B. CORTESE.

CLOTH SPONGING MACHINE.

APPLICATION FILED DEC. 22, 1920.

1,387,836.

Patented Aug. 16, 1921.

3 SHEETS—SHEET 1.

Fig. 1.

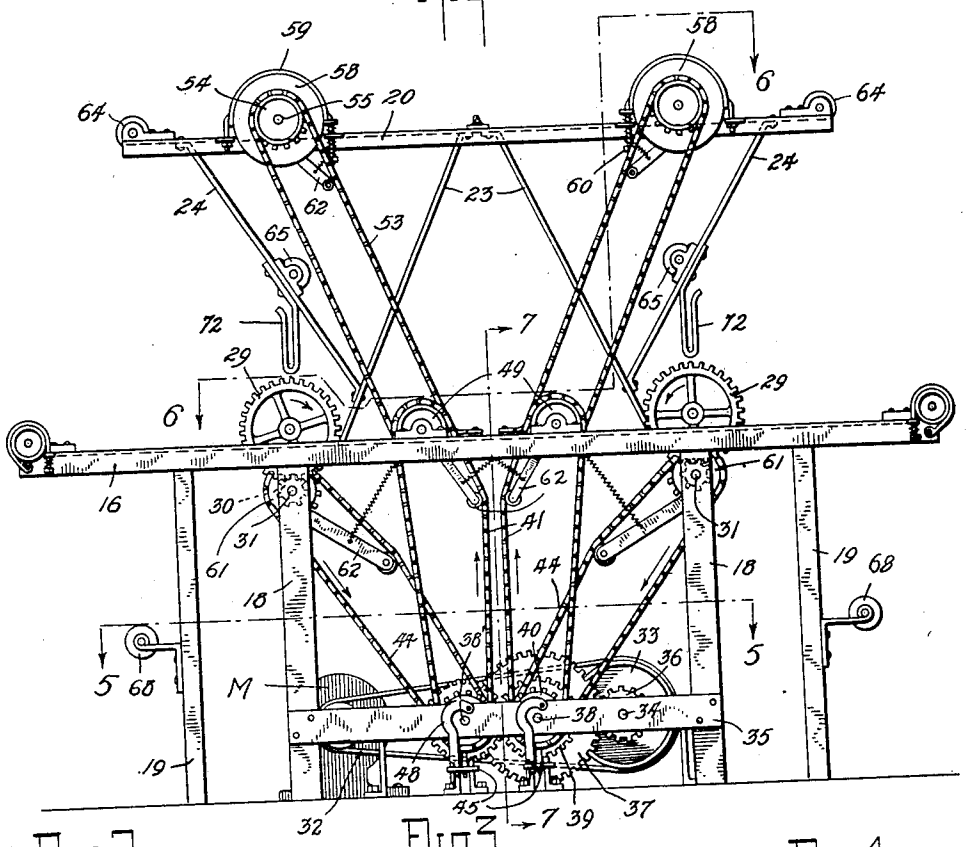


Fig. 2.

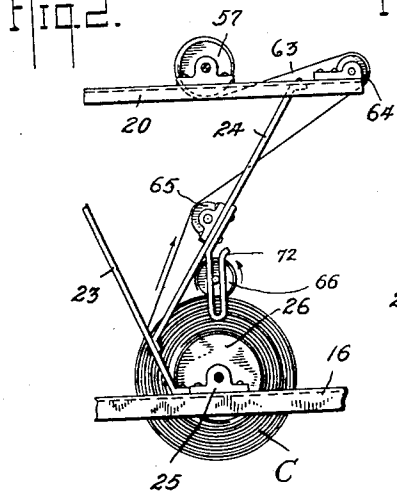


Fig. 3.

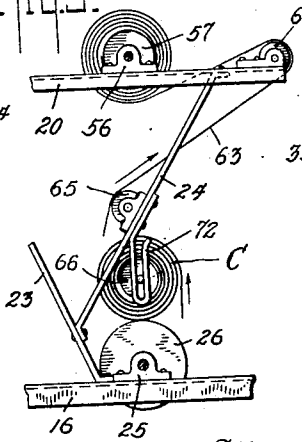
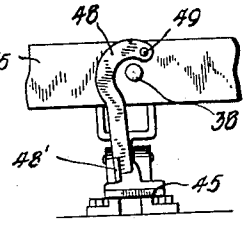


Fig. 4.



