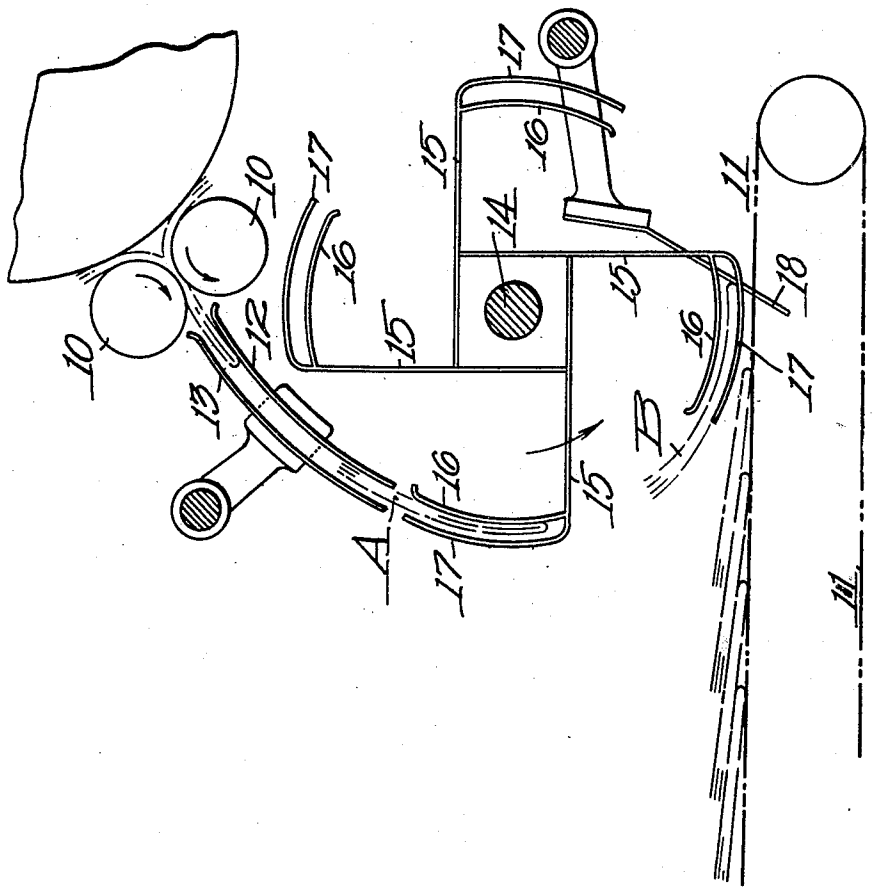
H. A. W. WOOD.

DELIVERY FAN.

APPLICATION FILED JUNE 17, 1918.

1,325,550. Patented Dec. 23, 1919.



Witness
C. F. Niesen.

Inventor.
Henry A. Wise Wood
by attorneys
Southgate & Southgate.

UNITED STATES PATENT OFFICE.

HENRY A. WISE WOOD, OF NEW YORK, N. Y., ASSIGNOR TO WOOD NEWSPAPER MACHINERY CORPORATION, OF NEW YORK, N. Y., A CORPORATION OF VIRGINIA.

DELIVERY-FAN.

1,325,550. Specification of Letters Patent. Patented Dec. 23, 1919.

Application filed June 17, 1918. Serial No. 240,492.

To all whom it may concern:

Be it known that I, HENRY A. WISE WOOD, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented a new and useful Delivery-Fan, of which the following is a specification.

This invention relates to a delivery for folded sheets and is adapted to be employed in connection with a web press.

The principal object of this invention is to provide the fan itself with means for receiving the sheets from folding rolls or other forwarding mechanism in such a manner that the sheets, having been given an initial curvature before they are deposited in the fan, are received by the fan in such a way as to maintain that curvature as long as the fan has control of them. This prevents the sheets buckling or getting into a flat condition from which it is possible for them to be distorted out of their convex form.

The invention also does away with the necessity of using guides all the way from the folding rolls to the delivery belts, the fan blades themselves acting to hold the sheets in the proper condition.

This invention involves the simplification of the mechanism disclosed in my patent granted May 21, 1918, No. 1,266,742.

