

Aug. 5, 1924.

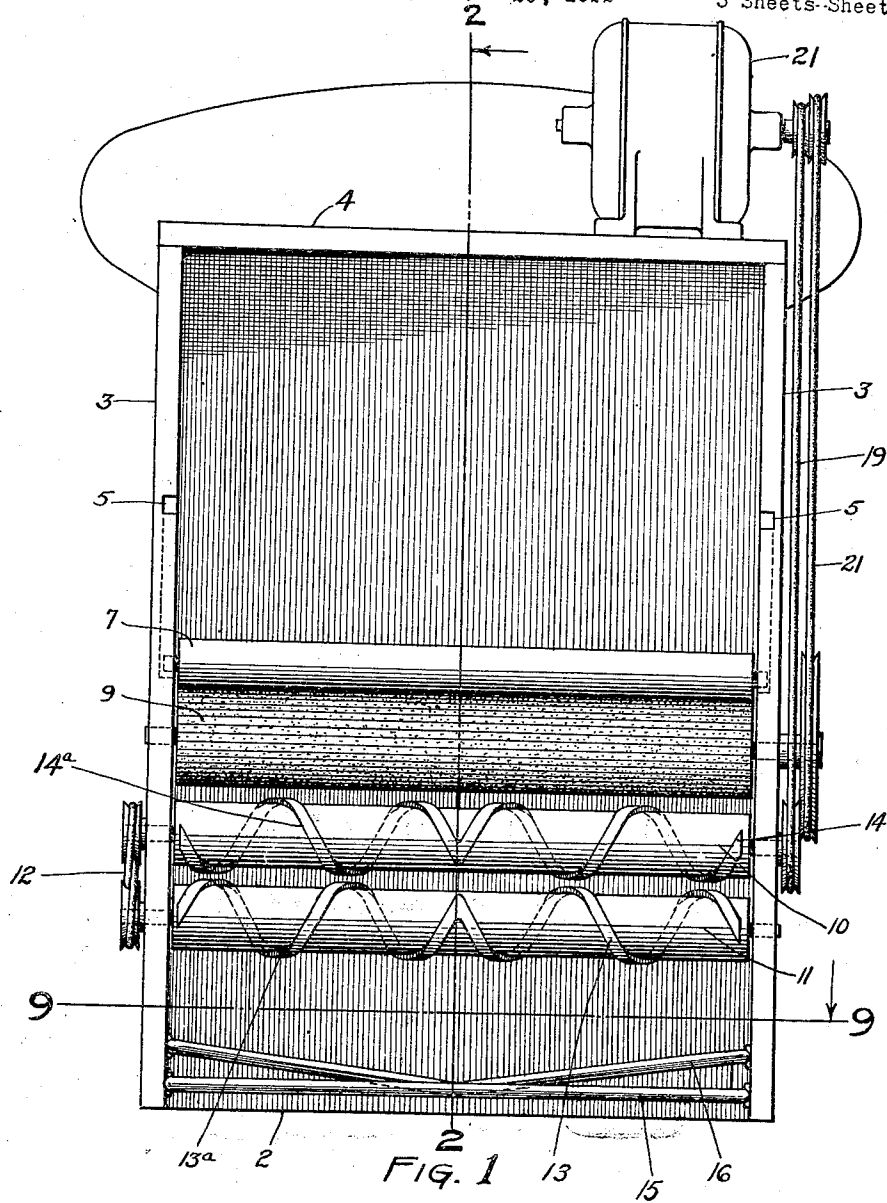
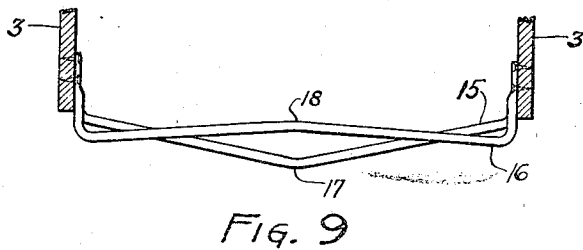
G. A. STEINER

