

(No Model.)

3 Sheets—Sheet 1.

H. PRUD'HOMME.
SCRUBBING MACHINE.

No. 478,636.

Patented July 12, 1892.

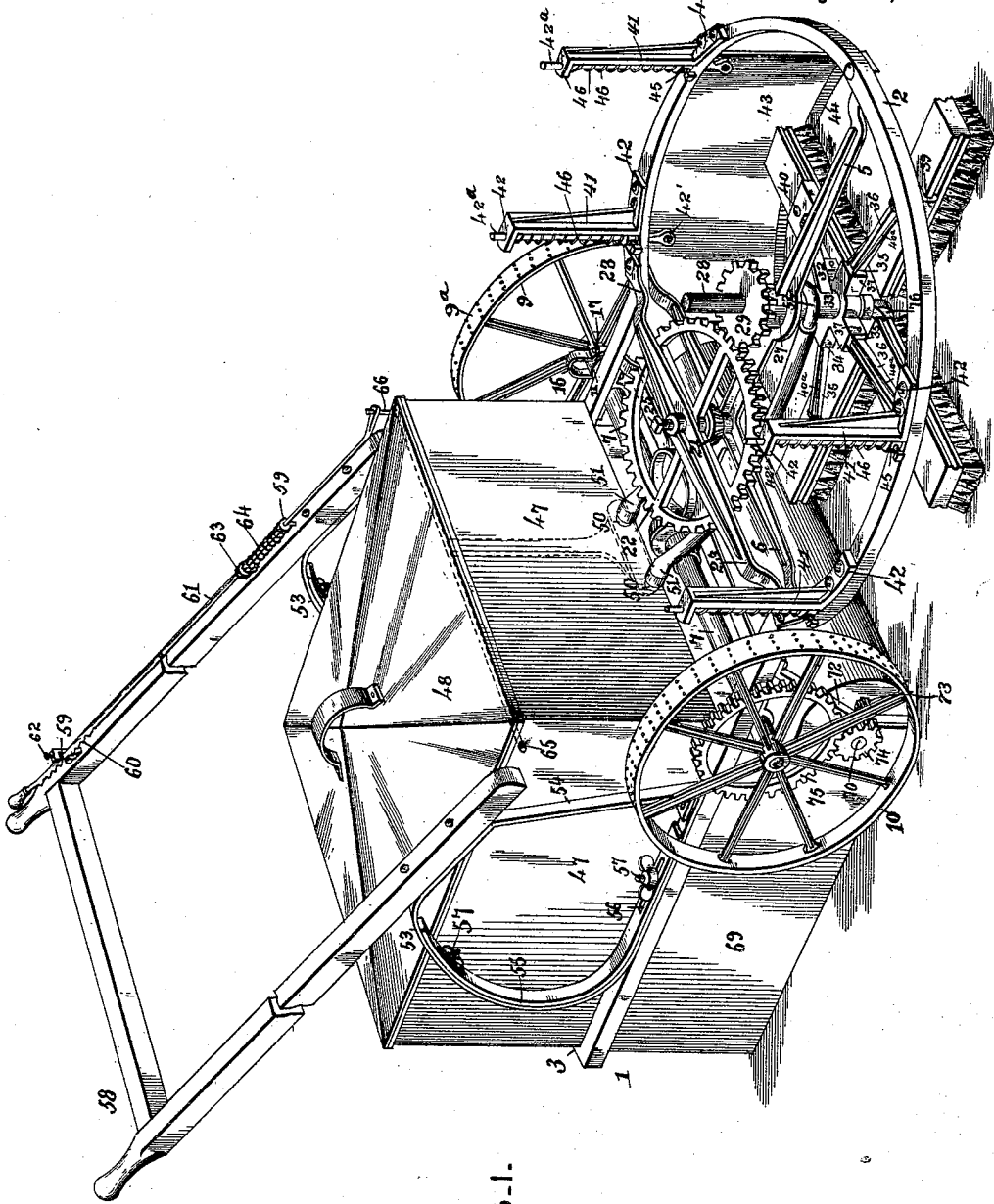


FIG. 1.

Witnesses

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Inventor

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(No Model.)

