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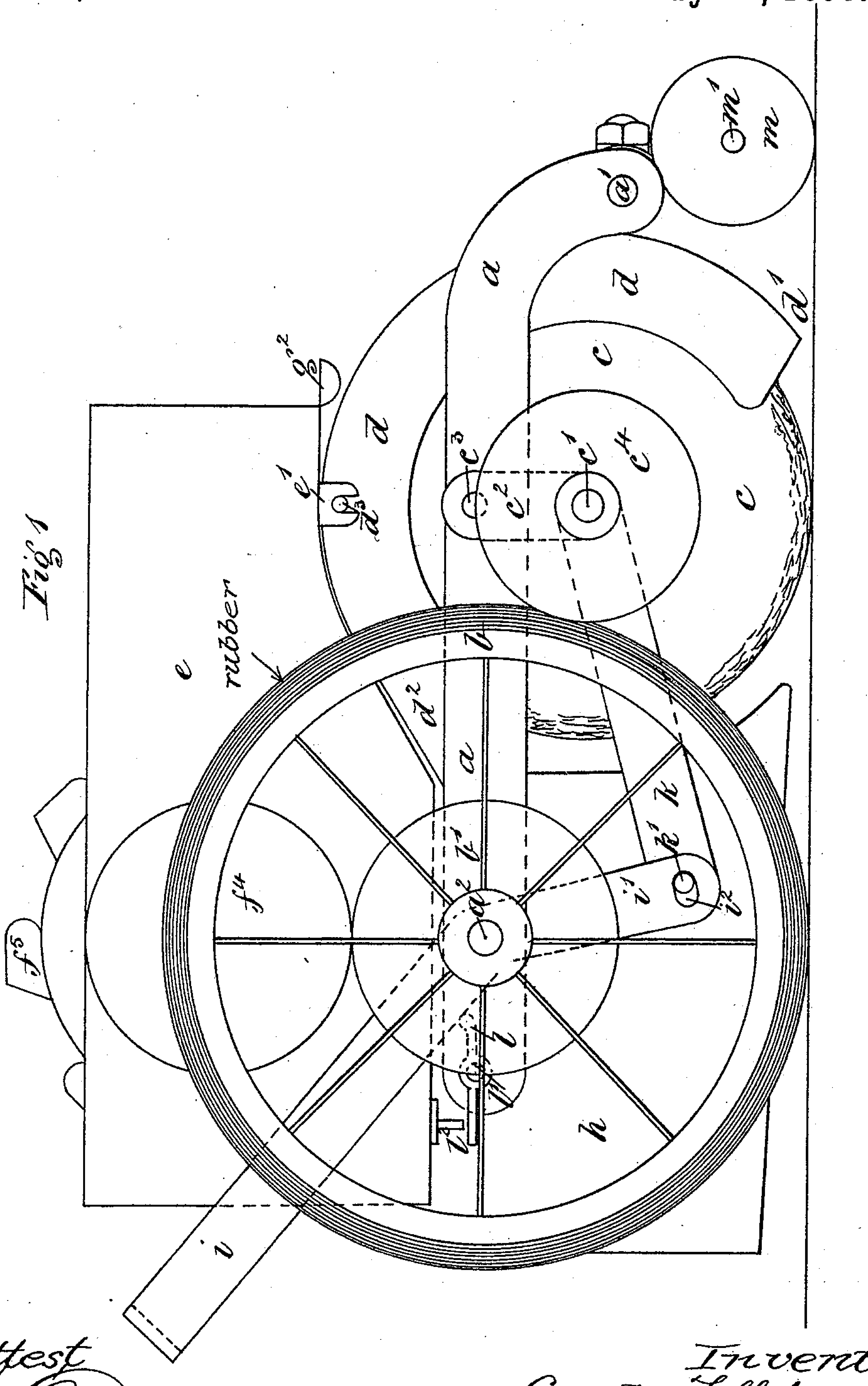
G. TELLEFSEN & H. HUGHES.

APPARATUS FOR WASHING FLOORS.

No. 497,359. Patented May 16, 1893.