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3 SHEETS—SHEET 2.

Fig. 5.

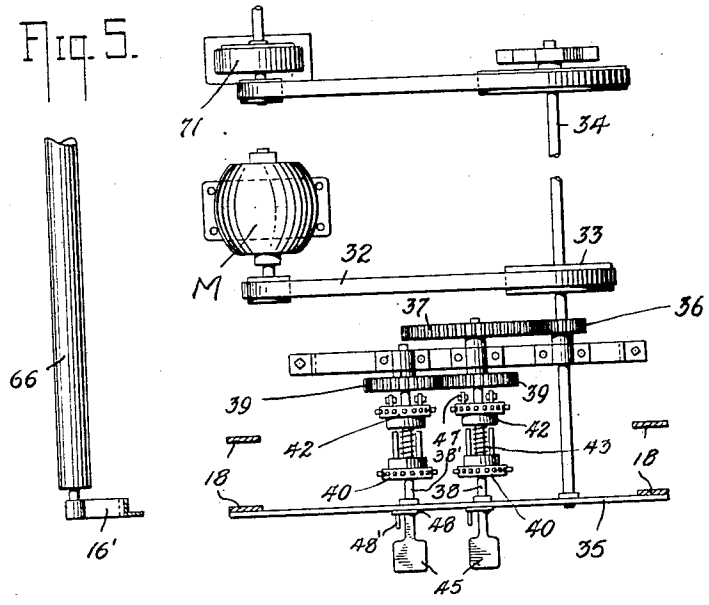


Fig. 6.

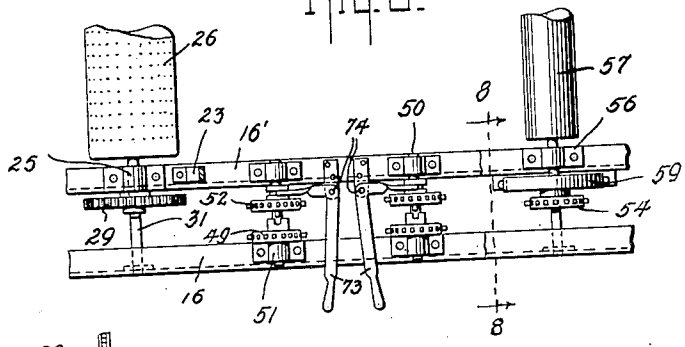
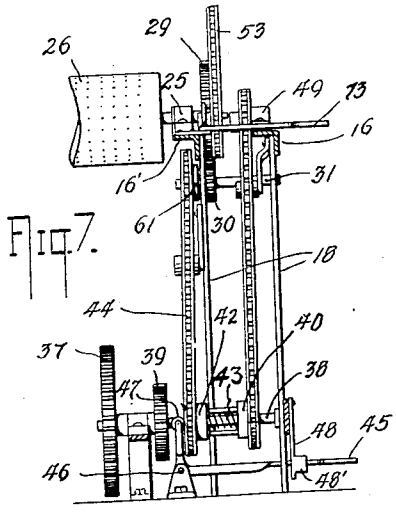


Fig. 7.



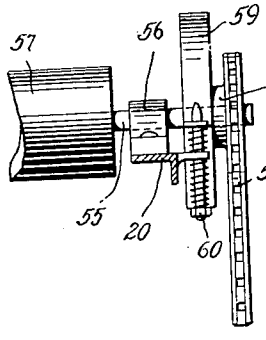


Fig. 8.

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3 SHEETS—SHEET 3.

Fig. 9.

