Nov. 6, 1923. 1,473,546

W. EIERMANN

WEIGHTED SCRAPER

Filed April 22, 1919

Fig. 1.

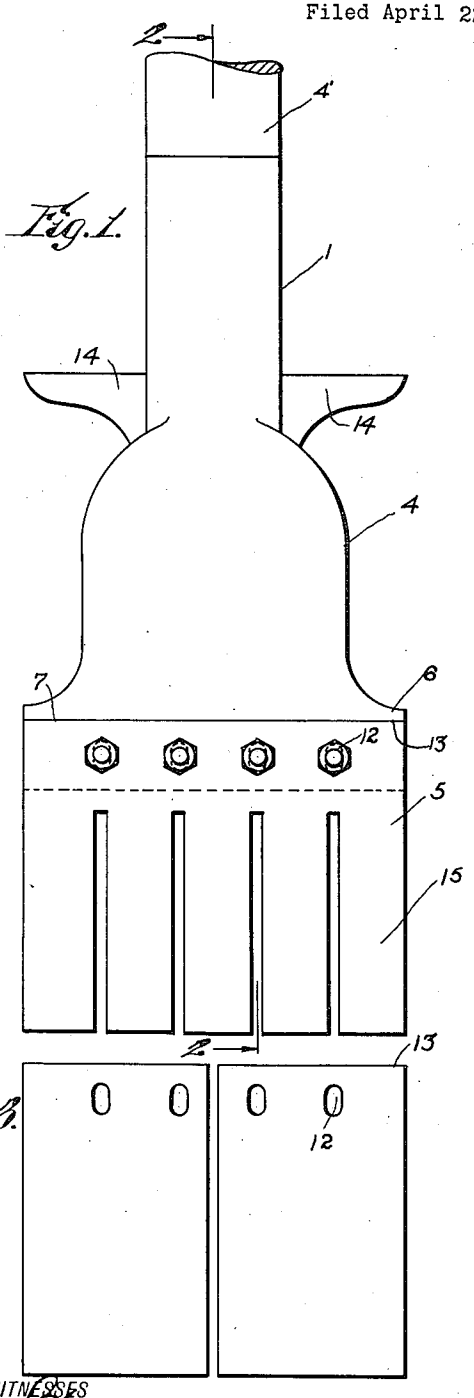


Fig. 2.

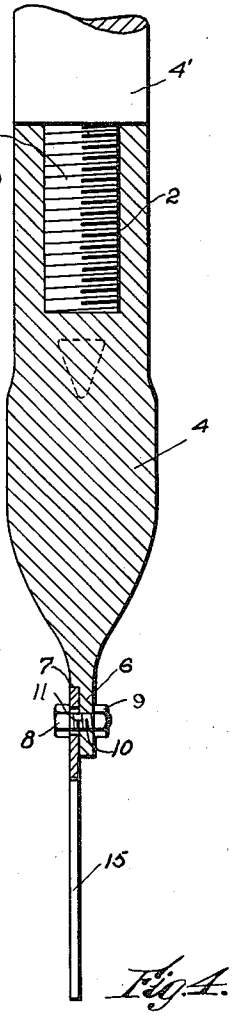
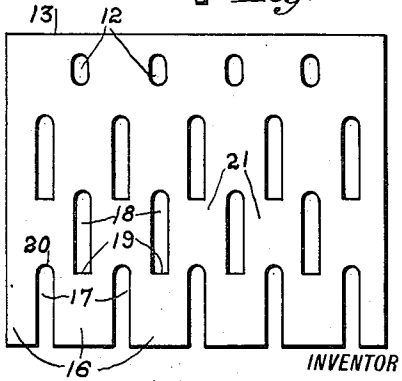


Fig. 3.

Fig. 4.



WITNESSES

Frank J. Faggiani

E. B. Yale

INVENTOR

WILLIAM EIERMANN

BY Munn & Co

ATTORNEYS

Patented Nov. 6, 1923. 1,473,546

UNITED STATES PATENT OFFICE.

WILLIAM EIERMANN, OF BROOKLYN, NEW YORK.

WEIGHTED SCRAPER.

Application filed April 22, 1919. Serial No. 291,994.

To all whom it may concern:

Be it known that I, WILLIAM EIERMANN, a citizen of the United States, and resident of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Weighted Scraper, of which the following is a full, clear, and exact description.

This invention relates generally to an improved scraper and more specifically to a scraper of the weighted type, so constructed as to render it particularly effective in cleaning surfaces on which there has accumulated a heavy, thick or sticky crust or coating, which has been difficult of removal by means heretofore used.

More specifically an object of this invention is to provide a scraper having a relatively heavy bulk or weight so positioned with respect to the scraping means that said weight will act directly thereon in line with the force applied at the handle.

A further object is to provide a weighted scraper having removable and interchangeable blades therefor, having a means for applying them to the main body portion of the scraper so that the force transmitted to the scraper will not tend to shear the holding means.

