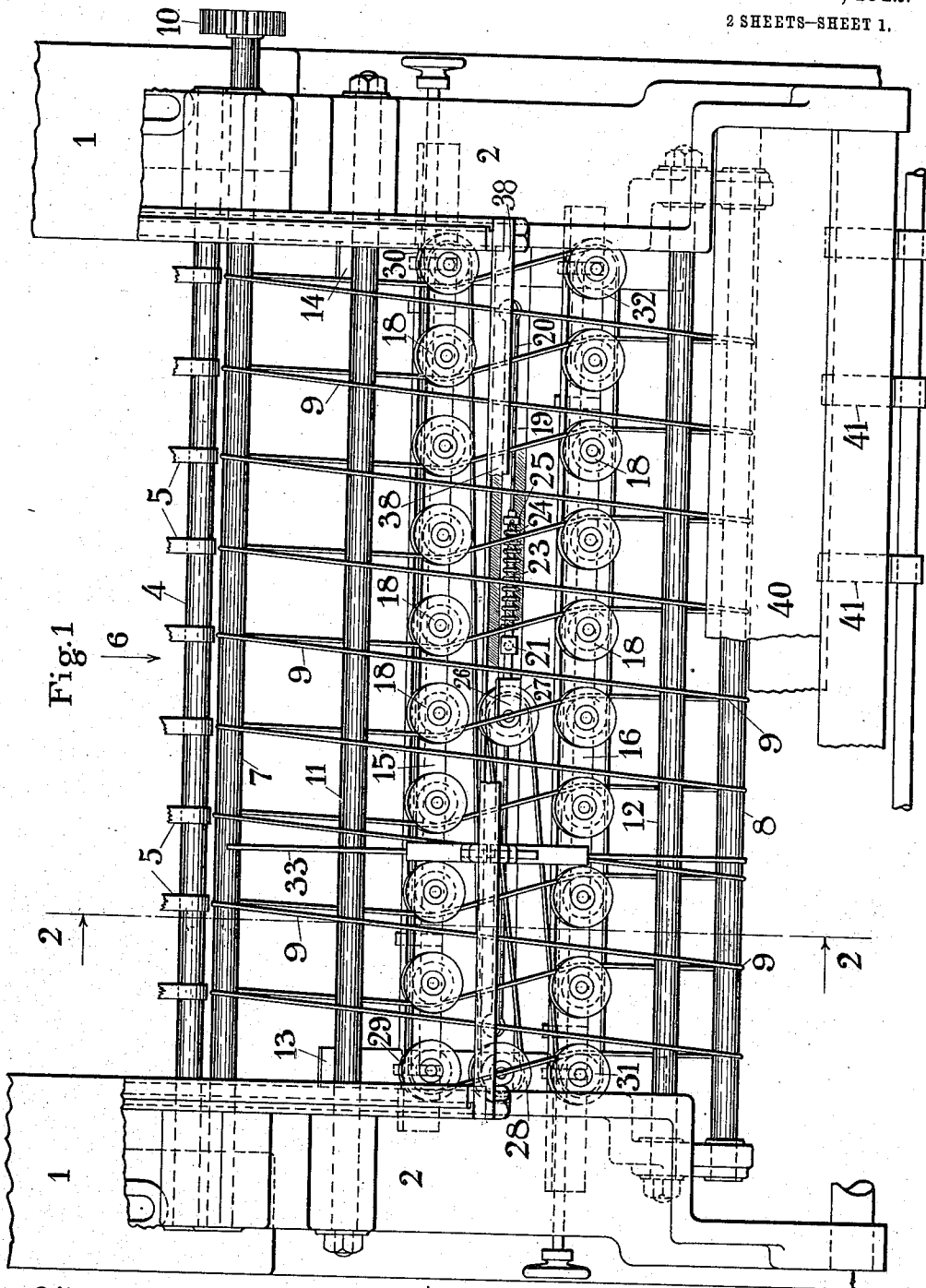


O. S. BEYER.
SHEET REGISTERING DEVICE.
APPLICATION FILED APR. 21, 1908.

1,014,112.

