No. 644,492. Patented Feb. 27, 1900.

C. F. BESORE.

CLOTHES WRINGER.

(Application filed Nov. 2, 1899.)

(No Model.)

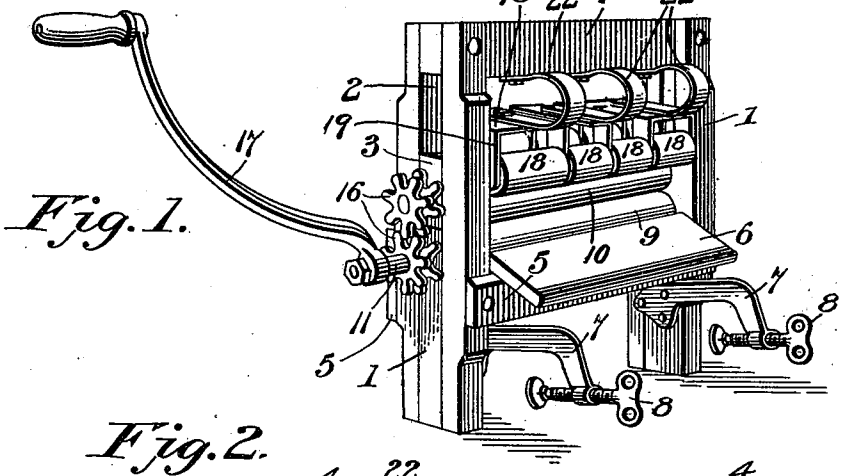


Fig. 1.

Fig. 2.

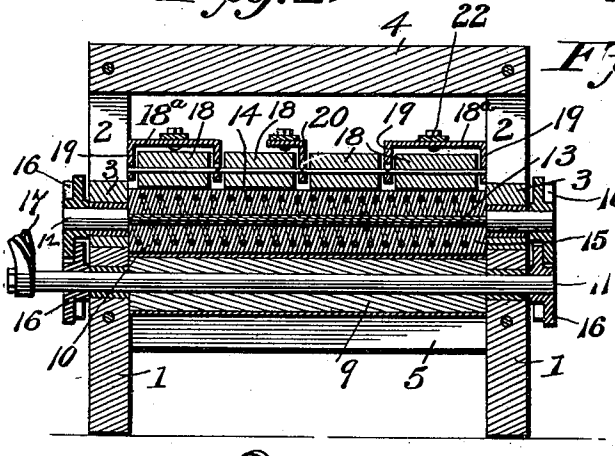


Fig. 3.

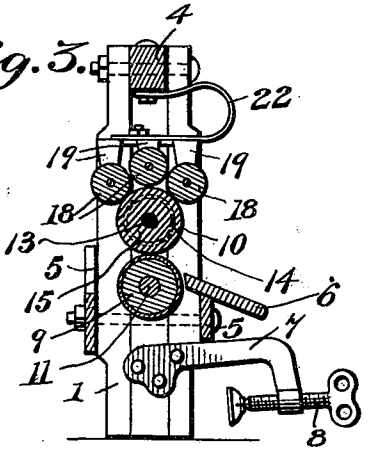


Fig. 4.

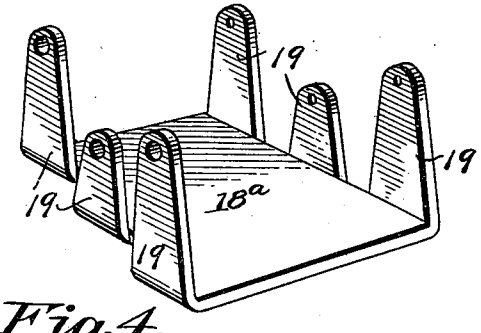
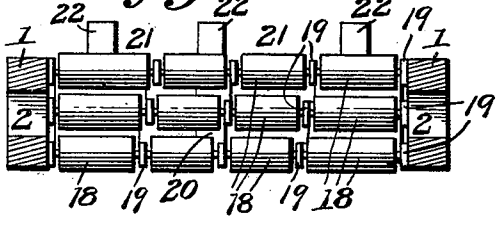


Fig. 5.



