No. 714,034. Patented Nov. 18, 1902.

F. W. RICHTER.

FLOOR OR SIDEWALK CLEANER.

(Application filed Jan. 5, 1901.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

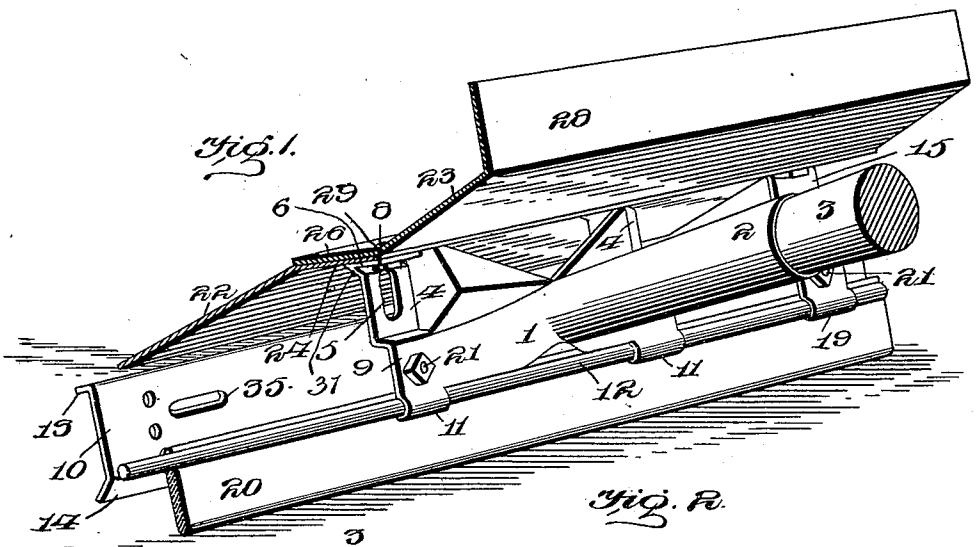


Fig. 2.

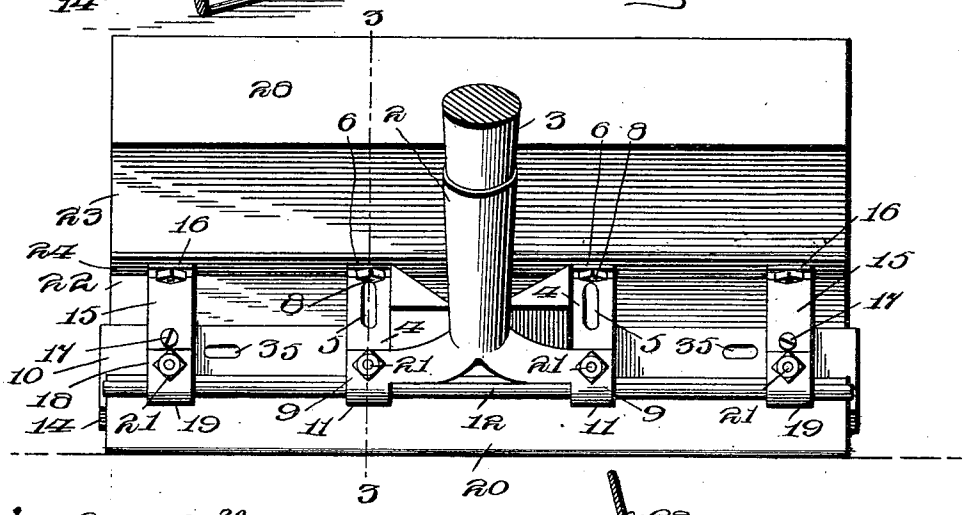


Fig. 3a.

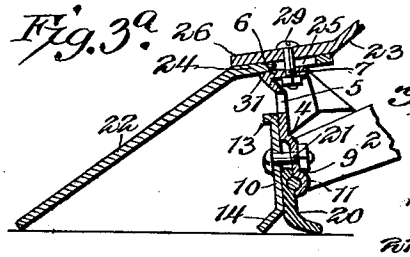
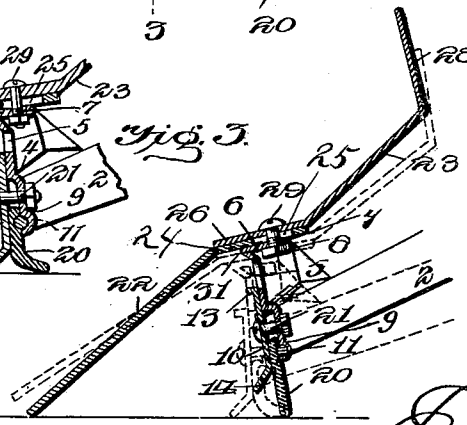


Fig. 3.