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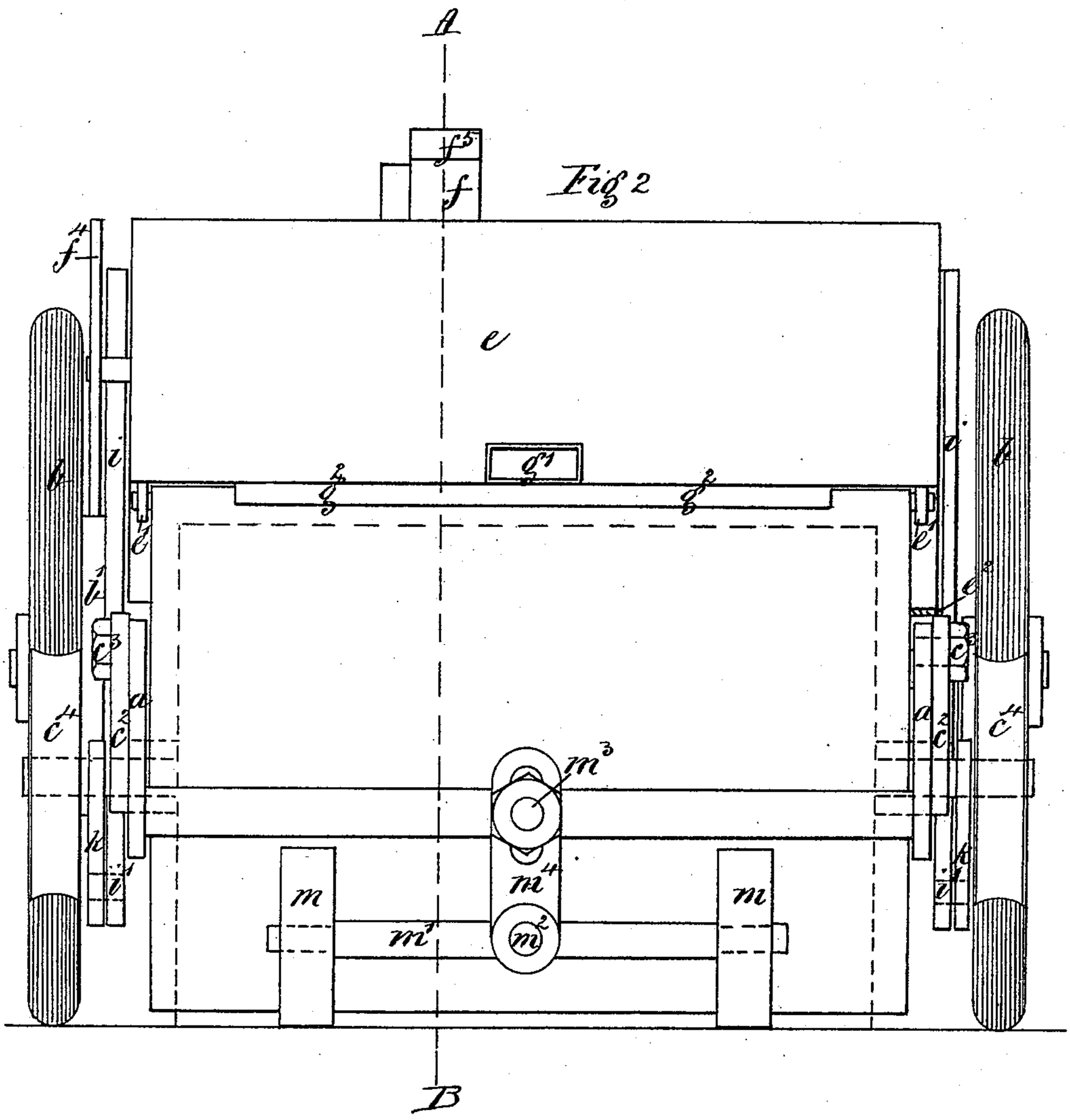

Fig 2

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G. TELLEFSEN & H. HUGHES.