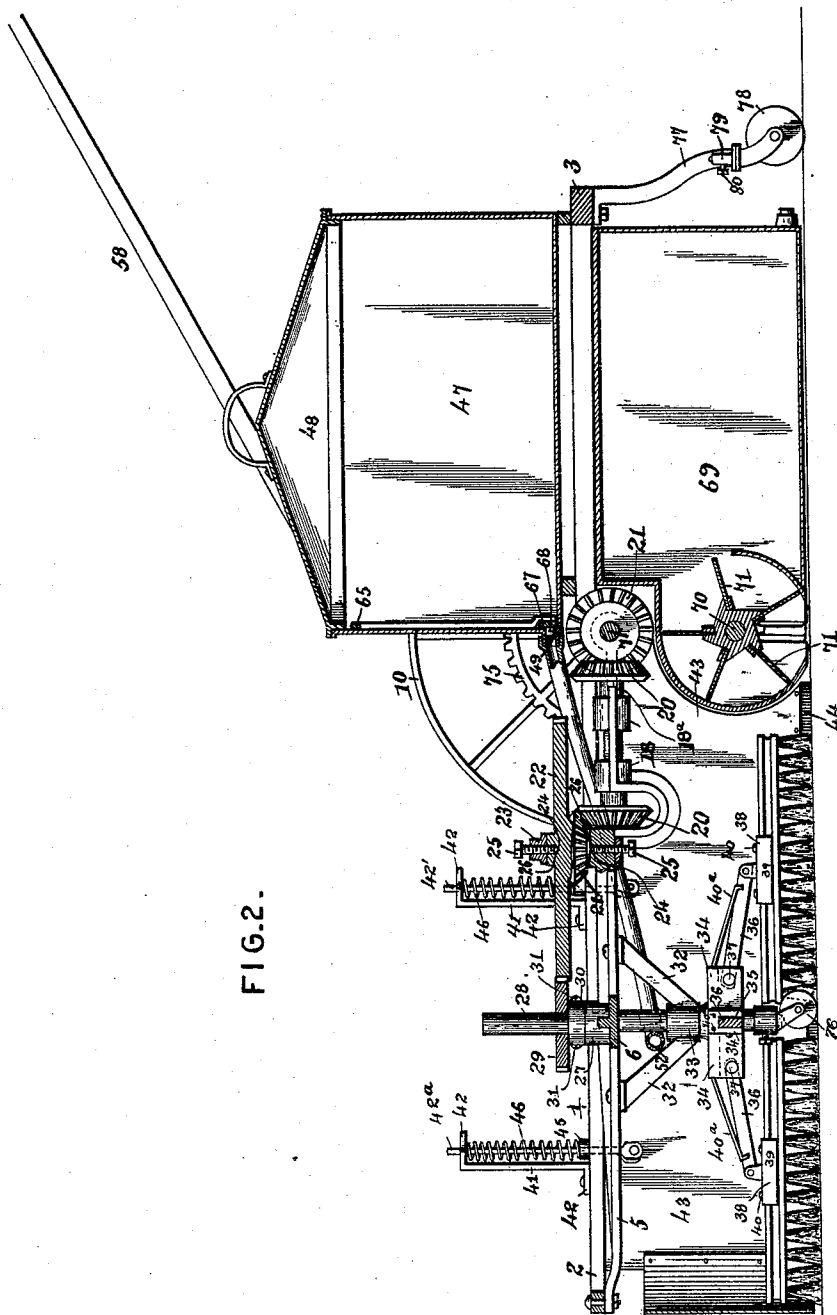
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FIG.2.



Witnesses

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3 Sheets—Sheet 3.

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FIG. 3.

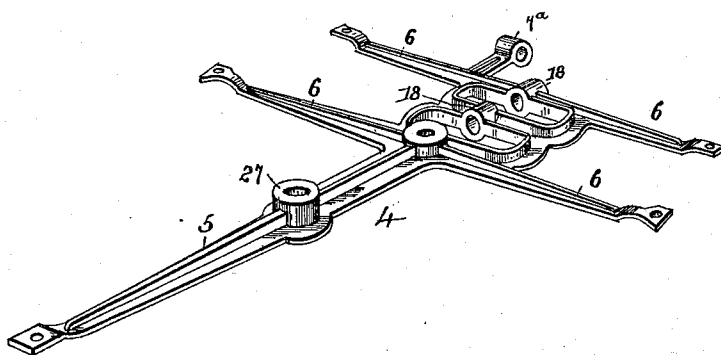


FIG. 5.