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(No Model.) 2 Sheets—Sheet 2.

Fig. 4.

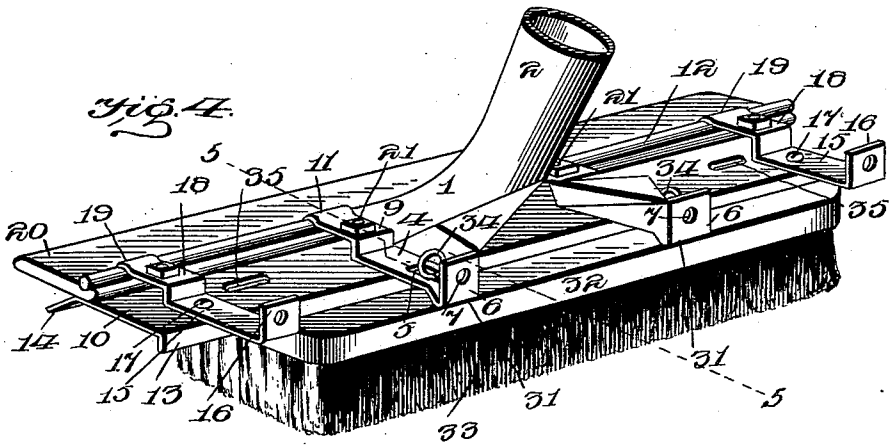
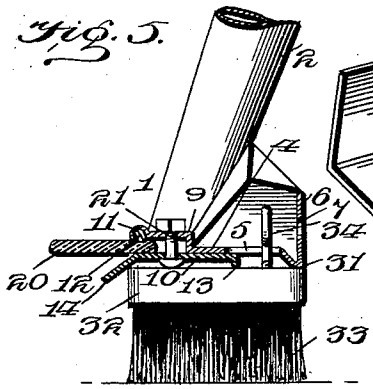


Fig. 5.



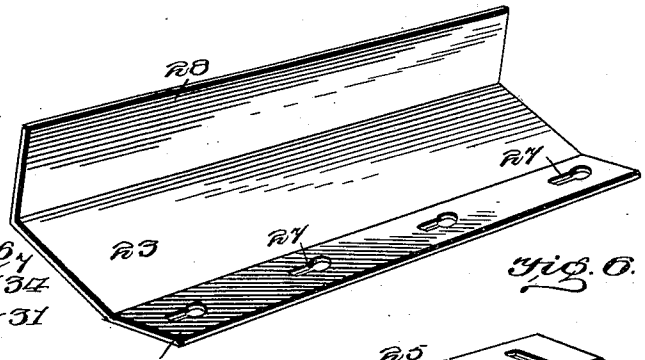


Fig. 6.

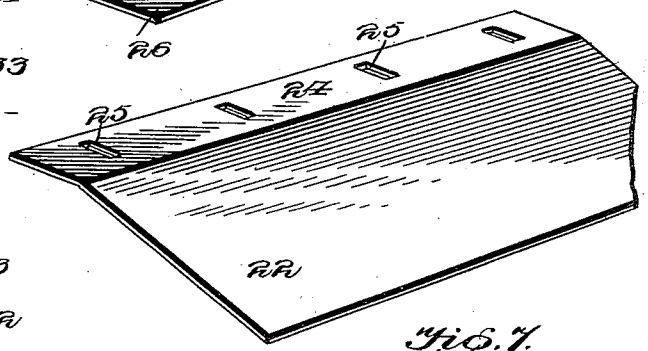
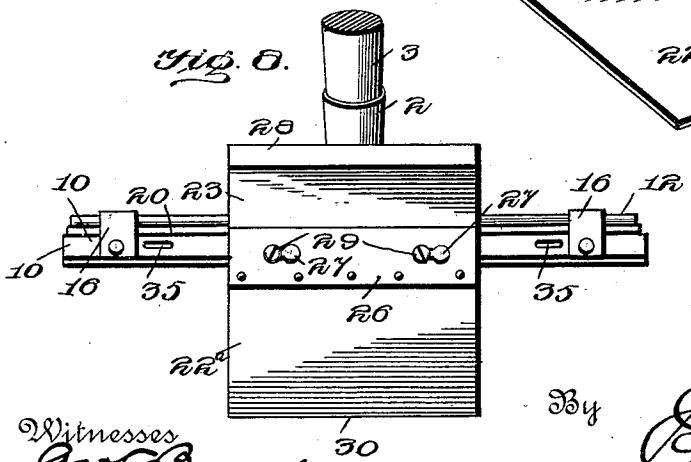


Fig. 7.

