

L. KINDLING.
SQUEEGEE ROLLER.
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1,297,694.

Patented Mar. 18, 1919.

Fig. 1.

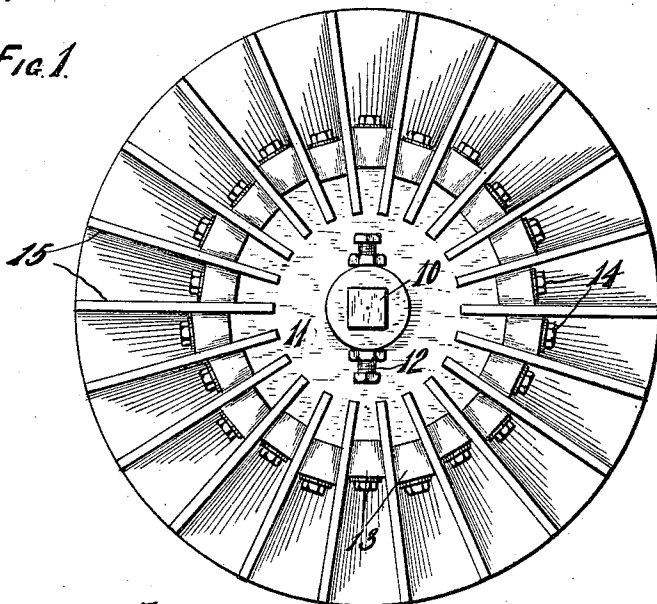


Fig. 3.

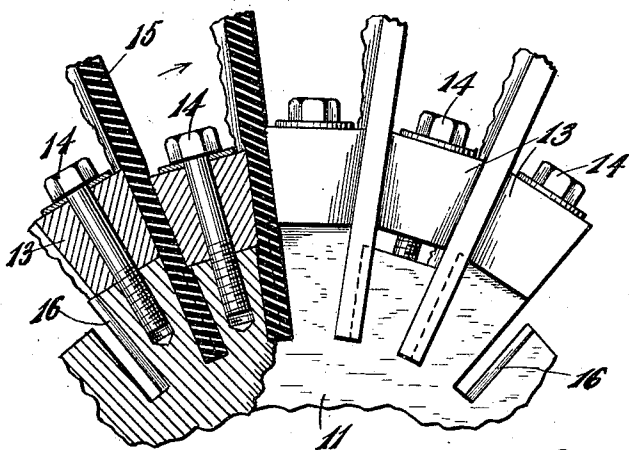


Fig. 4.

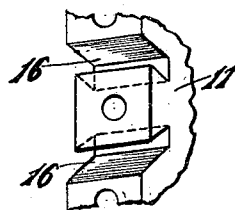
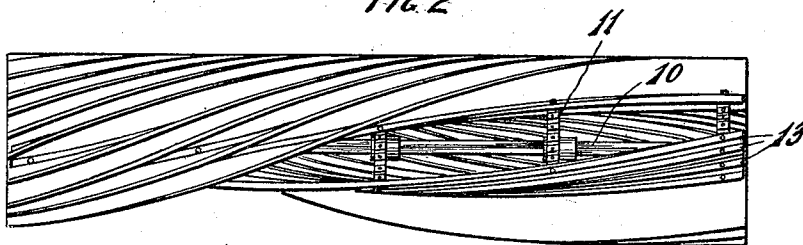


Fig. 2.



WITNESSES.

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SQUEEGEE-ROLLER.

1,297,694.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, LOUIS KINDLING, a citizen of the United States, and a resident of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented new and useful Improvements in Squeegee-Rollers, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

This invention has for its object to provide a squeegee roller for use with street cleaning machines in which the roller with helical rubber ribs or blades is rotated in contact with the wet surface of the street to brush or scrape the water and dirt therefrom. With machines of this character the squeegee roller is commonly rotated in a direction opposite to the direction of travel, and the rubber blades or fins are, therefore, subjected to considerable wear, making it necessary that they should be replaced from time to time, as the effective diameter of the cylinder is reduced with a corresponding reduction in surface speed and efficiency. The rubber blades have usually been nailed to wooden strips, and the portion thereof remaining at the time of making a change has been wasted. The high cost of rubber makes this waste a serious loss, and it is the object of the present invention to reduce the waste as much as possible by substituting a means for clamping the rubber blades which will permit of their adjustment for extended wear or for reversal to permit of wear at both edges thereof.

With the above and other objects in view the invention consists in the squeegee roller as herein claimed and all equivalents.

Referring to the accompanying drawing, in which like characters of reference indicate the same parts in the different views,

Figure 1 is an end view of a squeegee roller constructed in accordance with this invention.

Fig. 2 is a plan view thereof with some of the rubber blades and the wooden strips removed.

Fig. 3 is an enlarged detail view, partly in section, of a fragment of one of the disks with the parts connected thereto; and,

Fig. 4 is a perspective view of a portion of the edge of such disk.