1,503,858

WET TOWEL WINDER

Filed Feb. 20, 1922

3 Sheets-Sheet 1



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3 Sheets-Sheet 2

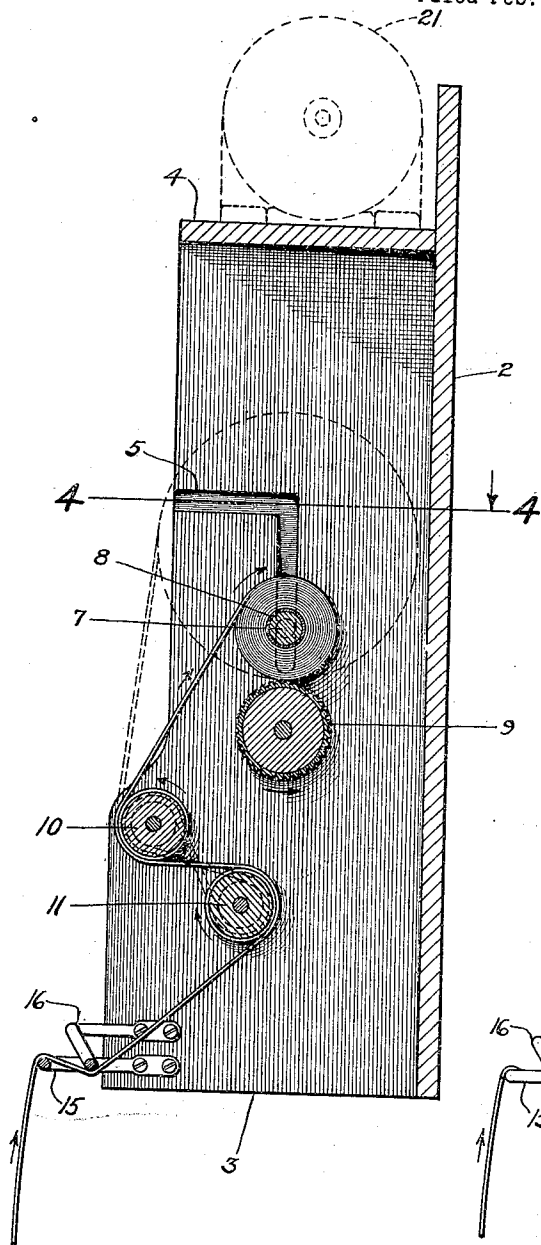


FIG. 2

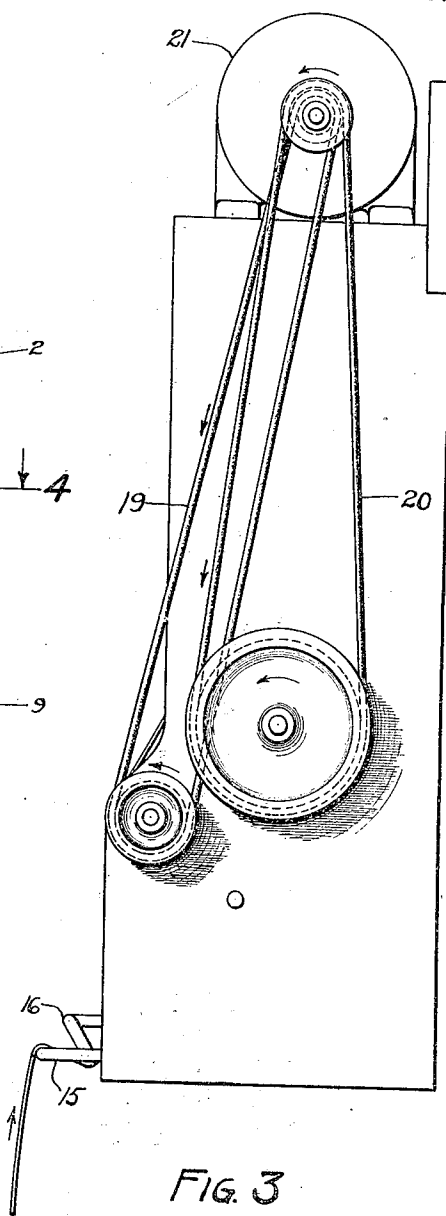


FIG. 3

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3 Sheets: Sheet 3

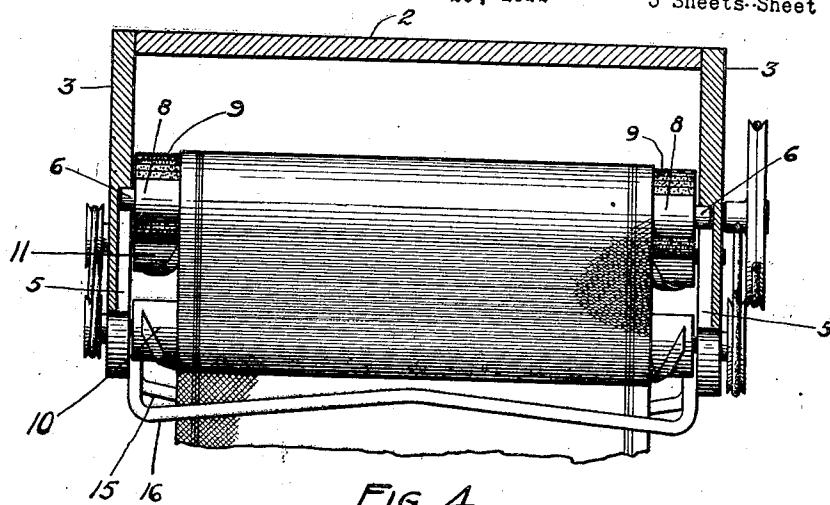


Fig. 4

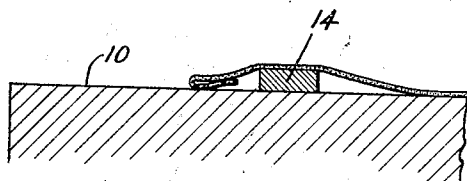


Fig. 5

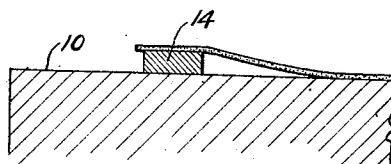


Fig. 6

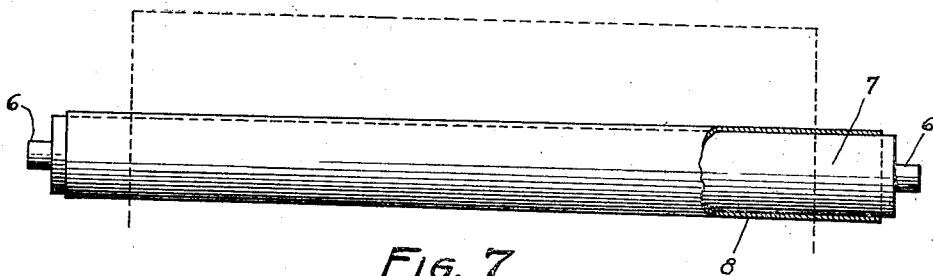


Fig. 7

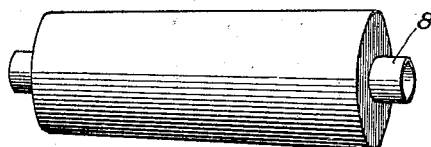


Fig. 8

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UNITED STATES PATENT OFFICE.

GEORGE A. STEINER, OF SALT LAKE CITY, UTAH, ASSIGNOR TO STEINER SALES COMPANY, OF SALT LAKE CITY, UTAH, A CORPORATION OF UTAH.

WET-TOWEL WINDER.

Application filed February 20, 1922. Serial No. 538,105.

To all whom it may concern:

Be it known that I, GEORGE A. STEINER, a citizen of the United States, resident of Salt Lake City, county of Salt Lake, State of Utah, have invented certain new and useful Improvements in Wet-Towel Winders, of which the following is a specification.

The object of this invention is to provide a machine for straightening out the twists and folds and wrinkles of wet roller towels received from the washing machine and extractor, to the end that when so straightened out and rolled, the towel can be fed to an ironing machine with very little labor and with the services of one attendant. If the towels were taken from the extractor and immediately fed to the ironing machine, there being room usually for feeding seven towels side by side, it would be necessary to have seven attendants or one for each towel, each attendant straightening and smoothing the towel and feeding it to the ironing machine. This, of course, would involve considerable labor and expense and I have found that the ironing would not be as well done and the towel would not have as smooth finished appearance when it comes out of the ironing machine as it would when first passed through the wet winder and rolled into a roll and then delivered from this roll to the ironing machine.

Other objects of the invention will appear from the following detailed description.

The invention consists generally in various constructions and combinations, all as hereinafter described and particularly pointed out in the claims.

In the accompanying drawings forming part of this specification,

Figure 1 is a front view of a wet towel winder embodying my invention,

Figure 2 is a vertical sectional view on the line 2-2 of Figure 1,

Figure 3 is a side view of the winder,

Figure 4 is a sectional view on the line 4-4 of Figure 2,

Figure 5 is a detail sectional view of one of the spirally ribbed rolls for straightening the edge of the towel, showing the position of a section of one of the spirals before it engages the folded edge of the towel.

