G. D. BURTON.

PROCESS OF WASHING CLOTHES.

APPLICATION FILED OCT. 12, 1906. RENEWED APR. 1, 1910.

976,035. Patented Nov. 15, 1910.

2 SHEETS—SHEET 1.

Fig. 1.

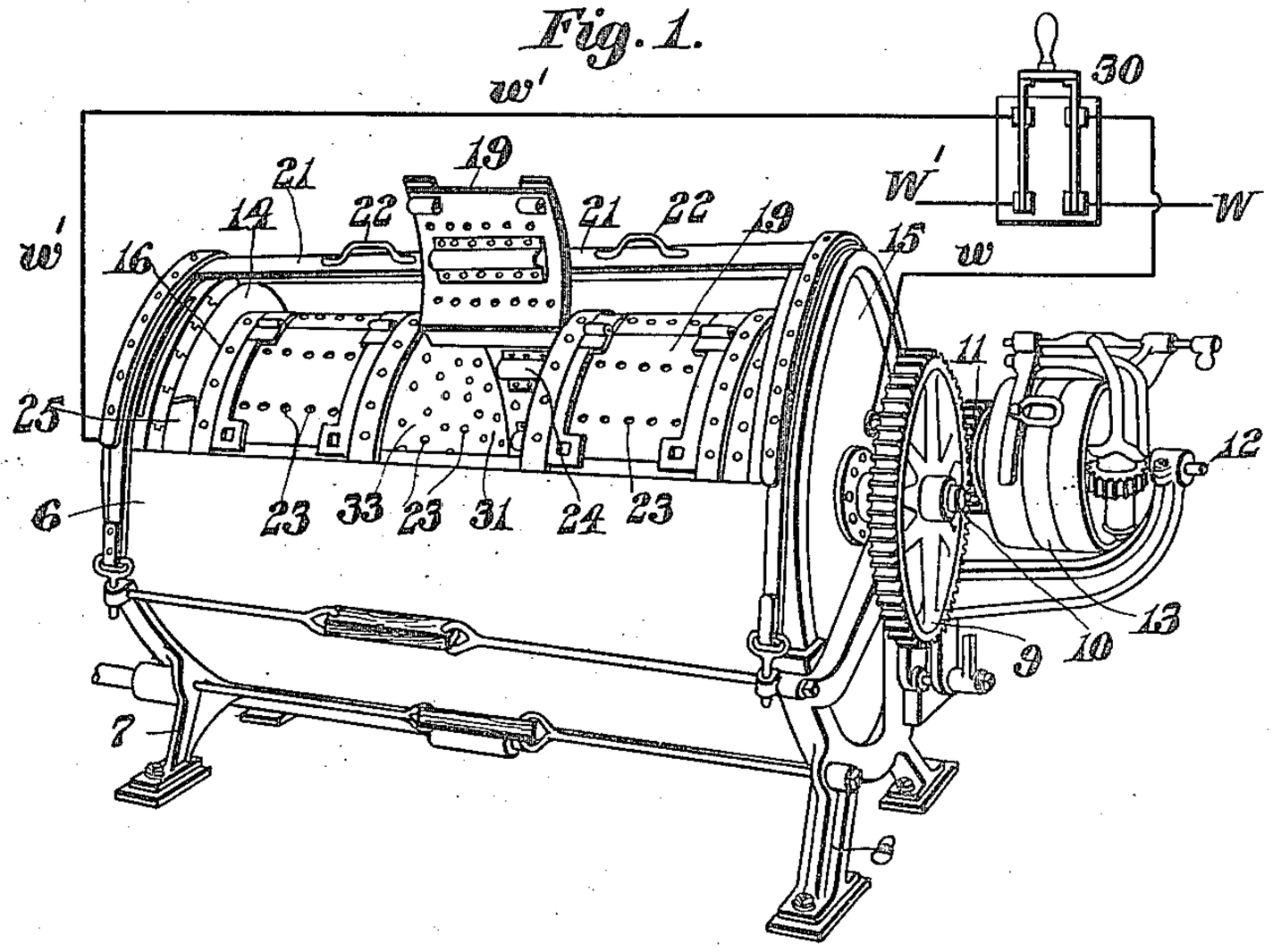
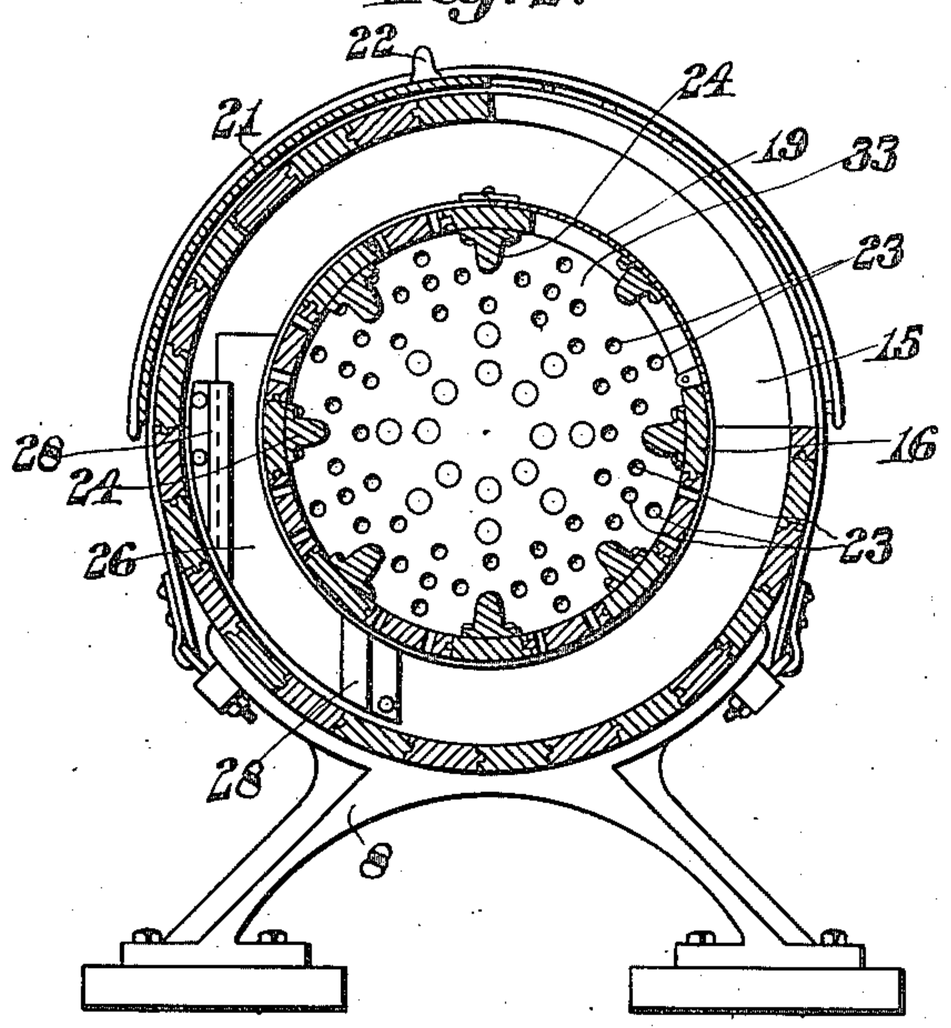


