

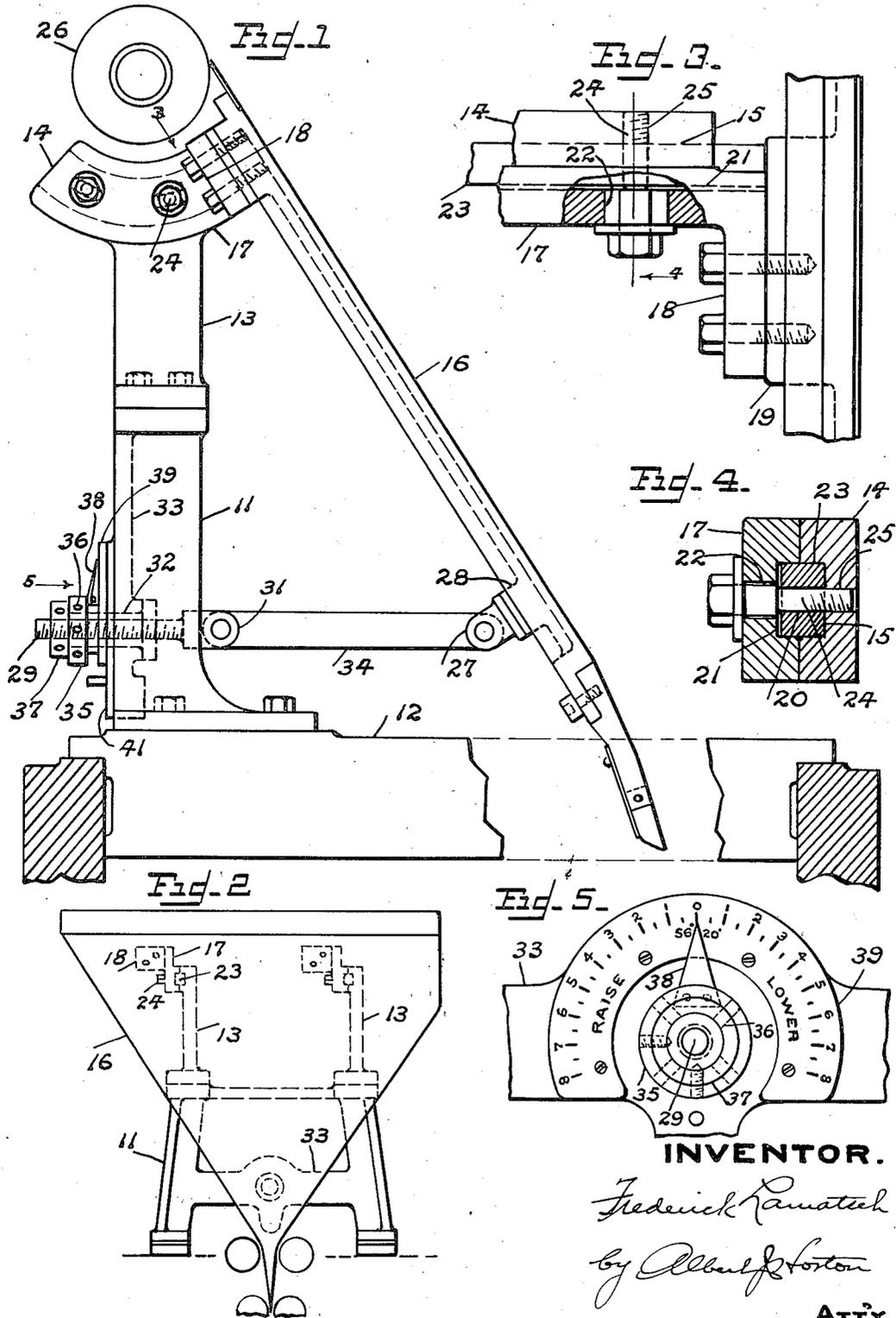
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FOLDER FOR PRINTING MACHINES

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# UNITED STATES PATENT OFFICE

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## FOLDER FOR PRINTING MACHINES.

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This invention relates to printing machine folders and more particularly to a mounting for a former which is situated at a position within the side boundaries of the former.

One method of mounting a former is to suspend it from bearings positioned at each end of the axis of a web guide roller so that the receiving end of the former will always remain the same distance from the periphery of the roller when the lower end of the former is raised or lowered. When space does not permit a mounting of the above type to be provided, the former may also be mounted on a fixed pivot arranged below the web guide roller. With this form of mounting, however, the receiving end of the former would not remain the same distance away from the periphery of the roller when the lower end of the former is raised or lowered.

