

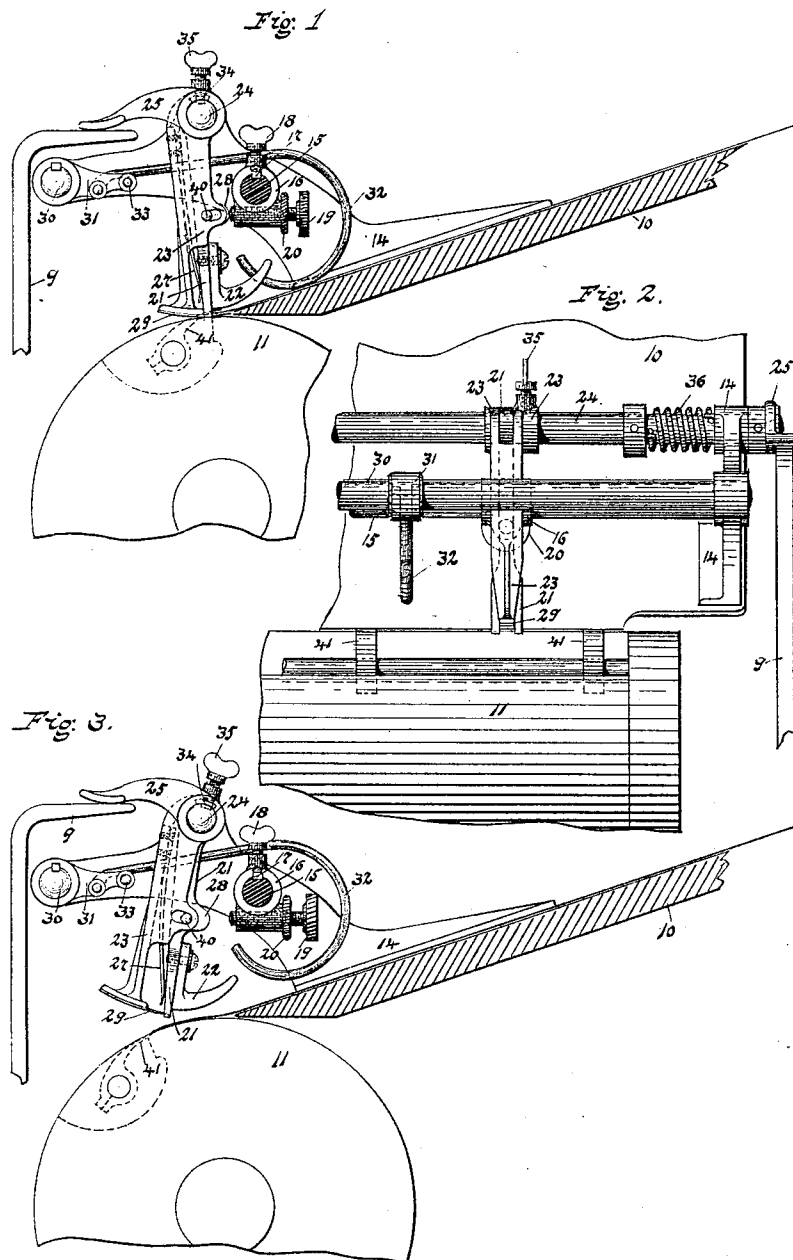
(No Model.)

J. T. HAWKINS.

FEED GUIDE FOR PRINTING MACHINES.

No. 365,127.

Patented June 21, 1887.



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FEED-GUIDE FOR PRINTING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 365,127, dated June 21, 1887.

Application filed March 3, 1887. Serial No. 229,525. (No model.)

To all whom it may concern:

Be it known that I, JOHN T. HAWKINS, of Taunton, in the county of Bristol and State of Massachusetts, have invented a new and useful Improvement in Feed-Guides for Printing-Machines, which invention is fully set forth and illustrated in the following specification and accompanying drawings.

The object of this invention can be best expressed by the following preliminary explanation: In overfeed cylinder printing-machines in which the impression-cylinder is in motion when the grippers close upon the sheet it is necessary to have some form of support for the edge of the sheet which will extend as far beyond or toward the guides as the sheet itself, to prevent the sheet being fed under the guides, and also to prevent it from coming in contact with the moving cylinder beneath it and perhaps disturbing the accuracy of feeding. These supports are variously known as "sheet-supports," "under guides," &c., and are generally in the form of thin strips or tongues of metal. They must extend beyond the front edge of the feed-board, in order that the grippers may close upon the paper between them without coming in contact with the board. I will give these strips or tongues in this specification their most common name, "under guides." Where such under guides project from the front edge of the feed-board, they must lie between the sheet and the cylinder at the moment the grippers close upon the sheet. As they must be of some thickness, and also not touch the surface of the cylinder, particularly in those varieties of machine in which the impression-cylinder makes more than one revolution to an impression and in which the sheet is delivered from the top and front of the cylinder, and consequently must pass between the under guides and cylinder in delivery, said under guides must make more or less of a corrugation in the gripper edge of the sheet, and as there must be at least two of these there will always be at least two corrugations in the paper, and these corrugations interfere with and render uncertain the lateral register of the sheet. To obviate this corrugation of the sheet and permit of its being clamped straight and undisturbed upon the cylinder is the object of this invention.

