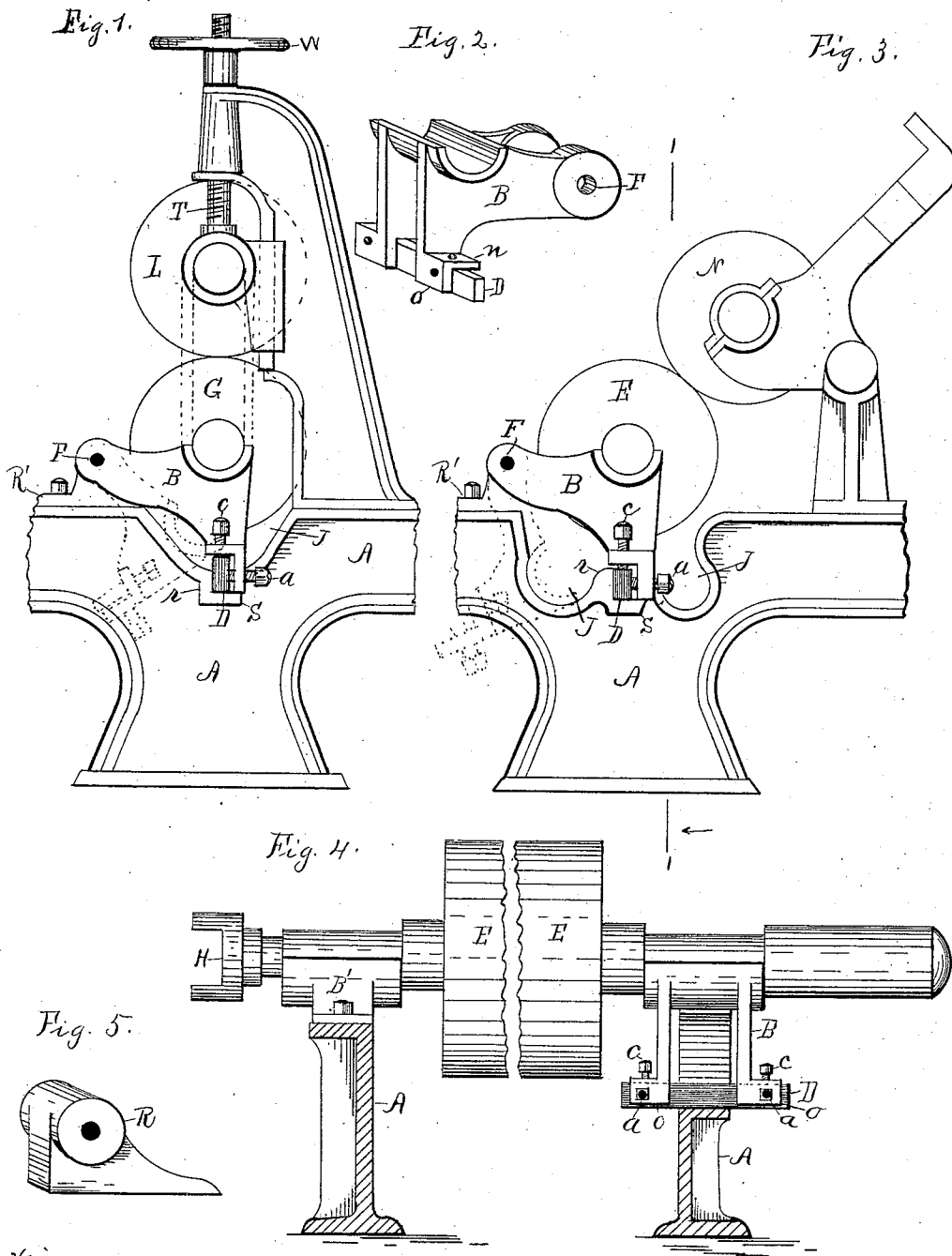


(No Model.)

A. ALDRICH.
PAPER MAKING MACHINE.

No. 471,631.

Patented Mar. 29, 1892.



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UNITED STATES PATENT OFFICE.

ALONZO ALDRICH, OF BELOIT, WISCONSIN.

PAPER-MAKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 471,631, dated March 29, 1892.

Application filed August 10, 1891. Serial No. 402,222. (No model.)

To all whom it may concern:

Be it known that I, ALONZO ALDRICH, a citizen of the United States of America, residing at Beloit, in the county of Rock and State of Wisconsin, have invented certain new and useful Improvements in Paper-Making Machines, of which the following is a specification, reference being had therein to the accompanying drawings and the letters of reference thereon, forming a part of this specification, in which—

Figure 1 is a side elevation of a section of the frame of a paper-making machine, showing a depression therein and showing a swinging box applied thereto for supporting one of the journals of a press-roll. Fig. 2 is a perspective view of said swinging box. Fig. 3 is a side elevation of a section of the frame of a Fourdrinier paper-making machine, showing a depression therein and showing a swinging box applied thereto for supporting one of the journals of the lower couch-roll. Fig. 4 is a vertical cross-section of the frame of the machine, taken on line 1 of Fig. 3, looking in the direction of the arrow, and showing a face view of the lower couch-roll and of the swinging box for supporting its forward journal and a side view of the bar for supporting the outer end of the swinging box and furnishing means for vertical adjustment of said box and the couch-roll journal; and Fig. 5 is a perspective view of the box to which the swinging box is hinged.