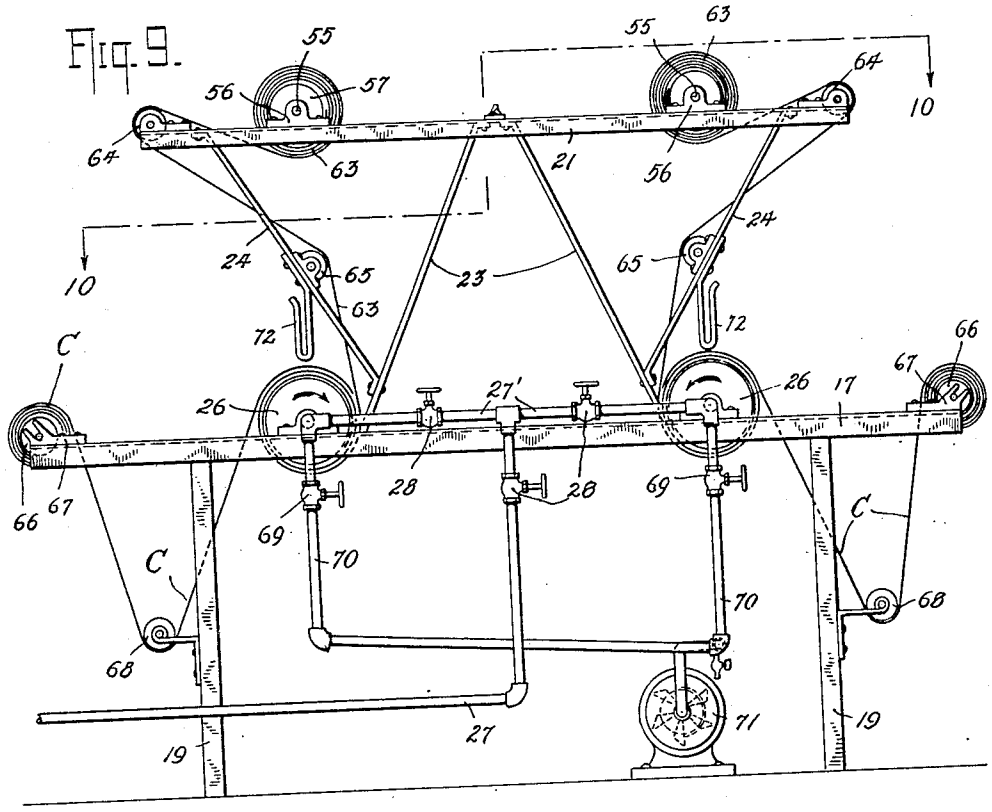
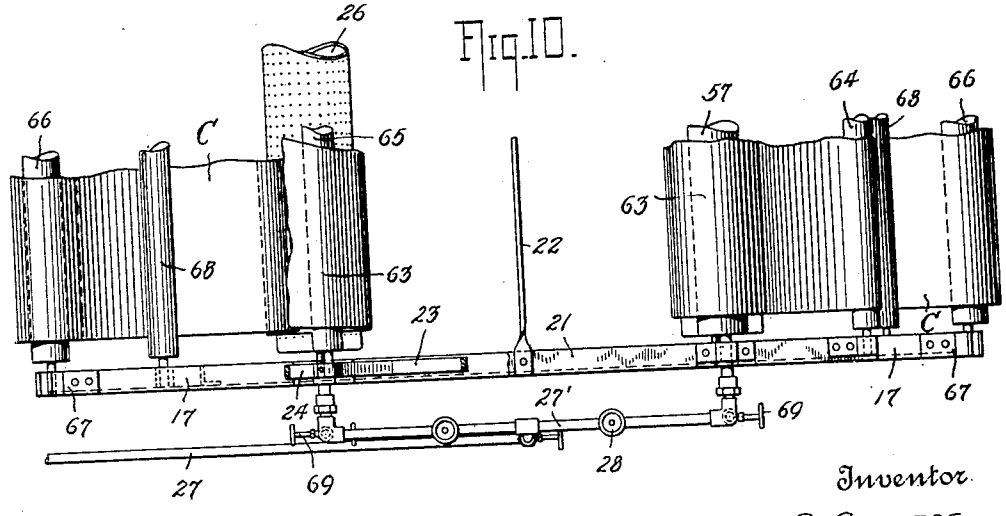


Fig. 10.



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UNITED STATES PATENT OFFICE.

BATTISTA CORTESE, OF NEW YORK, N. Y.

CLOTH-SPONGING MACHINE.

1,387,836. Specification of Letters Patent. Patented Aug. 16, 1921.

Application filed December 22, 1920. Serial No. 432,560.