A further object is to provide in a weighted scraper a blade or scraping member which presents a series of spaced scraping edges so constructed that when worn away for a certain distance, another series of spaced scraping edges will be formed, thus obtaining an advantage of a blade of this character without substantially weakening the blade.

A further object is to provide a weighted scraper with the parts arranged and positioned to permit the scraper to be reversed in use and operate at any desirable angle with respect to the surface on which it is used. This feature permits a relatively sharp edge to be maintained upon the edge of the scraping blade.

In the accompanying drawings showing one of the preferred forms of the invention similar characters of reference designate like parts in the several views.

Figure 1 is an elevation showing the scraper weight and a portion of the handle.

Figure 2 is a view partly in section taken on the line 2—2 of Fig. 1.

Figure 3 is a modified form of the blade.

Figure 4 is a view showing a form of blade to compensate for the wear of the cleaning edge.

In the drawings the main body portion of the scraper is shown as comprising a stem portion 1, having a threaded socket 2 therein to receive a threaded end portion 3 of a handle 4'. Below the stem portion 1 and integral therewith is a relatively heavy weighted portion 4, said portion being formed at its lower part into a suitable shape to detachably receive and support a cleaning blade member 5.

There is shown an extended edge or flange 6 of uniform width at the bottom of the weighted portion 4, there being a shoulder 7 opposite the upper part of said flange 6 serving as an abutment for the rear edge of the scraper blade 5. The scraper blades are secured to the weighted member by any suitable means, the means shown herein comprising bolts 8 and nuts 9, the flange being provided with holes 10 to receive the bolts 8. The blade members are provided with slots 12 through which the bolts pass, the slots 12 being so positioned as to leave a space on each side of the bolts when the rear edge 13 of the scraper blade abuts against the shoulder 7. This feature prevents the shearing of the bolts by the blade when great pressure or force is applied to the scraper.

At the upper part of the body of the scraper there are lateral projections 14, which extend from each side of the scraper, these portions serving as foot rests against which the foot may be pressed to exert or transmit an increased pressure to the scraping edge. The force applied to the handle and the inertia of the moving weight, both of which are transmitted directly to the scraping edge, will however usually be found effective under ordinary conditions.

The main body portion may be made of any suitable material such as cast iron. The slots in the blades and the holes in the body flange are preferably uniformly and evenly spaced. If in operation it is found that a blade is too wide to be used under certain conditions, for example, if the full width of the scraper were utilized by using the two portions of the blade as shown in Figure 3, one of the blades may be detached and the remaining half may be set over so as to be centrally disposed.

The blade, shown in Figure 1, comprises a

plurality of extending fingers 15, while in Figure 4 is a modified form of blade which has the fingers 16 formed by the open ended slots 17. An improved feature in the construction of this blade is the provision of a series of other slots 18 extending to the rear of and offset from the slots 17, but having the forward end 19 of the slots 18 extending forward of the rear end 20 of the slots 17, the advantage of such a construction being that when the fingers 16 have worn down to the point 19, the forward end of the slots 18 will then be opened and there will be formed other spaced fingers 21 between the slots 18. The overlapping of the several sets of slots provides in effect practically a doubling of the number of slots at the beginning of each new set, this increasing the efficiency of the blade as a cutting instrument without materially weakening it. It is thus seen that this affords a very desirable construction in that there is obtained a blade having the spaced finger construction throughout its length without being weakened by the usual construction in which the fingers extend the entire length of the blade.

It has been found that a relatively thin scraping blade, about one thirty-second of an inch in thickness and composed of steel or other suitable material, serves very effectively to remove a crust or sticky coating of material otherwise found difficult to remove.

It is thus seen that there is herein provided a scraper in which the weight is positioned directly behind the scraper so as to be in alignment with the blade and handle so that when a force is applied to the handle, the momentum of the moving weight is transmitted directly to the scraping edge.

Having thus described the invention, what I claim as new is:

1. The herein described scraper comprising a heavy body portion having formed at its lower edge an extended flange in alignment with the axis of the body, means to attach a handle in alignment with the same axis, the body being formed opposite the upper portion of the flange with a shoulder arranged transverse to the axis, said flange being formed with a plurality of holes, a flat blade having parallel upper and lower edges, the upper edge portion being fitted against said flange and abutting squarely against said shoulder, said blade being provided with a plurality of vertical slots with which said flange holes are adapted to align, and fastening means for the blade passing through the slots and holes.

2. A scraper of the nature set forth in claim 1 in which the blade is provided with a plurality of series of vertical slots, the slots of the lowermost series extending into the bottom edge of the blade and the upper ends of each series of slots extending midway between and above the lower ends of the next higher series of slots.

3. A tool, comprising a handle, a heavy head carried by the handle in direct line with the force applied thereto, said head having a flange extended to produce a transverse shoulder, and a blade with means mounting it on the flange in abutment with the shoulder to receive the thrust and prevent straining the mounting means, said blade being relatively thin for self-sharpening while in action on one side, the weight of the head giving the tool momentum in use, facilitating its functions.

WILLIAM EIERMANN.