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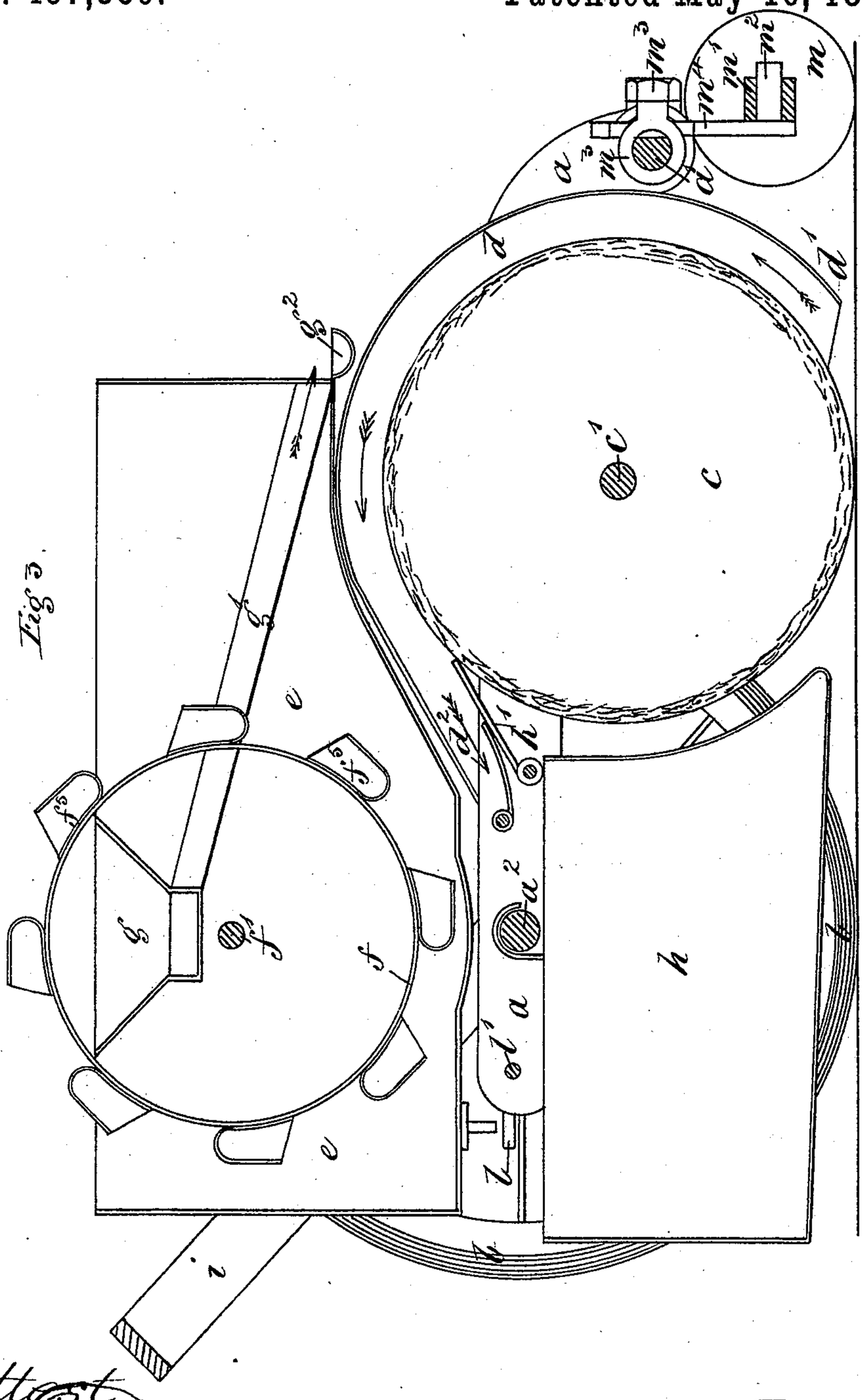