This invention relates to certain improvements in paper-making machines, and more particularly to the boxes for the axial support of its rollers for carrying endless cloths, such as felt or wire cloths, and is designed more particularly to be applied to that class of paper-making machines known as "Fourdrinier" paper-making machines. It is necessary at times to remove such endless cloths to be cleaned or repaired or to be replaced by new ones, and for such purpose it is necessary that one or both ends of such rolls should be free from their supporting-boxes to facilitate the removal and replacement of such endless cloths on their rolls, so that they may be slipped on said rolls endwise of the latter, all of which improvements are fully set forth and explained in the following specification and claims.

Referring to the drawings, A represents a section of the front main frame of the machine, having depressions J made in the top of its front side wall immediately below the front journal of the roll to obviate the necessity of lifting the end of the rolls above the top of the machine-frame when the endless cloth is to be removed or placed on its rolls.

B is a swinging box arranged to receive and support the roll-journal centrally above the depression J. This box is pivotally attached to the frame A at F at one side of said depression through the medium of box R'. The forward or opposite end of said swinging box supporting the roll-journal rests on a bar D, which rests in the bottom part of the depression J on the seat S and against the vertical back *r*. The said box B is provided on its lower outer end with the laterally-extending flanges *n* and *o* for resting on said bar D, which flanges *n* and *o* are respectively provided with the set-screws *c* and *a*, the set-screw *c* being for the purpose of vertically adjusting the outer end of said box and the roll-journal resting on it, and the set-screw *a* being for the purpose of giving further support to the box after such adjustment and for holding said bar in its place. In Fig. 1 the said swinging box is shown as applied to the journal of a press-roll G, and in Fig. 3 it is shown as applied to the journal of the lower couch-roll E of a Fourdrinier paper-making machine.

Vertical adjustment of the box and roll is advantageous, in order to retain the roll in proper position with reference to adjacent rolls and to take up the space caused by wear of the boxes and journals.

In operation, when it is desired to free the end of the roll from the swinging box to put on a new endless felt cloth, if it be on roll G (shown in Fig. 1) the felt is placed on over the end of the journal which projects out from the side of the machine a short distance. A link is then placed on over the extending journals of roll G and the roll L above it, (which link is shown in the broken lines,) so as to hold up roll G. By then turning hand-wheel W above the top roll the two rolls are raised by means of the screw T, connected with said hand-wheel, so that roll G is raised enough simply to relieve the swinging box B from weight. The bar D is then removed to

allow said box to swing downward and backward from the journal of roll G. The endless felt is then slipped on over roll G, the box B is swung back to its first position, and bar D inserted in place. The two rolls are then lowered to their first position by means of said hand-wheel and screw and the link removed from the roll-journals. When an endless wire apron is put on the lower couch-roll E of a Fourdrinier machine, (shown in Fig. 3,) the top couch-roll N is swung upward and away from the bottom roll. A fold of the cloth is slipped over a piece of tubing, one end of the tubing being sleeved on over the extending end of the journal of roll E, using the tubing as a lever to slightly raise the end of said roll to relieve the swinging box B from its weight. Bar D is then removed, allowing said box to swing downward and backward from said roll-journal. The wire-cloth is then slipped from off the tubing on the said couch-roll. The box B is then swung back in position and the bar D inserted, the depression J in the frame A permitting such operation and the swinging box facilitating the same by obviating the necessity of unbolting the journal-box and parts of the machine and removing them from the machine. It is intended to apply such swinging box to the journals at the front side of the machine; but it may as well be applied to the journals of their opposite ends, if for any reason that is desirable. I am aware of the prior use of such depression J in the machine-frame for this purpose, and of the prior use

of a box constructed so as to be necessary to remove it entirely from the frame to free it from the rolls; but I am not aware of the use of such a swinging box pivoted at one end of the machine-frame and having means for vertical adjustment of it and the roll, nor of the use of such removable bar D for supporting the free end of the box, substantially as set forth. The form of the depression J is unimportant, only so that it permits ready access to the end of the roll. The form shown in Fig. 3 is perhaps a better form and affords more ready access to the roll than that shown in Fig. 1.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is as follows, to wit:

1. The combination, with the frame A, having the depression J, of the swinging box B, pivotally connected to the said frame at one side of said depression, the bar D, the back-support *r*, and the set-screws *a c* for adjusting said swinging box on said bar, substantially as and for the purpose set forth.

2. In a paper-making machine, the combination, with the side frame having a depression in its upper portion, of a box pivotally connected to said frame at one side of said depression, and means for supporting and adjusting its opposite end, substantially as and for the purpose set forth.

ALONZO ALDRICH.

Witnesses:

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