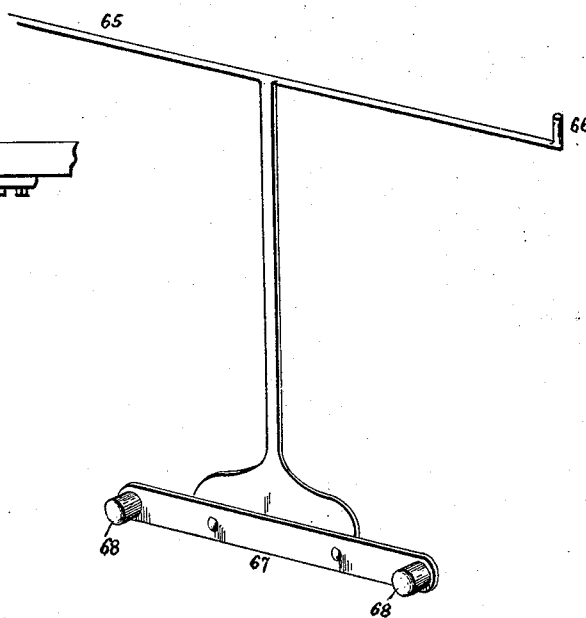
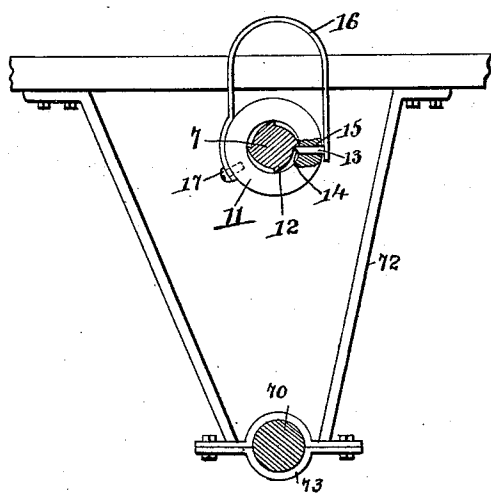


FIG. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

HECTOR PRUD'HOMME, OF MARINETTE, WISCONSIN.

SCRUBBING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 478,636, dated July 12, 1892.

Application filed September 18, 1891. Serial No. 406,145. (No model.)

To all whom it may concern:

Be it known that I, HECTOR PRUD'HOMME, a citizen of the United States, residing at Marinette, in the county of Marinette and State of Wisconsin, have invented a new and useful Scrubbing-Machine, of which the following is a specification.

My invention relates to scrubbing-machines, and is designed to be an improvement on Letters Patent No. 438,561, granted to me October 14, 1890; and it has for its object to provide a machine of this character which will greatly simplify not only the construction of the patented device, but also additional novel features which will assist to make the machine more readily accomplish its primary object to thoroughly scrub the floor and at the same time to prevent splashing the furniture, mop-board, or other objects, and while supplying clean water to the floor being scrubbed at the same time it takes up the water dirtied by use and confines the same until it is desired to remove it from the receptacle which holds the same.

To this end the invention consists of the novel construction hereinafter more fully described, illustrated in the accompanying drawings, and specifically pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a perspective view of a scrubbing-machine constructed in accordance with my invention, part of the front circular guard being removed to expose the interior construction. Fig. 2 is a vertical longitudinal section of the same. Fig. 3 is a detail in perspective of the top gear-supporting casting. Fig. 4 is a detail of the clutch. Fig. 5 is a detail in perspective of the valve.

Referring to the accompanying drawings, 1 designates the main frame supporting the various parts of the machine and terminates at its front end with a circular portion 2, similar to that of my former patent, and the rear ends of said frame are connected by the transverse bar 3. Suitably secured upon the top of the frame is the double-T-headed casting 4, secured horizontally upon said frame, the tail portion 5 of which extends across the circular space inclosed by the front circular portion of the frame, while the parallel heads 6 are secured transversely of the frame to the

parallel side bars thereof. The supporting-axle 7 is journaled in suitable boxes in the side frame-pieces 1 and is supported within the approximately centrally-located bearing 7^a, projecting integrally from the upper head 6 of the casting, and said axle carries upon one end without the frame of the machine a loosely-revolving wheel 9, while its opposite end supports and carries the rigid or fast wheel 10, which is adapted to turn with the axle, while the loose wheel is independent of the movement of the axle and is adapted to freely revolve thereon to facilitate an easy manipulation of the machine in turning.

For the purpose of preventing the machine from traveling backward I provide the axle at the end outside of one of the side frame-pieces adjacent to the loosely-mounted wheel with the collar 11. The said collar 11 is secured in any suitable manner to allow the axle to freely revolve therein. The said axle or portion thereof revolving within said collar or sleeve is provided with a series of ratchet-teeth 12, that are engaged by the stop-pin 13, provided with a beveled end 14, and projecting through a perforation 15, located in one side of said sleeve or collar. The stop-pin or engaging pawl is secured to the free end of the inverted-U-shaped leaf-spring 16, the other end of which is securely fastened to said sleeve or collar 11 by means of the screw 17. As can be readily seen, while the axle revolves with the forward motion of the machine the spring-actuated pawl freely rides over the ratchet-teeth thereon; but upon the reverse motion of the device the said pawl engages behind the shoulders of said ratchet-teeth and prevent the axle from turning backward.

