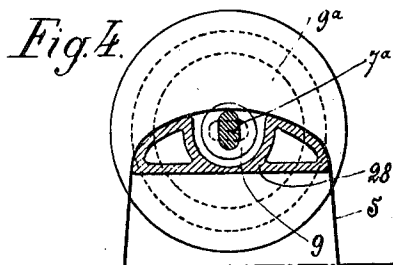
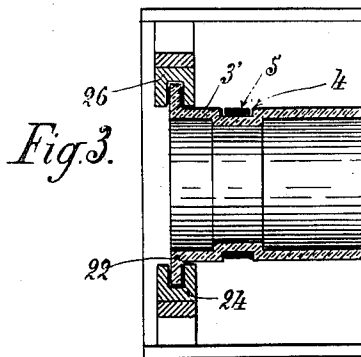
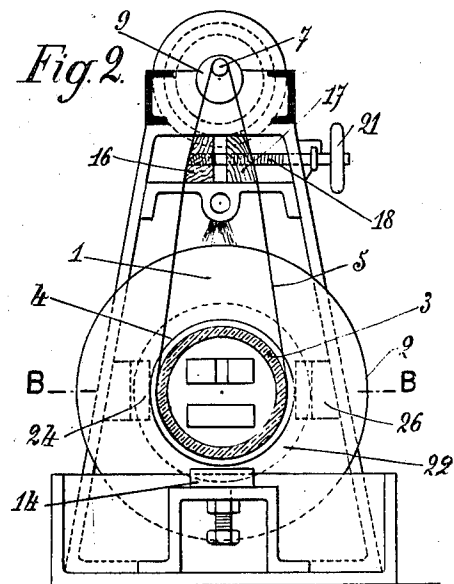
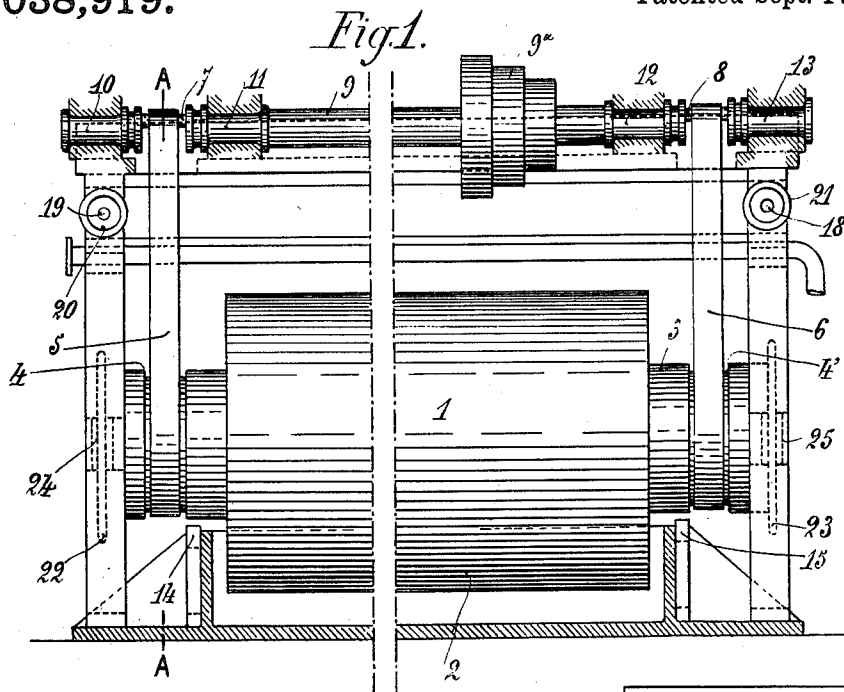


L. MARGUET.
CONSTRUCTION AND MEANS OF OPERATION OF PULP STRAINING DRUMS FOR PAPER MAKING
MACHINES.

APPLICATION FILED APR. 25, 1912.

1,038,919.

Patented Sept. 17, 1912.



Witnesses
William Miller
Chris. H. Almstaedt

Inventor
Lucien Marguet
By *Samuel W. Vinal*
Attorneys

UNITED STATES PATENT OFFICE.

LUCIEN MARGUET, OF RIOUPÉROUX, ISÈRE, FRANCE.

CONSTRUCTION AND MEANS OF OPERATION OF PULP-STRAINING DRUMS FOR PAPER-
MAKING MACHINES.

1,038,919.

Specification of Letters Patent.

Patented Sept. 17, 1912.

Application filed April 25, 1912. Serial No. 693,070.

To all whom it may concern:

Be it known that I, LUCIEN MARGUET, a citizen of the Republic of France, residing at Rioupéroux, Department of Isère, in the Republic of France, have invented new and useful Improvements in the Construction and Means of Operation of Pulp-Straining Drums for Paper-Making Machines, of which the following is a specification.

The drums used in connection with pulp straining in paper making machines usually have two movements, one a reciprocating motion which imparts to the drum a certain amount of displacement in the vertical direction, and the other in conjunction with the first, imparts a very slow rotation to the drum. Several means have already been employed to obtain these results, and this invention has for its object to provide a new construction of the parts more simple and efficient than has hitherto been accomplished, by means of which the same results can be attained.

This invention consists more particularly in providing a single or multiple crank fixed on the driving shaft over which passes or pass the actuating belt or belts from the drum the said cranks giving on its or their rotation one or more vertical movements together with a very slow rotation to said drum on each revolution of the main shaft.

In the annexed drawings which show one method of carrying the invention into effect:

Figure 1 is a front view of a pulp straining drum of an ordinary paper machine fitted with these improvements showing a simple crank constructed according to this invention; Fig. 2 is a sectional side view taken on line A—A of Fig. 1; Fig. 3 is a part sectional plan view of the journal of the said drum taken on line B—B of Fig. 2; Fig. 4 is an enlarged detail view showing a modification in which is employed a double crank.

