and bolts passing through the base-plate and the head, substantially as described.

4. In a floor-cleaner, the combination of a head, a rubber scraper secured to the head and projecting at each end beyond it, and a device adjustably connected to each end of the head to form supports for the projecting ends of the scraper, substantially as described.

5. In a floor-cleaner, the combination of a head, a rubber scraper secured to the head and projecting at each end beyond it, clips pivoted on the respective ends of the head and rigidly connected to the rear corners of the rubber scraper, and means to lock the clip to the head in adjusted position, substantially as and for the purpose specified.

6. In a floor-cleaner, the combination of a head, a rubber scraper secured to the head and projecting at each end beyond it, clips pivoted on the respective ends of the head, each clip comprising a strip of metal offset at one end, said offset end being rigidly clamped to the rear corner of the scraper, and the clamping-bolt being pivotally supported in the end of the head, said strip also having flanges and a curved slot, and a set-screw extending through said slot into the head, substantially as described.

7. In a device of the class described, the combination of a head, a metal plate secured to the head and bent at right angles to form a scraper-blade, the latter having its outer edge bent at an angle and arranged at an inclination to form a support for a snow-shovel, and fastening devices securing the plate to the head and adapted also to secure the snow-shovel in position, substantially as described.

8. In a device of the class described, the combination of a head, a metal plate secured to the head and having one of its longitudinal edges bent at right angles to provide a scraper and to form a seat for a brush and having its other longitudinal edge bent at an angle to form a flange, the bent portion of the plate being provided with openings adapted to receive fastening devices for securing a brush to the same, and a handle extending from the same, substantially as described.

9. In a device of the class described, the combination of a head having a recess, a squeegee seated in the recess, and a reversible and adjustable clamping-plate secured to the head and having one face smooth and provided at its other face with projecting ribs, substantially as described.

10. In a device of the class described, the combination of a head having a recess, a squeegee seated in the recess and a clamping-plate secured to the head and provided at its inner edge with a flange or rib, said clamping-plate being provided with a central longitudinal groove or indentation forming a V-shaped rib projecting from the same face of the clamping-plate as the said flange or rib, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

FREDERICK W. RICHTER.

Witnesses:
JOHN C. RICE,
E. NORMAN SCOTT.