Reference is to be had to the accompanying drawing which is an elevation of a delivery constructed in accordance with this invention.

Although the invention can be carried out in connection with other apparatus it is shown as arranged for taking folded bundles of sheets from a pair of folding rolls 10 constituting part of a web printing press and delivering them to delivery belts 11. These two parts of the mechanism are old and well known.

I have shown the folding rolls as delivering the sheets or bundles into a space between two guides 12 and 13, one concave and the other convex. These guides receive the sheet and give it an initial curvature all the way across so as to prevent its buckling in the other direction.

The fan itself which is the main feature of this invention is mounted on a shaft 14 as usual and is provided with a plurality of blades 15 which are shown as radial. Each of these blades is provided with a pocket for receiving the bundles of sheets from the pathway formed between the guides 12 and 13. This pocket in the form shown is formed by means of two ends or extensions 16 and 17 on each blade. These are spaced equally apart throughout their length and are concentric with each other and preferably with the fan and its shaft 14 so as to constitute a pocket. They are at the same distance from the shaft as the lower end of the pathway 12—13 or substantially so. Thus the sheets dropping down through this pathway periodically will be received in the pockets. The curvature of the sheets or bundle will not be reversed or materially changed and the sheets cannot be flattened out at any time during their progress from the rolls 10 until they are delivered from the fan on the belts 11. It will be observed that the end of one of the extensions 16 and 17 is bent outwardly slightly to insure the ends of the sheets or bundles descending between them.

In the use of the device the sheets or bundles come out between the rolls 10. In this case one is shown as located a little above the other. They have a natural tendency to curve the bundle down at the end. If this cannot be depended upon absolutely the guides 12 and 13, or at least one of them will act to insure the curvature of the sheets as indicated in the drawings. As they drop out of this pathway one of the fan blades has just come around to the position shown in which it is located at the bottom of this pathway and serves as a continuation thereof to receive the sheets. The fan of course rotates at nearly the same speed as that of the sheets at this instant. They are received in the pocket without any shock and their concave curvature is kept constant throughout this action. When the fan and sheets pass around from the position A to the position B the sheets come against the usual stop 18 and drop on the delivery belts 11 as is well understood in this art. Up to that time they have been kept in a constant curved condition but now they are allowed to flatten out on these belts which take them away.

By this arrangement the sheets are kept in substantially the same curved form all the time and consequently cannot buckle in their passage from the rolls to the delivery belts. The length of the pathway 12—13 is reduced to a minimum. When the rolls 12 are located in slightly inclined position the

sheets are delivered in such a way as to be initially curved in the direction desired. Consequently this pathway can be reduced even more than shown in the drawings in some cases or entirely omitted.

Although I have illustrated and described only a single form of the invention I am aware of the fact that modifications can be made therein by any person skilled in the art without departing from the scope of the invention as expressed in the claims. Therefore I do not wish to be limited to all the details of construction herein shown and described, but what I do claim is:—

1. The combination with means for forwarding sheets, of a rotary sheet laying fan having blades provided with pockets at their ends for receiving the sheets and holding therein the major portion of each sheet.

2. The combination with a pair of folding rolls and a pathway for guiding the sheets therefrom in a curved course, of a sheet laying fan having blades each provided with a pair of spaced ends constituting, when in position for receiving the sheets from said pathway, a continuation of the pathway without abrupt change of direction.

3. The combination with a pair of folding rolls and a pathway for guiding the sheets therefrom in a curved course, of a sheet laying fan having blades each provided with a pair of spaced ends constituting a continuation of the curvature of said pathway, so as to avoid changing the direction of curvature of the sheets.

4. As an article of manufacture, a rotary sheet laying fan having blades each provided with a pair of curved ends concentric with each other and with the center of the fan spaced apart to constitute pockets for receiving the sheets.

5. As an article of manufacture, a rotary sheet laying fan having blades provided with ends substantially concentric with the fan for keeping the sheets in a concave condition.

6. The combination of a rotary sheet laying fan having blades, and means for guiding sheets to the fan, said blades having operative ends arranged on the arc of a circle substantially concentric with the center of rotation of the fan.

In testimony whereof I have hereunto affixed my signature.

HENRY A. WISE WOOD.