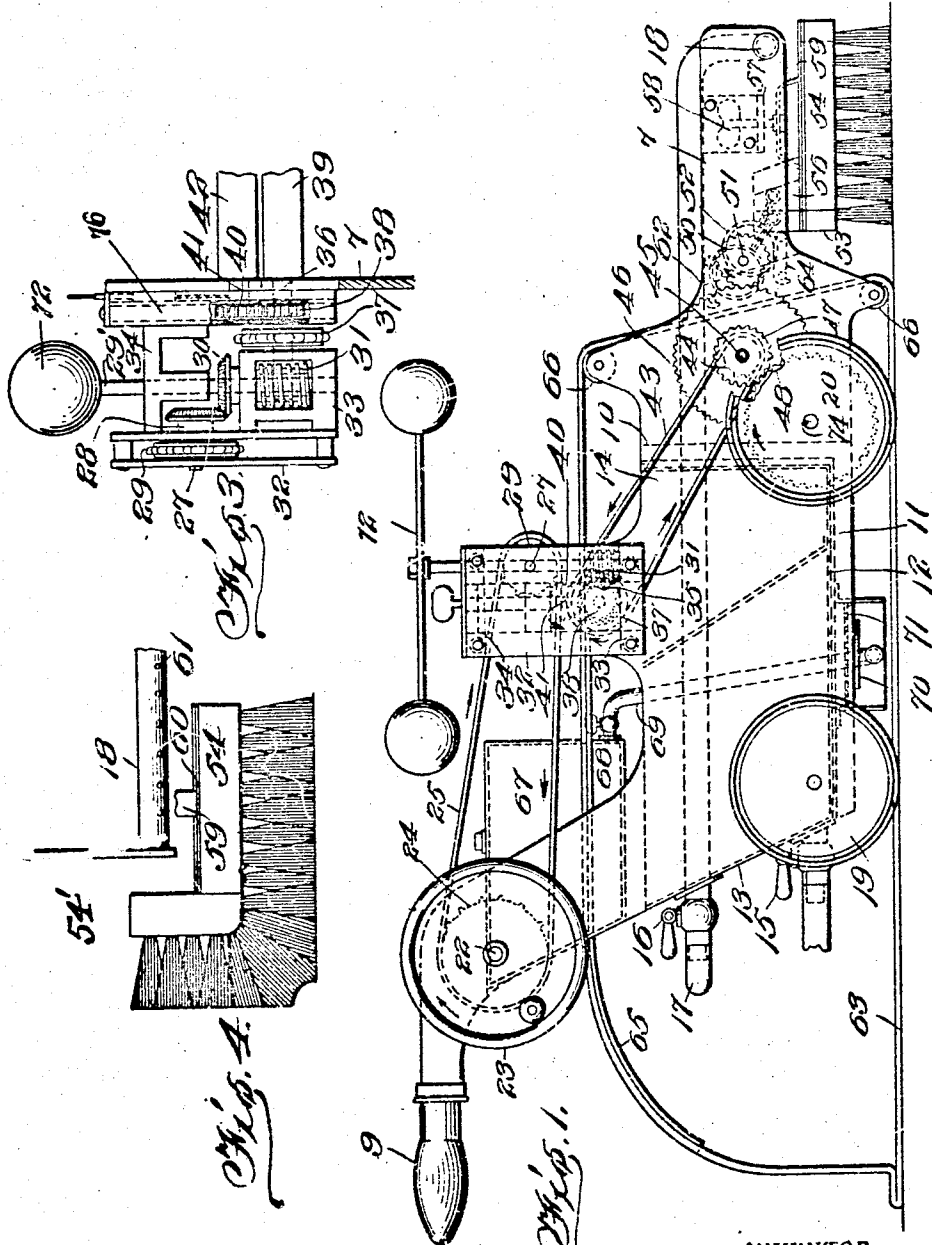


G. JACIUK.
SCRUBBING MACHINE.
APPLICATION FILED SEPT. 18, 1909.

957,162.

Patented May 3, 1910.

