May 6, 1924. 1,493,015

A. BROADMEYER

PAPER FEEDING APPARATUS

Filed Sept. 8, 1921

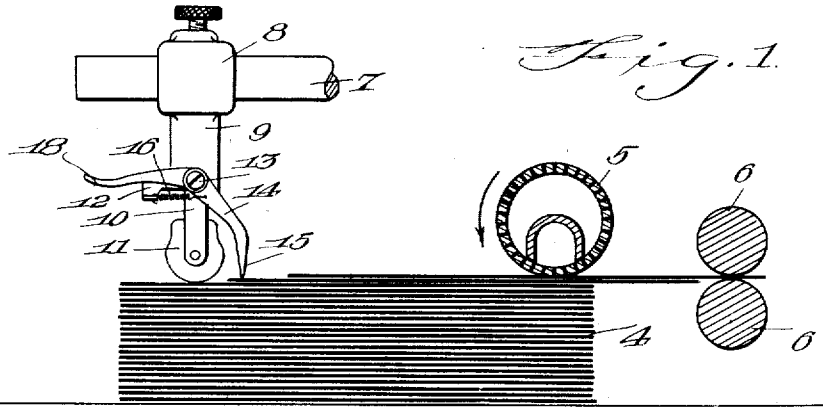


Fig. 1.

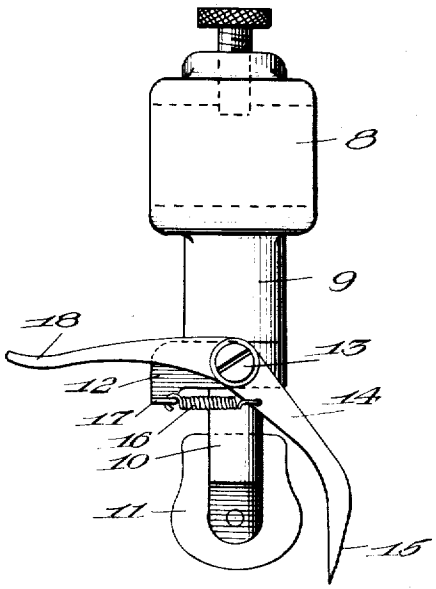


Fig. 2.

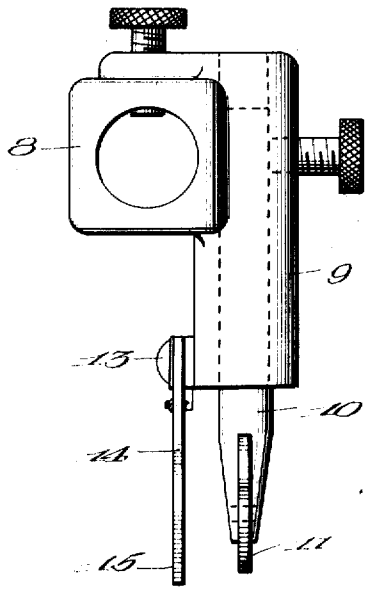


Fig. 3.

Inventor,

Albert Broadmeyer,

By

Attorney

Patented May 6, 1924. 1,493,015

UNITED STATES PATENT OFFICE.

ALBERT BROADMEYER, OF HARRISBURG, PENNSYLVANIA, ASSIGNOR TO THE W. O. HICKOK MFG. COMPANY, OF HARRISBURG, PENNSYLVANIA, A CORPORATION OF DELAWARE.

PAPER-FEEDING APPARATUS.

Application filed September 8, 1921. Serial No. 499,330.

To all whom it may concern:

Be it known that I, ALBERT BROADMEYER, a citizen of the United States, residing at Harrisburg, in the county of Dauphin and State of Pennsylvania, have invented certain new and useful Improvements in Paper-Feeding Apparatus, of which the following is a specification.

The present invention relates to paper feeding apparatus, and the object is to provide a simple and effective device for insuring the separation of the successive sheets and their proper feed one by one to the instrumentalities that are to operate thereon.

As is well known to those skilled in the art, the sheets to be fed are located in a pile and are removed one by one from the top of the pile. Due to static electricity, and other causes, it often happens that a second sheet will adhere to the top sheet and both will pass together through the feeding means to the folder, printing-press, ruling machine or other apparatus. The present device has been found to practically eliminate this difficulty.

In the accompanying drawings:—

Figure 1 is a view diagrammatic in its character of a feeding mechanism, showing the improvement in place thereon,

Figure 2 is a view in elevation,

Figure 3 is a view taken at right angles to Figure 2.

