

No. 732,792.

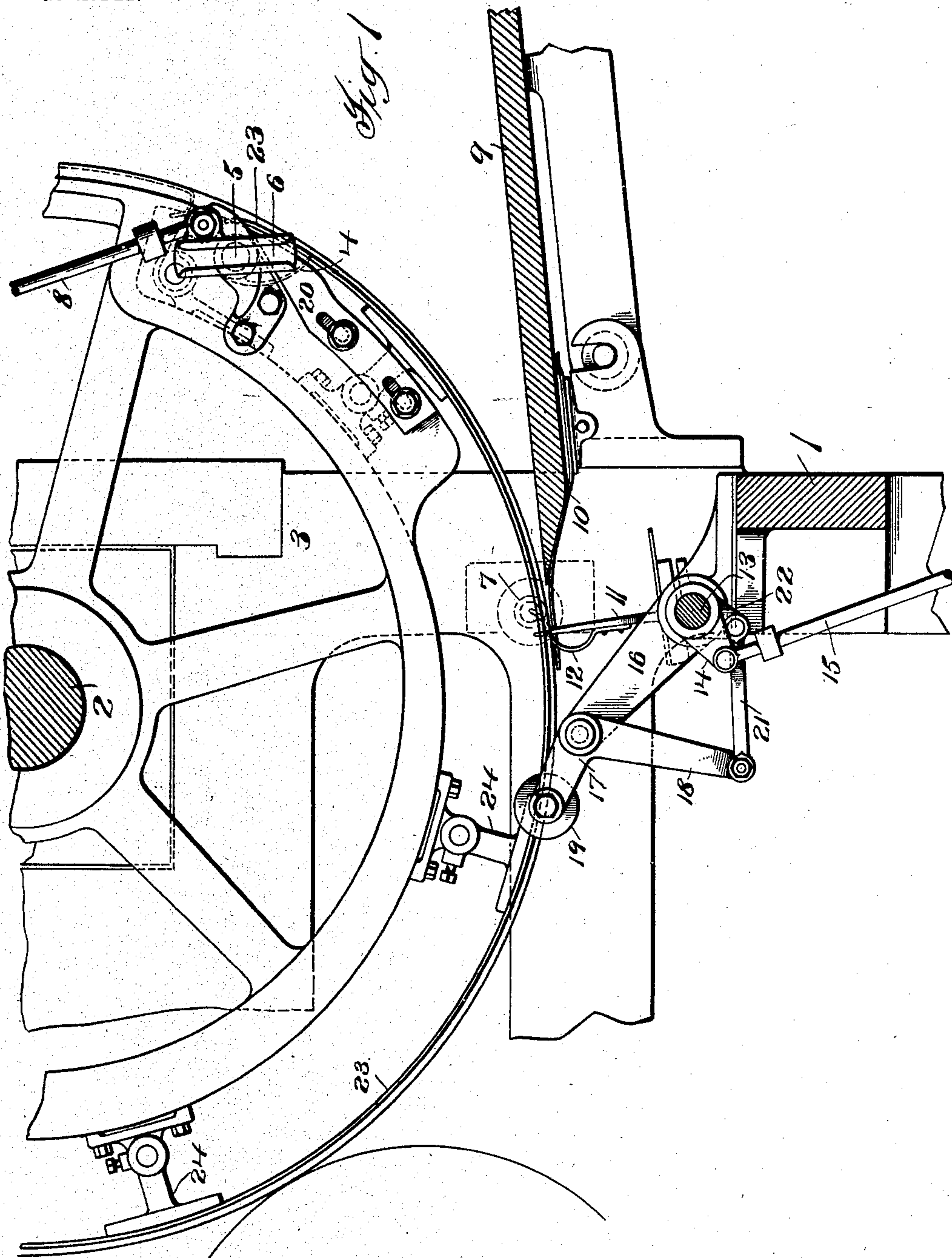
PATENTED JULY 7, 1903.