2 SHEETS—SHEET 1.



WITNESSES

Edith Hemich

INVENTOR
George Jaciuk

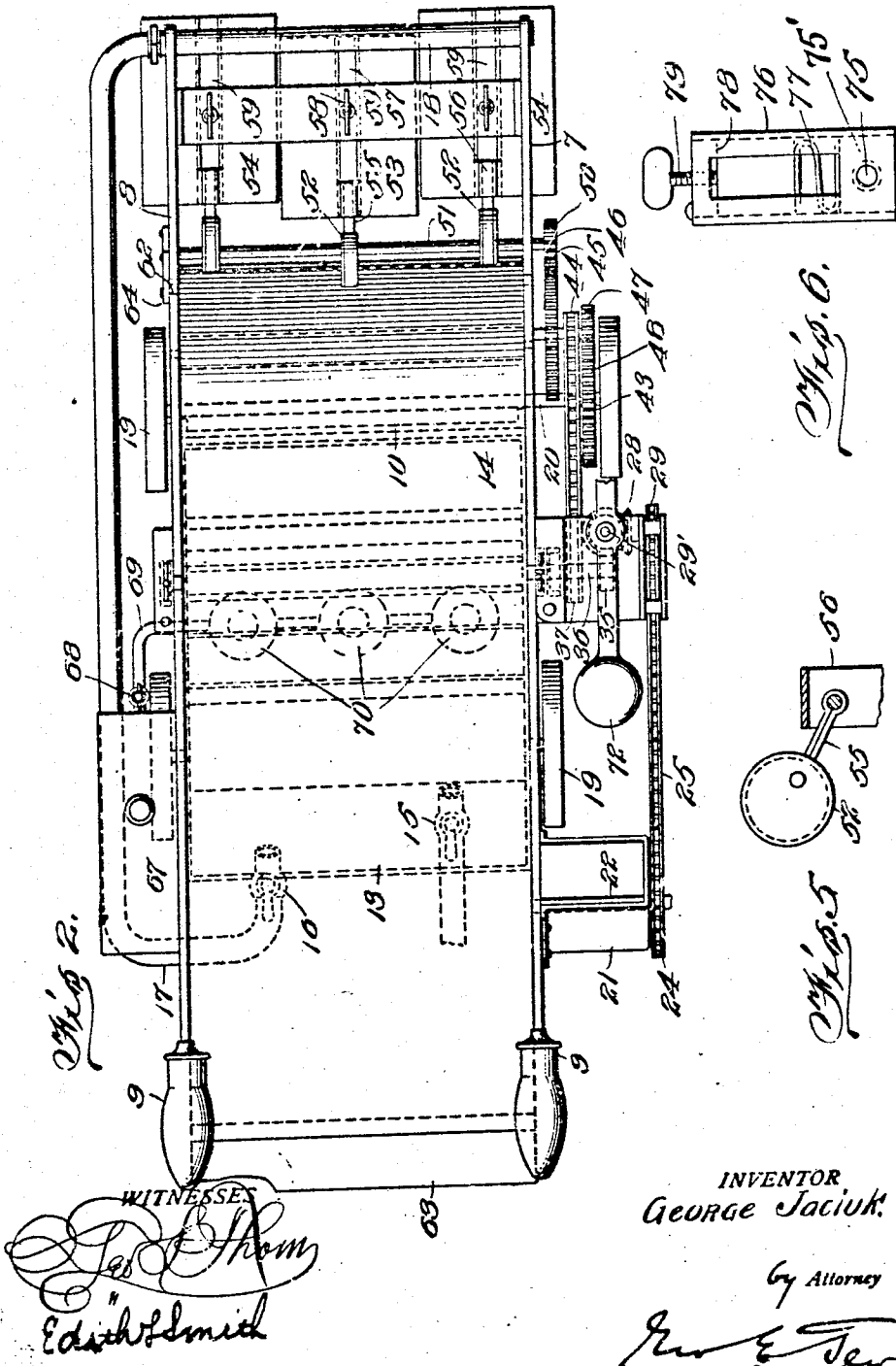
by Attorney
W. E. Jew

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2 SHEETS—SHEET 2.



INVENTOR
 George Jaciuk.

By Attorney

John E. New

UNITED STATES PATENT OFFICE.

GEORGE JACIUK, OF CHICAGO, ILLINOIS.

SCRUBBING-MACHINE.

957,162.

Specification of Letters Patent.

Patented May 3, 1910.

Application filed September 16, 1909. Serial No. 518,002.

