Feb. 3, 1931. L. W. WAGNER 1,790,735

SHEET FEEDING ATTACHMENT FOR DUPLICATING AND LIKE MACHINES

Filed July 18, 1929

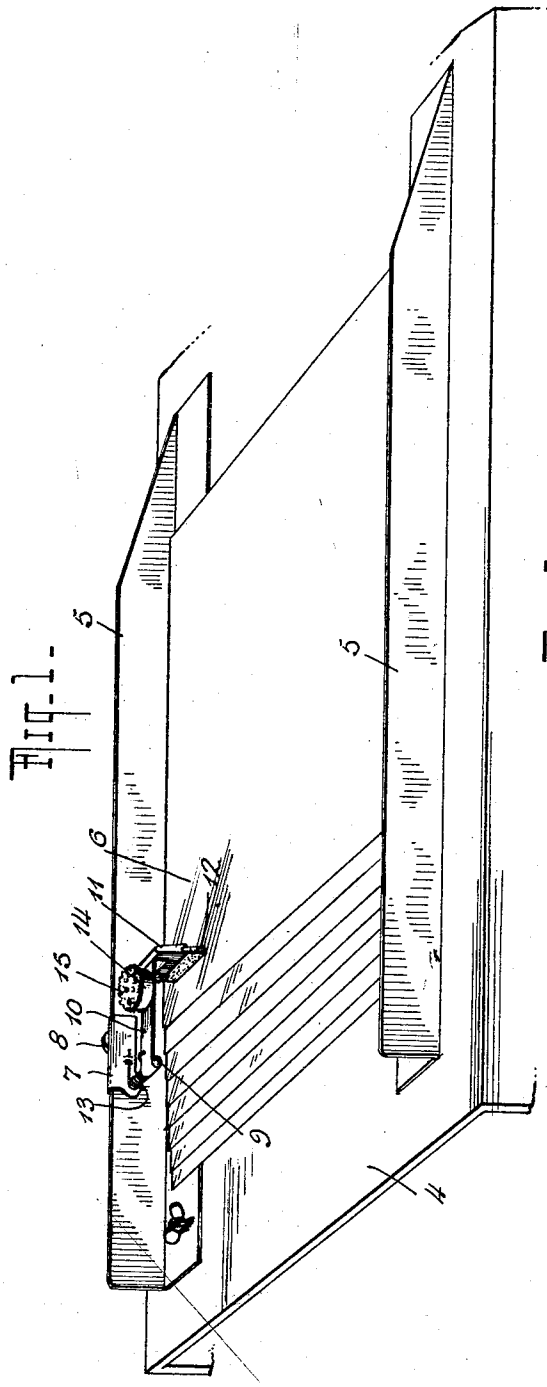


Fig. 1.

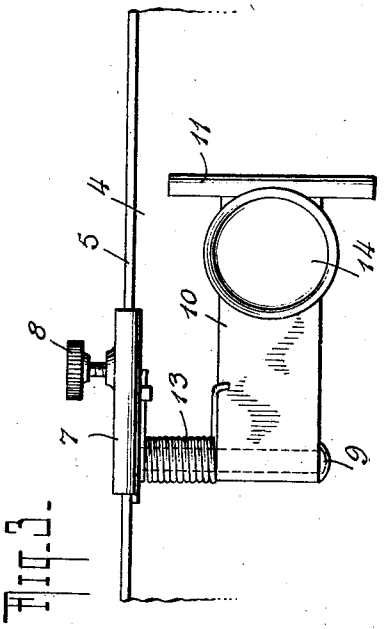


Fig. 3.