W. SPALCKHAVER.
FEED GUARD FOR PRINTING MACHINES.

APPLICATION FILED NOV. 8, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



Attest:
A. White
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by

Inventor:
William Spalckhaver
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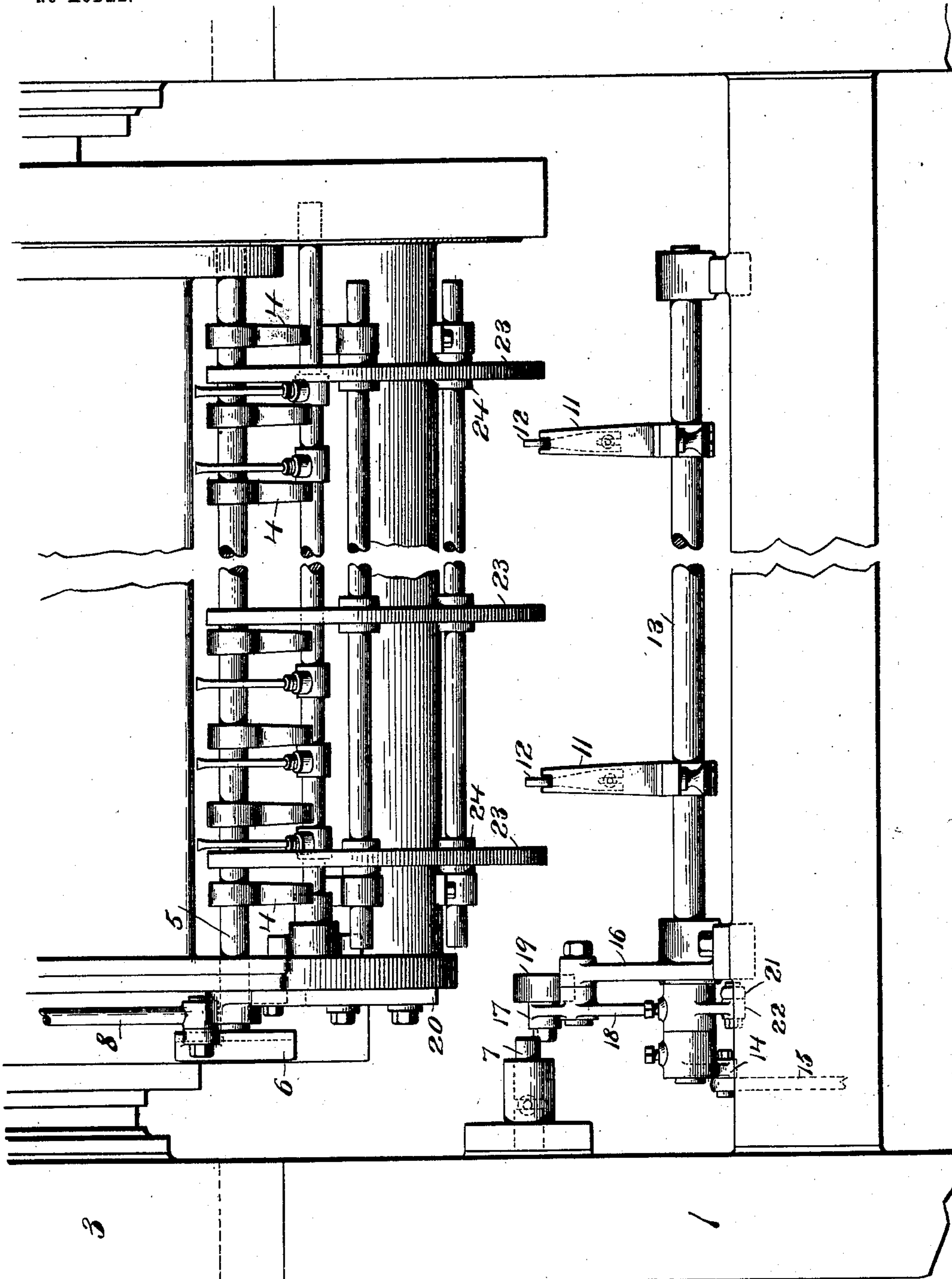
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2 SHEETS—SHEET 2.



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Fig. 2.

