G. A. SANGUINET.

WRINGER MOP.

APPLICATION FILED APR. 24, 1920.

1,352,837. Patented Sept. 14, 1920.

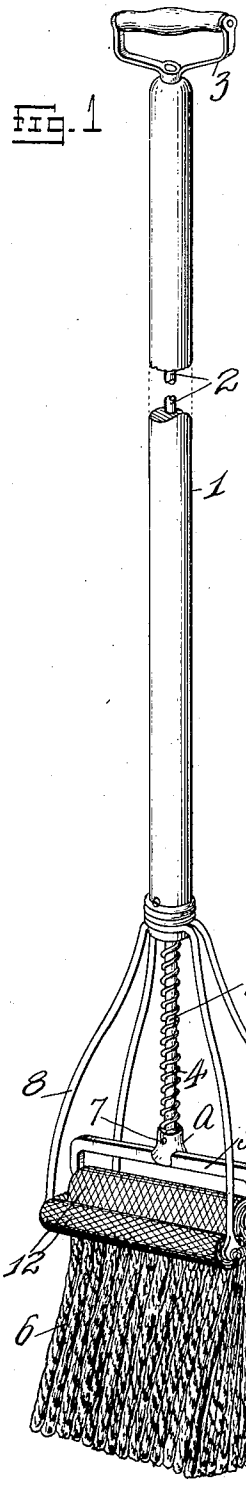

Fig. 1

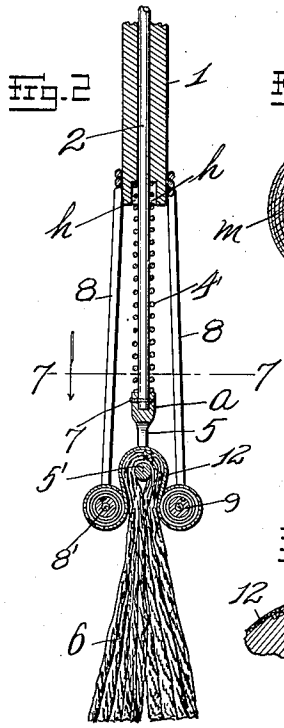

Fig. 2

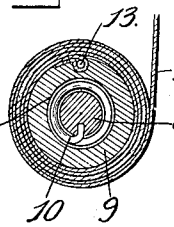

Fig. 5

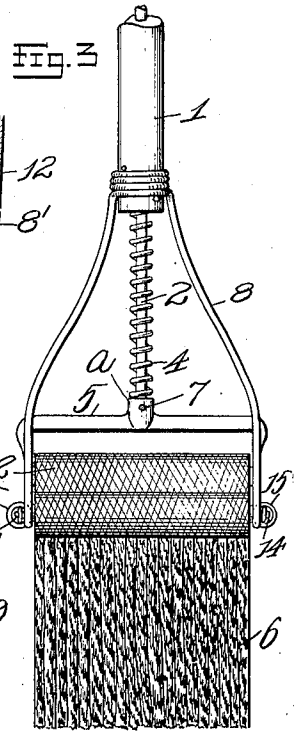

Fig. 3

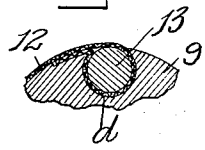

Fig. 6

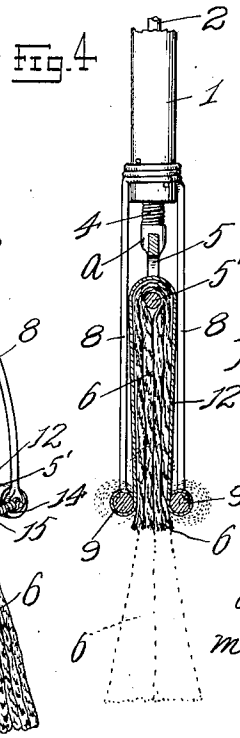

Fig. 4

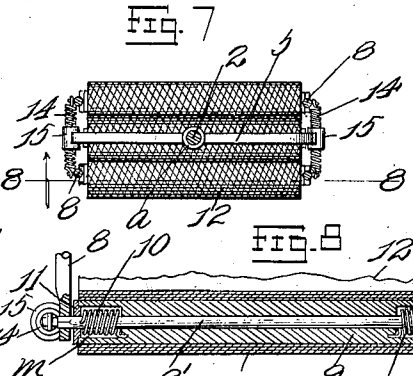

Fig. 7

Fig. 8

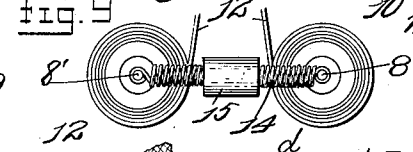

Fig. 9

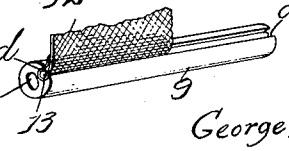

Fig. 10

Inventor

George A. Sanguinet

by Emil Starek Atty.

