

J. H. HENDRICKSON.
LAUNDRY MACHINE.
APPLICATION FILED AUG. 25, 1919.

1,332,257.

Patented Mar. 2, 1920.
2 SHEETS—SHEET 1.

Fig. 1

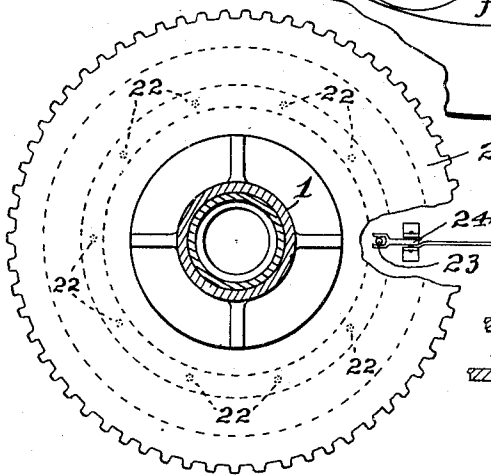
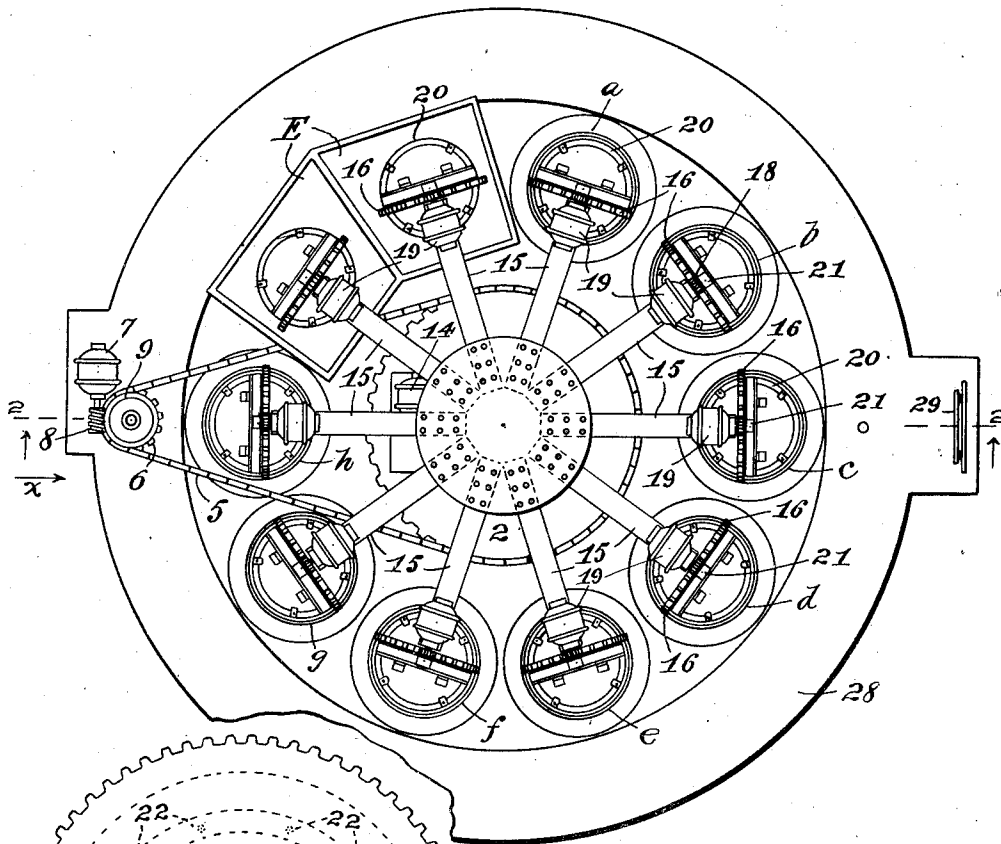


