Sept. 6, 1932. W. G. TROTMAN 1,875,526

PAPER MAKING APPARATUS

Filed Jan. 14, 1932

Fig. 1.

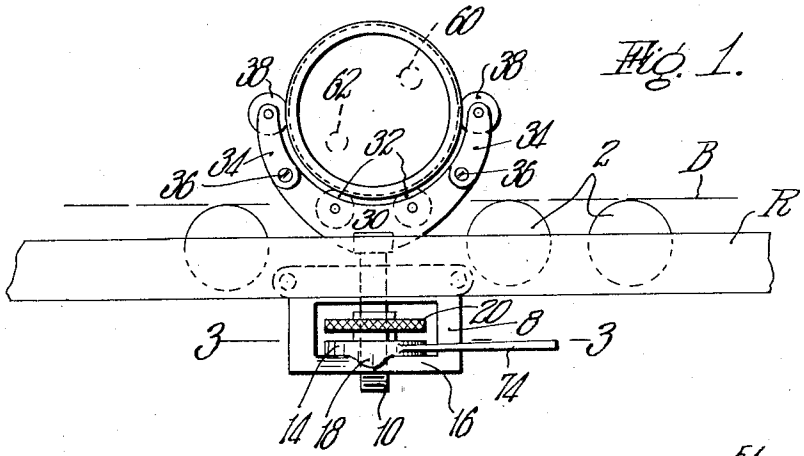



Fig. 2.

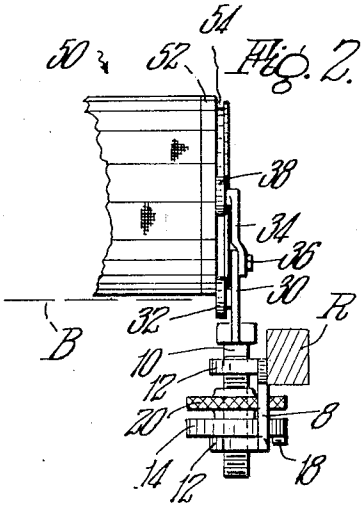
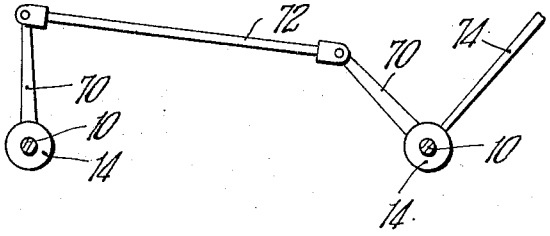



Fig. 3.




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# UNITED STATES PATENT OFFICE

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## PAPER-MAKING APPARATUS

Application filed January 14, 1932. Serial No. 586,579.

This invention relates to paper-making apparatus and is directed more particularly to improvements in dandy rolls and supporting mechanism therefor.

One object of the invention is the provision of a dandy roll which is open from end to end and another object is the provision of novel supporting means therefor whereby the dandy roll may contact with paper-making material carried by Fourdrinier wire and which is so constructed and arranged that the dandy roll may be quickly moved into and out of contact with the paper-making material.

According to one feature of the invention the dandy roll is open from end to end so that pipes may extend therethrough for steam and water pipes to facilitate cleaning of the roll. As distinguished from the prior art such a structure is an advantage over the prior art. Where a dandy roll is mounted on journals disposed on the axis of rotation of the roll, it is possible to extend but one pipe through the journal of the roll, and it is desirable to employ steam and water for cleaning the roll.

According to another feature of the invention the novel supporting mechanism for the roll is not only adapted to accommodate itself to rolls of various diameters, but the mechanism is adjustable up and down so that a dandy roll may contact with various degrees of pressure with a Fourdrinier wire while at the same time the supporting structure is so made that the support for the roll may be instantly raised or lowered to carry the roll towards and away from the Fourdrinier wire.

Various novel features and advantages of the invention will be more fully hereinafter referred to in connection with the accompanying description of the preferred form of the invention taken in connection with the accompaying drawing wherein:

Fig. 1 is a side elevational view of a dandy-roll supporting mechanism of the invention shown in association with certain parts of a paper-making machine.

Fig. 2 is a transverse sectional elevational view at one end of the mechanism, and

Fig. 3 is a plan view at a small scale taken on the line 3—3 of Fig. 1.

Referring now to the drawing more in detail the invention will be fully described.

There is represented at R in Fig. 1 one of a pair of side rails of the paper-making machine such as are ordinarily used in association with the other parts of a paper-making machine. B represents the upper run of a Fourdrinier as it extends from end to end of the machine. In this case the wire B is supported by rollers 2 suitably associated with the rails R. It will be understood that the rail shown in Fig. 1 is similar to a rail on the further side of the machine. Brackets such as 8 are carried by each rail and threaded rods 10 are reciprocable up and down in bearings 12 thereof at its upper and lower sides.

