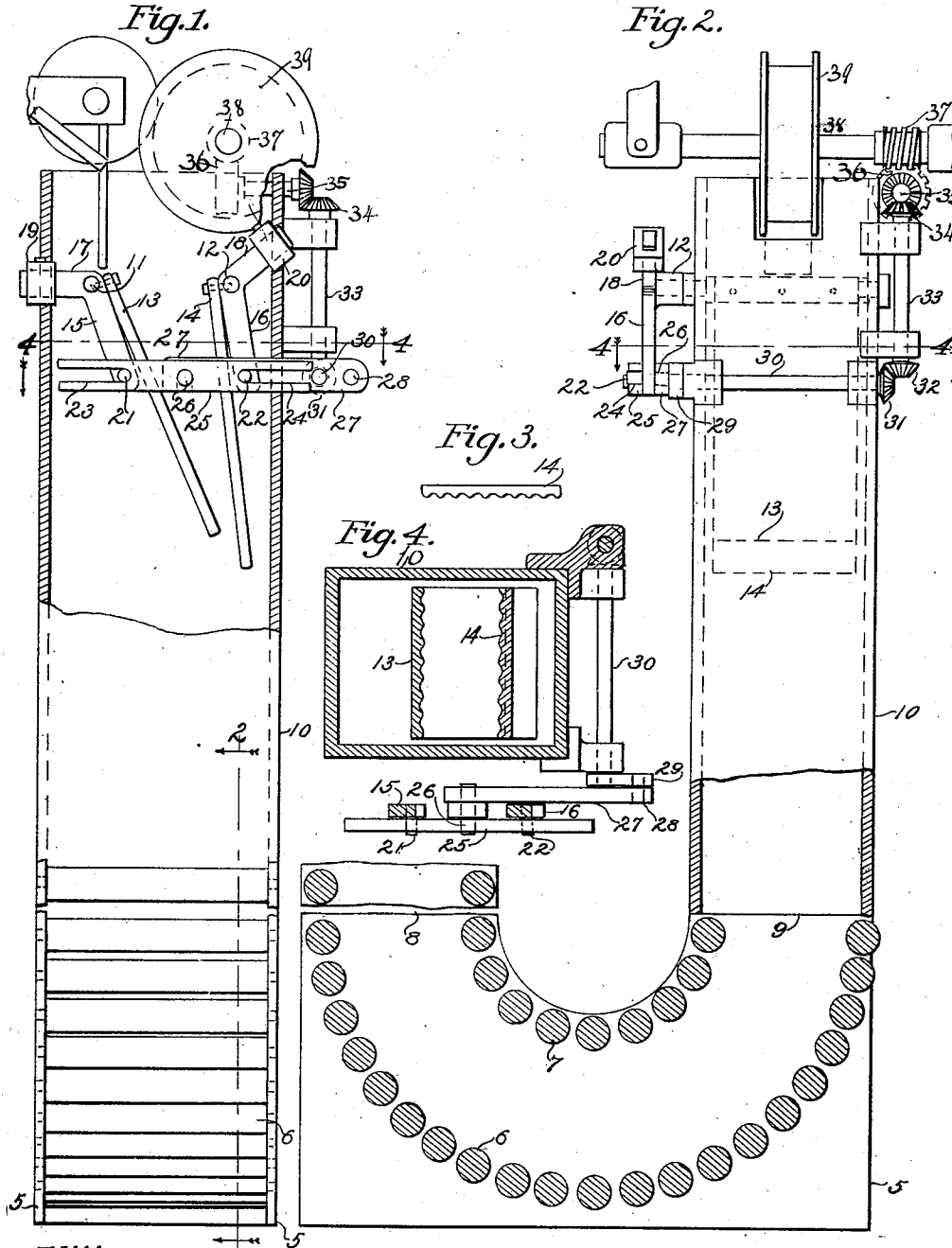


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 APPARATUS FOR TREATING CLOTH.
 APPLICATION FILED DEC. 13, 1909.

994,245.

Patented June 6, 1911.



Witnesses. 2
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APPARATUS FOR TREATING CLOTH.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JAMES A. BUTLER, of Winthrop, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Apparatus for Treating Cloth, of which the following is a specification, reference being had to the accompanying drawings, forming part thereof.

10 This invention has reference to improvements in machines or apparatus for treating cloth, previously saturated with dyeing or bleaching solution, to subject the same to the action of the atmosphere as an intermediate
15 step in the process of manufacture.

The object of the invention is to form a stack of cotton or other cloth in a continuous strip formed by attaching ends of the individual pieces together, said strip having
20 previously been subjected to the action of the bleaching or dyeing solutions and being delivered to the present apparatus in rope form, said stack of cloth being so arranged that the cloth may be readily drawn from
25 one end thereof, for the next step in the process.

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

The invention consists in such peculiar
30 features of construction and combination of parts hereinafter described and pointed out in the claims.

Figure 1, represents an end elevation of the new apparatus the wall of the receiving
35 chute being partially broken away and partially shown in section. Fig. 2, represents a side elevation of the same, the lower portion of the apparatus being shown in section as on line 2—2 Fig. 1. Fig. 3, represents an end view of one of the cloth folding
40 blades. Fig. 4, represents a sectional view, taken on line 4—4 Figs. 1 and 2, showing parts of the apparatus.

Similar numbers of reference designate
45 corresponding parts throughout.

In machines of this general character the cloth, saturated with bleaching fluid or other chemicals, is fed into this machine and forms a stack or column open to the action of the
50 atmosphere on the chemicals remaining in the cloth. As this aging of the chemicals is an intermediate step in the process of manufacture it is essential, to the economical operation of the succeeding machine or machines, that the cloth be so arranged in the
55 column or stack that it may be drawn off

without such entanglement of parts of the cloth as would prevent the free passage of the cloth to or through any of the succeeding machine or machines. Therefore the principal object of the present invention is so to pile or stack the cloth that it may be readily drawn out of the machine without forming bunches or knots.