On referring to the drawings, 1 shows the pulp straining drum of the paper making machine constructed in the usual manner having an envelop 2 supported at its extremities by two metallic collars 3 and 3' each provided with a flanged portion 4 and 4' forming pulleys which each receive an endless belt 5 and 6. Each of these endless belts pass over a crank 7 and 8 said cranks being made preferably integral with the

shaft 9 said shaft having four bearings 10, 11, 12, 13.

Each revolution of the shaft 9 is communicated by a main belt passing over a stepped pulley 9^a allowing varying speeds to be given to the crank shaft 9 giving motion to the belts 5 and 6 and consequently the drum receives a vertical movement and at the same time a slow rotation continuous or intermittent each time that the crank 7 and 8 revolve.

In order to render the shaking effect, due to reciprocation more easy, two adjustable pieces 14 and 15 are provided on each side of the drum. These abutments can be regulated vertically so as to vary the extent of the shocks as well as for taking up the elongation or extension of the belts 5 and 6. It is clear that to make the rotation of the drum as slow as required, it is only necessary to adjust the nuts on the abutments 14 and 15 (Fig. 2) so that the endless belts only lift the drum when the crank is at the limit of its eccentricity; this movement can naturally be varied within its limits either way. Other means are equally provided for taking up the elongation in the length of the belts 5 and 6 which consist of two specially shaped pieces of wood or other suitable material 16 and 17 see Fig. 2, which act as guides for the belts. The said members can be regulated in distance one from the other by means of screws oppositely threaded governed by the hand wheels 20 and 21. It is equally possible to take up the elongation of the belts by lifting simultaneously the four bearings 10, 11, 12, 13 by means of the screws, or by any other suitable mechanical equivalent. Both extremities of the drum are provided with flanges or collars 22 and 23 which engage in the grooves in the brackets 24, 25, 26 and 27 see Fig. 3, in order to prevent the drum 1 from receiving axial displacement.

In the form of construction shown in Fig. 4 the crank 7^a has a double throw and is arranged cam fashion the eccentric parts being preferably diametrically opposed. The belt 5 passes over a rounded member 28 having a central cavity through which passes the main shaft 9, and this member 28 is disposed in such a way that the double crank 7^a does not touch the belt when it occupies the position shown in dotted lines in the

drawings. It will be understood that the crank 7^a instead of being double, may be triple quadruple or consist of any number, in which case the number of shocks given to the drum at each revolution of the main shaft will correspond thereto. Further the throws of the crank 7^a can be calculated in such manner that the pulp straining drum receives at each turn of the shaft vertical movements of variable amplitude.

It will be readily understood that at each half, third, or quarter turn of the shaft 9 one of the bosses of the cam shaped crank 7^a (either double or multiple) lifts the belt 5 at the same time that it communicates a movement of rotation, this movement being transmitted to the drum, two or a greater number of times for each complete revolution of the shaft 9, in this way the speed of the main shaft can be diminished for any given number of shocks, the power necessary for its rotation being less, the wear of the belts being diminished which is a desirable feature over known construction.

Some detail modifications may be made in the construction of the device, without departing from the spirit of this invention.

Having now described and ascertained the nature of my said invention, I declare that what I claim is:

1. In paper making machines a pulp straining drum having collars forming pulleys receiving endless belts, a shaft above and parallel with the axis of the drum, a crank on said shaft over which pass the endless belts carrying the drum, the rotation of said crank causing at the same time two movements to be given to the drum, the one a vertical or reciprocating movement, the other a very slow continuous or intermittent revolution, means for regulating the amplitude of vertical movements, means for taking up elongation of the belts and for preventing lateral displacement of the drum during its operation.

2. In paper making machines a pulp straining drum having collars forming pulleys receiving endless belts, a shaft above and parallel with the axis of the drum, a plurality of cranks on said shaft over which pass the endless belts carrying the drum, means for regulating the amplitude of vertical movements and means for taking up

elongation of the belts and for preventing lateral displacement of the drum during its operation.

3. In a paper making machine, a drum carried by endless belts at its extremities, a shaft above and parallel with the axis of the drum, cranks on said shaft over which pass the endless belts carrying the drum, screwed adjustable abutments for varying the extent of reciprocating movement and taking up elongation of the belts, and means for preventing lateral displacement of the drum during its operation as specified.

4. In a paper making machine, a pulp straining drum having collars forming pulleys receiving endless belts, a shaft above and parallel with the axis of the drum, cranks on said shaft over which pass the endless belts carrying the drum, a pair of round shaped members acting as guides for the belts and having screws oppositely threaded governed by hand wheels for the purpose of regulating said members in distance and taking up elongation of the said belts, as specified.

5. In a paper making machine, a pulp straining drum having collars forming pulleys receiving endless belts, a shaft above and parallel with the axis of the drum, bearings for said shaft having means for simultaneous lifting, cranks on said shaft over which pass endless pulleys carrying the drum as specified.

6. In paper making machines a pulp straining drum having collars forming pulleys receiving endless belts, flanges at each end of the drum engaging grooves provided in brackets on the frame of the machine for preventing lateral displacement of the drum during its operation, a shaft above and parallel with the axis of the drum, cranks on said shaft over which pass endless pulleys carrying the drum and means for regulating the amplitude of vertical movements of said drum as specified.

The foregoing specification signed at Grenoble, France, this second day of April, 1912.

LUCIEN MARGUET.

In presence of two witnesses:

CH. GALLARD,
E. AYZE.