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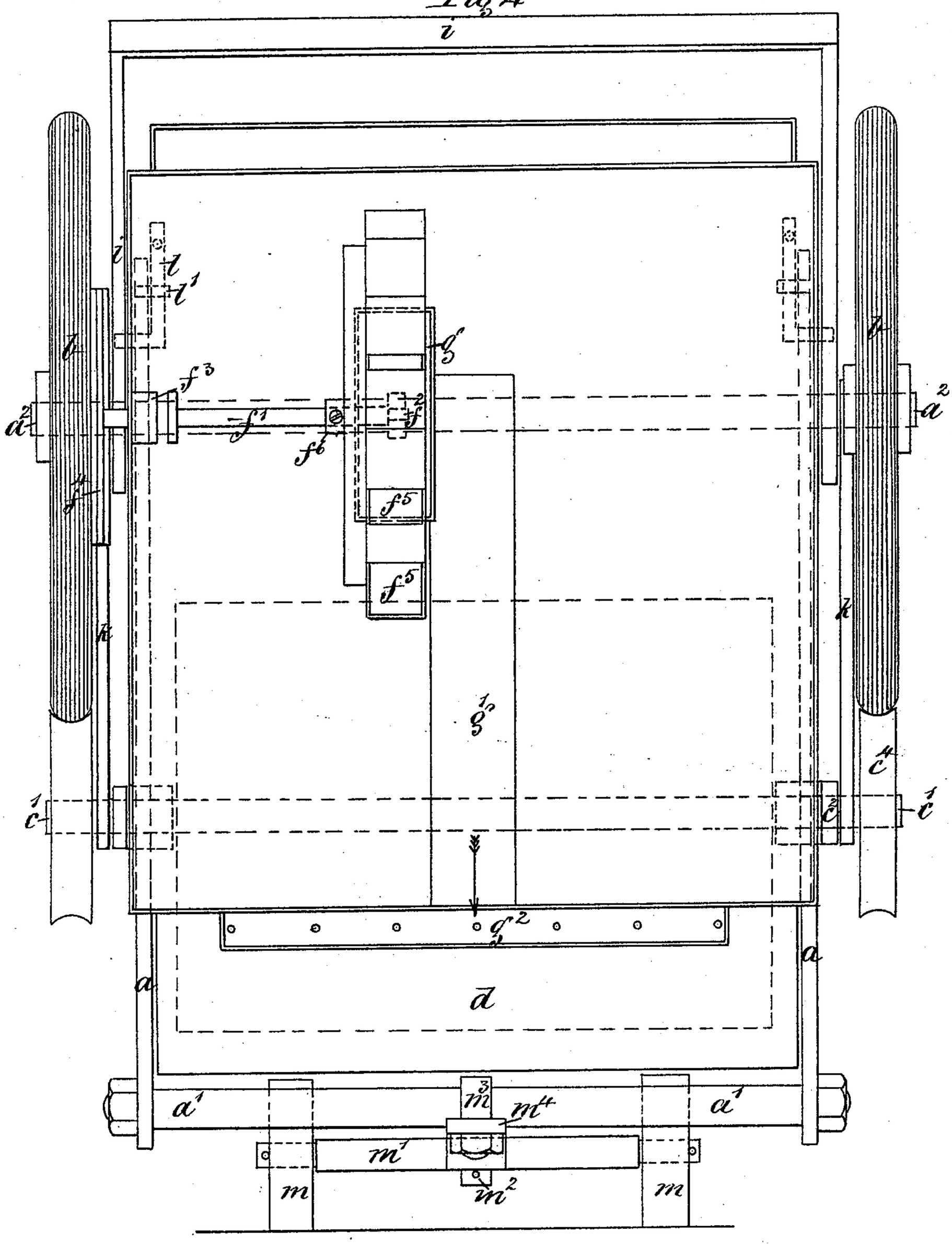
Fig 4



Witnesses.
Alex. Henderson
Henry Hughes Jr.

Inventors.
Gunder Tellefsen
Henry Hughes.
by their Attorney Henry Hughes

UNITED STATES PATENT OFFICE.

GUNDER TELLEFSEN, OF DANEVIRKE, AND HENRY HUGHES, OF WELLINGTON, NEW ZEALAND.

APPARATUS FOR WASHING FLOORS.

SPECIFICATION forming part of Letters Patent No. 497,359, dated May 16, 1893.

Application filed December 2, 1891. Serial No. 413,846. (No model.)