The invention herein described, being a modification of Patent No. 343,454, granted to me June 8, 1886, consists of the parts hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a side elevation of such parts of a cylinder printing-machine as are essential to the illustration of this invention, showing the guides down into position for guiding or gaging the sheet. Fig. 2 is a partial front elevation of said parts; and Fig. 3 is a side elevation similar to Fig. 1, with the guides shown thrown out to allow of the passage of the sheet.

In said figures the several parts are indicated by numbers as follows: The number 10 indicates the feed-board, and 11 the impression-cylinder. A pair of brackets, 14, are attached to the feed-board 10, in which brackets are journaled two rock-shafts, 24 and 30, and a shaft, 15, which is supported therein in a fixed position. A lifter-rod, 9, is automatically operated, as shown in Patent No. 343,454, to rise and lower at the proper time. Adjustably secured to one end of shaft 24 is a lever, 25, engaging the bent end of rod 9, by means of which the shaft 24 is oscillated. Adjustably secured to shaft 15, by means of gibs 17 and thumb-screws 18, are one or more screw-sockets, 16, carrying a set-screw, 19, and check-nut 20. Secured to shaft 30 are one or more sockets, 31, in which are pivoted curved wire drop-fingers 32, supported when lifted by stop-pins 33. The shaft 30 is slightly oscillated at the proper time from any suitable part of the mechanism (not shown) to lift the drop-fingers 32 away from contact with the feed-board 10, as shown in Fig. 3, and drop them into contact, as shown in Fig. 1. Adjustably secured to shaft 24 by the gibs 34 and set-screws 35 are levers 23, carrying on the lower ends short thin under guides, 29. Mounted loosely upon shaft 24 within a notch cut in the hub of lever 23 are guide-fingers 21, carrying on their lower ends over guides, 22. The under guides 29 pass into a notch formed in the lower ends of guide-fingers 21. To the inner side of levers 23 are secured by their top ends springs 27. Their lower ends impinge against the guide-fingers 21. Guide-fingers 21 carry projections 28, which impinge against the stop-screws 19, and stop-pins 40, secured in the guide-fingers 21, engage corresponding slots

in the levers 23. Shaft 24 is returned in opposition to the lifter-rod 9 by a helical spring, 36. (Seen in Fig. 2 only.) The grippers 41 of the impression-cylinder 11 are operated at the proper times by any well-known means. The stop-screws 19 regulate the position of the lower ends of the guide-fingers 21 when down in the position shown in Fig. 1, and thus also regulate the width of hold taken on the sheet by the grippers 41.

The operation of the above-described parts is as follows: With the parts in the positions shown in Fig. 1, except that the drop-fingers 32 will not have been lowered into contact with the feed-board 10, the sheet is fed to the guide-fingers 21. Just previous to the closing of the grippers 41 upon the sheet the drop-fingers 32 are automatically lowered upon the sheet, as shown in Fig. 1, to prevent its disturbance during the removal of the guide-fingers 21 and the actual closing of the grippers 41 upon the sheet. Upon the dropping of drop-fingers 32 into contact with the sheet, rock-shaft 24 is oscillated by the lifter-rod 9, carrying levers 23, and with them under guides, 29, away from the guide-fingers 21, until the points of the under guides, 29, are within the inner face of the guide-fingers 21, the springs 27 serving to keep the guide-fingers 21 in position against the stop-screws 19 until the stop-pins 40 arrest the separation of the levers 23 and guide-fingers 21, at which point the grippers 41 complete their closing upon the sheet. After said closing, the levers 23 and guide-fingers 21 continue to move together out of the way of the advancing sheet until reaching the position shown in Fig. 3, the drop-fingers 32 having been raised as soon as the grippers 41 were completely closed upon the sheet. The points of the under guides, 29, exactly meet the front edge of the feed-board 10, or pass slightly under it, when in the position shown in Fig. 1, and the stop-screws 19 are so set that the stop-pins 40 arrest any farther inward mo-

tion of the under guides, this being the position of the parts when the maximum amount of gripper-hold on the sheet is given. By adjustment of the stop-screws 19 the width of gripper-hold is regulated, placing the points of guide-fingers 21 more or less closely to the front edge of the feed-board 10.

Having thus fully described my said improvement as of my invention, I claim—

1. In the feed-guide apparatus of a printing-press or other machine requiring sheets of paper fed to it, in combination with one or more adjustably-movable front guides, as 21, movable under guides, as 29, arranged to be withdrawn at the proper time, first from projection within the face of the front guide and thereafter in unison with said front guide, for the passage of the sheet, whereby the edge of the sheet is properly gaged, located, and supported from contact with the impression-cylinder, and thereafter clamped upon the impression-cylinder by its grippers in a smooth and uncorrugated condition, substantially as set forth.

2. In the feed-guide apparatus of a printing-press or other machine requiring sheets of paper fed to it, in combination with one or more adjustable front guides, as 21, and one or more drop-fingers, as 32, movable under guides, as 29, arranged to be withdrawn at the proper time, first from projection within the face of said front guides and thereafter in unison with said front guides, to allow the passage of the sheet, whereby the edge of the sheet is properly gaged, located, and supported from contact with the impression-cylinder, held by said drop-fingers during the last closing of the cylinder-grippers, and thereafter clamped upon the impression-cylinder grippers in a smooth and uncorrugated condition, substantially as set forth.

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Witnesses:

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