In carrying this invention into practice I
65 construct a machine, of the general nature described, having a base portion formed by the sides 5, 5, having journaled therein two curved parallel series of rolls 6 and 7, which are freely rotatable, and between which is
70 formed a curved channel of which the outlet 8 should preferably be on a level with or above the entrance 9. Above the inlet 9 is mounted chute 10 rectangular in cross section, adapted to receive the cloth or fabric
75 fed to the machine to guide said cloth to the entrance 9.

The cloth folding mechanism is preferably mounted on the upper end of the chute 10 and, in its preferred form, comprises a
80 pair of shafts 11 and 12 journaled in bearings and extending at right angles to the extensions of the rolls 6 and 7 whereby the cloth folding blades 13 and 14 carried by said shafts may swing in directions parallel
85 to the axes of said rolls 6 and 7. Mounted on said shafts 11 and 12, outside the chute 10, are the lever arms 15 and 16 having, at their upper portions, the members 17 and 18 furnished with the adjustable counter-
90 weights 19 and 20, and, at their lower ends the pins 21 and 22 which are engaged in the slots 23, 24 of the link 25. Provision is made for positively reciprocating the link 25 by providing said link with the pin 26 with
95 which one end of the arm 27 is removably engaged, the other end of said arm being pivotally mounted on the pin 28 of the crank arm 29 mounted on shaft 30 which is journaled in bearings extending from the chute
100 10 and, at one end, is furnished with the bevel pinion 31 driven from the pinion 32 of the vertical shaft 33 journaled in bearings extending from the chute 10 and having the bevel gear 34 engaged with a similar gear
105 on shaft 35, which shaft is driven through the engagement of its gear 36 with the worm 37 of the shaft 38 which latter is provided with the flanged cloth delivery drum 39.

In order that the adhesion of the wet cloth
110 to the blades 13 and 14 may be prevented I prefer to supply the surfaces of said

blades, with which the cloth comes in contact, with grooves as shown in Fig. 3 of the drawings.

Lengths of cloth sewed together and saturated with fluid are delivered in rope form, from drum 39 between blades 13 and 14, and, if the arm 27 be disconnected from pin 26, said cloth passes downward until it is intercepted by the series of rolls 6 which give sufficient support to the cloth to permit the piling up of said cloth in the chute 10 until the weight of the cloth is sufficient to overcome any resistance of said rolls 6 when the base of the pile of cloth moves between rolls 6 and 7 toward the outlet 8, the resistance to such movement increasing as the base of said pile of cloth reaches the upward curve of said series of rolls toward said outlet, and such resistance to the movement of the base of the pile of cloth tends to support the pile of cloth in chute 10 until the upper portion thereof engages with the lower ends of the blades 13 and 14, or with one of said blades.

After any suitable length of time during which air circulating between the rolls and through the cloth supported between said rolls may act on the chemicals carried by the cloth said cloth is drawn from the outlet 8 until the weight of the cloth in the chute 10 overcomes the resistance of the upwardly curved series of rolls 6 and 7, near such outlet 8, and the stack or pile of cloth in the chute 10 moves downward, whereupon that portion of said stack or pile of cloth engaged with the blade 13 or 14, as the case may be, falls over and, in so doing, effects the swinging of the lower ends of said blades toward the other side of the chute 10, from their original position, and, hence, the incoming cloth will be directed by said blades to such new position and will pile up until it again engages one of said blades and, in again toppling over, effects the swinging of said blades or guides toward their original position, such piling of the cloth in a succession of comparatively small masses tending to facilitate the drawing out of the cloth from the pile at the outlet 8.

When it is desired to operate the blades positively the arm 27 is connected with pin 26 of the links 25 and power is applied to rotate shaft 33. The cloth fed, in rope form, between the blades 13 and 14 is delivered from the vibrating ends of said blades in loops extending parallel to the axes of the rolls 6 and 7 and the pile, formed by said

loops, eventually moves through the curved channel or passage formed by said rolls so that, at the outlet 8, said loops extend approximately in the same position relative to said rolls and to the associated loop of fabric so that the cloth, when drawn out of the outlet 8, is free from entanglement with other portions of the cloth at any considerable distance from said outlet and can readily be drawn out in regular order.

It is evident that, as the spaces between the rolls 6 and 7 are open to the atmosphere, air will enter between said rolls and will circulate through the stack of cloth supported between said rolls and, to some considerable extent through the cloth in the chute 10.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. An apparatus for treating cloth comprising a vertical chute, means located at the lower end of said chute for facilitating the lateral movement of the lower end of a stack of cloth contained in said chute, and means located in said chute and adapted to be engaged by cloth at the upper end of said chute, and adapted to be operated by the movement of such engaged portion of said cloth to guide a succeeding quantity of cloth in a new direction.

2. An apparatus for treating cloth comprising a lower channel having end walls and a series of rolls journaled in said walls for free and independent rotation, said rolls forming the bottom of said channel, a chute mounted at one end of said channel, and cloth guiding means mounted in said chute for free movement and adapted to be moved by the cloth engaging the guiding means, substantially as described.

3. An apparatus for treating cloth comprising a chute having at its lower end a lateral channel formed by freely rotatable rolls, a pair of shafts journaled in the walls of said chute and extending at right angles to said rolls, cloth guiding members carried by said shafts, arms mounted on said shafts, a links having slots in which pivots of said arms are engaged, and means for effecting the reciprocation of said link as and for the purpose described.

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Witnesses:

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