Fig. 8.



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UNITED STATES PATENT OFFICE.

FREDERICK W. RICHTER, OF CHICAGO, ILLINOIS.

FLOOR OR SIDEWALK CLEANER.

SPECIFICATION forming part of Letters Patent No. 714,034, dated November 18, 1902.

Application filed January 5, 1901. Serial No. 42,164. (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 a novel floor or sidewalk cleaner, and has for its object to combine in a single structure a shovel particularly designed for removing snow, a scraper disposed in rear of the shovel for breaking up or removing ice or densely-packed snow, and a squeegee or drying device in rear of the scraper to dry and clean the floor or pavement from which the ice and snow or other debris have been removed by the shovel and scraper.

A further object is to dispose these parts—that is to say, the shovel, scraper, and squeegee—in such relation that by a simple manipulation of the handle with which the device is equipped the squeegee may be made to operate in connection with either the shovel or the scraper or with both of said elements, as desired.

To these ends a head equipped with a handle is provided with a shovel and a scraper disposed in angular relation and with a rubber or other flexible squeegee disposed in rear of the scraper and extended somewhat below the same, so that while the scraper is normally disposed out of contact with the floor or pavement it may be presented to the surface to be cleaned by the exertion of such pressure upon the handle as will cause sufficient yielding of the squeegee. This relation of the parts also serves to permit the scraper to be depressed into position with the floor or pavement and the shovel to be tilted up away from the floor when it is desired to utilize the scraper and the squeegee without the shovel. The shovel is constructed with a removable extension-guard and is itself detachably connected with the body of the device, so that it can be removed when not required. Both the main body of the scraper and the extension-guard thereof are provided with means whereby they may be adjusted relatively to each other and to the head of the device. Scrapers of different widths and sizes may be employed, and a stout scraper-blade of relatively narrow proportions is provided for use whenever it is desired to break up or remove ice or densely-packed snow from a sidewalk or other surface.

The invention also contemplates a construction by means of which a scouring or scrubbing brush may be attached to the device and at the same time offset from the head or head-plate, so as to leave an air-space in rear thereof for the purpose of preventing the back of the brush from warping by giving ample ventilation thereto.

These and other objects of the invention will appear more fully in the course of the ensuing description.

The invention consists in certain novel features and details of construction and arrangement of parts, as hereinafter fully described, illustrated in the drawings, and incorporated in the claims.

In the accompanying drawings, Figure 1 is a perspective view of a floor or sidewalk cleaner constructed in accordance with the present invention, the adjacent portion of the shovel-sections being broken away for the purpose of better illustration. Fig. 2 is a rear elevation of the same. Fig. 3 is a transverse vertical sectional view on the line 3 3 of Fig. 2, the shovel and squeegee being in contact with the floor and the scraper being disposed out of contact therewith and showing in dotted lines the positions assumed by the parts when the shovel is tilted away from the floor and the scraper depressed into contact therewith to act in advance of the squeegee. Fig. 3ª is a view similar to Fig. 3, omitting the shovel extension and showing the shovel, scraper, and squeegee all in contact with the surface to be cleaned. Fig. 4 is a perspective view of the device with the shovel removed and a scrubbing-brush applied. Fig. 5 is a vertical cross-section through the same on the line 5 5 of Fig. 4. Fig. 6 is a detail perspective view of the extension-guard of the shovel. Fig. 7 is a similar view of the shovel-blade. Fig. 8 is a plan view showing a relatively narrow shovel which may be utilized as a chopper for breaking up and removing ice and packed snow, &c.

Similar numerals of reference designate

corresponding parts in all figures of the drawings.

Referring to the drawings, 1 designates the head of the implement, which is provided with a rearwardly-extending tubular handle-socket 2, adapted to receive a suitable handle 3, which may be removably inserted therein, the handle-socket being tapered to obtain a tight fit between the parts. The head 1 is bifurcated or comprises two oppositely-extending portions, and each of said portions is provided with a laterally-extending cheek-piece 4, which is longitudinally slotted, as at 5, to receive the fastening devices, by means of which the scrubbing-brush is attached to the head, as will hereinafter appear. At its outer end the cheek portion 4 is bent at an angle and extended to form a shovel-seat 6, the same being provided with an opening 7 to receive one of the bolts 8, by means of which the shovel-sections are held against the seats, all of the shovel-seats being disposed in a common horizontal plane, as shown best in Figs. 2 and 4.