To all whom it may concern:

Be it known that I, GEORGE JACIUK, a subject of the Emperor of Austria-Hungary, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Scrubbing-Machines, of which the following is a specification.

This invention relates to scrubbing machines, useful in scrubbing floors and the like, and comprises a tank mounted on wheels and provided with reciprocating scrubbing brushes at the front and with a cloth which follows the brushes and wipes up the floor, the dirty water being wrung from the cloth, which has the form of an endless belt which travels along the floor under the tank and thence upwardly over the tank where the water is squeezed therefrom.

The invention is characterized by improved means for operating the belt and for reciprocating the scrubbing brushes, as well as for supplying water to the brushes by means of a spray pipe leading from the tank to position above the front ends of the brushes.

In the accompanying drawings Figure 1 is a side elevation of the machine. Fig. 2 is a top plan view. Fig. 3 is a front elevation of a portion of the operating mechanism. Fig. 4 is a front elevation of a portion of the device showing the sprinkler and two scrubbing brushes as operated in conjunction. Figs. 5 and 6 are details of the machine, that will be more clearly defined in the description of the device.

The construction of the machine is as follows. Two independent side pieces (7) and (8) are provided which constitute a frame and which are provided with handles (9) for use in pushing the device along. The side pieces (7) and (8) are joined by the front and lower cross pieces (10) and (11) which are secured to the same, and these pieces also form a support for the water pan or receptacle (12). The said pan is divided into two separate compartments (13) and (14) the object of which is described below. Compartment (13) is provided with two valves (15) and (16) the former being used to regulate the supply of water that may be admitted through it to compartment (13) and the latter so regulates the supply through it into pipe (17) which

connects with the sprinkler pipe (18) at the front of the device.

The entire machine is supported upon the rubber tired wheels (19). The two rear wheels are rotatably secured to the sides (7) and (8) and the two front ones are mounted on shaft (20) which has a bearing at either end in the frame.

Near the rear end of side (7) of the frame is a bracket (21) which carries a shaft (22) and with it a hand wheel (23) and a sprocket wheel (24). The sprocket wheel (24) carries a chain (25) which also engages with a secondary sprocket wheel (29), on shaft (27) on which is secured a bevel gear (28). On vertical shaft (29') another bevel gear (30) is secured which engages with bevel gear (28). A worm (34) is secured to shaft (29') near its lower end, and the upper end is provided with a ball fly on balance (72) which assists in the operation of the device. The brackets (32, 33 and 34) serve as supports and contain bearings for the shafts (27) and (29') respectively. Worm (31) engages with the worm gear (35) which is secured to the rotatable shaft (36). This shaft also carries a sprocket wheel (37), a spur gear (38) and a roller (39). The said spur gear (38) engages with another spur gear (40) of the same diameter which is secured on rotatable shaft (41) which carries a roller (42) of the same dimensions as roller (39) with which it co-operates.

The sprocket wheel (37) on shaft (36) carries a chain (43) which engages with sprocket (44) on shaft (45). This shaft also carries a spur gear (46) and a spur pinion (47), which latter engages with the spur gear (48) on shaft (20). The spur gear (46) also engages with the spur pinion (50) which is secured to rotatable shaft (51). This shaft carries a series of eccentrics (52) that are connected to and are instrumental in moving the scrub brushes forward and backward as the shaft revolves. The construction of the eccentric together with its relation to operating the brush may be seen in Fig. 5. In this construction the middle brush (53) is made to work opposite in motion to that of the side brushes (54).

A thin, and durable band (55) is arranged around the eccentric and is pivotally attached to brackets (56) near the rear of the brushes, and above the same. The ec-

centric moves within the band thereby producing a horizontal movement of the brushes when the device is in operation.

Near the front of the machine and secured to the sides (7) and (8) is a cross piece (57) which assists in holding the frame rigid. Through this said piece a number of screws (58) are inserted, equal in number to the number of brushes used. The screws are pivotally secured in the springs (59) resting on the backs of the brushes. The ends of the springs (59) operate in grooves (60) which are provided the entire length of the brushes, and serve as guides for the ends of said springs. The springs supply pressure to the brushes which is necessary in operation and the screws (58) are provided to adjust or regulate the tension.