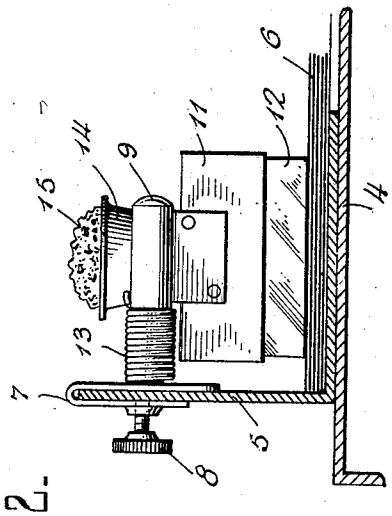


Fig. 2.

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UNITED STATES PATENT OFFICE

LUDWIG W. WAGNER, OF SAN ANTONIO, TEXAS, ASSIGNOR TO A. B. DICK COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS

SHEET-FEEDING ATTACHMENT FOR DUPLICATING AND LIKE MACHINES

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This invention relates to improvements in attachments for the sheet-feeding tables of duplicating machines and the like, and has particular reference to a device for aiding delivery of the sheets from the tables to the machines.

It is a well-known expedient, when feeding sheets of paper one at a time to a duplicate machine, for instance, to feather said sheets before placing the same upon a feeding table and preparatory to delivering them to the machine. This feathering of the sheets facilitates the feeding operation, but does not always prevent an underlying sheet from adhering slightly to a top sheet which is being delivered due to the friction therebetween, the result being that the continuity of operation in feeding the sheet with one hand and actuating the handle of the machine with the other is interrupted with a consequent loss of the operator's time.

In accordance with the present invention, the above difficulty is overcome by the provision of a device in which means are employed to exert a slight pressure on the sheets, so that as one of them is fed to the machine said means will engage the next uppermost sheet and prevent the same from adhering to the sheet being delivered. The term "slight pressure", when employed in the following description and claims, is to be construed as meaning such pressure which will permit of a sheet being withdrawn from beneath the device while being engaged thereby and which will be sufficient to hold, by friction, the next underlying sheet and thus prevent it from adhering to and being withdrawn with the top sheet.

The invention further provides an improved device of simple and practical construction which is capable of being attached to a feeding table in various positions of adjustment and which embodies a flexible sheet-engaging member having movements toward and away from the sheets, and means for yieldingly maintaining said member in engagement therewith.

The inventive idea involved is capable of receiving a variety of mechanical expressions, one of which, for purposes of illustration, is shown in the accompanying drawing, wherein:

Figure 1 is a fragmentary perspective view of a conventional form of feeding table for duplicating machines, the device of the present invention being attached and shown in operative position;

Figure 2 is a transverse section through a portion of the feeding table, showing the present device in end elevation; and

Figure 3 is a top plan view of the device.

The drawing conventionally illustrates a feeding table 4 of the usual type employed with duplicating machines and including the side members 5 which may be adjustable transversely of the table to accommodate various widths of sheets of paper 6 which are usually feathered, as indicated, for being placed upon the table.

Preferably, the device of the present invention is designed to be supported upon one of the side members 5 of the table and, for this purpose, there is provided a bracket 7 made from a single piece of material and bent upon itself to form a recess for the side member 5 when the bracket is mounted upon the upper edge thereof. This bracket may be slid along the side member to various positions of adjustment and when in the proper location with respect to the sheets 6 on the table, the bracket is secured in position by a set screw 8 supported in the outer portion of said bracket and engageable with the side member 5. Extending laterally from the inner side of the bracket 7 adjacent one end thereof is a pin 9 upon the outer end of which is pivoted one end of a supporting arm 10 which normally extends substantially horizontally above the sheets 6 and in the direction of the feeding of said sheets from the table. The other or free end of the arm 10 carries perpendicularly thereto a holder 11 into which is inserted a flat sheet-engaging member or shoe 12 made of a suitable flexible material. This shoe is so formed and arranged in the holder 11 that the lower edge only thereof will be engaged with the uppermost sheet 6 on the table and will extend transversely of said sheet so that as the latter is withdrawn from the pile there will be a

slight tendency for the shoe 12 to flex in the direction of movement of the sheet as it is being fed to the duplicating machine.

