

M. LAMORT.

MEANS FOR CONTROLLING THE STRAINER DRUMS OF PAPER MAKING MACHINES.

APPLICATION FILED AUG. 23, 1911.

1,040,553.

Patented Oct. 8, 1912.

2 SHEETS—SHEET 1.

Fig. 1

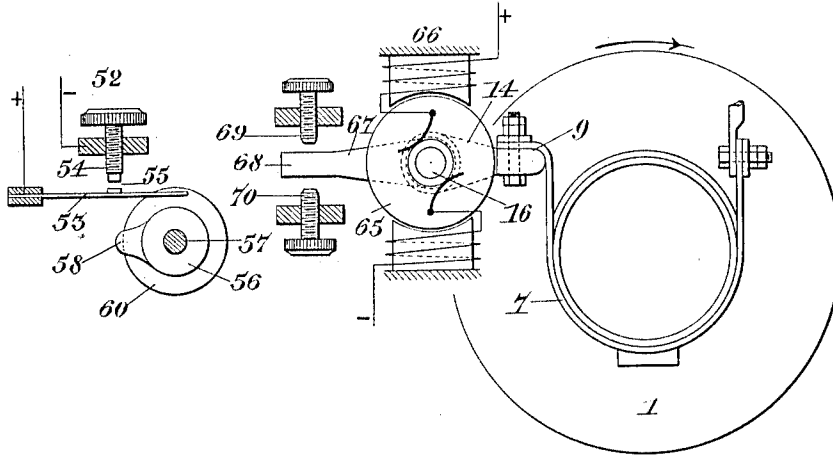
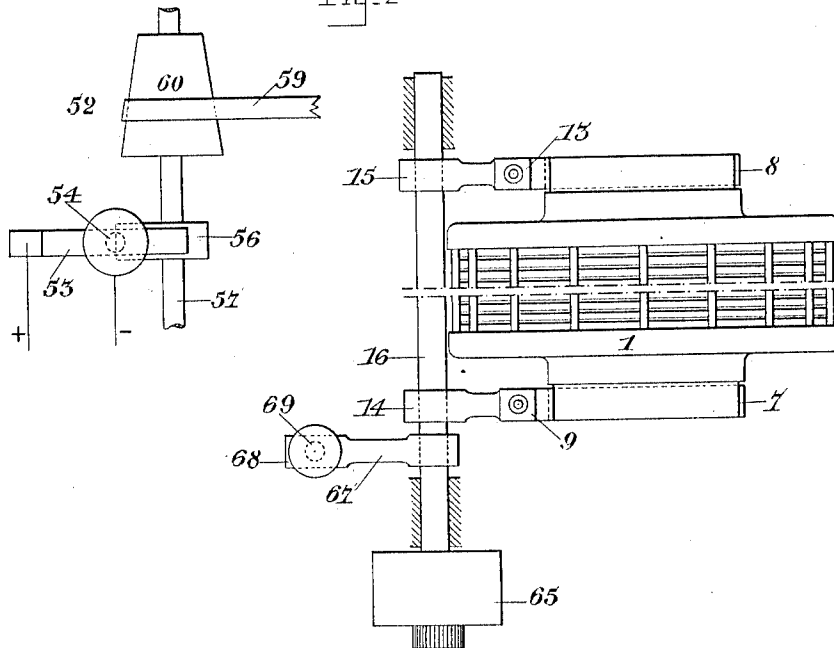