Fig. 7

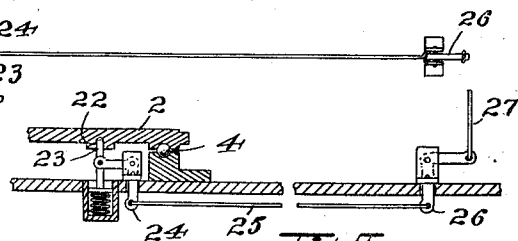


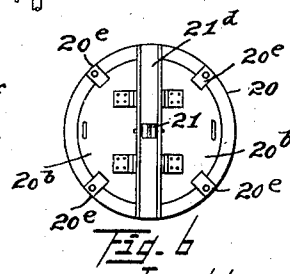
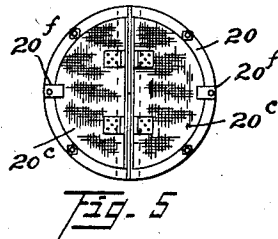
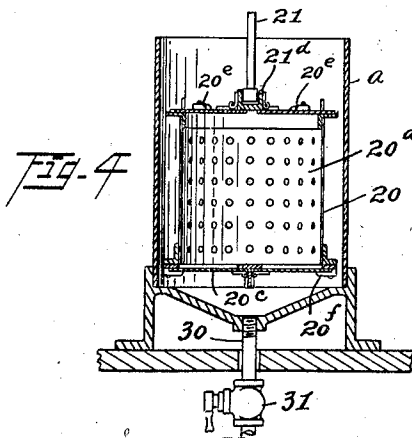
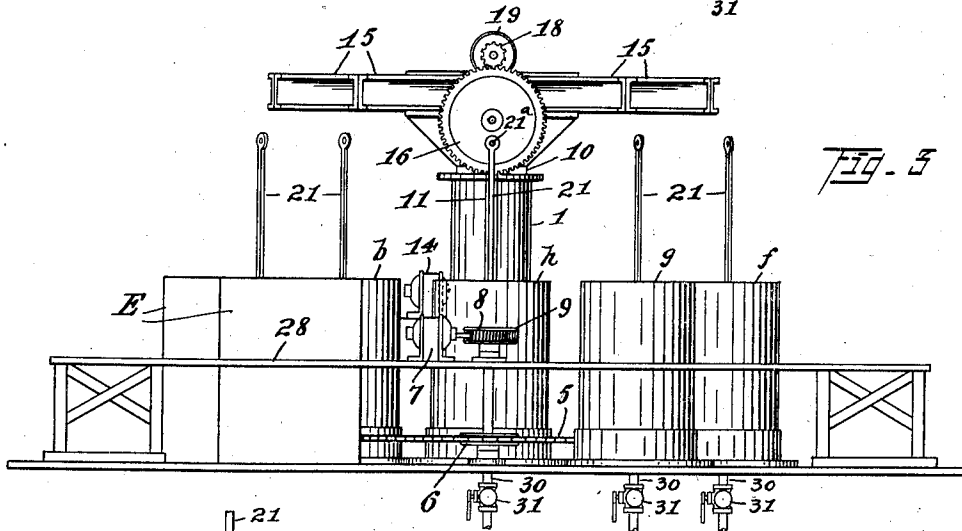
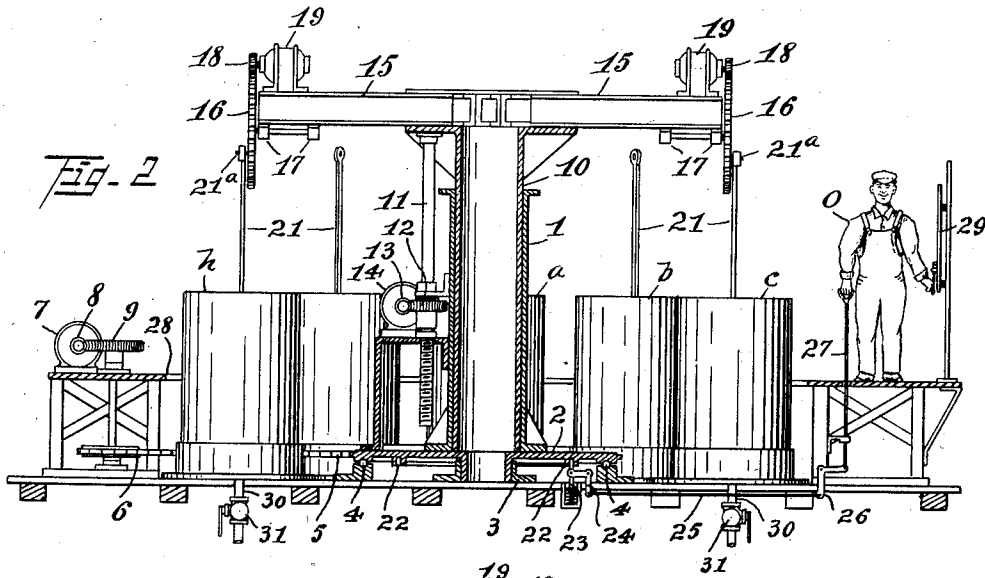
Fig. 8

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LAUNDRY-MACHINE.

1,332,257.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOHN H. HENDRICKSON, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Laundry-Machines, of which the following is a specification.

This invention relates to improvements in washing machinery particularly adapted for use in public laundries, or in establishments of this character wherein soiled material in large quantities is laundried.

