April 28, 1931. O. A. FLAGSTAD 1,802,889

MOP

Filed Jan. 30, 1929 2 Sheets-Sheet 1

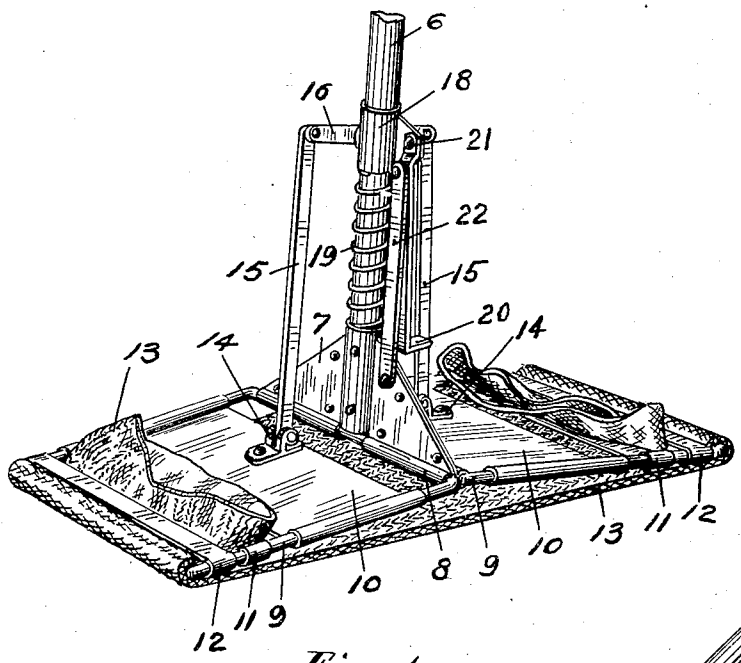

Fig. 1.

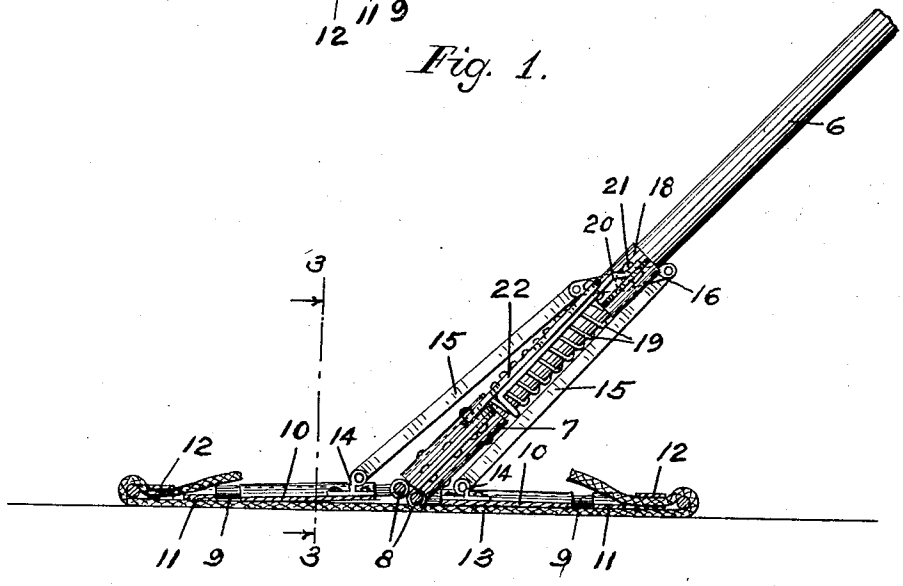

Fig. 2.

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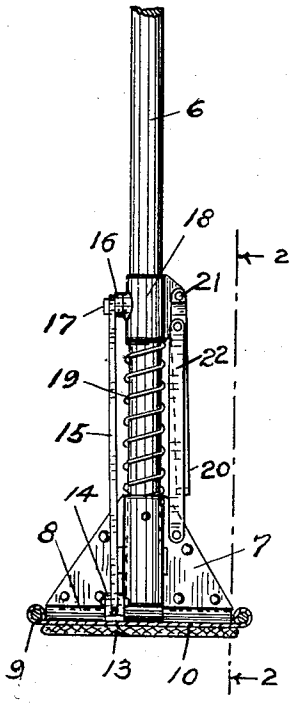

Fig. 3.