To all whom it may concern:

Be it known that we, GUNDER TELLEFSEN, residing at Danevirke, Hawkes Bay, and HENRY HUGHES, residing at Wellington, Colony of New Zealand, subjects of the Queen of Great Britain, have jointly invented an Improved Apparatus for Washing Floors, of which the following is a specification.

Our invention relates to an improved apparatus for washing floors, and has for its objects to provide a machine in which a revolving cylindrical wiper or brush is used to clean the floor, such wiper or brush being fed with water or washing liquid automatically from a supply tank in the proper quantity and then returned to a receiving tank from which it can be either thrown away or returned to the supply tank as desired; the water supply is also capable of exact adjustment and the pressure of the wiper or brush can be regulated as desired. We attain these objects by the mechanism illustrated in the accompanying drawings in which—

Figure 1. is a side view of our machine. Fig. 2. is a front view of the same. Fig. 3. is a vertical section through the line A. B Fig. 2. Fig. 4. is a top view of the machine.

Similar letters refer to similar parts throughout the several views.

a. *a* are the side frames of the machine held together firmly at a proper distance by the stay a' and the axle stay a^2 which is screwed into the said side frames.

b. *b*. are the driving wheels which we prefer to have rubber tires and which revolve freely on either end of the axle stay a^2 and one of which has a pulley b' fixed to it for a purpose to be hereinafter described.

c is the revolving wiper or brush which we prefer to make of a compact sheep's fleece and to revolve in the opposite direction to that in which the machine travels so as to absorb and carry round with it the water and dirt from the floor; this wiper or brush has an axle c' with which it revolves in the links c^2 which are hung to the frames *a*. by the pins c^3; it is also provided with pulleys c^4 which gear into the driving wheel *b*. and thus give a reversed and quicker motion to the wiper or brush than that of the driving wheel *b*. It is evident that other descriptions of frictional or other gearing can be substituted for these friction wheels.

d. is a sheet metal casing covering about one half of the circumference and a portion of the ends of the wiper or brush in such a manner as to leave a space between it and the periphery of the wiper or brush for a purpose to be hereinafter described. This casing extends from near the floor at d' to the delivery point at d^2.

e is a tank to contain the water or washing fluid and which is provided with brackets e' so as to rest and oscillate on the pins d^3 fixed to either side of the casing *d*.

f is a revolving bucket wheel fixed on a spindle f' which revolves in bearing f^2 and a stuffing box bearing f^3; this spindle has also a pulley f^4 bearing on the pulley b' and receiving motion from the same by the pressure of the tank *e* downward, the said tank resting on the pulley and being supported on its opposite side by the frame *a*. *a* at e^2. This revolving bucket wheel is fastened by the screw f^6 and can be slid backward or forward on the spindle f' so as to regulate the delivery.

g is a hopper to receive the water or fluid carried up from the tank *e* by the buckets g^5, &c., and deliver it to the pipe g' and distributer g^2 from whch it trickles down the front of casing *d* and onto the floor in front of the wiper or brush at d'.

h is a receiving tank for the dirt and water taken up by the wiper or brush *c* and which is delivered to the receiving tank by the plate h' which extends completely across the wiper roller *c* and being pressed lightly by the spring h^2 scrapes off the dirt and water into the said receiving tank; this tank hangs to the axle a^2 and can be easily removed.

i is the handle of the machine to which can be fixed a pole or any other suitable attachment to propel the machine. This handle oscillates on the axle a^2 on either side of the machine, and has projecting pieces i'. i' having slot holes i^2 as shown in Fig. 1.

k. are connecting rods which transmit the motion of the handle *i* to the links c^2 when desired.

l are small levers oscillating on the pins *l'* and which can be moved by depressing the handle *i* and thus by pressing upward on the pins l^2 lift the tank *e* and the pulley f^4 and thus stop the revolution of the bucket wheel *f* when desired.

m. m are carrying wheels for the front of the machine which run upon an axle *m'*, which itself is able to oscillate on the pin m^2 so as to allow for inequalities of the floor. These carrying wheels with their axle are fastened to the stay *a'* by the clip bolt m^3 and link m^4, and are capable of being set to any height desired by the nut m^3 and thus regulate the pressure of the wiper or brush *c* upon the floor as desired.

