

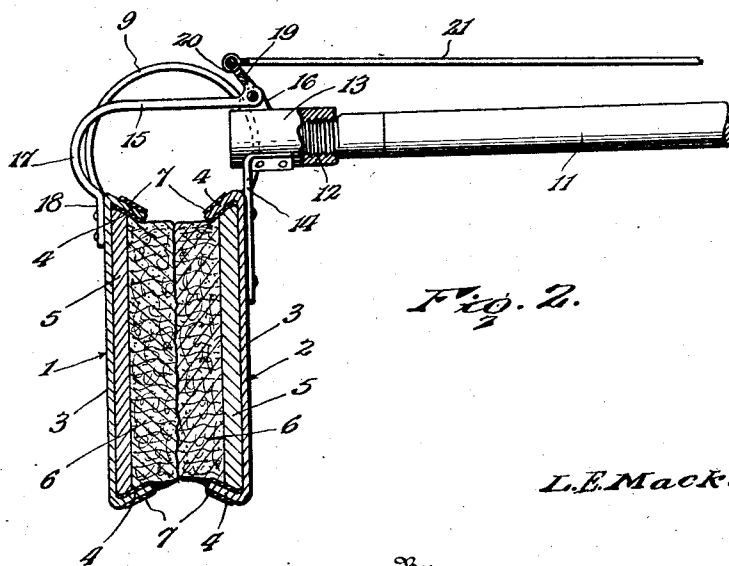
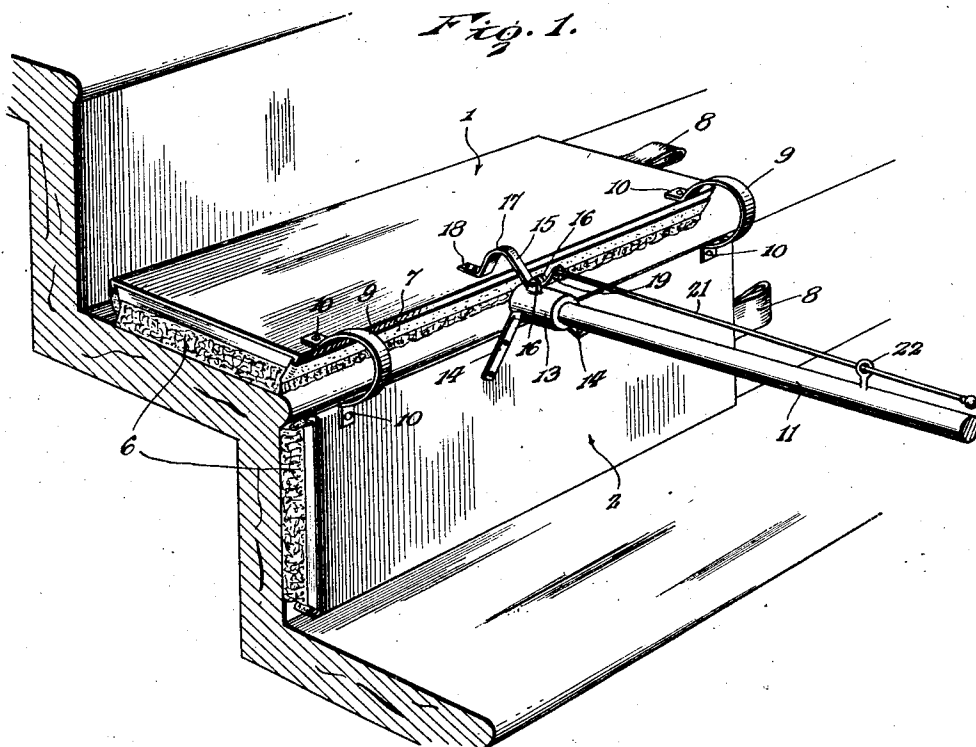
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L. E. MACKAY

STAIR CLEANER

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Inventor

L. E. Mackay.

By

Lacey & Lacey.

Attorneys

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LURLINE E. MACKAY, OF BURLINGTON, IOWA.

STAIR CLEANER.

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This invention relates to cleaners and more particularly to a cleaner by means of which dust and dirt may be readily removed from steps.

5 One object of the invention is to provide a cleaner which will simultaneously clean the tread and riser of a step.

Another object of the invention is to provide a cleaner, the wiping elements of which 10 will be pressed into engagement with the tread and riser when applied thereto.

Another object of the invention is to so mount the cleaning elements or wipers that they will be normally disposed in contact 15 with each other but may be moved to different angular positions when the cleaner is in use.