Mounted in the bearings 18, formed in the upper T-head 6 and intermediate of the two heads, is the revolving stub-shaft 18^a, carrying at each end thereof the beveled pinions 20, the inner of which is designed to mesh with a similar pinion 21, rigidly mounted upon the revolving axle 7, adjacent to the bearing 8, within which said axle revolves, while the opposite or outer pinion 20 is designed to mesh with the horizontal beveled gear 21, which is rigidly secured to the under side of the large gear-wheel 22. The said gear-wheel and the horizontal beveled gear carried thereby are sup-

ported and journaled between the inner T-head 6 and the transverse bar 23, secured transversely across the frame of the machine and directly above said T-head, forming a space between the same which allows the said gear-wheel and pinion to revolve freely therein, the same being journaled upon the pointed ends 24 of the set-screws 25, projecting up beneath through said T-head and down through the top of said transverse bar 23, both pointed ends taking into the conical bearings or seats 26, formed in the top and bottom of said gear-wheel and beveled gear, respectively.

Journaled in the bearing 27, centrally located in the tail portion 5 of said casting, is the vertical brush-shaft 28, provided at its upper end above said casting with the small pinion 29, which is designed to mesh with and be connected with the large gear-wheel 22, to which motion is imparted from the revolving axle in the manner described, the said shaft being also provided with a regulating-collar 30, secured thereto and designed to rest and bear upon the bearing 27, that may be so adjusted upon said shaft by means of the screws 31, so as to elevate or lower the said shaft, as may be desired.

Secured to the tail portion 5 of the casting 4 is the depending V-shaped bracket 32, provided at its apex or angle with the bearing 33, within which the lower end of the brush-shaft is supported and steadied in its movement. The lower end of said shaft beneath the bearing 33 terminates with the radially-extending lugs 34, provided with the squared recesses or grooves 35, located in the bottom faces thereof. The brush-arms 36 are pivoted upon the pivot 37 within each of said radially-extending and recessed lugs and are pivoted at their outer ends to a squared brush-clamp 38, provided with the depending flanges 39, that are designed to clamp over the edges of any sized brushes that may be desired to be used and held securely thereto by means of screws 40 or other suitable securing means. Springs 40^a normally press said brush-arms downwardly.

At regular intervals around the circular portion of the frame are located the pairs of standards 41, provided with the oppositely-disposed flanges 42, one of which rests upon the top of the frame, while the other flanges are perforated to receive the vertical supporting-rods 42^a, which are connected at their lower ends, projecting through the frame to the semicircular depending guards 43, the lower edges of which are provided with strips or facings of rubber 44. Adjusting-collars 45 are mounted upon said rods, while the same accommodates the coiled springs 46, the construction in these particulars being substantially identical with that described in my former patent.

The rear ends of the side bars 1 support the water-tank 47, which is preferably rectangular in shape, and when filled may be inclosed by the ordinary cap or top 48, and is provided at

its lower front end with the outlet-perforations 49, from which project the nipples 50, over which are placed the opposite water-conducting tubes 51, which pass to the front of the machine and are connected together at their outer ends by the perforated coupling 52, which encircles the vertical brush-shaft and projects a stream of water in the path of the brushes when desired by the operator. On either side of said tank are secured the handle-springs 53, which comprise a substantially vertical portion 54 and a semicircular double portion 55, which comprise overlapping sections having elongated slots 56, engaged by the bolts 57, which allow for the requisite adjustment or pitch of the handles 58, which are secured to the upper ends of the opposite pair of springs and which project rearwardly therefrom at an angle and may be adjusted to suit the person in the manner described. To one of said handles is secured the eyes 59, the upper one being provided with a lug or projection to engage any one of a series of notches 60, with which the upper end of the valve-operating rod 61, working through said eyes, is provided and may be held in any position desired by means of a set-screw 62, working thereon. Between the stop-collar 63, secured upon said rod, and one of said guide-eyes is the coiled spring 64, so that the rod is normally pressed to the rear. In the front upper end of said tank is secured the transverse rod or shaft 65, provided at one end without the tank with the crank or angle portion 66, that is loosely engaged by the inner end of said operating-rod, so that the said transverse shaft or rod is oscillated in either direction, as may be desired. Centrally secured to said transverse rod and projecting inwardly into said tank is the valve 67, provided with the opposite plugs or teats 68, that are designed to normally be pressed within the discharge-openings 49, located in the front lower end of said tank, and thus cut off or open the supply of clean water, as may be desired.