In Figure 1 there is illustrated a pile of sheets designated 4, and operating thereon is a rotatable suction roller 5 which may be of any desired character. As this roller rotates in the direction of the arrows, it will be evident that the top sheet of the pile will be advanced until engaged by a pair of coacting feeding rollers 6 that carry the sheet on to the intake of the machine, with which the feeding mechanism is associated. A portion of a control arm 7 is shown, which arm may form a part of the controlling means for the elevating mechanism of the table, on which the pile of sheets rests. For example the mechanism may be of the character disclosed in my Patent, No. 1,207,364, dated Dec. 5, 1916. This arm 7 is vertically movable, and adjustably mounted thereon is a collar 8 having a depending socket member 9 in which is adjustably mounted a stem 10 that carries a bearing blade 11 adapted to rest upon the pile and support the arm.

The socket member 9 is provided with a bracket 12, and provided on this bracket at 13 is a dog 14. The dog terminates at one end in a downturned spur 15 adapted to rest upon the pile between the blade 11 and the suction roller 5. The spur is urged downward by a coiled spring 16 connected to said dog and to a terminal ear 17 on the bracket 12. The dog furthermore extends horizontally to form a handle portion 18.

With this structure, it will be clear that as the roller 5 rotates the sheets will be successively withdrawn from the top of the pile and from beneath the blade 11 and spur 15. Occasionally, however, the second sheet will adhere to the first sheet and this adhesion universally takes place after the first sheet has started, so that the second sheet will not be in exact register with the first sheet. The top sheet will therefore be dragged from under the spur and said spur will drop upon the projecting rear end of the moving sheet beneath and will break the adhesion. The second sheet will therefore be held until the top sheet has passed through the feeding machine and the suction roller is again thrown into operation to pick up another sheet.

From the foregoing, it is thought that the construction, operation and many advantages of the herein described invention will be apparent to those skilled in the art, without further description and it will be understood that various changes in the size, shape, proportion and minor details of construction, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

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

1. In paper feeding apparatus, the combination with feeding means adapted to remove sheets from the top of a pile, of a support having a portion that rests upon the pile, and a stop dog on the support, beneath which the sheets pass and movable with respect to said portion, said dog having sufficient pressure on the sheets to break the adhesion between the sheet pressed thereon and an overlying sheet moved by the feeding means.

2. In paper feeding apparatus, the combination with feeding means adapted to remove sheets from the top of a pile, of

a control support having a portion that rests upon the pile, and a stop dog mounted on the support and movable with respect to said portion, said dog being adapted to bear upon the sheets and engage the projecting end of the underlying of adhering sheets moved from the pile by the said removing means.

3. In a paper feeding apparatus, the combination with feeding means adapted to remove sheets from the top of a pile, of a control support having a portion that rests upon the pile, a stop dog mounted on the support and movable with respect to said portion, said dog being adapted to bear upon the sheets and engage the projecting end of the underlying of adhering sheets moved from the pile by the said removing means, and means for yieldingly urging the stop downwardly.

4. In paper feeding apparatus, the combination with feeding means adapted to remove sheets from the top of a pile, of a control support having a portion that rests upon the pile, and a stop dog pivotally mounted on the support and adapted to bear upon the sheets alongside the portion of the control support that rests on said sheets.

5. In paper feeding apparatus, the combination with feeding means adapted to remove sheets from the top of a pile, of a control support that rests upon the pile, and a stop dog pivotally mounted between its ends on the support, one end of said dog having a spur portion adapted to bear upon the sheets alongside the portion of the control support that rests on said sheets, and a spring connected to the support and dog for urging the spur into engagement with the paper.

6. In paper feeding apparatus. the combination with feeding means adapted to remove sheets from the top of a pile, of a controlling member overlying and having a portion resting upon the pile, and a stop dog in addition to said portion movably mounted on the controlling member and bearing upon the sheets with sufficient pressure to break the adhesion between a sheet engaged thereby and an overlying sheet moved by the feeding means.

In testimony whereof, I affix my signature in the presence of two witnesses.

ALBERT BROADMEYER.

Witnesses:

C. M. BUFFINGTON,

ROSS A. HICKOK.

Certificate of Correction.

It is hereby certified that the State of incorporation of the assignee in Letters Patent No. 1,493,015, granted May 6, 1924, upon the application of Albert Broadmeyer, of Harrisburg, Pennsylvania, for an improvement in "Paper-Feeding Apparatus," was erroneously given as "Delaware," whereas said State should have been given as *Pennsylvania*, as shown by the records of assignments in this Office; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 15th day of July, A. D. 1924.

[SEAL.] THOMAS E. ROBERTSON,
Commissioner of Patents.