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UNITED STATES PATENT OFFICE.

WILLIAM SPALCKHAVER, OF NEW YORK, N. Y., ASSIGNOR TO ROBERT HOE,
OF NEW YORK, N. Y.

FEED-GUARD FOR PRINTING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 732,792, dated July 7, 1903.

Application filed November 8, 1902. Serial No. 130,535. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM SPALCKHAVER, a citizen of the United States, residing at New York, county of Kings, and State of New York, have invented certain new and useful Improvements in Feed-Guards for Printing-Machines, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

10 This invention relates to certain improvements in guides for printing-machines.

In cylinder printing-machines to which the sheets are fed by hand there is usually employed in addition to the front stop a set of 15 guides which overhang the front end of the feed-board, the function of these guides being to prevent the sheets from being fed over the front stop, and thus improperly positioned with respect to the sheet-taking devices. These 20 overhanging guides are usually connected to the same mechanism which operates the front stop and are raised up out of the way when the front stop is raised to permit the grippers or other sheet-taking devices to take the 25 sheet. In machines in which the sheet is presented to the under side of the cylinder, however—such, for instance, as shown in Patent No. 703,491, granted July 10, 1902, to Robert Hoe, as my assignee—it is not feasible to employ these overhanging guides, for the reason 30 that the front stop in these machines is depressed below the feed-board to permit the sheet-taking devices to take the sheet instead of being raised above it, as is usually the case with machines in which the sheet is fed 35 to the top of the cylinder, and it is difficult to arrange these guides so as to permit them to hold the sheet up to the time when the sheet-taking devices are to operate and then 40 get them out of the way with sufficient rapidity to enable the sheet-taking devices and sheet to pass them.

It is the object of this invention to produce an improved form of guides for printing-machines which are adapted for use with machines in which the sheet is presented to the under side of the cylinder.

With this and other objects in view the invention consists in certain constructions and 50 in certain parts, improvements, and combinations, as will be hereinafter fully described

and then specifically pointed out in the claims hereunto appended.

In the accompanying drawings, Figure 1 represents a side elevation, partly in section, 55 of so much of the sheet-taking cylinder of a printing-machine and the parts connected therewith as is necessary to an understanding of the invention. Fig. 2 is an end view with the feed-board removed. 60

Referring to the drawings, which represent one concrete embodiment of the invention, 1 indicates the sheet-taking cylinder of a printing-couple, said cylinder being mounted on a shaft 2, which is supported in the usual 65 boxes in a frame 3. The cylinder is provided with sheet-taking devices, which may be of any usual or ordinary form. As shown, these devices consist of grippers 4, mounted on a shaft 5, which is provided with a tumbler- 70 block 6 of ordinary form, said block engaging a pin 7, suitably located on the frame, which operates to throw the block to close the grippers. The grippers are held opened and closed by the usual spring-rod construction, 75 the rod in this construction being marked 8. The support by which the sheets are presented to the cylinder may be of any desired construction. In the construction shown the sheets are intended to be fed by hand, 80 and the sheet-support therefor, as illustrated, comprises a feed-board 9, said board being supported in the usual brackets in the frame and having the usual projecting fingers 10, between the spaces of which the grippers 85 or other sheet-taking devices operate.

The front stop, when one is employed, may be of any desired construction. As shown, it consists of a pair of fingers 11, having the usual supplemental springs 12, said fingers 90 being mounted on a rock-shaft 13, suitably supported in the frame below the feed-board. Connected to this rock-shaft is an arm 14, to which is connected the usual spring-rod construction, the rod being shown at 15 for hold- 95 ing the shaft in such position that the fingers will be operative. The shaft 13 may be rocked in order to move the front stop just described out of the way, so as to permit the sheet-taking devices to take the sheet from 100 the feed-board in any desired manner. As shown, there is provided an arm 16, extend-

ing upward from the frame, on which is pivoted a bell-crank 17 18. The arm 17 of the bell-crank carries a cam-roll 19, which is in the path of an adjustable cam 20, mounted on the cylinder. The arm 18 of the bell-crank has connected to it a rod 21, which rod is also connected to an arm 22 on the shaft 13.