Cam members 14 freely rotatable on the rods 10 are arranged so that the said rods may slide therethrough. The cams 14 bear upon lower portions 16 of the bracket 8. Cams 18 are carried by the members 14 and are arranged to ride up on the parts 16 as the members 14 are rotated.

Adjusting members 20 in the form of nuts are in threaded engagement with the rods 10 and rest on the upper sides of the members 14. As they are rotated in one direction or the other they move the rods 10 up and down.

There is one bracket such as 8 on each of the side rails R at opposite sides of the machine which have associated therewith the members 14 and 20 and the rods 10. It will be seen that the rods may be independently adjustable up and down so that a dandy roll 50 supported thereby may be adjusted in various ways with reference to the Fourdrinier wire B.

Yokes 30 such as shown in Fig. 1 are carried by the upper ends of the rods 10 and have rollers 32 journalled for rotation therein. Arms 34 are adjustable by means of clamp screws 36 at opposite ends of the yokes and these carry rollers 38 which may be similar to the rollers 32 just described.

The dandy roll 50 may have end flanges or head members 52 which are provided with peripheral grooves or channels 54 for receiving the rollers 32 and 38. By means of these rollers the dandy roll is supported for rotation and it is held against appreciable axial

movement by means of the rollers in the grooves described.

As will be seen the dandy roll 50 is suitably supported for rotative movements and as the Fourdrinier wire travels thereunder carrying the paper-making material thereon the dandy roll may bear on the material and cause it to rotate for its usual function.

As will be seen in Fig. 1 the dandy roll 50 is open ended so that pipes such as 60 and 62 indicated by dotted lines may extend therethrough. These pipes may consist of a water pipe, steam pipe or the like so that water and steam may be used for cleaning the dandy roll. Access may be had to the interior of the roll at all times which is advantageous in the operation of the paper-making machine.

The cam members 14 on either side of the machine are associated with the brackets 8 carried by the rails R and are connected for simultaneous oscillation as will be described in connection with Fig. 3.

Arms 70 may extend from the cam members 14 and have their outer ends connected by a connecting rod indicated by 72. One of the cams 14 such as the one at the right may be provided with an operating lever 74 so that by swinging the operating lever 74 the cams are oscillated. By being connected by the lock 72 and levers 70 an oscillation of one cam causes an oscillation of the other. In this way the cams 18 of the members 14 are brought into engagement with the portions 16 of the brackets at opposite sides of the machine and in that way they simultaneously elevate the rods 10 and move both ends of the dandy roll upwardly.

From the foregoing it will be seen that the supporting means for the dandy roll is adjustable for rotatably supporting dandy rolls of different diameters. The supporting structure at opposite sides is independently adjustable to raise and lower the ends of the dandy rolls independently while other means are provided for simultaneously elevating or lowering the whole structure so that the dandy rolls may be instantly moved towards and away from the Fourdrinier wire.

Having described the invention in the form at present preferred, what I now desire to claim and secure by Letters Patent of the United States is:

1. In a paper-making apparatus, means for rotatably supporting opposite ends of a dandy roll including means associated therewith for independently moving opposite ends of said dandy roll up and down and means for simultaneously moving the supports at opposite ends of the dandy roll up and down.

2. A structure for supporting a dandy roll above a Fourdrinier wire comprising in combination, spaced yokes having dandy rollers journalled therein, a dandy roll having grooves at opposite ends receiving said rollers, stems for said yokes having means for independently moving said stems up and down and other means operatively connected for simultaneously moving both of said stems.

3. A structure for supporting a dandy roll above a Fourdrinier wire comprising in combination, yokes including members pivoted thereto, dandy rollers journalled therein, the said pivoted members being arranged for adjustment whereby rolls of different diameters may be supported by said yokes, a dandy roll having grooves at opposite ends thereof receiving said rollers, threaded rods supporting said yokes and adjusting nuts thereon, cam members supporting said nuts and thereby supporting the rods, brackets in which said rods are guided and means connecting said cam members whereby they are simultaneously operated to raise and lower said rods.

4. A structure for supporting a dandy roll above a Fourdrinier wire comprising in combination, spaced brackets, threaded rods reciprocable up and down therein having nuts thereon, cam members supporting said nuts which are free to rotate on said rods and having parts for abutting portions of said brackets to raise said nuts as they are rotated, yokes on the upper ends of said rods having rollers for supporting a dandy roll and a dandy roll having peripheral grooves for receiving said rollers.

5. A structure for supporting a dandy roll above a Fourdrinier wire comprising in combination, spaced brackets having threaded rods reciprocable up and down therein, nuts on said rods, cam members supporting said nuts bearing on said brackets which are rotatable on said rods having parts for bearing on portions of said brackets to raise said nuts as they are rotated, yokes on the upper ends of said rods having rollers for supporting a dandy roll, a dandy roll having peripheral grooves for receiving said rollers, link connections between said cams whereby they are operated simultaneously and an operating lever associated with one of said cams.

In testimony whereof I affix my signature.

WALTER G. TROTMAN.