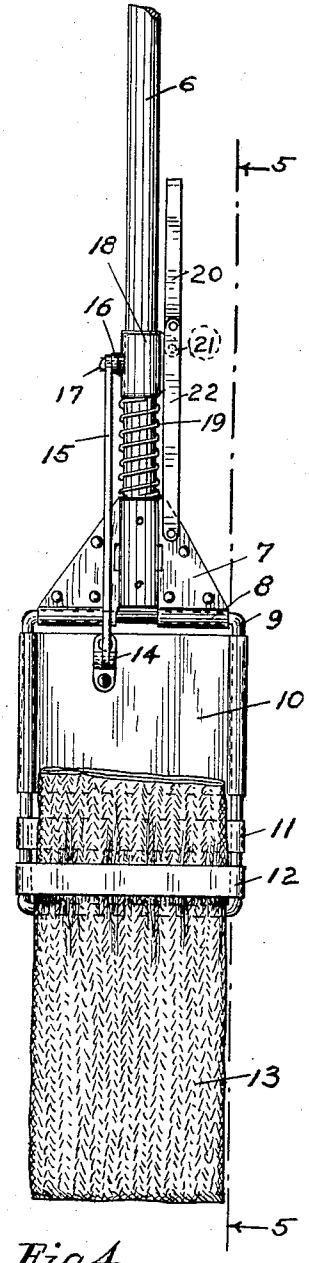

Fig. 4.

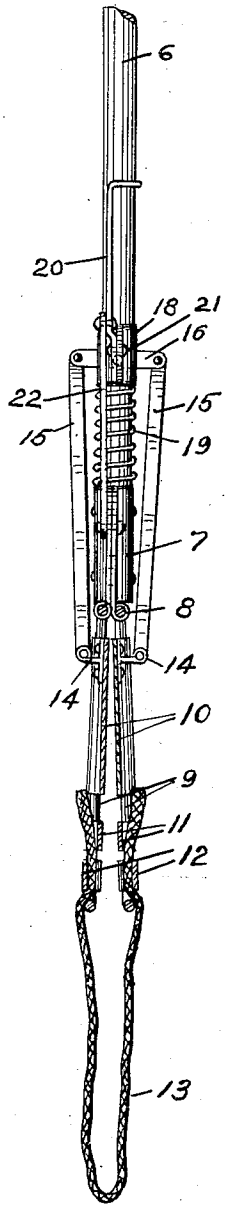

Fig. 5.

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UNITED STATES PATENT OFFICE

OSCAR A. FLAGSTAD, OF MINNEAPOLIS, MINNESOTA

MOP

Application filed January 30, 1929. Serial No. 336,267.

This invention relates to cleaning and polishing devices and the primary object is to provide a novel, efficient and practical device, of that character, which is particularly useful as a mop, to wash floors, but may also be used to advantage as a floor polisher or wall cleaner. While the device may thus be used to advantage in several capacities, i. e., for washing, wiping, polishing, etc., it will, for sake of convenience, be herein referred to as a mop, and the replaceable surface treating element will be referred to as the cleaning element.

In a more specific aspect the invention contemplates the use of a manipulating stick or handle, to the end of which I pivotally secure a mechanism that is adapted to grip both ends of the cleaning element, to hold it in a proper outstretched working condition, but which, when released by the operator, will collapse in a manner to effectively release the cleaning element so that it may be wrung out by hand or pulled up through the squeegee rollers of a mop wringer pail. Other and more detailed objects will be disclosed in the course of the following specification, reference being had to the accompanying drawings, wherein:

Fig. 1 is a perspective view of my improved mop, in an operative position, the major portion of the operating handle being broken away.

Fig. 2 is a sectional side elevation, on the line 2—2 in Fig. 3, showing the position of various parts when the handle is sharply inclined and when downward pressure is applied to it.

Fig. 3 is a cross sectional elevation on the line 3—3 in Fig. 2.

Fig. 4 is a plan elevation of the mop as seen when in its collapsed condition.

Fig. 5 is a sectional edge elevation, as on the line 5—5 in Fig. 4.

Referring to the drawings more particularly and by reference characters 6 designates a shaft or handle to the extreme lower end of which is rigidly secured a bracket 7 comprising a pair of plates, riveted together and forming a socket for the handle. The bracket 7 is preferably of triangular shape, and the lower edges of its plates are turned over or beaded, as at 8, to form pivot bearings for the inner adjacent ends of a pair of oppositely disposed rectangular wire frames 9. The side bars of these frames 9 are connected by slightly flexible plates 10, and by securing strips or bars 11 and 12 that are slidable on the bars whereby they may be employed, when moved outwardly, to effect a biting grip on the ends of the cleaning element 13. This element may be of any desirable material, although a porous and heavy but flexible fabric is best used for mopping purposes.