UNITED STATES PATENT OFFICE.

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WRINGER-MOP.

1,352,837. Specification of Letters Patent. Patented Sept. 14, 1920.

Application filed April 24, 1920. Serial No. 376,330.

To all whom it may concern:

Be it known that I, GEORGE A. SANGUINET, a citizen of the United States, residing at St. Louis, State of Missouri, have invented certain new and useful Improvements in Wringer-Mops, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

The present invention is directed to improvements in wringer-mops, or mops in which the mop-stick or handle is provided with a wringer attachment by which the water may be squeezed from the mop when necessary, thereby dispensing with a wringer on the pail or bucket containing the water for the mop. As well understood in the art, a wringer when attached to the pail or bucket is generally in the way; besides, in order to use it on the mop the person operating the wringer must stoop over the pail, making the combined work of mopping and wringing irksome and tiresome. The object of my improvement is to provide a combination mop and wringer whereby the water may be squeezed from the mop without bending or exertion on the part of the operator, and without the necessity of turning a crank-handle for operating the wringer rolls as is usual with prevailing constructions of wringers.

A further object is to provide a combination mop and wringer which will be simple in construction, easy to manipulate, one which is light, and durable, and one possessing further and other advantages better apparent from the following detailed description in connection with the accompanying drawings in which—

Figure 1 represents a perspective of the improved mop with the mop in service position; Fig. 2 is a central vertical cross-section through the mop and the lower end of the handle; Fig. 3 is a side elevation of the mop and the lower end of the handle; Fig. 4 is a view similar to Fig. 2 but showing the mop pulled up between the squeezing rolls; Fig. 5 is an enlarged cross section through one of the squeezing rolls; Fig. 6 is a cross-section through a squeezing roll showing the manner of attaching the winding web which holds the mop to the mop-head; Fig. 7 is a cross-section on the line 7—7 of Fig. 2; Fig. 8 is an enlarged longitudinal middle section through one of the squeezing rolls on the line 8—8 of Fig. 7; Fig. 9 is an enlarged end view of the squeezing rolls showing one of the tension springs by which the rolls are drawn together for squeezing the mop; and Fig. 10 is a perspective detail showing the peripheral groove on the squeezing roll which receives the rod to which the end of the winding web is attached.

Referring to the drawings, 1 represents a tubular handle or stick the bore of which is loosely traversed by a reciprocable rod 2 terminating at the top in a grip or handle 3, the lower end of the rod normally projecting a suitable distance beyond the corresponding end of the stick 1 and having disposed thereon a coiled expansion spring 4 one end of which rests in a socket *h* in the lower end of the stick, the opposite end of the spring bearing against the socket or fitting *a* of a yoke or stirrup 5 serving as a mop-head or holder for the mop 6, the fitting *a* being fastened to the rod 2 by a pin 7 or otherwise. Secured to the lower end of the stick 1 and disposed diametrically opposite one another are the resilient frames or yokes 8, 8, each provided with a bottom cylindrical stationary spindle 8′ about which is rotatably mounted a squeezing roll or roller 9 terminating at each end in a socket *m* in which is housed a torsion spring 10 coiled about the spindle, one end of the spring being secured to the spindle, and the opposite end to the roller (Fig. 8), the two springs acting jointly to turn the roller in one direction as presently will more fully appear. The outer ends of the sockets *m* are preferably closed by the cap pieces or disks 11 passed over the spindle to prevent lodgment of dirt in the sockets. As clearly shown in Fig. 4, the material or yarn forming the mop is swung over and directly supported by the bottom cross member 5′ of the stirrup 5, the mop being held in position in the stirrup (or mop-head) by a web or sheet of canvas 12 passed through the stirrup and over the mop, the medial portion of the web or that bearing against the corresponding portion of the mop swung from the member 5′ bearing firmly down on the mop by reason of the tension imposed on the web by the torsion springs 10 coupled to the squeezing rolls 9, the ends of the web being secured to the peripheries of the rolls, which under the action of their respective torsion springs tend to turn relatively in opposite directions to wind the ends of the web thereon and hence exert a pull on the web from both

ends. To permit renewal of the web from time to time, the ends of the web are sewed around a rod 13, the latter with the web thus attached being inserted into a peripheral longitudinal groove *d* formed on the squeezing roll, the cross-section of the groove being in excess of a half circle and hence holding the rod in place much the same as would a dove-tail groove. To renew the web or canvas sheet, the rod 13 is pushed out of its groove, and a new web secured thereto and reinserted into the groove.

It will be seen from the drawings, that the mop 6 is bounded by the yokes 8, 8, and by the rollers 9, 9, carried thereby, so that if an upward movement is imposed on the mop the rollers 9, 9, will travel along the opposite surfaces of the mop. By providing suitable means for drawing the rollers toward one another during the passage of the mop between them, it is apparent that the water in the mop will be pressed out. A wringer or squeezing function is imparted to the rollers 9, 9, by the coiled contracting springs 14 disposed at opposite ends of the rollers, the ends of the springs being coupled to the adjacent terminals of the spindles 8′ of the respective rollers, thereby causing the rollers to be drawn toward one another and squeezing the mop. To prevent the yarn of which the mop is composed from becoming tangled in the coils of the springs 14, the medial portions of the coils are preferably provided with the sleeves 15 loosely embracing the coils to allow the springs to expand and contract freely during the passage of the mop between the squeezing rollers.

