May 2, 1944. P. J. O'NEILL 2,347,963

CLEANING AND SCRAPING IMPLEMENT

Filed Oct. 20, 1941

Fig. 1.

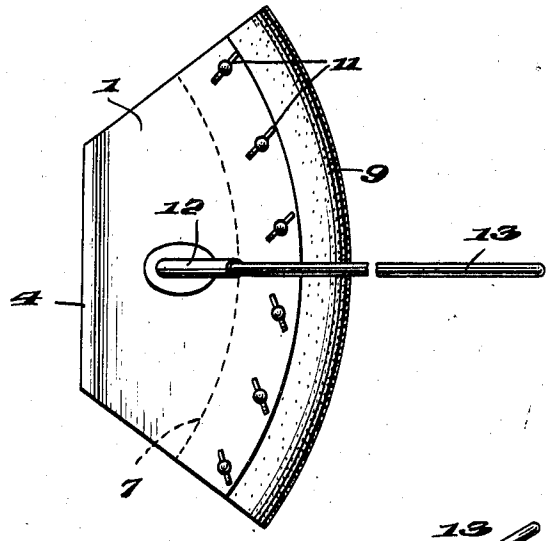
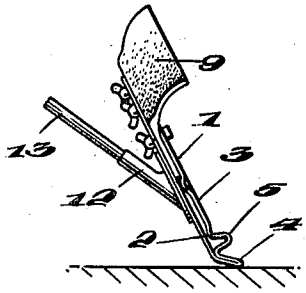


Fig. 4.



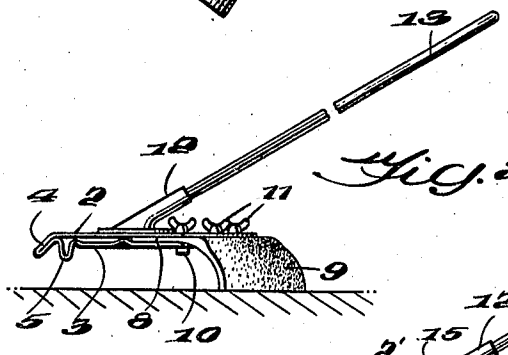


Fig. 2.

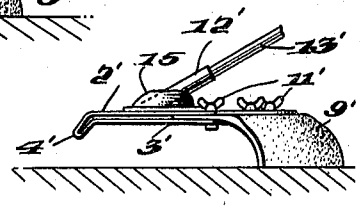


Fig. 3.

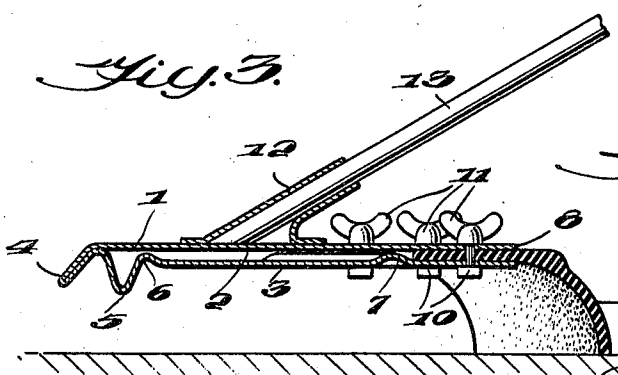


Fig. 5.

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CLEANING AND SCRAPING IMPLEMENT

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4 Claims. (Cl. 15—245)

This invention relates to an improvement in cleaning and scraping implements designed for the cleaning of decks and floors in buildings, ships, garages, warehouses, sidewalks, and other places where such floors and decks are adapted to be cleaned either by washing and scouring process or to remove rubbish or accumulation of snow and ice.

Various cleaning implements have been suggested heretofore but these have not been commercially practical or entirely satisfactory for the intended purpose, or have been expensive to manufacture and use.

The object of this invention is to improve the construction of the cleaning and scraping implement, to enable it to be manufactured inexpensively, especially by the utilization of discarded parts, such as automobile tires, and to provide for its efficient and economic use, permitting of repeated renewal of the cleaning element of the implement.

This is accomplished by providing a head constructed with a scraping edge at one side thereof and with a clamping section at the opposite side thereof adapted to receive therein and removably support a cleaner element which is preferably constructed of a section of automobile tire casing with its concave side toward the bottom of the implement for efficient cleaning action and removal of water, rubbish, and the like from a floor surface.

A preferred embodiment of the invention, together with a modified form thereof, are shown in the accompanying drawing, in which:

Fig. 1 is a top plan view of one form of the implement in its cleaning position;

Fig. 2 is a side elevation thereof;

Fig. 3 is an enlarged cross section therethrough;

Fig. 4 is a side elevation of the implement in its scraping position; and

Fig. 5 is a cross-section through another form of the implement.