Located directly beneath the clean-water tank is the dirty-water receptacle 69, constructed in a similar manner to the dirty-water receptacle described in my former patent, having the same curved front end and front receiving-opening which is designed to accommodate the transverse shaft 70, upon which within said tank is secured the scraping-blade 71, already described and claimed by me. The said transverse shaft 70 is supported at each end by means of the depending V-shaped standards 72, secured to the under side of the side portions of the frame and provided with the removable half-boxes 73, detachably secured to the lower ends thereof, said shaft being also further provided with a small gear 74, that is designed to mesh with the large drive-gear 75, rigidly secured to the inner face of the rigid wheel 10, mounted upon the axle of the machine.

The direction of travel of the various parts of the machine in this device is identical with

that in my former patent, although the construction is greatly simplified in the present specification. A traveling caster 76 is secured in the lower end of the vertical brush-shaft, and traveling in substantially the same plane as the faces of the brushes serves to support the front end of the machine in its movement over the floor. Secured to the rear end of the frame a caster-bracket 77 is secured, and in the lower end of the same is loosely swiveled a caster 78, which supports the rear end of the machine and is free to rotate in any direction in which the same may travel, being adjustably connected with said bracket by means of the receiving-socket 79 and the set-screw 80, engaging the pintle end of said caster in said socket.

The construction and operation of the herein-described improvement is now thought to be apparent without further description.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a scrubbing-machine, the combination, with the frame, of a V-shaped bearing-bracket depending from said frame, a vertical brush-shaft journaled in said bracket and frame and provided with an adjusting-collar secured thereon above the bearing in the frame and with radially-extending lugs having under squared recesses, brush-arms pivotally secured at one end within said recesses, springs secured to said lugs above the recesses therein and normally bearing upon the outer ends of said arms, clamping-plates pivotally secured at their centers to the outer ends of said arms and having opposite depending flanges adapted to removably engage the backs and edges of the brushes, and means for rotating the shaft, substantially as set forth.

2. In a scrubbing-machine, the combination, with the frame and the axle having the beveled gear, of a single double-T-headed casting secured to the top of said frame, a brush-shaft journaled vertically in the tail of said casting and provided with a pinion secured to the upper end of the same, a short stub-shaft carrying bevel-gear at each end, journaled in the outer head of said casting, and an intermediate parallel bearing between the same and the inner head, a horizontal gear-wheel and small bevel-gear carried therebeneath, located above the inner T-head, and provided with opposite conical recesses, a

transverse brace secured to the frame parallel with said inner T-head and directly over said gear-wheel and beveled gear, and pointed bearing-screws passing from beneath said inner T-head and through said transverse bar and engaging said conical bearings, substantially as set forth.

3. In a scrubbing-machine, the combination, with the frame, a brush-shaft journaled in the front end of the same, and a water-supply tank located at the rear end of the machine, of handle-adjusting springs located on opposite sides of said tank and secured to said frame, said springs comprising a vertical portion and semicircular overlapping sections having elongated slots, bolts engaging said slots and adjustably connecting said sections together, and the operating-handles secured to the top of one of said adjustable spring-sections, substantially as set forth.

4. In a scrubbing-machine, the combination, with the frame and a vertical brush-shaft in the front end of the same, of a pair of handles adjustably located at the rear end of the machine, a water-supply tank mounted between the handles and provided with discharge-openings, a transverse shaft journaled in said tank and provided with a crank-arm and a valve having the projecting plugs or teats adapted to fit said discharge-openings, and a spring-actuated operating-rod slidingly mounted upon one of the handles and provided at one end with a series of engaging-notches and loosely connected at the other end with the upper end of said crank-arm, substantially as set forth.

5. The combination, with the revolving axle having ratchet-teeth upon one end, of a sleeve or collar suitably secured over the notched end of said axle and provided with a transverse perforation therein, an inverted-U-shaped leaf-spring rigidly secured at one end to said collar, and a beveled pawl pin or stop secured to the free end of said spring, projecting through the perforation in said collar and adapted to engage the ratchet-teeth in said axle, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

HECTOR PRUD'HOMME.

Witnesses:

AMIR EDWIN,
WM. H. HUMPHREVILLE.