A. BROADMEYER.

PAPER STACK AGITATING MEANS FOR PAPER FEEDING MACHINES.

APPLICATION FILED SEPT. 16, 1916.

1,207,365. Patented Dec. 5, 1916.

Fig. 1.

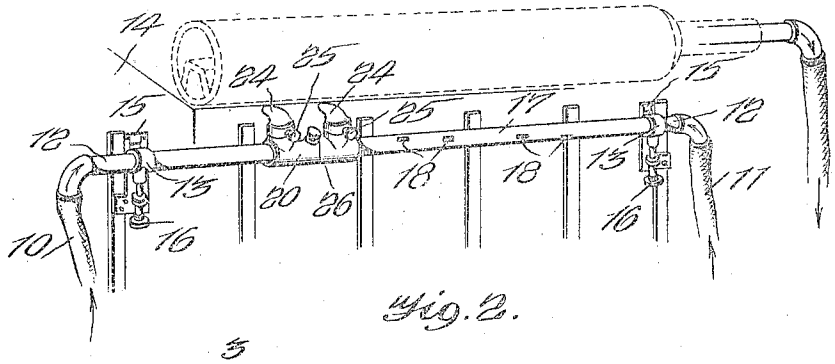


Fig. 2.

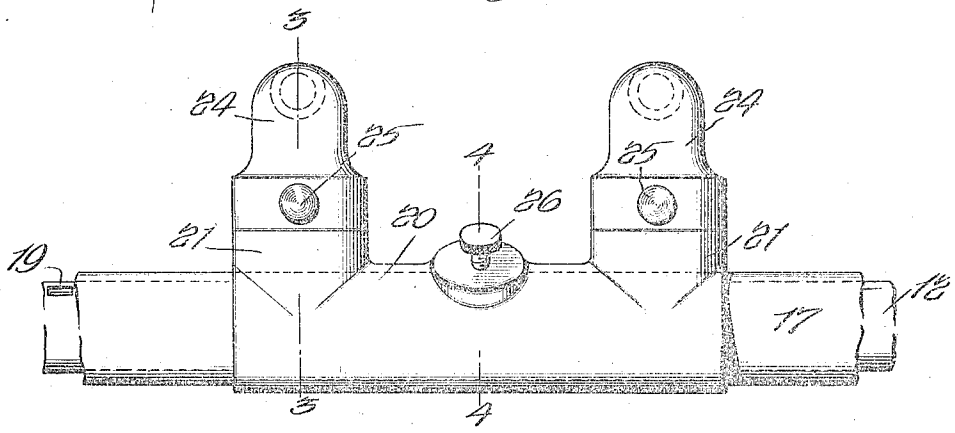
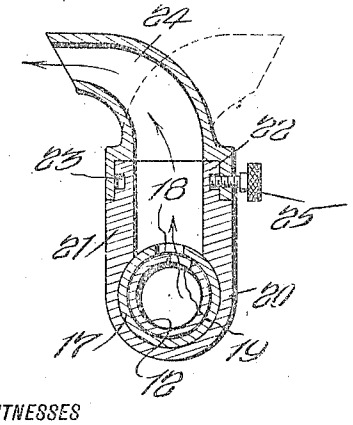
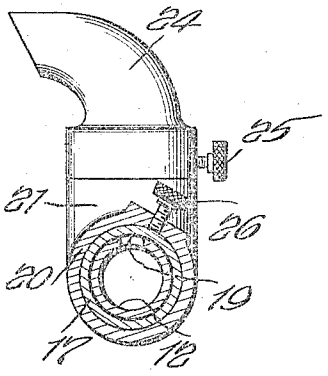


Fig. 3.

Fig. 4.





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PAPER-STACK-AGITATING MEANS FOR PAPER-FEEDING MACHINES.

1,207,365. Specification of Letters Patent. Patented Dec. 5, 1916.

Application filed September 16, 1916. Serial No. 120,543.

To all whom it may concern:

Be it known that I, ALBERT BROADMEYER, a subject of the Emperor of Germany, and a resident of Harrisburg, in the county of Dauphin and State of Pennsylvania, have invented a certain new and useful Improvement in Paper-Stack-Agitating Means for Paper-Feeding Machines, of which the following is a specification.

My present invention relates generally to paper feeding machines, more particularly to paper feeding machines of the character described and claimed in my Patent, 1,183,626, granted May 16, 1916.

More especially my present improvements are directed to the means for directing blasts of air against the forward portion of a paper stack near the edge of the sheets of the stack at a point where they are initially engaged to successively remove the same, my improvements aiming to provide blast directing means capable of ready and quick adjustment in connection with the paper stack, as well as a wide range of action, and adapted to promote wholly effective results in such action.

In the accompanying drawings illustrating my present improvements, Figure 1 is a perspective view illustrating the forward portion of a paper stack and my improvements mounted in connection therewith; Fig. 2 is an elevation on an enlarged scale of the present improvements, and Figs. 3 and 4 are vertical sectional views taken therethrough respectively on lines 3—3 and 4—4 of Fig. 2.

