No. 688,613. Patented Dec. 10, 1901.

L. H. EVANS.

MOP WRINGER.

(Application filed Mar. 7, 1901.)

(No Model.)

Fig. 1.

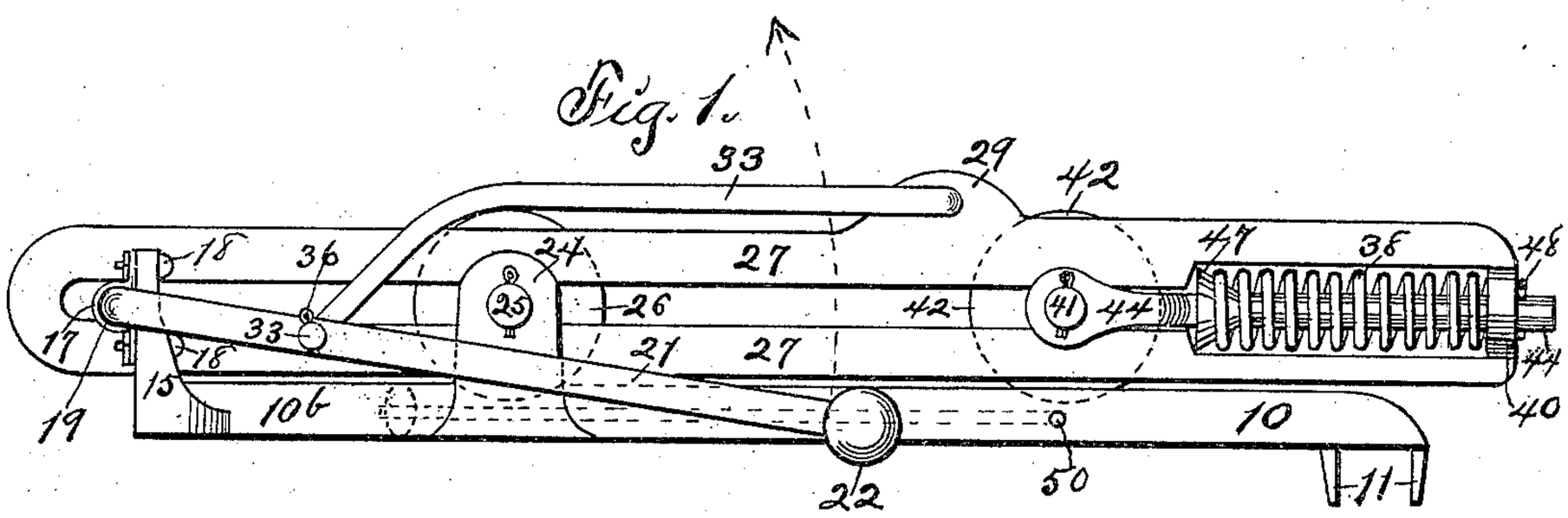
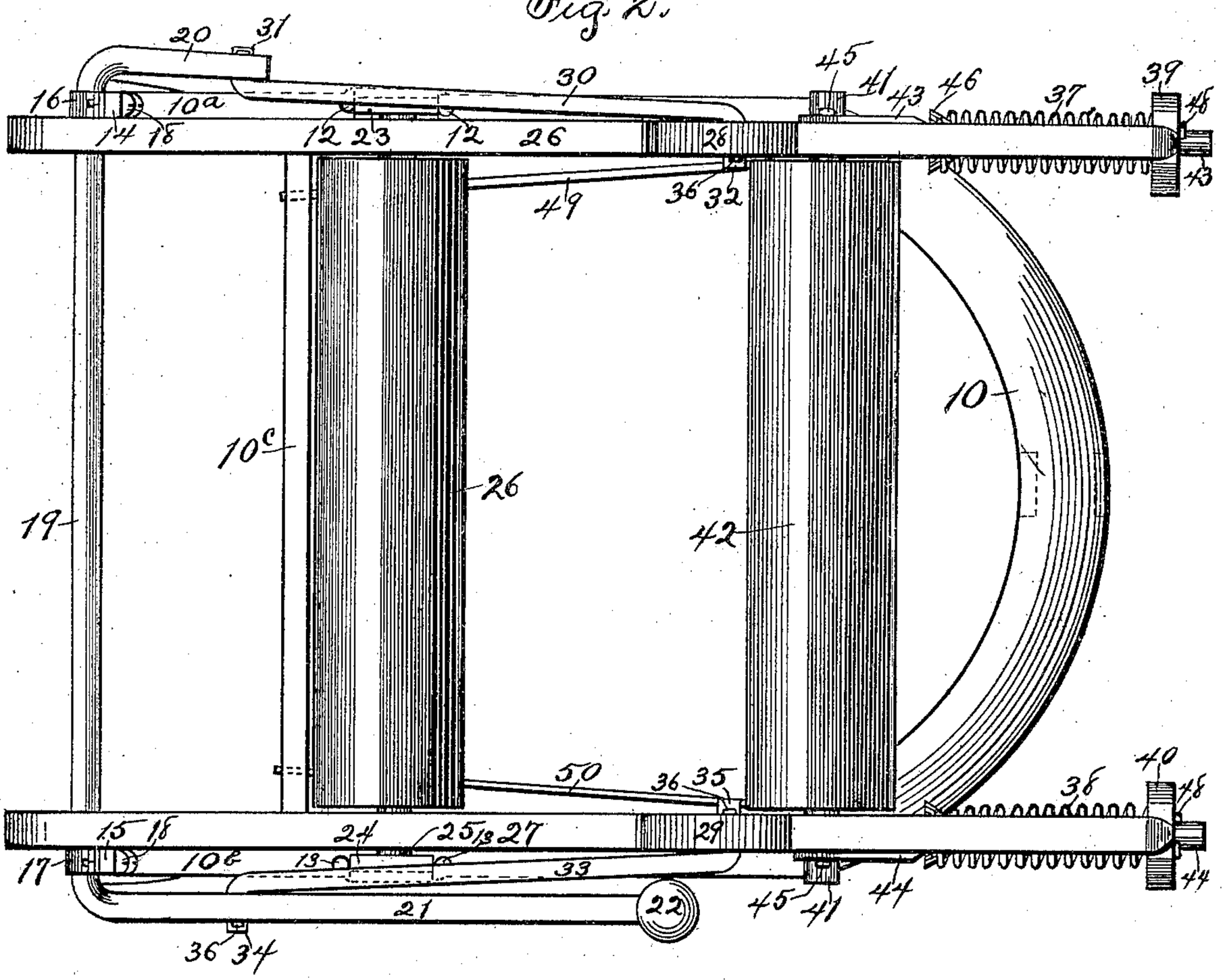