The implement is constructed preferably of a head designated generally by the numeral 1, constructed of a single sheet of metal or other suitable material folded back upon itself, with opposed side plates 2 and 3, having the major portions of their width substantially parallel approximately in horizontal positions. The forward edge portions of the sides 2 and 3 are brought together substantially in abutting relation to form a scraper edge portion 4 which has the plane thereof at an obtuse angle to the horizontal planes of the sides 2 and 3. These parts may be formed, if desired, from a single strip of metal by folding said strip into U-shape with the parts thereof bent to provide the construction illustrated.

The underside 3 is shown in Figs. 1 to 4, as having oppositely turned corrugations 5 and 6 formed therein adjacent and extending parallel with the scraping edge 4 to strengthen and brace the head adjacent said scraping edge. A corrugation 7 is formed also in the underside 3 adjacent but spaced from the back edge thereof.

The back edges of the sides 2 and 3 are formed preferably of arcuate shape and constructed to receive therebetween an edge 8 of a concave cleaner element 9, preferably formed as a section of pneumatic tire casing. This cleaner element 9 is therefore longitudinally curved and its concave cleaner edge portion is formed of the tread of the tire while its securing edge 8 is formed by the side wall thereof. Said portion 8 is received between the free edges of the sides 2 and 3 of the head and is clamped therebetween by means of bolts 10, which extend through the sides 2 and 3 and through the clamping edge 8, having wing nuts 11 adjustably secured thereon for removably and securely clamping the edges of the cleaner element therebetween.

The plate 2 of the head has a handle ferrule 12 secured to the upper surface thereof for receiving a handle 13 therein and securing the same to the head for manipulation of the implement.

The implement is operated in the position shown in Figs. 1 to 3, when it is used for cleaning purposes, the free edge portion of the cleaner element 9 being moved over the surface of the floor in a wiping or brushing action thereby cleaning water or debris from the floor surface. The semi-rigid character of the cleaning element 9 when constructed from an automobile tire casing, makes it particularly practical for cleaning purposes, inasmuch as sufficient pressure may be applied thereto to accomplish the cleaning action effectively. Furthermore, the longitudinal curvature of the cleaning element allows the implement to be used especially effectively for the cleaning in corners or angles, while the concave shape of the cleaning element facilitates the handling of suds or water on the cleaning of floors, decks, and the like.

The scraping edge 4 may be utilized by inverting the implement to the position shown in Fig. 4 for cracking thin ice or scraping other materials from the floor, sidewalk, etc.

The manner in which the cleaner element 9 is

secured to the head having its free edge clamped directly to the sides 2 and 3, not only serves to secure this element effectively to the head, but it also facilitates removal and replacement of the cleaner element as often as desired merely by removal of the bolts 10, allowing the sides to be spread sufficiently to slip out the worn element and to replace it with a new one which may be effectively clamped in place ready for reuse of the implement.

In the form shown in Fig. 5, the head is formed by folding a flat strip of metal, or other suitable material, back upon itself, forming flat, substantially parallel sides 2', 3', with an offset scraping edge portion 4'. The sides 2', 3' receive therebetween the edge portion of a cleaner element 9' of the character described above, and form a clamp therefor. Clamping bolts 11' pass through the edge portions of the sides 2', 3' and through the interposed portion of the cleaner element 9', detachably connecting the same together.

A cylindrical ferrule 12' receives and holds a handle 13' and secures said handle to the head. The ferrule 12 is surrounded by a boss 15 as a brace therefor.

This form of the invention is adapted to be manipulated and used substantially in the manner described above.

I claim:

1. A cleaning implement comprising an elongated head having spaced sides, a cleaner element bodily curved longitudinally from end to end thereof and having a concave under side with a lateral flange thereon interposed between the sides of the head, said last-mentioned sides embracing directly the opposite sides of said flange and abutting thereagainst, bolts extending through the sides of the head and through the flange with clamping action directly against opposite sides thereof and with said flange for securing the flange in place on the head, and a handle attached to said head at a point spaced from said bolts for manipulating the implement.

2. A cleaning implement comprising a head having side walls extending substantially parallel with each other and with the surface to be cleaned, said side walls having the free edges thereof spaced apart, a cleaning element curved longitudinally and having a concave under surface beneath the side walls with a lateral flange on the upper edge thereof interposed between the side walls with said walls bearing directly against opposite faces of said flange, and bolts extending through said side walls and flange applying clamping action thereto for securing the cleaning element to the head.

3. A cleaning implement comprising an elongated head having spaced sides, a cleaner element having a concave underside with a lateral flange thereon interposed between the sides of the head and having the major portion of said concave side of the cleaner element projecting downwardly an appreciable distance below the under side of the head for cleaning action while the head is maintained substantially in parallel relation with the surface to be cleaned, and means for securing the sides of the head in clamping relation on the flange.

4. A cleaning implement comprising an elongated head having spaced sides, a cleaner element having a concave underside with a lateral flange thereon interposed between the sides of the head and having the major portion of said concave side of the cleaner element projecting downwardly an appreciable distance below the under side of the head for cleaning action while the head is maintained substantially in parallel relation with the surface to be cleaned, and means for securing the sides of the head in clamping relation on the flange, said cleaner element being bodily curved longitudinally from end to end thereof.

PETER JOHN O'NEILL.