Fig. 2



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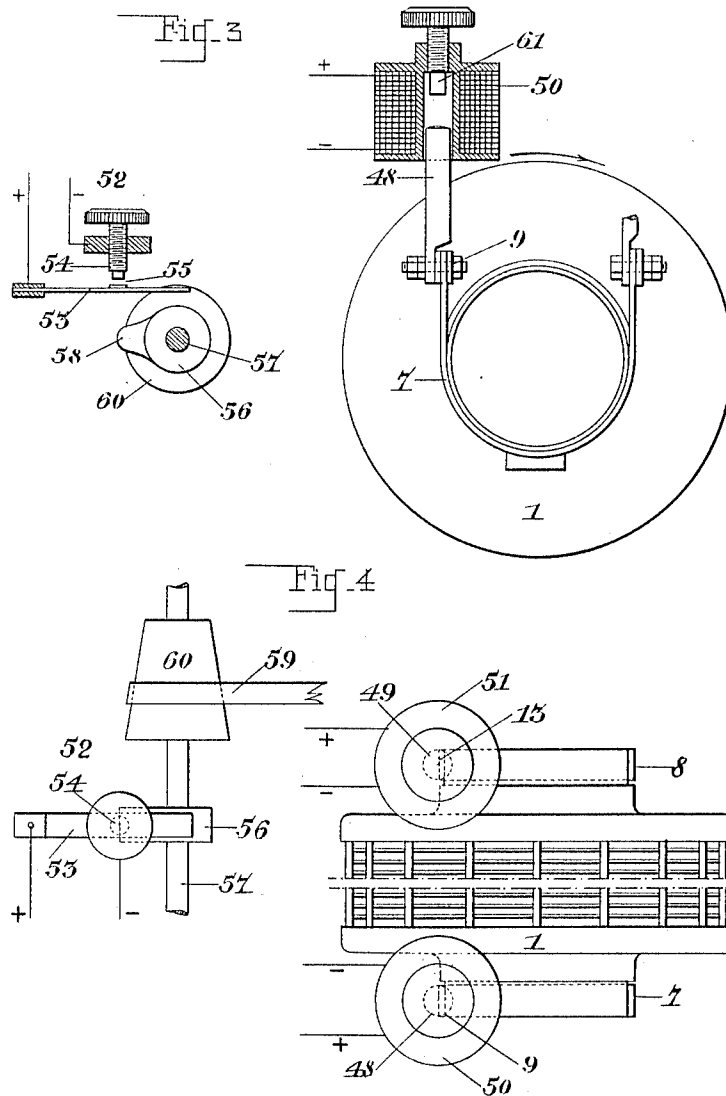
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UNITED STATES PATENT OFFICE.

MARCEL LAMORT, OF VITRY-LE-FRANÇOIS, FRANCE.

MEANS FOR CONTROLLING THE STRAINER-DRUMS OF PAPER-MAKING MACHINES.

1,040,553.

Specification of Letters Patent.

Patented Oct. 8, 1912.

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To all whom it may concern:

Be it known that I, MARCEL LAMORT, a citizen of France, residing at Vitry-le-François, in the Department of the Marne, France, have invented novel Means for Controlling the Strainer-Drums of Paper-Making Machines, of which the following is a specification.

The present invention relates to the application of an electric device for the control of strainer drums of paper-making machines constructed in accordance with the system described and claimed in my United States Letters Patent #850,021.

The electric device in question permits the replacing of the mechanical driven elements acting upon the extreme ends of the leather belts which support the strainer drum by electrically driven elements which produce the same movements upon the belts that the mechanically driven elements do, that is, they give to the belts a combined shaking rotary movement of the strainer drum.

The improved device which forms the subject of the present invention comprises an electrical control designed to replace, at will, the mechanical controlling traction of the straps 7, 8, by acting directly on the ends 9, 13, of these latter, this electric device insuring the movements of traction to be exerted on the two suspension straps 7, 8, of the drum 1, so as to produce the beatings, or shakings, and the rotary movements of the said strainer drum 1. This electrical control may be effected either by using a dynamo, or electro-magnets.

The accompanying drawings show, by way of example, in Figures 1 and 2, views partly in elevation, and in plan, a control by a dynamo; Figs. 3 and 4 are like views, but show a control by electro-magnets.

In the case of Figs. 1 and 2, the straps 7, 8, are connected at 9 and 13 to the ends of two iron arms 14, 15, both of which are keyed on a shaft 16.

To insure the rising and falling movements of the arms 14 and 15, it is necessary to impart an oscillatory movement to the shaft 16. To this end, I key on this shaft, at one of its ends for instance, the armature 65 of an electro-motor 66. This electro-motor, which is of any suitable construction, will be, for example, a series wound motor offering great starting ability.

By means of a distributor 52, the electric current is transmitted intermittently to the electric-motor 66, thereby producing inter-

mittent movements of rotation of the armature 65, and hence of the shaft 16, which return to their initial position by the action of the weight of the iron arms 14 and 15, whenever the electric circuit is open. But whenever the electric circuit is closed, the armature 65, and hence the shaft 16, and the arms 14, 15, are turned in the direction of the arrow, the result of which produces a pull on the ends 9, 13, of the two suspension straps 7, 8, of the strainer-drum 1.

By means of the distributor 52, transmitting the electric current intermittently to the electric-motor 66, intermittent pulls are obtained on the ends of 9, 13 of the straps 7, 8.

In order to adjust the oscillatory displacement of the armature 65, if necessary, there is keyed on the oscillating shaft 16, an iron arm 67, the free end 68 of which faces two set screws 69, 70.