Another object of the invention is to provide means operable from the supporting 20 handle of the cleaner for adjusting the wiping elements.

Another object of the invention is to so form the cleaning elements that pads or swabs forming portions thereof may be 25 readily removed and new ones substituted.

This invention is illustrated in the accompanying drawing, wherein

Figure 1 is a perspective view showing the improved stair cleaner in use, and

30 Fig. 2 is a sectional view through the cleaner with the cleaning or wiping elements in their normal position.

The improved stair cleaner, which forms the subject-matter of this invention, includes cleaning or wiping elements which are of a duplicate construction and indicated in general by the numerals 1 and 2. Each of the cleaning elements includes a backing plate or mounting plate 3 which is preferably 40 formed of sheet metal and at its sides has its marginal portions bent to form flanges 4 which extend in overlying relation to the body portion of the plate for engagement with the head or back 5 of the swab or mop 6. The flanges carry strips 7 which are preferably formed of fabric and constitute bindings adapted to engage the side edges of the head of a swab disposed between the flanges and by friction prevent the swab from sliding freely out of engagement with the plate 50 or backing when the cleaner is in use. A tab 8 extends from one end of each swab so that, when the swabs become very much soiled or worn out, they may be readily removed and either cleaned or replaced or new ones substituted.

In order to connect the cleaners 1 and 2 and normally retain them in face to face relation to each other, as shown in Fig. 2, but permit them to be disposed in diverging relation to each other, as shown in Fig. 1, 60 there has been provided straps 9 which are formed of resilient sheet metal. The straps 9 are bowed and each normally forms the major portion of a circle but has its ends terminating in spaced relation to each other and bent to form feet 10 which are riveted or otherwise secured to the plates 3 of the cleaners. The straps are, therefore, substantially U-shaped in configuration and will normally retain the cleaners in parallel face to face relation to each other, as shown in Fig. 2, but permit the cleaner 1 to be swung away from the cleaner 2 to the position shown in Fig. 1. It should be also 75 noted that, when the cleaners are swung to the operative position shown in Fig. 1 and applied to the steps to be cleaned, the resilient connections or straps 9 will serve to firmly hold the cleaner 1 in engagement with the tread of a step and the cleaner 2 in engagement with the riser directly beneath the tread to which the cleaner 1 is applied.

The handle or staff 11, which may be formed of wood or any other suitable material, has its forward end portion threaded, 85 as shown at 12, and this threaded end portion is adapted to be screwed into an internally threaded socket 13. The socket 13 is provided with arms 14 which extend from the socket in diverging relation to each other and are riveted or otherwise rigidly secured to the outer face of the plate from which the backing 3 of the cleaner 2 is formed. Therefore, the handle extends at 90 substantially right angles to the cleaner 2 and the cleaner may be readily applied to the steps. A lever 15 is pivotally mounted between ears 16 carried by the socket 13 and is formed with a portion 17 which curves 100 towards the cleaner 1 and terminates in an attaching foot 18 riveted or otherwise secured to the outer face of the backing 3 of the cleaner 1. At its inner end the lever is provided with an angularly disposed end 105 portion or arm 19 which extends in diverging relation to the main portion of the lever, as shown in Fig. 2, and is formed with an eye 20 so that a line 21 may be secured to the arm 19. The line 21 extends longitudinally 110 of the handle or staff 11 and is passed through a guide 22 carried by the handle

and preferably consisting of a screw eye. It will be understood that additional eyes 22 may be provided if found necessary and that the line will be of such length that it
5 may be readily grasped by a person operating the cleaner and holding it by the handle.

When the cleaner is in use, the operator holds it by the handle and draws upon the line 21 to rock the lever and swing the
10 cleaner 1 away from the cleaner 2 a sufficient distance to permit the cleaner to be applied to the steps, as shown in Fig. 1. When so applied, the springs 9 will serve to press the mops or swabs 6 into close con-
15 tact with the tread and riser. After the cleaner has been applied to the step, it is moved transversely thereof and dust and dirt which has collected upon the riser and tread will be wiped off. It will be under-
20 stood that the cleaner may be moved back and forth across the step a number of times if found necessary. After one riser and tread have been cleaned, the line may be grasped and the jaws held in diverging rela-
25 tion to each other while the cleaner is being transferred from one step to another. After all of the steps have been cleaned, the cleaners will be permitted to return to the normal position shown in Fig. 2 and the pads or
30 swabs will be protected. If desired, oil may be applied to the swabs and the device used for oiling the steps. By holding the cleaner and drawing upon the line to separate the swabs and then releasing the line so that
35 the springs will return them into engagement with each other a beating action may be performed which will cause accumulated dust to be expelled from the swabs. When the swabs are worn out, they may be readily
40 removed and new ones substituted. Therefore, the cleaner is so constructed that a stairway may be easily cleaned and the swabs relieved of dust which accumulates in them or renewed when necessary.