It is desirable that a slight pressure be applied to the shoe 12 which will be sufficient to frictionally hold the top sheet 6 and at the same time permit of the latter being easily withdrawn from beneath the shoe when engaged thereby. Also, this pressure is sufficient to cause the shoe to engage the next underlying sheet, after the top sheet has been withdrawn, and prevent the former sheet from adhering to the top sheet as sometimes occurs during the progress of feeding the sheets to the machine. To effect this slight pressure, a coil spring 13 is mounted upon the pin 9 between the inner side of the bracket 7 and the pivoted end of the arm 10, and one end of said spring is fixed to said bracket while the other end is engaged over the top of the arm, thereby exerting the required downward pressure upon the latter.

To further facilitate the feeding operation, there may be mounted upon the arm 10 a small tray 14 carrying a dampened sponge 15, by means of which the operator may slightly moisten his finger to better enable him to successively withdraw each top sheet from the pile on the table.

What is claimed is:

1. An attachment for the feeding tables of duplicating and like machines, including a flexible sheet-engaging member capable of being flexed in the direction of movement of sheets being fed into a machine, a supporting arm for said member extending in a horizontal direction above said sheets, and means to pivotally mount said arm on a side of the table from which the sheets are being fed.

2. An attachment for the feeding tables of duplicating and like machines, including a bracket capable of attachment to a side of the feeding table, a pin extending laterally from said bracket, a supporting arm having one end pivotally mounted on said pin for movement toward and away from sheets on said table, and a sheet-engaging shoe carried by the other end of said arm.

3. An attachment for the feeding tables of duplicating and like machines, including a bracket capable of attachment to a side of the feeding table, a pin extending laterally from said bracket, a supporting arm having one end pivotally mounted on said pin for movement toward and away from sheets on said table, and a flat sheet-engaging shoe of flexible material carried by the other end of said arm and presenting an edge thereof for contact with a sheet on said table.

4. An attachment for the feeding tables of duplicating and like machines, including a bracket capable of attachment to a side of the feeding table, a pin extending laterally from said bracket, a supporting arm having one end pivotally mounted on said pin for movement toward and away from sheets on said table, a sheet-engaging shoe carried by the other end of said arm, and resilient means engaging said arm to exert a slight downward pressure thereon.

5. An attachment for the feeding tables of duplicating and like machines, including a bracket capable of attachment to a side of the feeding table, a pin extending laterally from said bracket, a supporting arm having one end pivotally mounted on said pin for movement toward and away from sheets on said table, a flat sheet-engaging shoe of flexible material carried by the other end of said arm and presenting an edge thereof for contact with a sheet on said table, and a spring coiled about said pin and having one end secured to said bracket and its other end engaging said arm for yieldably maintaining said shoe in engagement with a sheet on said table.

6. An attachment for the feeding tables of duplicating and like machines, including a bracket capable of attachment to a side of the feeding table, a pin extending laterally from said bracket, a supporting arm having one end pivotally mounted on said pin for movement toward and away from sheets on said table, a flat sheet-engaging shoe of flexible material carried by the other end of said arm and presenting an edge thereof for contact with a sheet on said table, a spring coiled about said pin and having one end secured to said bracket and its other end engaging said arm for yieldably maintaining said shoe in engaging with a sheet on said table, and a dampening device carried by said arm.

7. An attachment for the feeding tables of duplicating and like machines, including a sheet-engaging member capable of being flexed in the direction of movement of sheets being fed into a machine, and means to exert pressure upon said member.

8. An attachment for the feeding tables of duplicating and like machines, including a flat flexible member having a straight sheet-engaging edge, said member flexing in the direction of movement of a sheet as the latter is fed into a machine, and means exerting a yielding pressure upon said member.

In testimony whereof I have affixed my signature.

LUDWIG W. WAGNER.