To all whom it may concern:

Be it known that I, BATTISTA CORTESE, a citizen of Italy, but having declared my intention of becoming a citizen of the United States, residing at New York city, borough of Manhattan, in the county of New York and State of New York, have invented certain new and useful Improvements in Cloth-Sponging Machines, of which the following is a specification.

This invention relates to machines for the steam sponging of cloth, and has particular reference to that type of machines described and claimed in Letters Patent of the United States, No. 1,310,325, issued to me on the 15th day of July, 1919.

Among the objects of the invention is to provide improved means for manipulating or controlling the strip or sheet of cloth known as the leader.

Another object of the invention is to provide a cloth handling machine with improved facilities for supporting the cloth receiving roller so as to receive the cloth from the steam drum coincident with the unrolling of the leader therefrom.

Another object of the invention is to provide improved means for forcing air through the cloth after it has been sponged or steamed.

With the foregoing and other objects in view the invention consists in the arrangement and combination of parts hereinafter described and claimed, and while the invention is not restricted to the exact details of construction disclosed or suggested herein, still for the purpose of illustrating a practical embodiment thereof reference is had to the accompanying drawings, in which like reference characters designate the same parts in the several views, and in which—

Figure 1 is a front end elevation of an improved machine embodying my present improvements.

Fig. 2 is a diagram indicating the beginning of the act of rewinding a bolt of cloth onto its roller.

Fig. 3 is a similar view showing the completion of the rolling of the cloth upon its roller.

Fig. 4 is a detail view of the treadle mechanism.

Fig. 5 is a fragmentary plan view with parts in section on the line 5—5 of Fig. 1.

Fig. 6 is a horizontal sectional detail on the line 6—6 of Fig. 1.

Fig. 7 is a vertical section on the line 7—7 of Fig. 1.

Fig. 8 is a vertical section on the line 8—8 of Fig. 6.

Fig. 9 is a rear end elevation, indicating especially the relation of the leader to the cloth and also the steam supply means and the means for cooling the steam drums.

Fig. 10 is a horizontal section on the line 10—10 of Fig. 9.

Referring now more specifically to the drawings I show a main frame of any suitable design or construction, the same including front and rear horizontal bars 16 and 17, and uprights or legs 18 and 19. A bar 16′ is located just back of the bar 16 but parallel thereto and on the same level.

Above the main frame is an auxiliary frame comprising front and rear bars 20 and 21 respectively, the same being connected by a horizontal stringer 22, and supported by two sets of diagonal braces 23 and 24 extending upward from the bars 16′ and 17. The braces 24 are attached at their lower ends to the braces 23.

Journaled in bearings 25 on the bars 16′ and 17 are a pair of steam drums 26 upon which the cloth *c* is rolled for steaming or sponging as a result of the admission of steam into the drums. The steam is delivered to the drums through a pipe 27 from any suitable source, said pipe having branches 27′ leading into the hollow trunnions of the drums. Any suitably arranged valves 28 control the passage of the steam into the drums. To the shaft of each drum 26 is attached a gear wheel 29 meshing with a pinion 30 on a shaft 31 journaled in the uprights 18.

At M I show a motor from which a driving belt 32 leads over a pulley 33 fixed to a

jack shaft 34 journaled at its front end in a cross bar 35 constituting a part of the frame. To this shaft 34 is fixed a pinion 36 meshing with a large gear 37 mounted on a shaft 38 parallel to a similar shaft 38'. Fixed to these two shafts 38 and 38' are a pair of gears 39, of the same diameter and having constant engagement with each other. Fixed to the shafts 38 and 38' also are a pair of sprocket wheels 40 over which a pair of chains 41 operate. Another pair of sprocket wheels 42 are mounted on these shafts, but normally are not driven therefrom, being held away from the fixed gears by means of springs 43. Over each wheel 42 runs a chain 44. 45 indicates a treadle, in the nature of a bell crank, pivoted at 46. The longer arm of the treadle extends forward in a foot piece, while the shorter arm extends upward, having rollers 47 thereon bearing against the rear face of the sprocket wheel 42. When the treadle is depressed against the force of the spring 43 the loose gear 42 is clutched to the fixed gear 40 so as to make the chain 44 a driving chain. 48 indicates a locking dog, see Fig. 4, which being pivoted at 49 over the center of the shaft 38, drops by gravity over the treadle and holds it down. To release the dog the operator has but to bear down upon the treadle with his foot and while the foot is in this position the toe bears laterally against the lip 48' attached to the dog. The force of the spring 43 then lifts the treadle keeping the dog at one side thereof until the treadle is again depressed.