The operation of the mop will be clearly apparent from the drawings and description, and is substantially as follows: The normal or service position of the mop is shown in Figs. 1, 2, and 3, the canvas or web 12 being fully wound on the rolls 9, and the stirrup 5 which carries the mop, being in its lowest position so that the bulk of the mop is below the squeezing rolls. Assuming that the mop is wet and requires wringing, the person using the mop by holding the stick or tubular handle 1 in one hand and seizing the handle 3 of the rod 2 with the other hand, pulls the rod upward, thereby pulling up the stirrup 5 and the mop suspended therefrom, the mop in this movement being drawn between the rolls 9, 9, which, under the tension of the springs 14 exert a squeezing pressure on the mop thus pressing out the water. In Fig. 4 the mop is shown pulled up between the squeezing rolls very nearly its full limit, the water having been practically squeezed out of it. With the upward (or inward) movement of the mop it is obvious that a pull will be exerted on the web to cause the same to unwind from the rolls 9, the latter rolling over the opposite surfaces of the mop passing between them, and revolving in a direction to effect a winding of the torsion springs 10 which, in their tendency to impart rotation to the rolls in the opposite direction, keep the web taut. It may require two or more reciprocations of the rod 2 to press all the water out of the mop, it being obvious that as the pull on the grip 3 is relaxed the spring 4 will force the stirrup 5 downward (or outward) in which operation it is assisted by the torsion of the springs 10 which tend to rotate the rolls 9 in a direction to wind up the web, thus exerting a pull on the web which in turn pulls down on the stirrup 5 and assists the spring 4 in driving the stirrup and its mop back to their original or service positions. The web 12 of course not only protects the mop but insures its ejection from between the squeezing rolls should the free ends of the mop be drawn inward beyond the rolls, it being remembered that it is the winding of the web on the squeezing rolls that serves to direct the mop out from between the rolls, this being of course supplemented by the rolling action of the rolls over the faces of the mop the same as takes place in the ordinary wringer. The grip or handle 3 limits the movement of the rod 2 downward, the spring 4 being fully expanded when the grip 3 strikes the upper end of the tubular stick 1. In practice of course most of the water is squeezed from the mop with the upward movement of the mop between the wringer rolls 9, though some of its is necessarily pressed out on the downward stroke of the mop, it being remembered that the rolls are constantly exerting a squeezing action on the mop under the tension of the contracting springs 14. The details of construction may obviously be considerably changed or modified without a departure from the nature or spirit of the invention.

Having described my invention what I claim is:

1. In combination with a tubular handle, a rod reciprocable in the bore of the handle, a mop secured to the rod below the handle, spring-controlled squeezing rolls leading from the handle and positioned to engage the mop from opposite sides with a movement of the rod and mop in a given direction, and means interposed between said rolls and the rod carrying the mop for drawing the mop and rod back to their original position.

2. In combination with a tubular handle, a rod reciprocable in the bore of the handle, means for operating said rod from one end of the handle, a mop support at the opposite end of the rod spaced a suitable distance from the adjacent end of the handle, a pair of resilient yokes secured to the lower end of the handle opposite one another, spring-controlled squeezing rolls at the free ends of the yokes positioned to engage the mop from

opposite sides, springs for drawing the yokes together to cause the rolls to squeeze the mop with an outward movement of the rod, and suitable flexible connections between the rolls and mop-supporting rod for pulling the mop back to service position upon release of the rod.

3. In combination with a tubular handle, a rod reciprocable in the bore of the handle, means for operating the rod from one end of the handle, a mop support at the opposite end of the rod spaced from the adjacent end of the handle, a pair of roll-supporting members carried by the handle on opposite sides of the axis of the handle, squeezing rolls on said members for engaging the mop from opposite sides, a web passed over the mop and its support and having its ends secured to the respective rolls aforesaid, contracting springs connecting the adjacent ends of the respective rolls for imparting a squeezing action to the rolls, and torsion springs for the rolls operating to wind the web on the rolls and pull down on the mop-support and the reciprocable rod carrying the same for restoring the mop to service position with a release of the rod.

4. In combination with a tubular handle, a rod reciprocable therein, a mop holder at the lower end of the rod below the stick, rolls carried by the stick on opposite sides of the mop, tension springs connecting the adjacent ends of the rolls, torsion springs for imparting rotation to the rolls in one direction, and a web or sheet attached to the rolls and having its medial portion passed over the mop along its line of support on the holder.

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

GEORGE A. SANGUINET.

Witnesses:
EMIL STAREK,
ELSE M. SIEGEL.