One of the objects of the present invention is to expedite the operation of carrying the mass of articles through the several stages of the laundrying process.

A further object of the invention is the provision of means for economizing in the use of the essential cleansing elements employed.

Still a further object of the invention is to provide a power operated mechanism of the character set forth, that is simple in construction, and reliable and effective in operation.

With these and other apparent objects in view, the invention consists in the combination of a series of arms which radiate from a vertically movable column mounted on a rotatable base, and a series of tubs, or stationary tanks arranged concentric with the rotatable members, and adapted to receive baskets which depend from the outer terminals of the radiating arms, mechanism being carried by said arms and connected with the baskets for imparting a vertical reciprocating movement to said baskets within the tanks. Mechanism is also provided for elevating and lowering the carrier column, thereby causing the baskets to clear the tops of the tanks, and provision is made for locking the revolving elements, as desired, for registration of the depending baskets with the several tanks.

The following is a detailed description of the construction, combination and arrangement of parts of the improved machine, reference being had to the accompanying drawings which are made part of the specification, similar reference characters being employed to designate corresponding parts.

In the said drawings Figure 1 is a plan view of an embodiment of the improved machine.

Fig. 2 is a section taken substantially on

line 2—2 of Fig. 1 with parts of the basket agitating mechanism eliminated.

Fig. 3 is an elevation in the direction of arrow *x*, Fig. 1 with parts of the agitating mechanism removed.

Fig. 4 is a central vertical section of one of the tanks and a basket inserted therein.

Fig. 5 is a bottom view, and Fig. 6 a top view of one of the baskets.

Figs. 7 and 8 illustrate the locking mechanism, as hereinafter clearly explained.

In the embodiment as shown, a tubular, vertical column 1 is attached to a rotatable member 2 which is journaled in a floor bracket 3. The member 2 includes a sprocket mounted on ball-bearings 4, and adapted to be driven by a sprocket chain 5 which engages a sprocket wheel 6, said wheel 6 being driven by a motor 7 through the medium of a worm 8 and a companion wheel 9.

A carrier column 10 is telescopically mounted in the member 1, and is adapted to be raised and lowered through the medium of a screw 11, said screw being operated, vertically, by a worm wheel 12 in mesh with a worm 13 which is driven by a motor 14.

A series of arms 15 are attached to and radiate from the top of the member 10. Vertically disposed spur gears 16 are mounted, in suitable bearings 17, on the outer terminals of the arms 15, said gears being in mesh with pinions 18 which are driven by individual motors 19.

A series of stationary tanks *a, b, c, d, e, f, g* and *h* are arranged in concentric relation to the rotating carrier, and so positioned as to adapt them to receive baskets 20 which are supported by connecting-rods 21, said rods being connected with the gears 16, off center, as shown at 21^a, Fig. 2, so that the revolution of the gears 16 imparts vertical reciprocating motion to the baskets 20.

The number of tanks is arbitrary, but in accordance with the predetermined number of stages of the laundrying process. For example, in the present embodiment, the primary tank *a* contains a cold-water bath; tank *b* hot suds; tank *c* hot rinse water; tank *d* cold water rinse; tank *e* an acid bath; tank *f* bluing water, and tanks *g* and *h* final rinses. Extractors are employed for receiving the mass of cleansed articles and eliminating the greater part of the moisture therefrom, as a preliminary to the drying.

As there are various designs of extractors in common use, which are applicable to the improved machine, only the relative arrangement of compartments adapted to co-
 5 operate with the present improvement, for extracting purposes, are indicated by E.

The preferred form of the baskets employed includes a perforated, cylindrical shell 20^a provided with top doors 20^b, and
 10 wire-screen bottom doors 20^c, best shown in Fig. 5. The top doors 20^b are hinged to a channel member 21^a, in which the connecting-rod 21 is mounted. Top and bottom door latches are indicated, respectively, by
 15 20^d and 20^e.

Locking mechanism is provided for registration of the depending baskets with the several tanks in the laundrying process. In the present embodiment the locking mechanism includes a series of cavities 22 in the underside of the member 2, said cavities corresponding in number to the number of tanks and compartments employed. A spring actuated pin 23 is adapted to penetrate any one of the cavities, and thereby
 25 lock the member 2. The pin 23 is withdrawn from a cavity, at the will of the operator O, through the medium of a bell-crank lever 24, a connecting link 25, a second bell-crank 26, and an operating rod 27.

A platform 28 is provided as a support for the main driving mechanism, including the motor 7, for the switch-board 29, and for the operator O who controls the several electrical operations, the motors 7, 14 and 19 being connected through the switch-board 29,
 35 for independent operations, by suitable wiring, not shown, but which is well known in the electrical art.