Fig. 4 shows a modification which illustrates the manner of using two brushes in conjunction with each other. The brush (54') on the side scrubs the mop board of a room and the other scrubs the floor. The same figure shows the sprinkler pipe (18) with holes (61) through which the water flows.

The side (8) of the frame has a slot or recess (62) to provide an opening to admit the wiping cloth (63). The joint is supplied with the fasteners (64) to make it firm. However before the wiping cloth is placed in position the top roller (42) is removed. Fig. 6 illustrates a portion of the mechanism that removably retains the said roller. The wiping cloth is carried by the thin plate (65) at the top and rear of the tank and by the rollers (66) which are mounted at top and bottom between the front ends of the side pieces (7) and (8) with bearings in the same.

Another feature in connection with the device is the provision made for heating the water as it is supplied to the receptacle provided for the same as previously described. A gasoline tank (67) is secured to side (8) of the frame, and is provided with a valve (68) in a pipe (69) which leads from the tank to a series of burners (70) under the water tank. The burners are so arranged that the flame from the same passes through a perforated plate (71) before acting upon the bottom surface of the water receptacle. The compartment (13) of the said water receptacle is provided for clean water and compartment (14) for dirty water that may be moving from the wiping cloth in passing between the rollers (39) and (42) which perform the function of a wringer when in operation.

The device is hand operated as shown, but the construction is such that it may be electrically operated if desired by attaching a motor and supplying a transmission gear where the hand wheel is located.

Arrow points are provided on the draw-

ings to specify the direction of a number of the parts.

The operation is as follows: The hand wheel should be operated in the direction indicated by the arrow. The chain turns sprocket wheel (29) and in so doing turns the shaft (27) together with the other mechanism in direct connection with it. Power is in turn then transmitted to the vertical shaft (29') and it is thereby used to revolve the rollers (39) and (42). The sprocket (37) carries the power to sprocket (44) by means of the chain (43). The rotatable motion of shaft (45) transmits power to shaft (20) and (51) respectively, thereby creating a horizontal movement of the brushes at the front of the machine and also revolves the driver wheels (19) located on said shaft. This movement of the drivers pushes the machine forward. Small pins (74) are inserted at either end of shaft (20) to secure the wheels (19) and may be removed to allow the drivers to revolve freely on the shaft when not in operation. As the machine advances across the floor in operation the wiping cloth (63) is pulled along the scrubbed portion of the floor thereby soaking up all the water. The rollers (39) and (42) actuate the cloth and as the cloth passes between them they serve the purpose of a wringer and the dirty water is deposited in compartment (14) of the water receptacle (12). The mechanism provided for applying tension to roller (42) is shown in Fig. 6. It consists of a slide arrangement which fits in a groove provided for the same in frame 26. Numeral (75) indicates the opening in the bearing block (75') for one end of shaft (41) and this block is slidable up and down in the frame (76) for adjustment, being provided with a tension spring (77) and a movable piece (78) the movement of which is actuated by the adjusting screw (79).

What is claimed as new is:

1. The combination of a wheeled tank having forwardly extending side pieces at the front thereof, a cross piece between said side pieces, a plurality of longitudinally movable scrubbers located side by side under said cross piece, screws extending through the cross piece, springs connected to the lower ends of the screws and having a slidable connection at the backs of the scrubbers, means to reciprocate the scrubbers, and means to supply water from the tank to the scrubbers; the screws being adjustable to vary the pressure of the springs of the backs of the scrubbers.

2. The combination of a wheeled tank having forwardly extending side pieces at the front thereof, a plurality of reciprocating scrubbers located side by side in front of the tank, springs bearing slidably on said scrubbers, a fixed support for said springs extending across between the side pieces,

means to reciprocate the scrubbers, including a shaft extending across between the side pieces and operatively connected to the scrubbers, and means to supply water from the tank to the scrubbers.

3. The combination of a wheeled tank, a plurality of reciprocating scrubbers mounted side by side at the front thereof, the scrubbers having backs with grooves in the top thereof, a series of springs connected to the

frame of the tank and fitting in said grooves to permit movement of the scrubbers, means to reciprocate the scrubbers, and means to supply water from the tank to the scrubbers.

In testimony whereof, I affix my signature 15
in presence of two witnesses.

GEORGE JACIUK.

Witnesses:

WILL JACIUK,

WM J. ROBINSON.