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UNITED STATES PATENT OFFICE.

CALVIN FURGESON BESORE, OF IDA GROVE, IOWA, ASSIGNOR OF ONE-HALF TO BART VARNER, OF SAME PLACE.

CLOTHES-WRINGER.

SPECIFICATION forming part of Letters Patent No. 644,492, dated February 27, 1900.

Application filed November 2, 1899. Serial No. 735,596. (No model.)

To all whom it may concern:

Be it known that I, CALVIN FURGESON BESORE, a citizen of the United States, residing at Ida Grove, in the county of Ida and State of Iowa, have invented a new and useful Clothes-Wringer, of which the following is a specification.

This invention relates to clothes-wringers, and has for its object to produce a wringer embodying, in connection with what may be termed a "stiff" roller, a flexible roller formed upon a spring-core and adapted to yield at any point along its length for allowing the buttons, knots, or other obstructions to pass between the rollers without injury thereto or to the other operative parts of the machine.

The invention also has for its object to combine with such flexible roller sectional presser-rolls in which the sections of one roll overlap or break joint with the sections of the adjoining roll or rolls, whereby the flexible roller is prevented from being cut or creased, and thereby injured. The sections of the presser-rolls are mounted in brackets, each of which is individually pressed toward the flexible roller by means of an independent spring.

Other objects and advantages of the invention will appear in the course of the ensuing description.

The invention consists in a clothes-wringer embodying certain novel features and details of construction and arrangement of parts, as hereinafter fully described, illustrated in the drawings, and incorporated in the claims.

In the accompanying drawings, Figure 1 is a perspective view of a clothes-wringer embodying the principles of this invention. Fig. 2 is a vertical sectional view taken longitudinally of the flexible roller. Fig. 3 is a transverse section taken at right angles to Fig. 2. Fig. 4 is a reversed perspective view of one of the brackets in which the roll-sections are journaled. Fig. 5 is a horizontal section through the machine, taken just beneath the sectional presser-rolls and looking upward toward said rolls.

Similar numerals of reference designate corresponding parts in the several figures of the drawings.

The frame of the wringer is of the ordinary construction, comprising uprights or standards 1, having their upper ends longitudinally slotted, as at 2, to receive sliding boxes 3, in which the shaft of one of the rollers of the wringer is journaled and by means of which said roller is yieldingly held against the other roller. The standards or uprights 1 are connected by a transverse horizontal top bar 4 and lower down by transverse bars or braces 5, upon one of which is secured a shelf or ledge 6, upon which the clothes rest. The frame may also be provided with laterally-projecting arms 7, containing clamp-screws 8, by means of which the frame may be mounted upon a tub or other convenient support.

One of the rollers, and, preferably, the lower one, (indicated at 9,) is what may be termed a "stiff" roller in contradistinction to the co-operating roller 10, which is flexible. Both of the rollers are faced with pliable material, such as rubber, but the stiff roller is of harder material and is mounted upon a rigid unyielding shaft 11. The flexible roller comprises ends 12, which are connected by a central core 13, which consists, preferably, of a spring-cable formed of a number of strands of spring-wire twisted upon themselves. Surrounding the spring-core 13 is a coiled reinforcing-spring 14, the coils of which are of materially larger diameter than the spring-core, so as not to come in contact therewith. The main body 15 of the roller is preferably formed of soft rubber, which is molded or otherwise disposed around the coiled spring 14 and spring 13, so as to completely envelop and incase said parts. The spring-core 13 is sufficiently stiff to prevent torsional action of the roller, but is elastic when subjected to lateral pressure, so that it may yield in any direction and at any point laterally to enable an obstruction to pass between the two rollers without injury to either one. The coiled spring 14 serves to reinforce the flexible roller and impart sufficient stiffness thereto to keep it normally straight and to exert a certain amount of pressure upon the clothes being operated upon. The two rollers are provided at their opposite ends with intermeshing gear-wheels 16, by which they are caused to turn simultaneously in opposite directions, and the shaft of one of the rollers is equipped with an operating crank-handle 17, by which the machine is operated.