Fig. 2.



Witnesses:
Robert A. Jewett.
Roswell F. Hatch.

Inventor:
George D. Burton,
by Walter E. Lombard,
Atty.

G. D. BURTON.

PROCESS OF WASHING CLOTHES.

APPLICATION FILED OCT. 12, 1906. RENEWED APR. 1, 1910.

976,035. Patented Nov. 15, 1910.

2 SHEETS—SHEET 2.

Fig. 3.

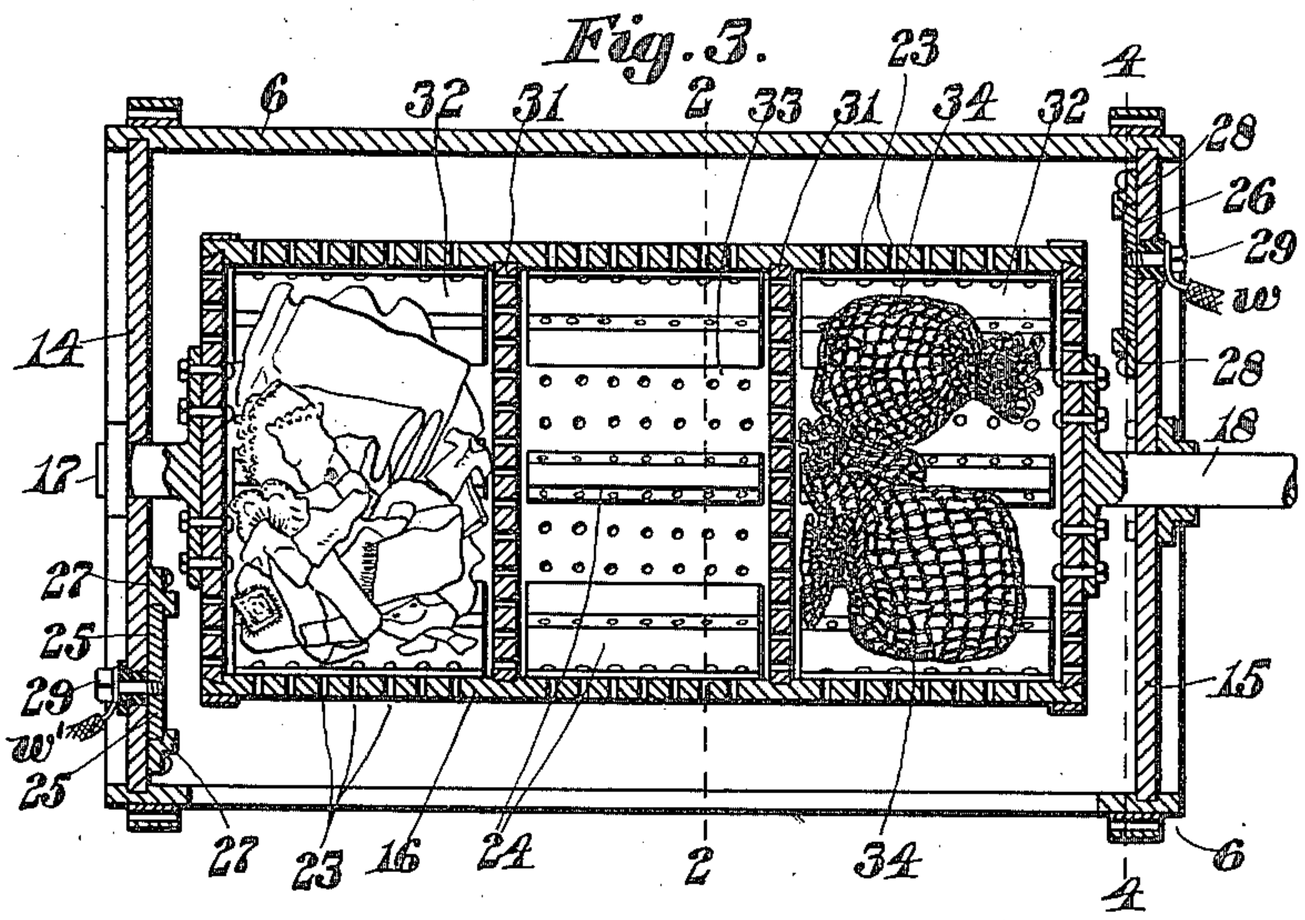
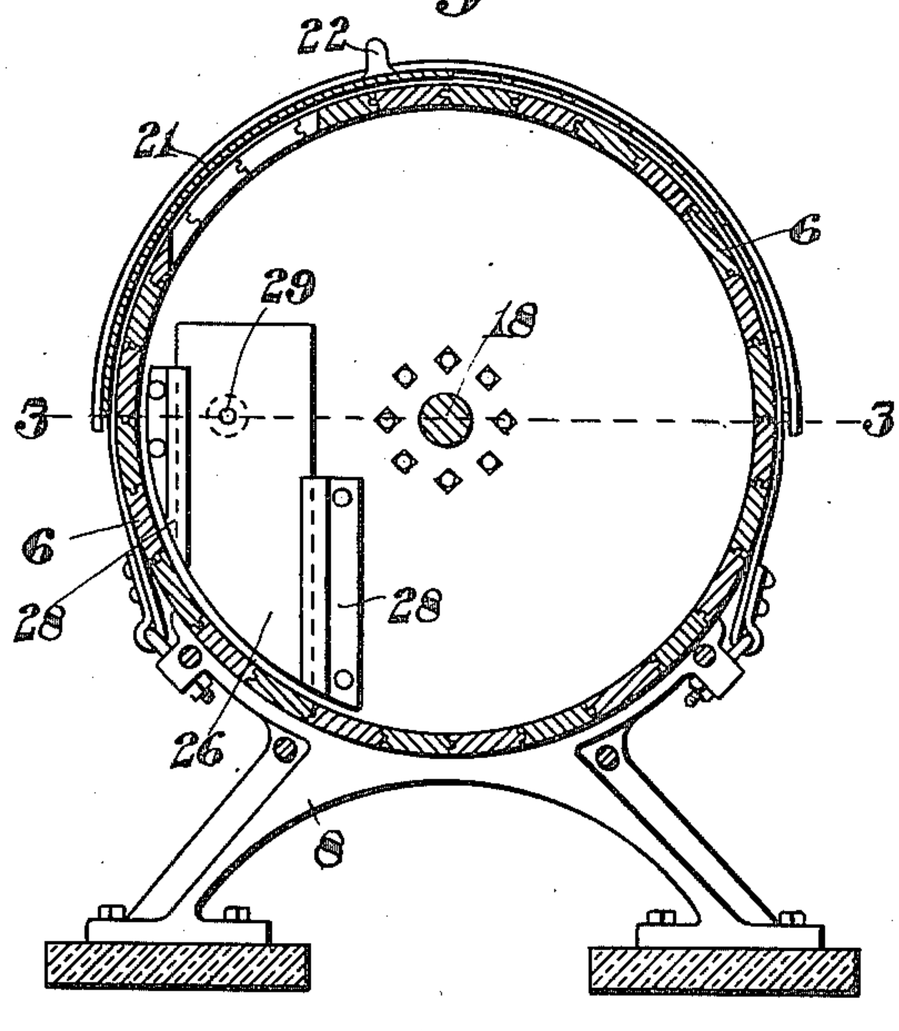