The plates 10 are provided with small brackets or lugs 14 to which are pivotally secured the lower ends of a pair of links 15. The upper ends of these links are pivotally secured to the ends of a cross member 16 that is in turn pivotally secured, at its center, as at 17, to a collar 18, slidable on the handle 6. A compressed spring 19, about the handle, tends to spread the collar 18 away from the bracket 7. The collar 18 is vertically adjusted, with respect to the bracket 7, by a lever 20 that is pivoted to the collar 18, as at 21, and is connected with the bracket 7 by a link 22. When the lever 20 is in its lowermost position, as shown in Figs. 1–3, the frames 9 are in their lifted or operative positions. It will be noted, however, as in Fig. 1, that the lever and link connections 15, 16, 20, and 22, are so proportioned and disposed that the frames 9 are held in slightly inclined positions from the horizontal. The object of this arrangement is to impose the initial downward pressure of the handle 6 to the outer ends of the frames, and consequently to the outer working ends of the cleaning element 13. Because of the resiliency in various parts, and particularly of the flexibility of the plates 10 an advanced downward press of the handle 6 permits the entire lowering of the frames, with a result that there is a substantially uniform pressure applied to the entire working surface of the cleaning element, as indicated in Fig. 2, and this condition obtains regardless of whether the handle is in a vertical or inclined position.

It may here be noted, with particular reference to Fig. 2, that the device has no objectionable projections, and that due to the close

assemblage of parts the mop head ends can be conveniently projected under radiators and other objects where the vertical clearance above the floor is very limited.

When it is desired to wring or wash out the cleaning element 13, the operator merely lifts the lever 20 to the position shown in Figs. 4 and 5, which action releases the collar 18 and links 15, permitting the frames 9 to swing or fold downwardly as shown. This in turn permits the cleaning element, and without releasing its ends, to drop down into a loose double condition, in which it can be wrung, by hand or between rollers, or washed or treated in any desired fashion.

It is understood that various modifications may be made in the invention, as hereinabove set forth, provided, however, that such modifications come within the spirit and scope of the appended claims. Having now therefore fully disclosed my invention what I claim is:

1. A mop comprising a collapsible head for holding a cleaning element, means at opposite ends of the head for attaching opposite ends of the element with the body portion of the element in a predetermined position under the head, a handle pivotally secured to the head midway between its ends for manipulating the same, and means for applying downward pressure by the handle to the head at points between the pivotal connection and the outer ends of the head.

2. A mop comprising a collapsible head for holding a cleaning element, means at opposite ends of the head for attaching opposite ends of the element so as to hold the body portion of the element stretched therebetween, a handle swingably secured to the head, at a point between its ends, and means for applying pressure from the handle to points on the head between the handle connection and the opposite ends of the head.

3. A mop comprising a collapsible head for holding a cleaning element, means at opposite ends of the head for attaching opposite ends of the element, a handle pivotally secured to the head, and lever and link connections between the head and handle.

4. A mop comprising a handle, a pair of head sections hingedly secured thereto so as to be swingable from substantially aligned to parallel positions with respect to each other, a manually movable collar on the handle, and link connections between said collar and head sections, said link connections being swingable in unison with the handle with respect to the head sections.

5. A mop comprising a handle, a pair of head sections hingedly secured thereto so as to be swingable from substantially aligned to parallel positions with respect to each other, a manually adjustable collar on the handle, a spring tending to move the collar away from the head sections, and link connections between the collar and said head sections.

6. A mop comprising a handle, a pair of head sections hingedly secured thereto so as to be swingable from substantially aligned to parallel positions with respect to each other, a manually adjustable collar on the handle, a spring acting on the collar, and operative connections between the collar and said head sections, said operative connections including a cross bar pivoted on the collar, and links connecting the cross bar and head sections.

7. A mop comprising a handle, a pair of bracket plates rigidly secured together and forming a socket for the handle, and a pair of normally aligned cleaning element supporting frames pivotally secured to said bracket plates, each of the bracket plates being formed with integral bearing portions to pivotally receive inner ends of said frames.

8. A mop comprising a handle, a pair of frames pivotally secured to the handle at their inner ends, means for securing a cleaning element to the outer ends of the frames, a collar slidable on the handle, means connecting the collar with the frames, a lever carried by the collar, and a link connecting a movable part of the lever with the handle.

9. A mop comprising a collapsible head for holding a cleaning element, means at opposite ends of the head for attaching opposite ends of the element, a handle pivotally secured to the head for swinging movement in a plane extending longitudinally thereof, and means connected to the handle above the pivoted connection for effecting a collapse of the head, said last mentioned means having pivotally mounted elements arranged to hold the head against collapse without interfering with said swinging movement of the handle with respect to the head.

10. A mop comprising a handle, a pair of frames pivotally secured to the handle at their inner ends, means for securing a cleaning element to the outer ends of the frames, a collar slidable on the handle, means for locking the collar on the handle, and means including a pair of links for connecting the collar with the frames, said links being substantially parallel and swingable in parallelism together with the handle with respect to the frames.

Signed at Minneapolis, Minnesota, this 28th day of January, 1929.

OSCAR A. FLAGSTAD.