Patented Jan. 9, 1912.

2 SHEETS-SHEET 1.



Witnesses
M. Riemann
C. P. La Gay

Otto S. Beyer Inventor
By his Attorney
Ivan E. A. Hornigsberg

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2 SHEETS—SHEET 2.

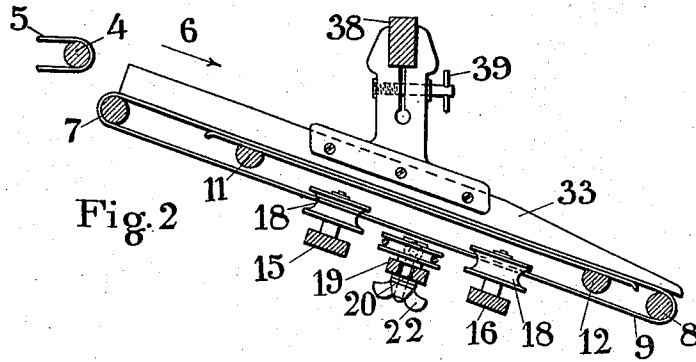


Fig. 2

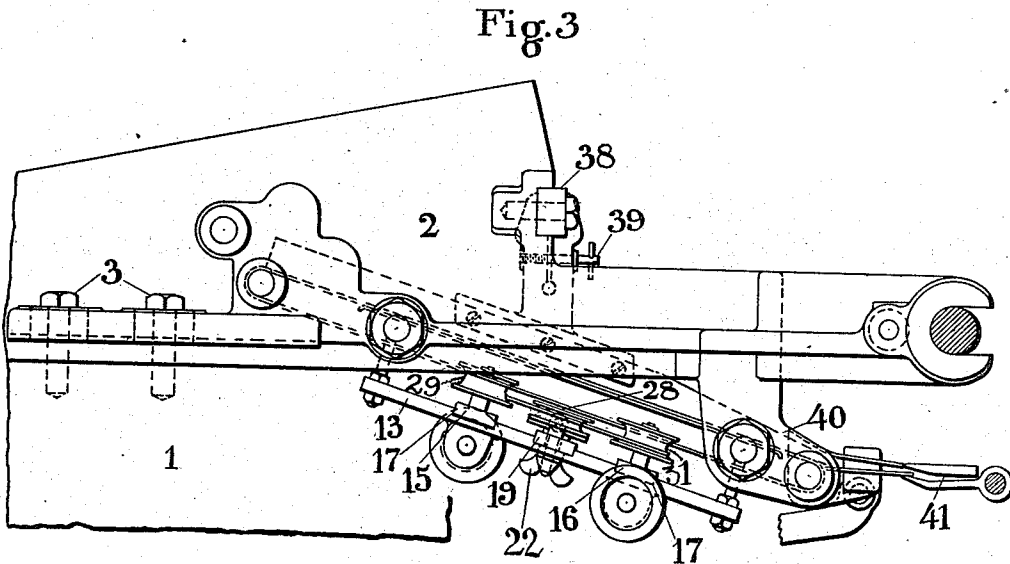


Fig. 3

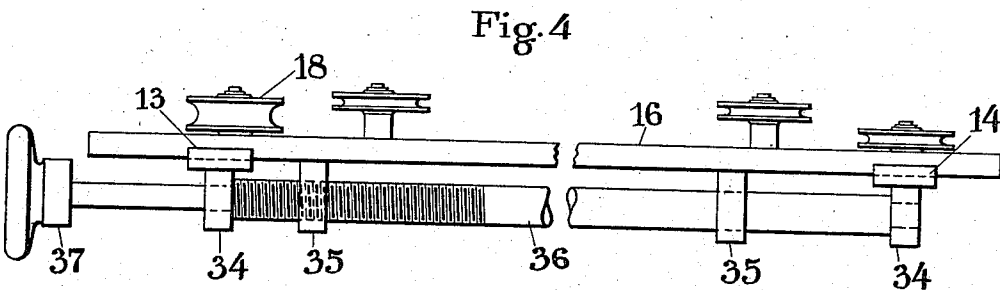


Fig. 4

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UNITED STATES PATENT OFFICE.