The laterally-projecting portions 4 of the head 1 form clamp members 9, which are offset from the head-plate 10, hereinafter more particularly described. These clamp members 9 are provided with terminal clips 11, designed to securely hold a clamping device 12 in the form of a rod.

The head-plate 10 is extended a considerable distance laterally on each side of the head 1 and comprises a flat body portion having one of its longitudinal edges bent at substantially a right angle to form a brush-seating flange 13, against which the back of the scrubbing-brush is adapted to bear. The opposite edge of the head-plate 10 is bent at an obtuse angle to form a scraper 14, which extends forward. Secured to the back of the head-plate 10 is a plurality of metal straps 15, each of which is provided at one end with a laterally-extending shovel-rest 16, and these shovel-rests are arranged in alinement with the shovel-rests 6, previously described, all of said rests serving as supports for the shovel. The straps 15 are secured by means of suitable fasteners 17 intermediate their ends to the rear side of the head-plate and are provided with clamp members 18, similar to the clamp members 9, previously described, and offset in the same manner from the rear side of the head-plate. These clamp members are provided with terminal clips 19, similar to the clips 11 before referred to and for the same purpose. The clamp-rod 12 extends practically the entire length of the head-plate and is supported at intervals by the clips 11 and 19.

A squeegee 20 of any suitable thickness is clamped between the clamping-rod 12 and the rear side of the head-plate, and the clamping-rod is operated by means of clamping bolts or screws 21, passing through the offset clamp-holders and the head-plate 10. In this manner the squeegee is firmly clamped against the head-plate and is located in rear of the scraper 14, so as to follow the scraper and dry the surface previously acted upon thereby.

The shovel is sectional, comprising two parts, one part consisting of a blade 22 and the other of an extension or guard 23. The blade 22 is provided with an attaching portion or flange 24, which is provided with transverse slots 25. The extension or guard 23 is provided with a similar attaching portion or flange 26, provided with longitudinally-disposed keyhole-slots 27, and said extension or guard is further provided with a top flange 28 to prevent the snow from sliding over the top of the extension or guard. The flanges or attaching portions 24 and 26 overlap each other, as shown in Figs. 1 and 3, and clamping devices 29, preferably in the form of bolts, pass through said flanges and also through the enlarged portions of the keyhole-slots 27, so that by loosening the bolts and sliding the extension or guard 23 sidewise said guard may be detached and replaced at will. It will also be seen that the amount of overlap of the shovel-sections may be increased or diminished and that the blade 22 may be adjusted by setting the attaching-flange 24 farther forward or rearward, as may be desired. The shovel-sections are thus adjustable with relation to each other and to the shovel-seats. By properly adjusting the parts just referred to the angle of the operating-handle 3 may be changed to suit the operator and the nature of the work being performed.

The shovel hereinabove described may be made of any desired width, and when operating upon snow a shovel of the maximum width should be employed. When operating upon ice or densely-packed snow, it is ordinarily advisable to mount the narrower blade upon the head of the device, as illustrated in Fig. 8, and in this event it is also desirable in some cases to make the blade 22^a heavier and provide the same with a forward cutting edge 30 thereof, so as to adapt it the better to break up the ice, &c.

Adjacent to the junction of the cheek portions 4 and shovel-rests 6 the head is provided with offset brush-rests 31, against which the back 32 of a brush 33 is adapted to bear, as illustrated in Figs. 4 and 5. By reference to Fig. 5 it will be seen that the back of the brush bears against the projecting rests 31 and also against the flange 13 of the head-plate hereinabove described, thus leaving an air-space between the back of the brush and the head-plate, &c., for giving thorough ventilation to the brush-back, which is ordinarily of wood, thus preventing the brush-back from becoming soaked and avoiding the liability of the same to warp. The brush is secured to the head of the device by means of suitable fasteners 34, which are shown in the form of screw-eyes inserted in the wooden back of the brush, and adapted when their heads are turned into alinement with the slots 5 in the

cheek portions 4 to be passed therethrough and given a quarter-turn, so as to bear against the cheek portions of the head and firmly hold the brush against the seats 13 and 31. The head-plate may, if desired, be provided with a plurality of longitudinal slots 35 for the reception of the fastening devices 34 of the brushes, and by reason of the length of the head-plate a plurality of brushes may be secured thereto, so as to form a relatively long scrubbing-surface. Where the brushes are secured in this way to the head-plate, the scraper-flange 14 will form a seat or recess for the backs of the brushes.