Referring now to these figures, the flexible blast connections, as seen at 10 and 11 in Fig. 1, leading from a suitable source of air supply, are extended and connected to the opposite ends of a blast pipe 12 extending through bearings 13 adjustable vertically at the forward portion of the paper stack 14 in brackets 15 to which the said bearings are connected by vertically disposed adjusting screws 16, the blast pipe extending transversely across the forward face of the paper stack 14 in spaced relation, as seen in Fig. 1.

Rotatably disposed upon the blast pipe 12 is a concentric blast tube 17 having pairs of spaced apertures 18 arranged spirally thereabout, each pair of which may, by rotation of the tube 17 upon the pipe 12, be brought into register with a longitudinal slot 19 of the blast pipe, so that the air from the blast pipe may escape at a desired point between the sides of the paper stack.

In order to direct the air so escaping toward the paper stack for the purpose above described, I provide a third short tube surmounting the tube 17 and adjustable thereabout, this third tube being seen at 20, and being provided, as particularly seen in Fig. 2, with a pair of short laterally projecting nipples 21 adjacent its opposite ends, each nipple having a reduced outer end 22 provided with an annular groove 23, the reduced end 22 receiving the enlarged end of a curved blast nozzle 24, through which enlarged end is threaded a clamping screw 25, the inner end of which extends into the annular groove 23, so that when loosened to permit rotation of the nozzle 24 with respect to the corresponding nipple 21, the nozzle will be held against accidental displacement and loss.

Intermediate its ends the nozzle supporting tube 20 is provided with a threaded aperture for the reception of a clamping screw 26 having engagement with the tube 17 to lock the nozzle carrying tube in selected adjustment along the said blast tube.

It is obvious from the foregoing that, by rotation of the blast tube 17 in conjunction with longitudinal adjustments thereon of the nozzle carrying tube 20, the nozzles may be selectively positioned for reception of air from the blast pipe 12, laterally of the paper stack, and that the nozzles themselves may be readily rotated to change their angular inclination in a horizontal direction with respect to the paper stack, by loosening the clamping screws 25 and rotating the nozzles 24 on the nipples 21, or in a vertical direction by loosening the clamping screw 26 and rotating the nozzle carrying tube 20 on the blast tube 17, the openings 18 of the latter, seen in Fig. 3 in particular, being of sufficient dimensions to permit of a suitable range of adjustment in the latter respect.

I claim:—

1. In a paper sheet feeding machine, the combination with a slotted blast pipe extending transversely in front of the stack of paper being fed, and a blast tube rotatable on said blast pipe and provided with spaced pairs of apertures in a spiral series thereabout, of a nozzle supporting tube adjust-

able longitudinally of, and rotatable on, the said blast tube, and provided with nipples extending therefrom for registry with the apertures of the said pairs of apertures of the blast tube, and nozzles rotatable on the said nipples.

2. In a paper sheet feeding machine, the combination with a slotted blast pipe extending transversely in front of the stack of paper being fed, and a blast tube rotatable on said blast pipe and provided with spaced pairs of apertures in a spiral series therearound, of a nozzle supporting tube adjustable longitudinally of, and rotatable on, the said blast tube, and provided with nipples extending therefrom for registry with the apertures of the said pairs of apertures of the blast tube, each of said nipples having a reduced threaded end and an annular groove in its said reduced end, and a nozzle on each of said nipples having an enlarged inner end telescoping the reduced end of the respective nipple, and a clamping screw threaded therethrough and the inner end of which extends within the groove of the nipple.

3. In a paper sheet feeding machine, the combination with concentric blast pipes, one of which is slotted and the other of which is provided with apertures spirally therearound, the latter being rotatable on the former, of a pair of blast nozzles independently shiftable in a direction parallel to the axes of the said blast pipes, and a nozzle supporting member mounted on said blast pipes and with which the said nozzles are simultaneously adjustable in a direction at right angles to the axes of the said blast tubes and lengthwise of the blast tubes.

4. In a paper sheet feeding machine, the combination with relatively adjustably concentric blast tubes, the inner tube of which is slotted and the outer tube of which is provided with a series of apertures spirally therearound, of a nozzle supporting tube adjustable longitudinally of and rotatable upon the said blast pipes, and blast nozzles independently adjustable on the said supporting tube.

5. In a paper sheet feeding machine, the combination with relatively adjustable concentric blast pipes, the inner tube of which is slotted and the outer tube of which is provided with a series of apertures spirally therearound, of a nozzle supporting tube adjustable longitudinally of and rotatably upon the said blast pipes, and having nozzle supporting nipples, and nozzles independently rotatable on the said nipples in a direction parallel to the longitudinal axes of the said blast pipes.

ALBERT BROADMEYER.