In these drawings 10 indicates the shaft which is preferably square in cross section and has metal hubs or disks 11 fitting there-

on at regular intervals, set screws 12 being provided to fix said disks or hubs on the square shaft. Wooden strips 13, tapering in cross section, extend from one end of the roller to the other and are secured in place by screws 14 passing therethrough and threaded into the hubs or disks 11. These wooden strips 13 are regularly spaced to produce slots between them of approximately the same width from end to end. Each strip 13 winds around the shaft 10 in the form of a helix so that the slots between the strips are of such helical form and the rubber blades 15 are given the same helical arrangement by fitting within the curved slots. Instead of the rubber blades being nailed at their edges to the wooden strips as heretofore, they are made wider and their inner edges are let into slots 16 in the hubs 11 which form continuations or extensions of the slots between the strips 13, thus causing the rubber blades to be engaged at a distance from their inner edges by the strips 13 bearing against the opposite faces thereof.

For convenience in assembling, certain of the strips 13 are tightly clamped against the lugs formed on the edges of the disks 11 between the slots 16, the strips so secured being every other one. The rubber blades are then inserted in the slots between the positioned strips and the intermediate strips are then wedged in between the rubber blades and are drawn tightly thereagainst by turning their screws 14 so that each of these last inserted strips 13 constitutes a wedge strip coöperating with the first positioned strips in clamping in place two of the rubber blades, one on each side. The lugs on the edges of the disks 11 to which the wedging strips 13 are secured are preferably made somewhat shorter than the others to increase the distance of travel of the wedge strips and insure their binding or clamping action upon the resilient rubber blades.

In placing the wooden strips 13 on the disks they are bent helically as shown in Fig. 2, and consequently the blades when positioned between them are given a similar helical arrangement, the slots of course being oblique to permit of this arrangement.

The present construction facilitates the assembling of the squeegee roller, it being unnecessary to nail or tack the rubber blades to the wooden strips. With the wooden strips in place and the wedge strips backed away from the disks so as to open up the

slots, the rubber blades are merely forced between the strips until engaging the ends of the slots and then the wedge strips are tightened by turning their screws 14. The present construction, however, is particularly advantageous when it becomes necessary to renew the worn rubber blades, for, instead of taking the entire roller apart in order to remove the remaining portions of the rubber blades therefrom and replace them with new blades, and instead of incurring the expense of supplying new blades, it is only necessary to loosen the clamping strips and draw the rubber blades outwardly so that their inner edges, instead of their intermediate portions, lie between the wooden strips, and then the tightening of the clamping strips again completes the operation and the roller is ready for use with its extended rubber blades increasing its effective diameter and restoring its usefulness. If desired, of course, the renewal may be accomplished by removing the rubber blades and reversing them so as to clamp their worn edges and expose their unused edges for action.

Although the wider rubber blades make them slightly more expensive, the increased wear thereof made possible by their adjustment more than compensates for the increased cost.

A very important feature of this squeegee roller is the fact that the adjustment of the rubber blades may be effected by the user as it does not require skilled labor and it is, therefore, not necessary to return the roller to the factory for this purpose.

What I claim as new and desire to secure by Letters Patent is:

1. A squeegee roller, comprising a support, a series of fixed strips spaced apart thereon, said support being provided with slots on either side of the fixed strips, wedge strips between the fixed strips, and rubber blades fitting in the slots and clamped between the wedge strips and the fixed strips.

2. A squeegee roller, comprising a cylindrical form made up of longitudinally extending fixed strips spaced apart and wedge strips positioned between them and capable of radial adjustment, and rubber blades ad-

justably fitting between the fixed strips and the wedge strips and clamped thereby.

3. A squeegee roller, comprising a cylindrical frame made up of helically arranged longitudinally extending fixed strips spaced apart and wedge strips therebetween, and rubber blades adjustably fitting between the fixed strips and the wedge strips and clamped thereby.

4. A squeegee roller, comprising a shaft, disks mounted thereon, a cylindrical frame produced by helically arranged longitudinally extending fixed strips spaced apart and secured to the disks, wedge strips between the fixed strips, and rubber blades fitting between the wedge strips and the fixed strips, there being slots formed in the disks to receive the inner edges of the rubber blades to permit the rubber blades to be clamped between the strips at a distance from the inner edges of said blades, whereby said blades may be adjusted to increase the diameter of the roller to compensate for wear.

5. A squeegee roller, comprising a shaft, disks mounted thereon, a cylindrical frame produced by helically arranged longitudinally extending fixed strips spaced apart and secured to the disks, wedge strips between the fixed strips, rubber blades fitting between the wedge strips and the fixed strips, there being slots formed in the disks to receive the inner edges of the rubber blades to permit the rubber blades to be clamped between the strips at a distance from the inner edges of said blades, whereby said blades may be adjusted to increase the diameter of the roller to compensate for wear, the portions of the disks beneath the wedge strips being shorter than the portions of the disks beneath the fixed strips, and clamping screws passing through said wedge strips and threading into said shorter portions of the disks.

In testimony whereof, I affix my signature, in presence of two witnesses.

LOUIS KINDLING.

Witnesses:

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