Fig. 2.



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MOP-WRINGER.

SPECIFICATION forming part of Letters Patent No. 688,613, dated December 10, 1901.

Application filed March 7, 1901. Serial No. 50,221. (No model.)

To all whom it may concern:

Be it known that I, LYMAN H. EVANS, a citizen of the United States of America, and a resident of Des Moines, Polk county, Iowa, have invented a new and useful Mop-Wringer, of which the following is a specification.

The object of this invention is to provide improved means for wringing mops, and it is especially adapted for use in wringing mops made of textile fabric and carried in a mop-head.

A further object of this invention is to provide for the maximum opening of the wringer for the reception of the mop, whereby mops of the largest size may be admitted, clamped, and wrung with the same ease and facility with which mops of smaller size may be manipulated.

My invention consists in the construction, arrangement, and combination of elements hereinafter set forth, pointed out in my claims, and illustrated by the accompanying drawings, in which—

Figure 1 is a side elevation of the complete device. Fig. 2 is a plan of the complete device.

In both views of the drawings I show the wringer-rollers separated for the reception of the mop.

In the construction of the device as shown the numeral 10 designates a base-frame comprising a curved body portion on an arc of such size as to conform to the curvature of the top of an ordinary pail, such as is employed by janitors and others to contain water for scrubbing purposes, and side bars 10^a 10^b, integral with the curved body portion, parallel with each other and integrally connected by a cross-bar 10^c. Ears 11 11 are formed on and extend downwardly from the lower surface of the center of the curved portion of the base-frame 10 and may be apertured transversely for the reception of a bolt or rivet (not shown) by means of which the base-frame may be attached to a pail. Holes 12 12 and 13 13 are formed in the arms 10^a 10^b of the base-frame 10 and are provided for the reception of bolts whereby said base-frame may be further secured to a pail either through the employment of angle-irons or hooked bolts. (Not shown.) Any desired means of fastening may be employed to connect the base-frame to a pail. Standards 14 15 are formed on and rise from the extremities of the side bars or arms 10^a 10^b of the base-frame 10, and clips 16 17 are removably and replaceably mounted on the vertical faces of said standards, being connected thereto by bolts 18. A crank-shaft 19 is mounted for oscillation between the clips 16 17 and the standards 14 15 and extends across the space between the standards at right angles to the arms or side bars 10^a 10^b of the base-frame. A short crank 20 is formed on one end of the shaft 9, and a long crank 21 is formed on the opposite end of said shaft exactly opposite to and approximately parallel with the short crank. The short crank 20 is apertured transversely near its extremity, and a transverse aperture is formed in the long crank 21 directly opposite thereto and on a plane parallel with the axis of oscillation of the shaft. A knob 22 is formed on the extremity of the long crank 21. Ears 23 24 are formed on and rise from the side bars 10^a 10^b of the base-frame 10 directly opposite each other and on a plane parallel with the axis of oscillation of the shaft 19, and said ears are apertured transversely in alinement with each other. A roller-shaft 25 is mounted for revolution in the apertures of the ears 23 24, and a roller 26, preferably made of wood, is mounted on said shaft. Longitudinally-slotted frame-bars 26 27 are provided and arranged parallel with each other above the base-frame 10, with their slots in horizontal alinement and traversed by the crank-shaft 19 and the roller-shaft 25. Ears 28 29 are formed on and rise from the slotted bars 26 27 directly opposite each other and are apertured transversely in alinement and on a plane parallel with the axis of oscillation of the crank-shaft 19. A connecting-rod 30 is provided and formed with a laterally-bent end portion 31, traversing the aperture near the extremity of the short crank 20, and an end portion 32, bent laterally in an opposite direction from the portion 31 and traversing the aperture of the ear 28. Thus is the ear 28 secured to the short crank 20. A connecting-rod 33 is provided, with an end portion 34,

bent laterally and traversing the aperture in the long crank 21, and an end portion 35, bent laterally in an opposite direction from the portion 34 and traversing the aperture of the ear 29. Thus is the ear 29 connected to the long crank 21. The end portions of the connecting-rods 30 33 may be secured against accidental release from their seats by keys 36 or by riveting or other means of fastening. The rear end portions of the slots in the bars 26 27 are materially widened vertically for the reception of expansive coil-springs 37 38, which springs bear at their rear ends against integral cross-heads 39 40 of said bars. A roller-shaft 41 is mounted loosely in the slots of the bars 26 27 and extends across the space between said bars at right angles thereto and in a plane parallel with the axis of oscillation of the crank-shaft 19. A roller 42 is mounted on the shaft 41 between the slotted bars 26 27. Stems 43 44 are provided, with their body portions circular in cross-section and mounted for rectilinear reciprocation in the apertures formed in the centers of the cross-heads 39 40 and flattened portions integral with the body portions, but offset laterally therefrom and into planes parallel therewith, which flattened portions are apertured to receive and embrace the extremities of the roller-shaft 41. The flattened portions of the stems 43 44 are secured to the shaft 41 by keys 45 and lie against the outer faces of the bars 26 27, while the circular body portions of said stems are almost entirely contained in the widened portions of the slots of the bars and traverse and support the expansive coil-springs. Conical hubs 46 47 are formed on the stems 43 44 and enter the forward end portions of the expansive coil-springs 37 38, thus limiting to a material degree the rattling or vibration of said springs and providing an endwise bearing or abutment for each spring in opposition to the cross-heads 39 40. To prevent the inward withdrawal of the stems from their seats in the cross-heads, I have provided keys 48 in the outer extremities thereof and arranged to bear at times against the outer faces of the cross-heads. Gathering-rods 49 50 are provided and preferably made of wire, with laterally-bent end portions seated in the horizontal apertures in the base-frame 10 immediately below the normal open position of the shaft 41, said gathering-rods extending inwardly and obliquely to and traversing the bar 10^c in front of and beneath the roller 26. It is the function of the rods 49 50 to gather and retain a textile mop out of contact with the bars 26 27 or the side bars of the base-frame when said mop is compressed by the rollers.

