Aug. 28, 1928. 1,682,460

A. ALDRICH

MECHANISM FOR UNIFORMLY INTERWEAVING FIBERS

Filed Nov. 11, 1922 2 Sheets-Sheet 1

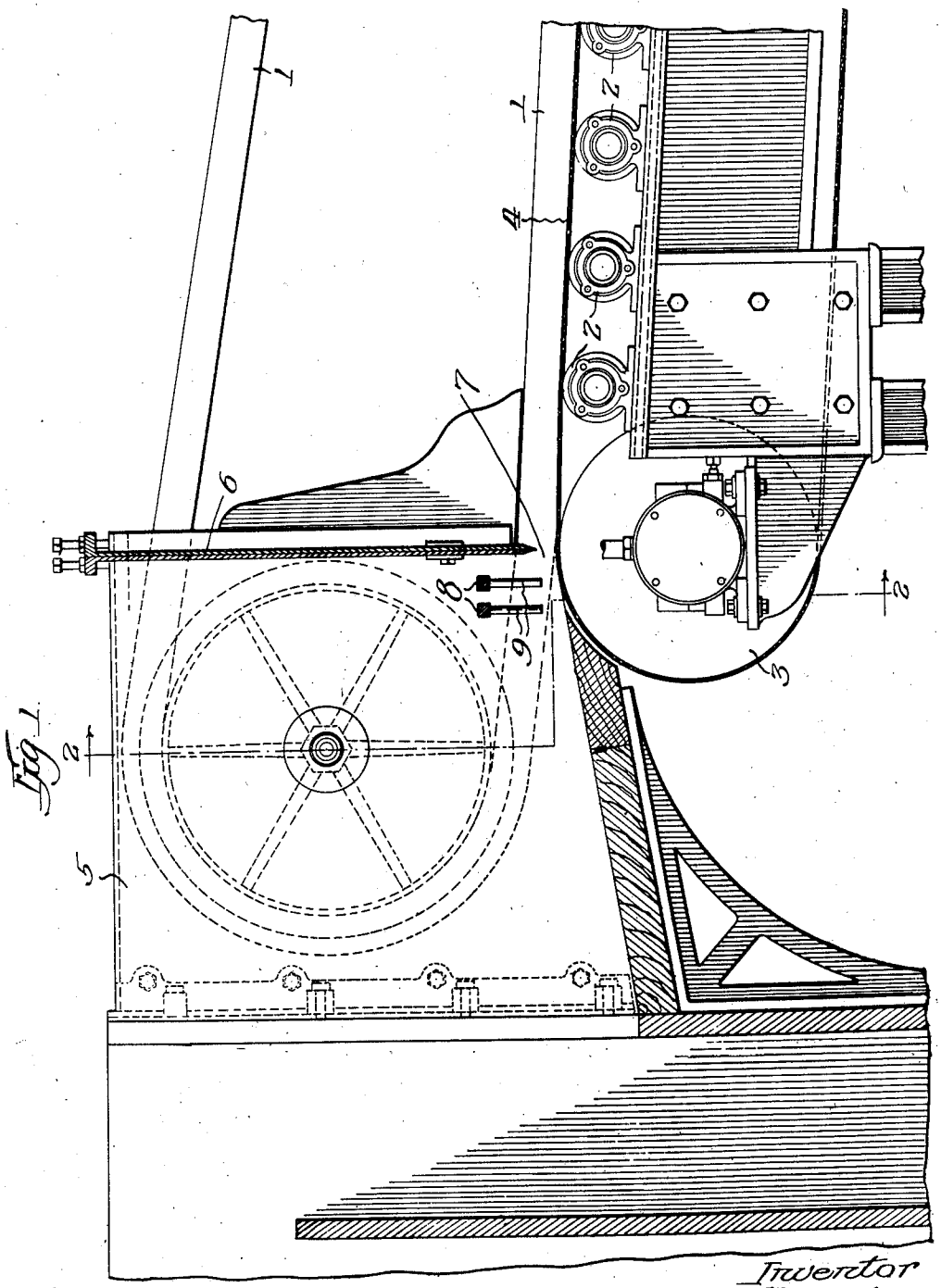


Fig. 1.