Fig. 4.



Witnesses:

Robert A. Jewett

Roswell F. Hutchi.

Inventor:

George D. Burton,

by Walter E. Lombard,

Atty.

UNITED STATES PATENT OFFICE.

GEORGE D. BURTON, OF BOSTON, MASSACHUSETTS.

PROCESS OF WASHING CLOTHES.

976,035. Specification of Letters Patent. Patented Nov. 15, 1910.

Application filed October 12, 1906, Serial No. 338,571. Renewed April 1, 1910. Serial No. 552,800½.

To all whom it may concern:

Be it known that I, GEORGE D. BURTON, a citizen of the United States of America, and a resident of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Processes of Washing Clothes, of which the following is a specification.

This invention relates to a process for washing clothes and particularly to the clothes of various individuals whereby the clothes of different persons may be thoroughly cleansed in the same apparatus without mixing the belongings of one with those of another and whereby colored goods and white goods may be washed at the same time without injury to either.

In carrying out the invention an apparatus is used similar to that shown in the drawings, of which—

Figure 1 represents a perspective view. Fig. 2 represents a cross vertical section taken on line 2—2 on Fig. 3. Fig. 3 represents a horizontal longitudinal section of the principal parts taken on line 3—3 on Fig. 4, and Fig. 4 represents a vertical cross section taken on line 4—4 on Fig. 3.

Similar characters designate like parts throughout the several figures of the drawings.

The apparatus used in washing the clothes by this process consists of a stationary barrel-shaped tank 6 mounted upon castings or suitable supports 7 and 8. The casting or support 8 serves also as a frame for supporting the propelling gear which consists of a spur gear 9 mounted upon a shaft 10. The spur gear 9 engages with a pinion gear 11 mounted upon a shaft 12 which also acts as a shaft for the direct and reverse pulleys and the loose pulley 13, see Fig. 1.

The automatic reversing device in this construction is arranged to cause the rotating cylinder 16 to turn in one direction from two to eight rotations, more or less, and then reverse automatically and turn from two to eight times, more or less. The stationary tank 6 is made in two sections, the heads 14 and 15 being divided horizontally, (see Fig. 4) one-half of the staves being fastened to the lower sections of the head and the other half of the staves to the upper sections of the heads, so that the upper half of the tank may be removed to allow of the placing in its position of the rotating cylinder 16, which has journals 17—18 on which it turns. This rotating cylinder has doors 19 and corresponding openings for convenience in inserting and removing the clothes. The fixed barrel-shaped tank 6 has a curved sliding door 21 having handles 22. In the drawings the door is represented as open but when the apparatus is in use it should be closed. The rotating cylinder is perforated as indicated at 23—23 and has at intervals projections 24—24 which act as agitators and cause the contents of the cylinder to be thoroughly acted upon by the cleansing fluid, as well as to be equally affected by the electric currents passing from the electrodes 25—26 through the solution and the contents therein.

The electrodes 25—26 may be made of any suitable metal but they are preferably made of aluminum either nickel or silver plated as it has been found by experiment that aluminum thus plated works more advantageously and is more readily cleaned while at the same time it has the least effect upon the materials being cleansed in this apparatus. These electrodes or plates 25—26 are detachably connected to the heads 14 and 15 by ways or slides 27—28, see Fig. 4, in which the electrodes slide. Bolts (one of which is shown at 29, Fig. 4) pass through the electrodes and through the heads of the tank and serve the double purpose of fasteners and as electric connectors between the service wires *w w'* and the said electrodes. A switch 30 of ordinary construction is used for connecting the service lines W W′ with the apparatus.