From the foregoing description it will be observed that the device is adapted to be used either as an ordinary scraper for floors or sidewalks and also as a shovel for removing snow and like material and that in either of said uses a drying-squeegee is located in rear of the scraper or shovel, so as to follow the same and dry the surface previously acted upon by the scraper or shovel, or by sufficiently depressing the operating-handle the squeegee may be made to operate alone. It will also be seen that the device with slight change in position may be used for chopping and breaking up ice or densely-packed snow, as the shovel, scraper, and squeegee may all be disposed in contact with the ground, so that the snow will be removed by the shovel, the ice and packed snow scraped loose by the scraper, and the pavement dried by the squeegee following closely behind the scraper. The article is thus adapted to perform several operations and will be found of great convenience and utility in practice.

From the foregoing it is thought that the construction, operation, and many advantages of the herein-described floor or sidewalk cleaner will be readily apparent to those skilled in the art without further description, and it will be understood that various changes in the form, proportion, and minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. A device of the class described, comprising a head, a head-plate, clamp members offset from the head-plate and having terminal clips, and a clamping-rod held by said clips and adapted to clamp a squeegee against the head-plate.

2. A device of the character described, comprising a handle and head, a shovel carried by the head and disposed substantially parallel with the handle, and a scraper likewise carried by the head and disposed in rear of the active edge of the shovel and separated therefrom by a sufficient interval to permit the simultaneous use of the scraper and shovel.

3. A device of the character described, comprising a handle and head, a shovel carried by the head, a scraper disposed in rear of the active edge of the shovel, and a squeegee disposed in rear of the scraper, whereby in the cleaning of pavements and the like, the shovel may be employed to remove loose snow, the scraper to remove ice, and the squeegee to remove the moisture liberated by the removal of the snow and ice, the shovel, scraper and squeegee performing their several functions simultaneously.

4. A device of the character described, comprising a handle and head, a shovel mounted on the head and extended forwardly therefrom, a scraper carried by the head and located in rear of the active edge of the shovel, and a squeegee retained by the head in rear of the scraper, and extended below the edge thereof, whereby the scraper will be normally retained out of contact with the surface to be cleaned, while the squeegee and shovel are in contact with said surface, the scraper being capable of contact with the surface by pressure exerted upon the handle, and the shovel being capable of elevation away from the surface by the tilting of the handle, when it is desired to employ the scraper and squeegee, or the squeegee alone, as the case may be.

5. A device of the character described, comprising a handle and head, a squeegee and a scraper, disposed in closely-adjacent relation, and extending from the same side of the handle for simultaneous use.

6. A device of the character described, comprising a handle and head, a scraper and a squeegee extended in closely-adjacent relation from the same side of the handle, the squeegee being extended below the scraper to permit the use of the squeegee independently of the scraper, and to enable the scraper to be presented to the surface to be cleaned, by flexing the squeegee.

7. A device of the character described, comprising a head, a head-plate thereon having one edge deflected to form a scraper, and a squeegee clamped to the back of the head-plate and extended below the deflected edge thereof.

8. A device of the character described, comprising a handle and head, shovel-seats mounted on the head, a shovel supported upon said shovel-seats, a head-plate secured to the head and having its lower edge disposed in rear of the shovel to constitute a scraper, and additional shovel-supporting devices carried by the head-plate.

9. A device of the character described, comprising a handle and head, a head-plate, a shovel and a squeegee secured to the head at opposite sides of the handle, and retaining devices carried by the head-plate and each assisting in the retention of both the shovel and the squeegee.

10. A device of the character described, comprising a handle, and head, a head-plate secured to the head, clips carried by the head and head-plate, respectively, a clamping-rod retained by said clips, and a squeegee clamped

against the head-plate by the clamping-rod, the lower edge of the head-plate being deflected to form a scraper disposed in advance of the squeegee.

11. A device of the character described, comprising a handle, a head disposed at one end thereof, a squeegee attached to the head and extending from one side of the handle, shovel-supporting seats disposed at right angles to the head at the side of the handle opposite the squeegee, and a shovel supported at its rear edge upon the shovel-supporting seats and disposed at an angle to the squeegee for presentation therewith to the floor.

12. A device of the character described, comprising a handle and head, a head-plate secured to the head, clips carried by the head, a clamping-rod retained by said clips, and a squeegee clamped against the head-plate by the clamping-rod.

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:
L. E. ABBOTT,
EDWARD G. HAUBERG, Jr.