In the practical operation of my mop-wringer the parts are assembled and positioned as illustrated in my drawings herewith and mounted on a pail, tub, or other receptacle for water. A textile mop carried by an ordinary mop-head on a mop-stick is introduced to the receptacle through the space between the rollers 26 and 42 and is soused in water in the receptacle until cleansed or wet to the desired degree. Then the operator withdraws the mop-head to a plane above either of the rollers 26 42, grasps the knob 22 on the long crank 21, and moves the same upwardly and forwardly, as indicated by the arrow in Fig. 1, to the extent of approximately one-half revolution of the crank-shaft 19, the long and short cranks descending in front of the standards 14 15 beyond the dead-center. This movement of the crank-shaft applies a draft on the connecting-rods 30 and 33 and moves the slotted bars 26 27 forwardly across the crank-shaft and the roller-shaft 25 and carries the roller 42 into close proximity with the roller 26 to a point of application of pressure upon the mop. Upon approximating the rollers without the interposition of a mop the peripheries of said rollers would contact before the cranks of the shaft 19 had fallen forwardly below the dead-center, and a further movement of said cranks would result in a slight compression of the expansive coil-springs 37 38. Thus a slight pressure would be applied to a very thin mop introduced between the rollers 26 and 42, and such pressure would increase in intensity in direct ratio to the increase of thickness of the mop interposed between the rollers; but at all times and under all circumstances the roller 42 will yield under the resilience of the springs 37 38 sufficiently to permit of the above-described forward falling of the cranks below the dead-center. The operator then withdraws the mop from between the rollers 26 and 42 and in so doing revolves those rollers in opposite directions and thoroughly wrings the water from the mop, the water falling into a receptacle on which the mop is mounted. It is to be understood that some means is provided for retaining the receptacle stationary during the operation of drawing the mop from between the rollers.

I claim as my invention—

1. A mop-wringer, comprising a base-frame, standards formed on and rising from said base-frame, a crank-shaft mounted for oscillation on said standards and provided with a crank at each end, one of said cranks being longer than the other to serve as a handle, a roller-shaft mounted for rotation on the base-frame, frame-bars longitudinally slotted and mounted parallel with each other for rectilinear reciprocation on said roller-shaft and crank-shaft parallel with the base-frame, rods connecting said frame-bars and the cranks on the crank-shaft, a roller on said roller-shaft, a roller-shaft mounted for rotation and vibration in the slots of the frame-bars and a roller thereon together with yielding pressure devices acting upon the latter roller-shaft and yieldingly controlling the vibration thereof.

2. A mop-wringer, comprising a base-frame, a roller thereon, a crank-shaft mounted for oscillation on the base-frame, side bars mount-

ed for reciprocation on said crank-shaft and the shaft of said roller, connections between said bars and the crank-shaft, a roller mounted loosely on the side bars, stems connected with said roller and longitudinally traversing the side bars and expansive coil-springs mounted on said stems and tending to press the latter roller toward the former roller.

3. A mop-wringer, comprising a base-frame, standards rising from said frame, bearing-clips on said standards, a crank-shaft mounted between said bearing-clips and standards and arranged for oscillation, ears rising from the base-frame, a roller-shaft mounted for rotation in said ears parallel with and spaced apart from the crank-shaft, a roller on said roller-shaft, side bars longitudinally slotted and mounted, by means of their slots, for reciprocation rectilinearly on the roller-shaft and crank-shaft, rods connecting said side bars with cranks of the crank-shafts, another roller-shaft mounted in the slots of the side bars and normally parallel with the first roller-shaft and provided with a roller, stems traversing the slots of the side bars and extending through apertures in the rear thereof, which stems are flattened and apertured to receive end portions of the second roller-shaft, keys in said stems and abutting the extremities of the side bars at times, conical hubs on said stems in opposition to the rear ends of the slots of the side bars and expansive coil-springs on said stems impinging the conical hubs and the rear ends of the slots of the side bars.

4. A mop-wringer, comprising a base-frame, standards rising from said frame, bearing-clips on said standards, a crank-shaft mounted between said bearing-clips and standards and arranged for oscillation, ears rising from the base-frame, a roller-shaft mounted for rotation in said ears parallel with and spaced apart from the crank-shaft, a roller on said roller-shaft, side bars longitudinally slotted and mounted, by means of their slots, for reciprocation rectilinearly on the roller-shaft and crank-shaft, rods connecting said side bars with cranks of the crank-shaft, another roller-shaft mounted in the slots of the side bars and normally parallel with the first roller-shaft and provided with a roller, stems traversing the slots of the side bars and extending through apertures in the rear thereof, which stems are flattened and apertured to receive end portions of the second roller-shaft, keys in said stems and abutting the extremities of the side bars at times, conical hubs on said stems in opposition to the rear ends of the slots of the side bars, expansive coil-springs on said stems impinging the conical hubs and the rear ends of the slots of the side bars and gathering-rods beneath and between the rollers and fixed to the base-frame.

Signed by me at Des Moines, Iowa, this 23d day of January, 1901.

LYMAN H. EVANS.

Witnesses:
S. C. SWEET,
JESSE M. KEITH.