Superimposed above the flexible roller is a

series of sectional presser-rolls 18. These rolls are journaled in a series of brackets, each of which comprises a base-plate 18^a, with depending bearing-lugs 19 at each side. As I contemplate using three presser-rolls, each outer or end bracket is provided at opposite sides or ends with three sets of pendent bearing-lugs 19, the outer brackets having the bearing-lugs at their outer ends in the same transverse plane, while the bearing-lugs at the inner ends of said brackets are arranged in an oblique line or in stepped order, so that the edges of the roll-sections will not track or come in line with each other. The intermediate bracket (indicated at 20) has all of its bearing-lugs arranged in an oblique line or out of transverse alinement with each other, thus carrying out the same idea of preventing the ends of the roll-sections from coming in line with each other. Each of the presser-rolls comprises a plurality of sections 21, and it will be seen by reference to the drawings that the sections of the several rollers vary in length, so that their edges will not track, the rollers being of such length as to fill snugly the space between the bearing-lugs of the several brackets. Each of the brackets is individually pressed toward the flexible roller by means of an independent spring 22, secured at one end to its respective bracket and at its opposite end to the top cross-bar 4.

In view of the above it will be seen that I have provided a flexible roller which coöperates with a stiff roller, which is adapted to yield laterally at any point away from the stiff roller for permitting the passage of a wad or bunch of clothes or buttons and other obstructions without injury to either of them; also, that the flexible roller is braced or reinforced along its entire length by means of sectional presser-rolls so constructed and mounted that they are adapted to admit of the yielding movement of the flexible roller, and at the same time the sections of the presser-rolls are yieldingly urged with the necessary pressure toward the flexible roller for causing the latter in turn to bear yieldingly with the required pressure against the stiff roller.

One of the chief advantages of the present invention resides in the construction by means of which the sections of the presser-rolls are thrown out of line with each other, so that their edges will not aline with each other, which would result in cutting into or indenting or creasing and thereby injuring the flexible roller.

The clothes to be wrung are of course passed between the stiff roller 9 and the flexible roller 10, while the presser-rolls are employed to exert the requisite pressure against the flexible roller to cause it to properly perform its function.

From the foregoing it is thought that the construction, operation, and many advantages of the herein-described invention will be apparent to those skilled in the art without further description, and it will be understood that various changes in the size, shape, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. In a wringer, a pair of coacting rollers, one of which is stiff, the other roller having an elastic core intergeared with the stiff roller and said core incased in a yieldable body, as and for the purposes described.

2. In a wringer, a stiff roller, in combination with a flexible roller coöperating therewith and comprising a spring-core, a reinforcing-spring coiled around the core, and a pliable covering incasing the core and reinforcing-spring, substantially as specified.

3. In a wringer, the combination with a stiff roller, of a flexible roller having an elastic core incased within a yieldable body, and groups of pressure-rolls arranged at intervals along and in coöperative relation to said flexible roller, as and for the purpose described.

4. In a wringer, a stiff roller, and a flexible roller in combination with sectional presser-rolls with the sections of one roll extending at their ends beyond the end of the sections of the laterally-adjacent roll, substantially as specified.

5. In a wringer, a stiff roller and a flexible roller, in combination with sectional presser-rolls, and brackets with bearing-lugs at varying distances apart between which the sections of the presser-rolls are received and in which they are journaled, substantially as specified.

6. In a wringer, a stiff roller and a flexible roller, in combination with sectional presser-rolls, and brackets having stepped portions with terminal bearing-lugs to receive the roll-sections, substantially as described.

7. In a wringer, a stiff roller, and a flexible roller, in combination with sectional presser-rolls, a plurality of brackets arranged in line with each other, and carrying the sections of the presser-rolls, and an independent pressure-spring for each bracket, substantially as described.

8. In a wringer, the combination with coacting rollers, one of which is yieldable at different points along its length relatively to the other roller, of groups of pressure-rolls arranged at intervals along said yieldable roller, and means for holding each group of pressure-rolls yieldably in contact with the flexible roller, substantially as described.

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

CALVIN FURGESON BESORE.

Witnesses:
W. C. Ross, Jr.,
J. H. Besore.