In the present invention, a former mounting has been provided which in effect will be the same as one mounted on a pivotal support on the axis of the web roller but will be situated in a position which is remote from the roller axis. The invention is particularly adapted for use in folders where two formers are closely mounted side by side and receive the product from a single roller which condition would make it impossible to support the formers from the roller shaft and separately adjust them.

One object of the invention, therefore, is to provide an adjustable mounting for a former on a printing machine folder which will be positioned within the width of the former and remote from the axis of a web guide roller at the receiving end of the former, but will permit said former to be moved around the axis of the roller.

Another object is to provide a slidable arcuate mounting at the upper end of a former and an adjustment for the lower end thereof which is adapted to cooperate with the slidable mounting to move the former in a path around a fixed axis.

With the foregoing and other objects in view, which will appear as the description proceeds, the invention resides in the combination and arrangement of parts, and in the details of construction hereinafter described and claimed, it being understood that various changes in the precise embodiment of the invention herein disclosed may be made within the scope of what is claimed without departing from the spirit of the invention.

The preferred embodiment of the invention is illustrated in the accompanying drawing, wherein:

Figure 1 is a side elevational view of a former

and a support therefor, and showing said former in an operative relation with a web guide roller;

Figure 2 is a front elevational view of said former on a reduced scale, and showing the position of the supporting members at the rear and within the width thereof;

Figure 3 is an enlarged detail view with parts broken away and part in section, looking in the direction of the arrow 3 of Figure 1, and showing an arm on the former adjustably positioned on a portion of the support;

Figure 4 is a cross sectional view taken on the line 4 of Figure 3, and showing the adjustable connection between an arm on the former and the support; and

Figure 5 is a rear elevational view looking in the direction of the arrow 5 of Figure 1, and showing an actuating member for adjusting the position of the former, and a calibrated dial plate with a pointer therefor.

Referring to Figures 1 and 2, a standard 11 is shown bolted to a position of the folder frame structure 12, and has two supports 13 mounted thereon. Each support has a head 14 which extends beyond each side thereof, and an arcuate slot 15 is provided within one face of each head.

A former 16 is provided with two arms 17 at the upper rear portion thereof, each of which arms has a flange 18 extending therefrom which are secured to bosses 19 on the former. An arcuate slot 21 is provided on the inner face of each arm and two elongated slots 22 extend into said arcuate slot from the opposite face thereof.

A key 23, of arcuate formation, is adapted to engage each of the arcuately slotted portions 15 and 21 when the arms 17 are placed in a mounting position on the head 14 of said supports 13. Threaded studs 24 pass through the elongated slots 22 and openings 29 in said key, and screw into tapped openings 25 in the support heads 14, by which means the arms 17 are clamped in an adjusted position on said supports.

Directly above the supports 13 is a web guide roller 26, which is shown in an operative position in relation to the upper or receiving end of the former 16.

At the lower rear end of said former a lug 27 is shown mounted on a boss 28. A screw 29, having a head 31 thereon, is screwed within a bushing 32, and said bushing is rotatably mounted within a cross bar 33 of the standard 11. Said screw head 31 and lug 27 on the former are joined by means of a link 34, therefore any motion imparted thereto by the adjustment of the screw 29 will adjust the position of the former. A col-

lar 35 is secured to one end of the bushing 32 which extends outward from the face of the cross bar and has openings 36 therein for a wrench or other tool to be inserted, by means of which the same may be rotated to move the screw forward or rearward. After an adjustment of the screw is made, a lock nut 37 on the screw 29 is tightened against the collar 35 to lock the screw in its adjusted position. Also operable with said collar 35 is a pointer 38 which is secured to a shoulder on the collar and is movable with said collar when an adjustment is being made. A plate 39, secured to a raised pad 41 on the cross-bar 33 has calibrations thereon which cooperate with the pointer 38.

It is to be particularly observed that the supports 13 are positioned directly under the web guide roller shown in Figure 1, and also are positioned wholly within side boundaries or width of the former as shown in Figure 2. In order to provide an adjustment for the former which will permit the upper edge of same to move in an evenly spaced relation to the peripheral surface of the guide roller, the arcuate slots 15 and 21 in the supports and arms, and the curve of the key 23 will be proportionate to the curve of the peripheral surface of the roller.

When an adjustment is to be made, the studs 24 in the supports 13 are loosened and the lock nut 37 on the screw 29 is backed off slightly. The collar 35 is then rotated to move the screw 29 forward or rearward, which thus raises or lowers the nose 42 of the former and also moves the arms 17 over the keys 23 a proportionate amount. When the desired adjustment is made, the lock nut 37 is again locked against the collar 35 and the studs 24 are tightened to thereby clamp the former in its adjusted position.