OTTO S. BEYER, OF EAST RUTHERFORD, NEW JERSEY, ASSIGNOR TO AUTOMATIC PLATEN PRESS COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

SHEET-REGISTERING DEVICE.

1,014,112.

Specification of Letters Patent.

Patented Jan. 9, 1912.

Application filed April 21, 1908. Serial No. 428,458.

To all whom it may concern:

Be it known that I, OTTO S. BEYER, a citizen of the United States, and a resident of East Rutherford, in the county of Bergen and State of New Jersey, have invented certain new and useful Improvements in Sheet-Registering Devices, of which the following is a specification.

This invention relates to improvements in sheet manipulating devices and has more particular reference to an improved mechanism for conveying and registering a sheet, while the same passes from the sheet separating mechanisms to the grippers of the press; although it must be understood, that my invention is equally applicable to other machines than printing presses.

The object of the invention is to provide a side registering and conveying mechanism of simple, novel and improved design, whereby the register can be quickly changed from the one side to the other.

Further objects will appear as the specification proceeds.

To this end my invention comprises such details of construction as will hereinafter be described in detail and as illustrated in the accompanying drawings, wherein my invention is shown in its preferred form; but changes may be made within the legitimate scope of the invention. I do not want to be limited to the precise construction shown.

In the said drawings; Figure 1 is a plan view of a sheet registering mechanism embodying my invention; Fig. 2 is a sectional view on line 2-2 of Fig. 1, parts being omitted; Fig. 3 is an end elevation looking in the direction of the arrow 3 in Fig. 1; Fig. 4 is a detail view of the adjusting means.

The reference numeral 1 indicates a portion of the side frames of the press to which this sheet registering device is attached. I have not deemed it necessary to show the said press in detail as the specific manner of mounting my device is immaterial as far as the present invention is concerned, and in the Patent Number 946,100 of January 11th 1910 I have fully shown and described a preferred form of mounting this and other sheet manipulating mechanism.

2, 2 are side brackets for supporting the device proper on the frame, and in Fig. 3 I

show the brackets fastened to the press by bolts 3. The sheet is fed to this device by any suitable mechanism or by hand and in Fig. 1 the numeral 4 indicates a shaft around which pass tapes 5, while the arrow 6 indicates the direction in which the sheets are fed, as from a sheet separating and feeding mechanism.

In and between the brackets 2 there is mounted two tape shafts 7 and 8 around which passes the endless tape or belt 9. The shaft 7 carries a gear 10 by means of which the tape is driven constantly in the direction of arrow 6. Located about midway between the tape shafts are the two tie rods 11 and 12, which serve to connect the two brackets 2, 2 and which carry the side bars 13 and 14. These latter support two transverse roller carriers 15 and 16 which slide in grooves 17 in the side bars.

Each carrier 15 and 16 carries a number of rollers 18, which serve as guides for the tape 9. A slotted bar 19 is mounted between the roller carriers and in the slot 20 of the said bar slides a small bracket 21 which may be adjusted in the slot by thumb screw 22. Through the bracket 21 passes a short rod 23 having a collar 25 between which and the bracket the spring 24 acts. The other end of the rod 23 is threaded into a forked piece 26 which carries a roller 27, upon which the spring 24 exerts a constant pull to the right, as seen in Fig. 1. Still another roll 28 is provided for leading the tape in the proper direction.