The construction so far described is well known, and the devices by which the several functions are effected may, if desired, be replaced by others, these devices in their specific form having no special reference to the present invention.

In order to prevent sheets from being fed over the front stop, which is liable to occur—for instance, when a curled sheet is fed—a suitable guide is provided which may be varied in form and construction. This guide will, however, be a movable guide, so that it may be gotten out of the way of the sheet-taking devices, and it will be independent of the front stop, so that it does not necessarily partake of the movement of this front stop. While this guide may be mounted so as to receive its movement in various ways in the preferred form of the construction, it will be carried by the cylinder. As shown, the guide comprises a plurality of metallic strips or bands 23, mounted on brackets 24, secured to the cylinder. In the construction shown the cylinder has a cut-away side similar to that shown in the patent hereinbefore referred to, and the guide is located opposite this cut-away side. The function of the cut-away side, as set forth in the patent referred to, is to permit the light to fall onto the feed-board, so that the feeder may accurately position the sheets, and by making the guide of a series of separated strips, as shown, this function of the cylinder is not interfered with. The strips which form the guide extend from a point close to the edge of the sheet-carrying surface of the cylinder, with which the grippers or other sheet-taking devices cooperate, for a considerable distance around the cylinder in order to give the feeder sufficient time to place his sheet before the sheet-taking devices come into operation.

In the preferred form of the construction the front stop-fingers extend for a short distance inward between the strips which form the guide, as indicated in Fig. 1. With this construction, therefore, it is impossible to feed a sheet over the tops of the front stop-fingers. The construction is, furthermore, exceedingly simple and inexpensive, and in the preferred form, in which, as before stated, the guide is carried by the cylinder, no special mechanism is necessary for moving the guides out of the way in order to permit the sheet-taking devices to operate.

The construction by which the invention is carried into effect may be varied. The invention is not, therefore, to be limited to the specific construction hereinbefore described.

What is claimed is—

1. In a printing-machine, the combination

with a cylinder, of a sheet-support operating to present a sheet to the under side of the cylinder, a front stop, and a movable guide independent of the front stop and operating on the sheet on the support, substantially as described.

2. In a printing-machine, the combination with a cylinder, of a sheet-support operating to present sheets to the under side of the cylinder, and a guide carried by the cylinder and operating on the sheets on the support, substantially as described.

3. In a printing-machine, the combination with a cylinder, of a sheet-support operating to present sheets to the under side of the cylinder, a front stop, and a guide carried by the cylinder and operating on the sheets on the support, substantially as described.

4. In a printing-machine, the combination with a cylinder having a sheet-supporting surface and being cut away opposite said surface, of sheet-taking devices, means for presenting sheets to the under side of the cylinder, and a guide carried by the cylinder and located opposite the cut-away portion, said guide operating on the sheets on the support, substantially as described.

5. In a printing-machine, the combination with a cylinder having a sheet-supporting surface and being cut away opposite said surface, of sheet-taking devices, means for presenting sheets to the under side of the cylinder, a guide carried by the cylinder and located opposite said cut-away portion, said guide operating on the sheets on the support, a front stop, and means for depressing the front stop below the sheet-support, substantially as described.

6. In a printing-machine, the combination with a cylinder having a sheet-supporting surface and a cut-away side opposite said surface, of a sheet-support operating to present sheets to the under side of the cylinder, and a plurality of metal bands carried by the cylinder and located opposite the cut-away portion, said bands operating to hold the sheets onto the support, substantially as described.

7. In a printing-machine, the combination with a cylinder having a sheet-supporting surface and a cut-away side opposite said surface, of sheet-taking devices cooperating with said surface, a feed-board operating to present sheets to the under side of the cylinder, a front stop, a plurality of sheet-metal bands carried by the cylinder and located opposite the cut-away portion, said bands operating on the sheets on the feed-board, and means for depressing the front stop beneath the feed-board, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

WILLIAM SPALCKHAVER.

Witnesses:

F. W. H. CRANE,
J. A. GRAVES.