With a device of the type described, it is thus possible to provide a suitable support for a former to be used under conditions where there is not sufficient room to provide bearings for each side of the former and which may be moved through a path equivalent to swinging same from the axial center of the web guide roller. The effect of the former mounting in the present structure, therefore, will be equal to that of a mounting which is pivoted on the axial center of the web guide roller.

It will be understood that the invention may be embodied in other specific forms without departing from the spirit or essential attributes thereof, and it is therefore desired that the present embodiment be considered in all respects as illustrative and not restrictive, reference being had to the claims rather than to the foregoing description to indicate the scope of the invention.

What I claim is:

1. In a printing machine folder, a web guide roller, a former, a support for said former positioned beneath the web guide roller, and means whereby said former is adjustable relative to the support and is prevented from any other movement except in an arc concentric to the axis of the guide roller.

2. In a printing machine folder, a web guide roller, a former, a support for said former positioned within the width of the former, and means on said former movable within said support through an arc concentric to the periphery of the roller.

3. In a printing machine folder, a web guide roller, a former, a support for said former positioned beneath said guide roller and within the width of said former, and arcuately slidable means

on said former and coactable with said support, whereby the former may be moved about the axis of the guide roller.

4. In a printing machine folder, a web guide roller, a former, a support for said former positioned beneath the roller and an arcuate sliding connection between said support and former whereby the former can be adjusted about the axis of the roller.

5. In a printing machine folder, a web guide roller, a former, a support for said former positioned beneath said guide roller and within the width of the former, members on said former adjustably positioned on said support and movable thereon in an arcuate path about the axis of the roller and concentric to the periphery thereof.

6. In a printing machine folder, a web guide roller, a former, a support positioned beneath said roller and having an arcuate shaped guide portion thereon with the arc thereof concentric to the periphery of the roller, and means on said former coactable with said arcuate guide, whereby the former may be moved about the axis of the roller.

7. In a printing machine folder, a web guide roller, a former, a support positioned beneath said roller, an arcuate shaped guide portion on said support having an arc concentric to the periphery of the roller, and arcuate members on said former cooperating with said guide, whereby the former may be moved about the axis of the roller.

8. In a printing machine folder, a web guide roller, a former, support members positioned beneath said roller, arcuate extensions projecting from the rear of said former and slidably secured to said support members, and means whereby the position of said former may be adjusted on said support about the axis of the roller.

9. In a printing machine folder, a web guide roller, a former, support members positioned beneath said roller, and having an arcuate guide portion thereon, extensions projecting from the rear of said former and engageable with said arcuate guide portions, and means to clamp said extensions in a set position on said guide portions.

10. In a printing machine folder, a web guide roller, a former, support members positioned beneath said roller and having an arcuate guide portion thereon, arms extending from the rear of said former, each of said arms having a recess therein engageable with and movable over said guide portions, and means to clamp said arms in an adjusted position on said guide portions.

11. In a printing machine folder, a web guide roller, a former, support members positioned beneath said roller and having an arcuate recess therein, arms extending from the rear of the former each having an arcuate recess therein, keys engageable with the recess of each of said supports and arms, and means to clamp the arms in an adjusted position on the supports.

12. In a printing machine folder, a web guide roller, a former, a support for said former positioned beneath the roller, an arcuate sliding connection on said support for the upper end of said former whereby the former can be adjusted around the axis of the roller, and means at the lower end of said former to move same to an adjusted position.

13. In a printing machine folder, a web guide roller, a former, a support for said former positioned beneath the roller, an arcuate sliding connection between said support and the upper end of said former whereby the former can be ad-

justed about the axis of the roller, an adjustable screw and a link connecting same with the lower end of said former, and means to move said screw to adjust the position of said former.

5 14. In a printing machine folder, a web guide roller, a former, a support for said former positioned beneath the roller, an arcuate sliding connection between said support and the upper end of said former whereby the former can be ad-  
10 justed about the axis of the roller, an adjustable screw and a link connecting same with the lower end of said former, and a nut rotatable in a fixed bearing and engaging said screw.

15. In a folding mechanism, a web guide roller,

a former, a support for said former independent of the roller, said former being mounted on said support independently of and beneath said roller and intermediate the ends thereof, for swinging movement which is constrained to an arc concentric to the axis of said roller. 5

16. In a folding mechanism, a web guide roller, a member extending axially relative to the roller for rotatably supporting it, a former, and a support independent of the roller and its axially extending supporting member for movably supporting the former, said former being constrained to concentric movement about the axis of the roller. 10

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