The inner revoluble receptacle or cylinder 16 is provided with a plurality of partitions 31 separating said revoluble receptacle into a plurality of compartments each with an independent door 19 giving access thereto so that the articles belonging to one individual may be located in one compartment 32 while those belonging to another may be located in another compartment 33.

Where the washing of one individual is too small to fill one of the compartments an openwork bag or net 34 is utilized to contain the articles belonging to each individual and a plurality of bags containing the clothes of the different persons are placed within a compartment as shown in the drawings. All the clothes of a single individual or a single family are collected together without regard to color and placed within a receptacle distinct from the receptacle

containing the articles of other families or other persons. The tank 6 is then filled with cold water in which the various articles to be cleansed are submerged in the revoluble receptacle 16 in which they are contained. Chlorid of sodium is then added to the water contained within the tank 6 and a current of electricity is passed through the solution thus obtained. This current of electricity is usually used of from seventy-five to five hundred volts, more or less, and varying in amperage from two to two hundred, more or less, according to the quantity of the articles to be cleansed and the density of the solution. This current may be obtained from any suitable source. The electricity passing through this solution develops electrolytic gases which so act upon the articles contained within the revoluble receptacle that the colors are prevented from running and by the addition of suitable salts, such as sodium chlorid, the current of electricity is transmitted through the articles to be cleansed. The passage of the electric current through these articles causes the fibers of all the textile substances to be expanded and as a consequence secures a more thorough elimination of the dirt therefrom.

Owing to the use of chlorid of sodium in the solution which prevents the colors from running thereby causing injury to the articles being cleansed any and all articles capable of washing may be placed in one receptacle without regard to the color of these articles, as, for instance, table cloths, napkins, pillow slips, sheets, towels, with different colored borders, children's dresses of different colors, etc., which upon being placed in the receptacle the colors are immediately set by the development of a current of electricity passing through the articles when submerged in a solution of water and chlorid of sodium.

After the chlorid of sodium has been used to set the colors thoroughly so that they will not run the temperature of the water is increased to 80° or 90° Fahrenheit and a soapy substance is added thereto. The current is again passed through the solution for ten or fifteen minutes during which time the revoluble receptacle is revolved first in one direction and then in another, thereby causing the articles in the receptacle to be thoroughly cleansed. Any dirt or bacteria, germs, etc., which may be contained within the clothes is drawn therefrom by means of the action thereon of the current of electricity, said impurities and foreign substances attaching themselves to one of the electrodes, the impurities and foreign substances in accomplishing this passing through the perforations in the partitions and through the openings in the net or open-work bags which hold the articles being cleansed. When the washing is completed these bags containing the washings of various persons are removed from the revoluble receptacle intact and delivered to the ironer.

It will be seen that by this process the articles to be washed belonging to each individual may be kept intact at all times throughout the process and cannot by any means be mixed with the belongings of another person which it is obvious is a great advantage in laundries doing public work. Another great advantage of this process is that it dispenses with the necessity of separating colored goods from the white goods as by the process used these may all be kept together and the colors set so that they will not run.

It is believed that from the foregoing the advantages of this invention will be so obvious and its operation so plainly evident as not to require any further explanation.

Having thus described my invention, I claim:

1. The process of washing clothes which comprises confining the clothes in separate compartments in a receptacle revoluble in a tank containing water, adding to said water a quantity of chlorid of sodium, subjecting said solution to the action of an electric current, increasing the temperature of the solution to not above 90° F., adding thereto a soapy substance, and again subjecting the solution to the action of an electric current.

2. The process of washing clothes which comprises confining the clothes in separate compartments in a receptacle revoluble in a tank containing water, adding to said water a quantity of chlorid of sodium, subjecting said solution to the action of an electric current, adding suitable salts to the solution to cause the current to pass through the articles to be cleansed, and adding thereto a soapy substance.

3. The process of washing clothes which comprises confining the clothes in separate compartments in a receptacle revoluble in a tank containing water, adding to said water a quantity of chlorid of sodium, subjecting said solution to the action of an electric current, adding suitable salts to the solution to cause the current to pass through the articles to be cleansed, adding thereto a soapy substance, and again subjecting the solution to the action of an electric current.

Signed by me at Boston, Mass., this 28th day of October, 1905.

GEO. D. BURTON.

Witnesses:
WALTER E. LOMBARD,
EDNA C. CLEVELAND.