40 The baskets may be loaded with the soiled material, from the platform, preparatory to the laundrying, the process and operation of which will now be set forth.

The baskets, depending from the rotary carrier, are successively or consecutively loaded through the top, said carrier being elevated during the loading process. Primarily a single basket is loaded and the carrier depressed, with the loaded basket in
 50 tank *a*, the motor 19 corresponding to the first loaded basket is then actuated, thereby agitating the contents of tank *a*, by the reciprocating motion of the basket in said tank, and the material in the basket is operated upon by being saturated by the liquid thus agitated. A predetermined period of
 55 time being allowed for this state of the process, the carrier is elevated, a second basket is loaded, and the carrier again depressed
 60 with the first loaded basket in tank *b*, and the last one in tank *a*. The corresponding motors are then actuated and agitation takes place in tanks *a* and *b* for the predetermined period, after which the carrier is
 65 again elevated, a third basket is loaded, and

the operation is repeated. This operation is continued until the several baskets, with their contents, have been acted upon in all the tanks, after which the contents of each basket is deposited in an extractor located in
 70 either one of the compartments E, in accordance with the capacity of the machine. The contents of the baskets is discharged by opening the bottom doors 20^c.

After each consecutive loading operation,
 75 the locking pin 23 is withdrawn from its seat in the member 2, and the carrier is revolved until said pin engages the next cavity, thereby insuring the registration of the baskets with the tanks when the carrier is depressed. 80

The several tanks are provided in their bottoms with pipes 30 having valves 31 therein for drainage.

It will readily be seen that the improved machine provides for great economy of
 85 cleansing materials, such as soaps, acids, and bluing compounds. It also expedites the work, and provides for an appreciable saving in operating expenses, in the matter of labor employed. 90

While I have set forth the general principles of my invention, and have shown, more or less diagrammatically, an operative machine, it will be understood that there may be various changes in the details of construction and arrangement of parts, without departure from the nature of the invention or the scope of the appended claims. 95

What I claim and desire to secure by Letters Patent is. 100

1. In a laundry machine, the combination of a rotatable supporting member; a vertically movable carrier telescopically connected with said supporting-member and rotatable therewith; a series of baskets connected with and arranged in concentric relation to the rotatable carrier; vertical reciprocating mechanism connecting said baskets with the carrier; means for operating the reciprocating mechanism; means for raising and lowering the telescopic carrier; means for rotating said carrier; and a series of stationary receptacles within which said baskets reciprocate. 105

2. In a laundry machine, the combination of a series of stationary compartments adapted to contain, respectively, the elements employed in the several stages of the cleansing process, said compartments being arranged in circular formation; a centrally located rotatable supporting member; a vertically movable carrier telescopically connected with said supporting-member and rotatable therewith; a series of baskets corresponding in number to the number of stationary compartments carried by said carrier and depending therefrom in vertical alinement for registration with the stationary compartments; mechanism connecting the baskets with the carrier for imparting a 115
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reciprocating motion to said baskets within the compartments; means for raising and lowering the carrier; and means for rotating said carrier.

5 3. In a laundry machine, the combination of a series of stationary compartments adapted to contain, respectively, the elements employed in the several stages of the cleansing process, said compartments being arranged
10 in circular formation; a centrally located rotatable supporting column; a vertically movable carrier telescopically connected with said supporting column and rotatable therewith; a series of radiating arms attached to said carrier; a series of cylindrical,
15 perforated baskets connected with said arms, adapted to reciprocate in the stationary compartments; means for raising and lowering the carrier telescopically in the rotatable
20 supporting-member; and means for rotating said support and carrier.

4. In a laundry machine, the combination of a rotatable supporting column; a vertically movable carrier telescopically connected
25 ed with said supporting-member and rotatable

therewith; a series of depending baskets arranged concentric and carried by said carrier; motor driven vertical reciprocating mechanism connecting said baskets with the carrier; means for raising and lowering the
30 telescopic carrier; means for rotating the supporting-member and carrier; and a series of stationary receptacles within which said baskets reciprocate.

5. In a laundry machine, a rotatable supporting column; a carrier telescopically
35 mounted in said supporting column; means for vertically adjusting said carrier; radiating arms attached to said carrier; vertical reciprocating mechanism mounted on the
40 respective outer terminals of the radiating arms; baskets arranged concentrically and supported by connecting-rods depending from the reciprocating mechanisms; stationary
45 receptacles arranged concentrically in vertical alinement with the depending baskets, in which said baskets reciprocate; and means for rotating the carrier.

In testimony whereof I affix my signature.

JOHN H. HENDRICKSON.