Witness:

Inventor
Alonzo Aldrick
By A. Miller Redfield Atty

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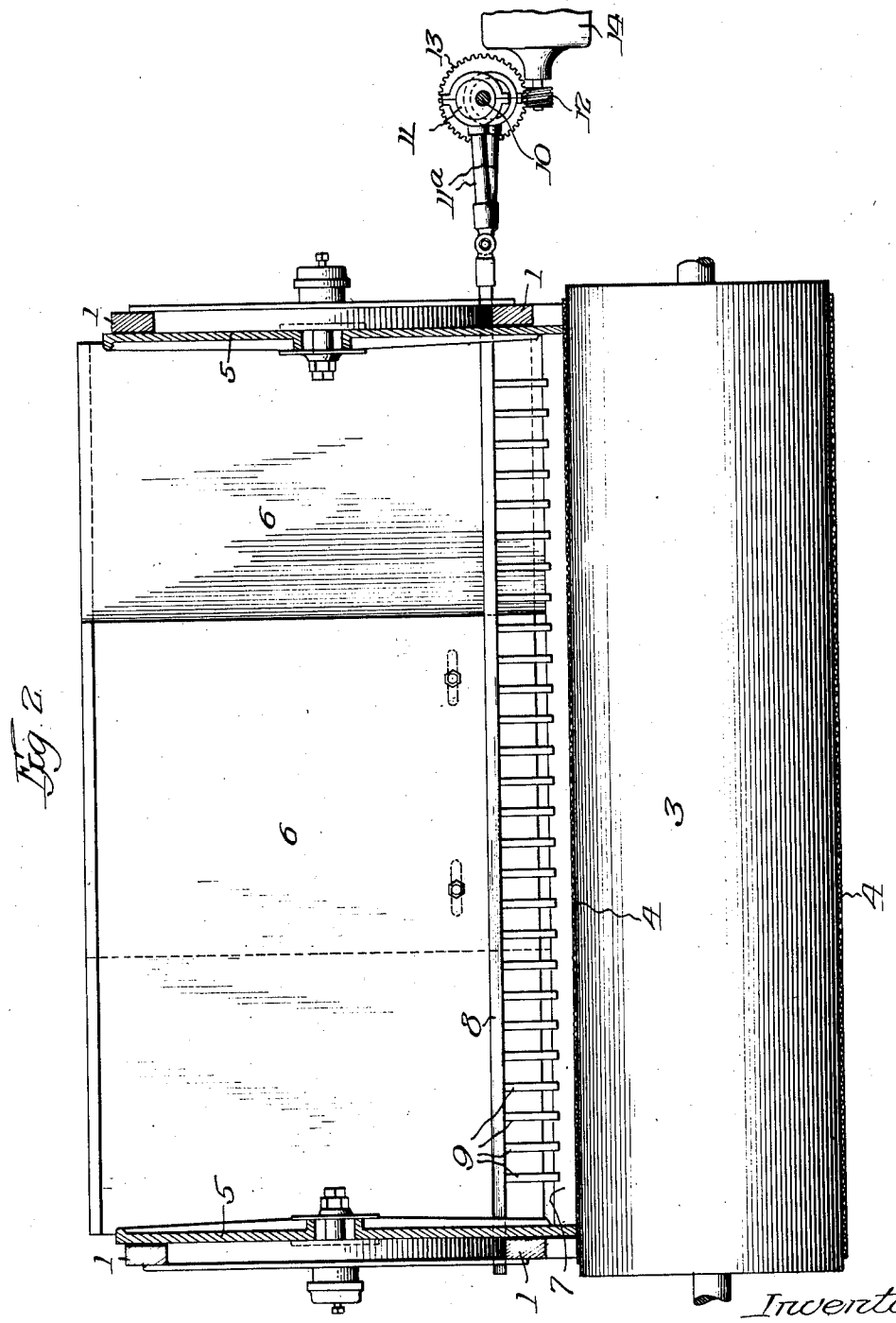


Fig. 2.

Witness:
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UNITED STATES PATENT OFFICE.

ALONZO ALDRICH, OF BELOIT, WISCONSIN.

MECHANISM FOR UNIFORMLY INTERWEAVING FIBERS.

Application filed November 11, 1922. Serial No. 600,209.

My invention relates to paper making machines, and particularly to Fourdrinier machines.

One of the objects of the invention is to provide a simple, practical and advantageous form of Fourdrinier machine.

Another object of the invention is to arrange for uniformly interweaving the fibers of the paper made by the machine.

Another object of the invention is to provide simple, practical and expeditious mechanism for this purpose.

Another object of the invention is to arrange for breaking up lumps of fibers in the paper forming material.

In the accompanying drawings Fig. 1 is a side elevation of the feed end of a Fourdrinier machine embodying my present invention;

Fig. 2 is a cross section taken on line 2—2 in Fig. 1.

Referring to the drawings, I show a portion of a Fourdrinier machine having a table 1 provided with table rolls 2—2 and a brest roll 3, over which the wire 4 travels. A pond or feed box 5 is arranged at one end of the table and has a gate 6 below which there is a passage 7 for the flow of pulp material from the pond 5 on to the wire 4.