45 Having thus described the invention, I claim:

1. A cleaner of the character described comprising companion cleaners each including a back and cleaning means carried there-
50 by, resilient means connecting said cleaners and normally holding the cleaners with their cleaning means in facing relation to each other, and means secured to the back of one cleaner and pivotally connected with
55 the back of the other cleaner and adapted to move said cleaners into diverging relation to each other for operative engagement with surfaces to be cleaned.

2. A device of the character described
60 comprising companion cleaners, strips of resilient material connecting said cleaners and normally retaining the cleaners in parallel face to face relation to each other, and means for moving said cleaners in opposi-
65 tion to said resilient strips into diverging

relation to each other for operative engagement with surfaces to be cleaned.

3. A cleaner of the character described comprising companion cleaners, resilient means connecting said cleaners and normally
70 holding the cleaners in facing relation to each other, a handle element connected with one cleaner, and means carried by said handle element and connected with the other cleaner for swinging the same into diverg-
75 ing relation to the first cleaner whereby said cleaners may operatively engage angularly disposed surfaces of work to be cleaned.

4. A device for cleaning steps comprising cleaners pivotally connected along adjacent
80 side edges for swinging movement from a parallel inoperative position to an operative position and when in the operative position extending in diverging relation to each other for engagement one with a tread and
85 the other with a riser.

5. A device for cleaning steps comprising cleaners pivotally connected along adjacent
90 side edges for swinging movement from an inoperative position in parallel relation to each other to an operative position and when in the operative position extending in diverging relation to each other for engagement one with a tread and the other with a
95 riser, and resilient strips connecting said cleaners and normally holding the cleaners in the inoperative position and yieldably resisting movement thereof to the operative position and serving to press the cleaners
100 into engagement with the tread and riser of the steps.

6. A device for cleaning steps comprising cleaners pivotally connected for swinging movement from an inoperative position in parallel facing relation to each other to an
105 operative position and when in the operative position extending in diverging relation and out of facing relation to each other for engagement one with a tread and the other with a riser, resilient strips joining said
110 cleaners and normally retaining the cleaners in the inoperative position and yieldably resisting movement thereof into diverging relation to each other, and means for moving the cleaners into diverging relation to each
115 other.

7. A device for cleaning steps comprising cleaners movable from an inoperative position an operative position and when in the operative position extending in diverg-
120 ing relation to each other for engagement one with a tread and the other with a riser, resilient strips joining said cleaners and normally retaining the cleaners in facing relation to each other and yieldably resisting
125 movement thereof into diverging relation to each other, a handle socket, arms connecting said socket with one cleaner, and a lever pivoted to said socket and secured to the
130 other cleaner for imparting movement there-

to against the action of said resilient strips.

8. A cleaner of the character described comprising companion cleaner units, resilient strips normally holding said cleaners
5 in face to face relation to each other, a handle socket carried by one cleaner unit, and a lever pivoted to said socket and having one end engaged with the other cleaner unit and when moved adapted to swing the
10 last-mentioned cleaner unit away from the first-mentioned cleaner unit whereby said cleaner units may have operative engagement with angularly disposed surfaces of work to be cleaned.

15 9. A cleaner of the character described comprising companion cleaner units each including a backing plate provided with side flanges and an operating element adapted to be releasably held in engagement with its
20 cooperating plate by the flanges thereof,

friction strips carried by said flanges to yieldably resist movement of the operating elements out of engagement with said backing plates, resilient strips connecting said
25 plates and yieldably resisting movement of the cleaner units from a position in face to face relation to each other into diverging relation to each other for operative engagement one with a riser and the other with a
30 tread of a step, a handle socket, arms connecting said socket with the backing plate of the riser engaging cleaner unit, a lever pivoted to said socket and secured to the backing plate of the tread-engaging cleaner
35 unit, and means for imparting movement to said lever to swing said tread-engaging cleaner unit away from said riser-engaging cleaner unit.

In testimony whereof I affix my signature.

LURLINE E. MACKAY. [L.S.]