It will be seen from this description of the various parts and by reference to the drawings that our machine consists of an absorbent roller or brush; (by preference) made of sheep's fleece or wool and which we prefer to revolve at about six feet per second in the contrary direction to that in which the machine is traveling by means of driving wheels working loosely on an axle; that this revolving wiper or brush is surrounded on its front and the upper part of its periphery by a casing which forms a passage for the water and dirt carried up by the said wiper and also forms a current of air which materially assists in conducting the water and dirt to the receiving tank. It will also be seen that a supply of water is regularly discharged from the upper tank by the revolving bucket wheel and that the supply only takes place when the machine is in motion, and then only in exact proportion to that motion, and moreover that the quantity of discharge per yard of floor traveled over can be regulated by sliding the bucket wheel forward or backward on its spindle and then fastening it by the set screw. The water or washing fluid is thus discharged as required in front of the machine and after wetting the floor is with the dirt carried round by the absorbent roller, and then delivered into the receiving tank by the pressure of the plate *h'* from whence it can be removed or returned to the water tank as desired.

For more efficiently drying the floor it may be necessary to run the wiper without water and in that case by depressing slightly the handle *i* the tank is raised by the lever *l* and thrown out of gear with the driving pulley and this arrangement is especially useful on stopping the machine as the dripping of any water is prevented by stopping the supply of water a short distance before stopping the machine.

To turn the machine with facility the handle may be still further depressed when the pulley c^4 is disengaged from the driving wheel *b* by means of the lever *i'*, rod *k*, and link c^2, thus stopping the wiper and leaving the wheels *b* to work freely on their axles so as to turn with facility.

The front of the machine is carried by small wheels which can oscillate freely to compensate for any irregularities in the floor, and can be set to any height so as to regulate the pressure of the wiper or brush.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. In combination the frame work, the carrying wheels, the brush, the non-rotary tank *e* having a discharge opening for directing the water to the brush, the rotary means within the tank for feeding the water to the opening thereof and the detachable driving connection between the water feeding means and the carrying wheels, substantially as described.

2. In combination the frame work, the carrying wheels, the brush, the tank having a discharge opening for directing the water to the brush, and the means for feeding the water to said opening comprising the wheel having buckets within the tank and the operating connections between the said wheel and the carrying wheel, substantially as described.

3. In combination the frame work, the carrying wheels, the brush, the tank having a discharge opening, the delivery spout *g'* within the tank, the bucket wheel F, the shaft extending through the tank for supporting the said wheel and the driving connections between the shaft and the carrying wheels, the said bucket wheel being adjustable toward and from the said delivery spout to vary the feed of water, substantially as described.

4. In combination the frame work, the carrying wheels, the brush, the tank having vertical movement and having an opening to supply water to the brush, the water feeding means within the tank the detachable connections therefrom to the carrying wheels and the means for raising the tank to disengage said connections, substantially as described.

5. In combination, the frame work, the carrying wheels, the brush, the vertically movable tank, water feeding means therein, the detachable connections therefrom to the carrying wheels, the handle and the lever *l* for operating the tank vertically to disengage the detachable operating means of the water feeding device.

6. In combination the frame work, the carrying wheels, the brush having supporting links c^2 at its ends suspended from the frame work, the driving pulleys c^4 carried by the ends of the brush shaft and normally engaging the carrying wheels, the movable lever handle and the connection therefrom for operating the suspended links for disengaging the pulleys c^4 from the carrying wheels.

7. In combination, the frame work, the carrying wheels, the rotary brush, the detachable driving means between said brush and the

carrying wheels, the movable tank, the water feeding device therein, the detachable driving connections between the same and the carrying wheels, the lever handle and the devices operated thereby for controlling the motion of the brush the position of the tank and the connections to the water feeding device, substantially as described.

In witness whereof we have hereunto set our hands in the presence of two witnesses.

GUNDER TELLEFSEN.
HENRY HUGHES.

Witnesses:
ALEX. HENDERSON,
HENRY HUGHES, Jnr.