The chain 41 operates over and drives a sprocket wheel 49 normally loose upon a short shaft 50 journaled in bearings 51 on top of the bars 16 and 16'. Splined to this shaft 50 is another sprocket wheel 52 which drives a chain 53 leading over a sprocket wheel 54 fixed to the shaft 55 journaled at 56 upon the overhead bars 20 and 21 and upon which the leader roll 57 is secured. Fixed to the same shaft 55 is a brake wheel 58 over which a brake or tension band 59 is applied according to the adjustment at the nut 60 so as to control the rotation of the roller 57 automatically.

The chain 44 operates over a sprocket wheel 61 attached to the shaft 31 above described. Any suitable design or construction of tighteners 62 may be applied to the chains.

63 indicates a bolt or roll of cloth, such as linen or cotton, and known in the trade as the leader. This is attached permanently at one end to the roller 57 and is guided thence over any suitable number of guide rollers 64 and 65 journaled on the auxiliary frame parallel to the axis of the roller 57. The outer end of the leader after being guided over the guide rollers is passed around the steam drum 26 one or more times, and then the outer end of the bolt of cloth C is introduced over the steam drum and between it and the web of the leader as indicated in Fig. 9. The bolt of cloth is supported on its roller 66 journaled in brackets 67 on the outer ends of the bars 16 and 17. Now with the motor in operation all of the gearing to and including the sprocket gears 40 would be in operation as well as the chain 41 and sprocket wheel 49 operated thereby. If now the operator depresses the treadle the sprocket wheel 42 would be clutched to the wheel 40 and the chain 44 will cause the rotation of the steam drum in the direction indicated in Figs. 1 and 9, the speed being low at this time relatively due to the disparity in diameters of the gears 29 and 30. This power rotation of the drum causes the cloth and the leader to be wound or rolled simultaneously upon the drum. The cloth is guided over any suitable number of guide rollers 68 carried by brackets on the standards 19 so as to give proper tension and distance between the roller 66 and the drum 26. After the cloth and leader are rolled upon the drum as indicated steam is admitted to the drum as above described.

After the steam is applied the valves 28 are closed and the valve 69 in a pipe 70 is opened. The pipe 70 leads to a blower or pump 71 whereby air may be forced through the drum and cloth in either direction according to the nature of the unit 71, thereby quickly cooling the cloth while on the drum.

Suspended in any suitable manner from the braces 24 just above the axis of the drum 26 are a pair of open topped hooks 72 serving as supports or bearings for the roller 66 when the cloth is to be unwound from the drum. See Figs. 2 and 3. The loose end of the cloth is applied to the roller 66 and with the roller supported loosely in the bearings 72 it will rest upon the roll of cloth on the drum. With the motor in operation the chain 41 will be running. The operator now by shifting a bell crank lever 73 around its pivot 74 will cause the sprocket gear 52 to be clutched to the gear 49. This will cause the driving of the chain 53 and the rewinding of the leader on its roller 57. At this time the treadle will be in its idle position. The act of unwinding the leader from the drum 26 causes the rotation of the drum and the rolling of the cloth upon its roller 66, the latter being rotated by friction due to its weight upon the cloth on the drum.

It will be noted that I have shown what may be called a double or twin machine having provision for two steam drums and other associated parts as described except for the fact that but one motor is employed and one set of driving connections therefrom. Both drum equipments are identical, and a

specific description of one of them as well as the claim pertaining thereto will be applicable to both.

I claim:

In a cloth sponging machine, the combination with a main frame, a steam drum journaled thereon, an auxiliary frame above the main frame, a leader roller journaled thereon, and a leader attached to the roller, of means to actuate the leader to unwind it from the drum, and a pair of open ended supports above the drum and attached to the auxiliary frame, said supports being adapted to receive the cloth roller for rewinding the same thereon coincident with the unwinding of the leader from the drum.

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