Figure 6 is a similar view, showing another section of the spiral when it has en-

gaged and unfolded or straightened the towel edge,

Figure 7 is a detail view, partially in section, of the tube and roll on which the towel is wound,

Figure 8 is a view of a towel wound on the tube showing it removed from its supporting spindle,

Figure 9 is a detail sectional view of the tension rods.

In the drawing, 2 represents the rear wall of the casing, 3 the side walls thereof and 4 the top. This casing is open at the front and the side walls have guideways 5 therein to receive the gudgeons 6 of a metal roller 7 that fits a tube 8 on which the towel is wound, the metal roller providing sufficient weight to hold the roll of toweling down in the guideways. A feed roller 9, preferably corrugated, is mounted below the guideways for contact by gravity with the towel roll and in front and below this feed roller are straightening rolls 10 and 11 arranged preferably as shown, one in advance of the other and having a driving belt connection 12 between them, twisted, as shown, to drive the rolls in opposite directions. These rolls have spirals 13 and 13^a and 14 and 14^a extending from the middle portion of the rolls spirally to the ends thereof, as indicated in the figures. These spirals are preferably rectangular in cross section and made of copper or some suitable material, which will not be affected by moisture. When the twisted and folded web of towel is delivered to these rolls, their revolution and the co-operation of the spirals will tend to feed the edges of the towel outwardly to straighten and flatten them, taking all the twists and folds out of the towel web and delivering it to the winding roll above in a smooth, flattened form. Tension rods 15 and 16 are mounted in the side walls of the cabinet below the spreading or straightening rolls and these rods are preferably bent, as shown in Figures 1 and 9, presenting curved or angular portions 17 and 18 to the towel web and exerting tension thereon to co-operate with the straightening or spreading rolls in separating the folds and flattening the curls or turned in edges of the towel.

Figure 2 indicates the relative arrangement of these tension rods, one being in

front of the other, the web of towel passing over one rod and under the other one and from thence to the rear straightening roll and over it to the forward roll and then
5 to the winding roll. These rolls are operated by any suitable means, preferably belts 19 and 20 connecting pulleys on the shaft of a motor 21 with pulleys on the shafts of the straightening rolls 10 and the winding roll 9. The sheave on the winding roll is preferably considerably larger than the one on the straightening roll. Any other suitable means may, of course, be provided for driving these rolls.

15 In the operation of the machine, the attendant will pass the wet recently wrung end of the towel through the tension rods and up around the straightening rolls to the winding roll, then when the motor is started,
20 the web of wet toweling will be carried up through the straightening rolls and the spirals thereon will take out the folds or twists and deliver the towel web in a straight flattened form to the roll above. Any suitable length of towel may be wound on this
25 roll, usually three or four lengths of towel, and then the roll removed from the winder and set up with a series of other rolls in front of the mangle or ironing machine.
30 One attendant will then feed each roll to the ironing machine and the towel will be smoothly and evenly ironed, much better than it would be if the towels were fed directly from the wringer to the ironing machine,
35 and not only do I improve the ironing operation and obtain a much smoother piece of work, but I am also able to economize in the number of attendants required at the receiving side of the ironing machine.

40 I claim as my invention:

1. In a wet towel winder, the combination of a cabinet having back and side walls,

the side walls having slots therein, a winding roll with gudgeons guided and supported in the slot, a tube surrounding the winding roller, a feed roller pivoted in the side walls for operating the winding roller and rolling up a towel at a uniform speed
45 motion of the towel, straightening rolls also supported by said side walls of the cabinet, said straightening rolls having spirals on their peripheries running from the middle toward the ends thereof for engaging and flattening and straightening the web of towel, tension rods attached to said side walls
50 of the casing and extending outwardly from the casing and having angular middle portions over which the web of toweling passes, a motor supported by the casing and geared directly to both the feed roller and the
55 straightening roller as described.

2. A unitary transportable wet towel winder comprising a cabinet having side walls, slots therein, a winding roll having gudgeons readily insertible in and removable from the slots and normally supported
60 thereby, a pair of straightening rolls and a feed roller also supported by said side walls, said straightening rolls having spirals thereon running from the middle portions to the ends thereof for engaging and straightening the web of towel as it passes
65 around them, tension rods also supported by said side walls and over which the web of towel passes, said rods having angular middle portions, a motor supported on said casing and geared directly both to the feed roller and the straightening rolls, one of the straightening rolls being geared to the other to run in opposite directions.
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In witness whereof, I have hereunto set my hand this tenth day of February, 1922.

GEORGE A. STEINER.