In accordance with my invention I provide mechanism for uniformly interweaving the fibers of the paper by agitating the pulp at or about the place where it goes on to the paper. This agitation may be done for example at or about the opening in the feed box or pond through which the pulp passes to the wire. In fact the agitation may be done just inside the feed box or pond, and I preferably arrange to do it there. One of the various mechanisms which can be used is illustrated in the drawings and comprises one or more cross bars 8—8, extending across the machine, as shown in Fig. 2, and arranged and mounted so as to permit vibratory movement lengthwise of the bars, or in other words crosswise of the table. Each bar 8 is provided with prongs or fingers 9 which when the bars 8 are in substantially the position shown in the drawings, would extend downwardly so that their lower ends would be well in front of the outlet opening 7. Means are provided for reciprocating bars 8, as for example, a rotary shaft 10, having eccentrics 11—11 whose rods 11^a—11^a are pivotally connected with the ends of bars 8, as shown in Fig. 2, the shaft 10 being driven by any suitable means, as for example, a worm 12 and wheel 13, the worm 12 being carried by a motor 14 which may be an electric motor or other power device.

The eccentrics 11—11 are preferably mounted opposite one another on shaft 10, so that the reciprocatory movement of the rods 8—8 is always relatively in reverse direction. Thus the rotation of worm 12 by motor 14 will cause eccentrics 11—11 to actuate and reciprocate bars 11^a—11^a, and so reciprocate rods 8 with their fingers 9—9 and cause an agitation of the pulp as it is leaving or about to leave the feed box, and this will insure a uniform interweaving of the fiber of the paper made by the machine.

It will be understood that changes and modifications may be made without departing from the spirit of the invention.

What I claim is:

1. A Fourdrinier machine having its feed box provided with mechanism located within the feed box near the outlet thereof, for causing a lateral or transverse shifting agitation of the pulp to improve the paper formation, said mechanism comprising a plurality of agitating devices and means for actuating the same independently.

2. A Fourdrinier machine having its feed box provided with mechanism located within the feed box near the outlet thereof, for causing a lateral shifting agitation of the pulp, said mechanism comprising a plurality of reciprocable members arranged side by side crosswise of the feed box and provided with mechanism whereby they may be independently reciprocated.

3. In a Fourdrinier machine the combination with the feed box of pulp agitating means located within the feed box in proximity to the outlet thereof, said agitating means comprising reciprocating devices arranged for movement crosswise of the box and means for actuating said reciprocating devices in opposite directions at the same time.

4. A Fourdrinier machine having a feed box a portion of whose bottom is cut away to accommodate the brest roll, and which is provided with an outlet above the brest roll, in combination with pulp agitating means located within the box substantially above the brest roll.

5. A Fourdrinier machine having a feed box a portion of whose bottom is cut away to accommodate the brest roll, and which

is provided with an outlet above the brest roll, in combination with pulp agitating means located within the box substantially above the brest roll, and means carried by the table for actuating said pulp agitating means.

6. A Fourdrinier machine having one or more transversely reciprocable bars provided with laterally extending fingers or prongs and located in the feed box near the outlet thereof and means reciprocating said bars independently.

7. A Fourdrinier machine having transversely reciprocable bars provided with downwardly extending prongs or fingers and located in the feed box near its outlet so that said prongs or fingers extend down in front of said outlet and means for reciprocating said bars in opposite directions at the same time.

8. A Fourdrinier machine having transversely reciprocable bars provided with downwardly extending prongs or fingers and located in the feed box near its outlet, so that said prongs or fingers extend down in front of said outlet and means for reciprocating said bars, said means comprising a rotary shaft provided with dissimilarly placed eccentrics and connecting rods for actuating said bars by said eccentrics.

9. A Fourdrinier machine having transversely reciprocable bars provided with downwardly extending prongs or fingers and located in the feed box near its outlet, so that said prongs or fingers extend down in front of said outlet and means for reciprocating said bars, said means comprising a rotary shaft provided with eccentrics connected with said bars and power means for driving said shaft, said power means comprising a worm wheel on said shaft and a motor provided with a worm for driving said wheel.

10. A Fourdrinier machine having transversely reciprocable parts provided with downwardly extending prongs or fingers for agitating the paper pulp, and means for shifting said parts longitudinally independently of one another.

11. A Fourdrinier machine having transversely reciprocable parts provided with downwardly extending prongs or fingers for agitating the paper pulp, and means for shifting said parts lengthwise in opposite directions at the same time.

In witness whereof, I hereunto subscribe my name this 20th day of October, A. D., 1922.

ALONZO ALDRICH.