The distributor 52, for transmitting the electric current, intermittently, to the electric motor 66, is constructed like the distributors used for producing ignition in internal combustion motors, that is to say, by means of an insulated metal blade 53, fixed opposite a set-screw 54, in such a way that the distance 55 from this screw relatively to the blade 53, can be adjusted. Beneath the blade 53, is a cam 56 keyed on a shaft 57. Naturally, when the shaft 57 is set in motion, the protuberance 58 on the cam 56 strikes against the blade 53, thereby bending it, so that it contacts with the set-screw 54. This set-screw therefore receives, at this moment, the electric current communicated by the blade 53, and transmits it, by means of a suitable electric connection, to the motor. The shaft 57, carrying the cam 56, revolves at a variable speed by means of a belt 59 passing over a speed cone 60, the said belt being capable of being shifted along the cone 60. In this way, the frequency of the beatings or shakings, and the rotation of the strainer drum 1, may be varied within any desired limits.

Referring now to Figs. 3 and 4, the free ends 9, 13 of the two suspension straps 7, 8, are fixed by bolts and counterplates on the lower ends of two vertical pistons 48, 49, constituting the cores of two electro-magnets 50, 51, so arranged that on a suitable electric current being passed through the wire forming the coils of the electro-magnets 50, 51, an upward attraction of the two cores 48, 49, takes place, so producing a pull on

the ends 9, 13 of the two straps 7, 8. Directly the electric current traversing the windings of the electro-magnets 50, 51, is broken, the cores 48, 49, as well as the suspension straps 7, 8, return to their initial position. In order to insure a continuous and rapid beating or shogging, it is necessary to send, intermittently, into the windings of the electro-magnets 50, 51, the electric current which, when the circuit is closed, produces the attraction, and consequently the upward movement of the cores 48, 49, and when the circuit is open, the return movement backward, by their own weight, or downward, of the cores 48, 49. To this end the distributor 52 previously described is used.

To limit and adjust, if needed, the stroke of the cores 48, 49, there is placed opposite these latter, and at their upper parts, adjustable screw-threaded studs 61.

In both instances the other parts constituting the device for the rotary strainer remain the same as in Patent No. 850,021.

Having now particularly described and ascertained the nature of the said invention, and in what manner it is to be performed, what I claim as my invention is:

1. In a system for the control of the strainer drums in paper-making machines, a drum, two belts supporting said drum, one of the ends of each of said belts being fixed, means for transmitting a rapid shaking or shogging movement to the free end of each of said belts, said means comprising electro-magnetic mechanism, and means for intermittently energizing said mechanism.

2. In a system for the control of the strainer drums in paper-making machines, a drum, two belts supporting said drum, one of the ends of each of said belts being fixed, means for transmitting a rapid shaking or shogging movement to the free ends of said belts, said means comprising an electro-magnetic device having a movable member operatively connected to the free ends of said belts, means for making and breaking the circuit of said electro-magnetic device, means for varying the rate of the make and break, and means for limiting the movement of said movable member.

3. In a system for the control of the strainer drums in paper-making machines, a drum, two belts supporting said drum, one of the ends of each of said belts being fixed, means for transmitting a rapid shaking or shogging movement to the free end of each of said supporting belts, said means comprising two arms connected to the free ends of the supporting belts, a shaft to which said arms are keyed, an electric motor having an armature keyed to the shaft, a

second shaft, a cam carried thereby, means actuated by the cam for making and breaking the motor circuit, and means for varying the speed of rotation of said second shaft.

4. In a system for the control of the strainer drums in paper-making machines, a drum, two belts supporting said drum, one of the ends of each of said belts being fixed, means for transmitting a rapid shaking or shogging movement to the free end of each of said supporting belts, said means comprising two arms connected to the free ends of the supporting belts, a shaft to which said arms are keyed, an electric motor having an armature keyed to the shaft, a second shaft, a cam carried thereby, means actuated by the cam for making and breaking the motor circuit, means for varying the speed of rotation of said second shaft, a lever keyed to said first shaft, and set screws co-acting with said lever to limit the oscillating movement of said first-named shaft.

5. In a system for the control of the strainer drums in paper-making machines, a drum, a shaft therefor, two belts supporting said drum, one of the ends of each of said belts being fixed, means for transmitting a rapid shaking or shogging movement to the free end of each of said supporting belts, said means comprising two electro-magnets, cores operatively associated with said magnets and attached to the free ends of said supporting belts, a second shaft, a cam carried thereby, means actuated by the cam for making and breaking the circuits of the magnets, and means for varying the speed of rotation of said second shaft.

6. In a system for the control of the strainer drums in paper-making machines, a drum, a shaft therefor, two belts supporting said drum, one of the ends of each of said belts being fixed, means for transmitting a rapid shaking or shogging movement to the free end of each of said supporting belts, said means comprising two electro-magnets, cores operatively associated with said magnets and attached to the free ends of said supporting belts, a second shaft, a cam carried thereby, means actuated by the cam for making and breaking the circuits of the magnets, means for varying the speed of rotation of said second shaft, and means for limiting the movement of said cores.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

MARCEL LAMORT.

Witnesses:

JULES FAYOLLET,
H. C. COXE.