Referring now to Fig. 1 we can trace the path of the tape 9 over the tape shafts and rollers just described. Starting at the upper right hand corner of this figure it will be seen that the tape first passes on top of shaft 7 and to the top of shaft 8, then around this latter and back to shaft 7, being guided on the under path by two of the guide rollers 18; the tape then again passes around shaft 7 and on top over to shaft 8, around this latter and underneath, passing two other guide rolls 18 back to 7 and so forth until we reach the left end of the shaft 8. From this point the tape passes underneath, past the left end roller 31 on carrier 16, thence to and around the roller marked 29 and across, to and around the roller 30. Then the tape passes back to and around roller 28, then around the roller 27, which

with its spring 24 furnishes the tension device, from whence the tape passes to the roller marked 31, then across and around roller 32, then underneath past roller 30 and
 5 back to the right end of shaft 7. In this manner the endless tape passes around the tape shafts and the idler rollers and is driven constantly in the same direction; the tension roller 27 furnishes the needed tension, which may be adjusted by sliding the
 10 bracket 21 in the slot 20.

By the position shown in Fig. 1 it will be seen that a sheet will be conveyed in the direction of the arrow 6 and also toward the
 15 left, because of the leftward inclined runs of the upper portions of the tape 9. In this figure the tapes are shown inclined to the left quite considerably for the purpose of clearly illustrating the invention. As a
 20 matter of fact, but slight adjustment to the left or right is necessary in order to make the sheet follow the run of the tape. A side guide 33 is provided against which the sheet is fed, so that by these means, the sheet is
 25 fed forward and also sidewise and registered against the guides. I am aware, that it has been attempted heretofore to feed and register a sheet by tapes, but to the best of my knowledge, I am the first to employ an
 30 endless tape for this purpose. If it is desired to register to the right, as viewed in Fig. 1, it is only necessary to change the direction of the upper run of the tape; this is done in the following manner. Each roller
 35 carrier 15 and 16 is slidably carried in the side bars 13 and 14. These latter are provided with depending lugs 34, and the carrier has lugs 35. Through these lugs pass a worm shaft 36 having a head 37 (see Fig.
 40 4) so that by turning the worm shaft, the entire carrier is moved sidewise, so that by shifting the carriers in opposite directions, the direction of the upper runs of the tape is changed from left to right and vice versa.
 45 The side guide 33 is movable along the guide bar 38 and clamped in position by a screw 39 to suit either side of registry or two separate guides may be provided. After the sheet leaves the tape 9, it passes
 50 into a spout 40 and is then seized by the grippers 41.

The above is thought to clearly set forth my invention and the operation thereof, and in practice it has been found that this device
 55 operates in a reliable manner and that

a sheet may be registered perfectly before it reaches the gripping mechanism.

What I claim is:

1. In a device of the class described, the combination of tape shafts, idler rollers interposed between the said tape shafts, an
 60 endless tape passing over said tape shafts and rollers and means for changing the direction of the run of said endless tape by shifting the position of the said idler rollers.

2. In a device of the class described, the combination of an upper and lower tape shaft, roller carrier slidably supported
 65 parallel to the said shafts, idler rollers fixed with said carriers, a slotted bar interposed between the said carriers, a single movable roller carried by the said slotted bar, means for adjusting the position of the said single
 70 roller in the said bar, another single fixed roller, an endless tape passing over the said tape shafts, idler rollers and the said two
 75 single rollers and means for driving the said tape constantly in one direction.

3. In a device of the class described, the combination of an upper and lower tape
 80 shaft, roller carrier slidably supported parallel to the said shafts, idler rollers fixed with said carriers, a slotted bar interposed between the said carriers, a single movable roller carried by the said slotted bar, means for
 85 adjusting the position of the said single roller in the said bar, another single fixed roller, an endless tape passing over the said tape shafts, idler rollers, and the said two
 90 single rollers, means for adjusting the said carriers parallel to the said shafts and means for driving the said tape constantly in one direction.

4. In a device of the class described the combination of tape shafts, idler roller carriers
 95 below said shafts, fixed side bars for slidably supporting the said carriers, depending lugs on the latter and the said carriers and means passing through both of said lugs on the respective carriers for adjusting
 100 the position of the said carriers in the said bars.

Signed at New York in the county of New York and State of New York this 17 day of April.

OTTO S. BEYER.

Witnesses:

IVAN KONIGSBURG,
 C. M. RIEMANN.