E. STINE.

WEB FEEDING MECHANISM.

APPLICATION FILED SEPT. 12, 1910.

1,185,260. Patented May 30, 1916.

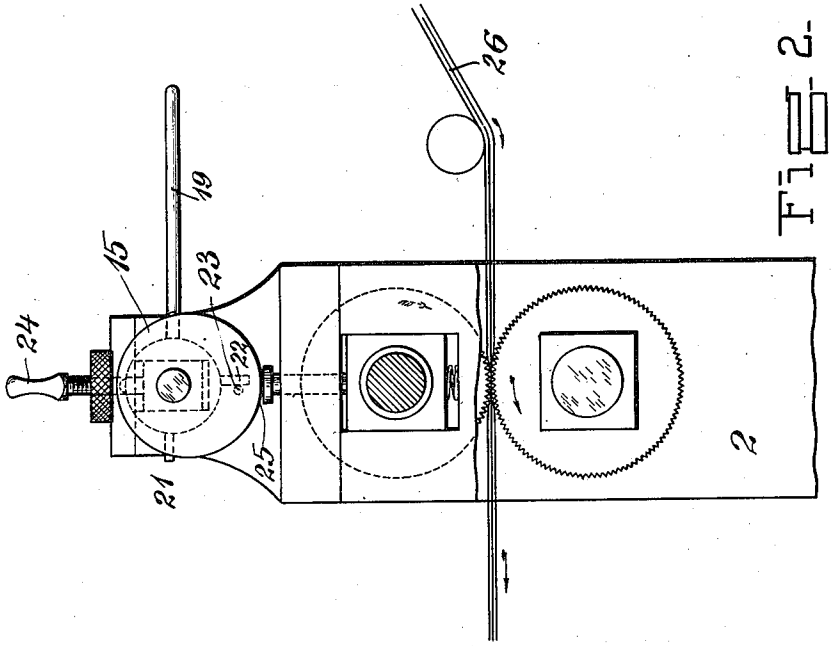

FIG. 2.

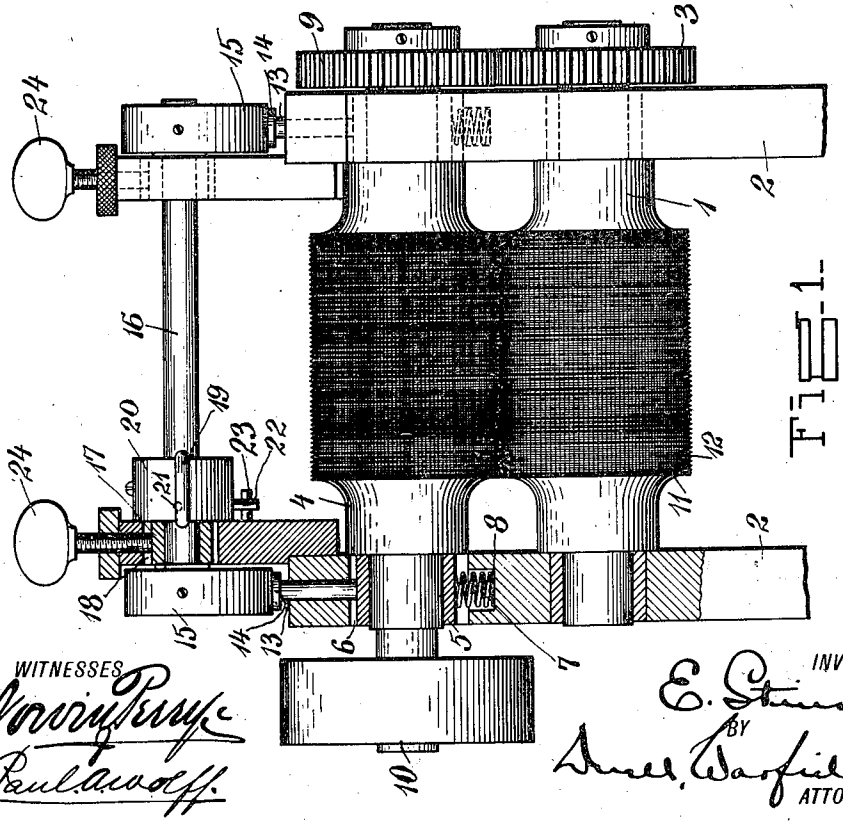

FIG. 1.

WITNESSES

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WEB-FEEDING MECHANISM.

1,185,260. Specification of Letters Patent. Patented May 30, 1916.

Application filed September 12, 1910. Serial No. 581,666.

To all whom it may concern:

Be it known that I, EDWARD STINE, a citizen of the United States, residing at Richmond Hill, in the county of Queens and State of New York, have invented certain new and useful Improvements in Web-Feeding Mechanism, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to feed rollers and with regard to its more specific features to devices of this character employed in connection with printing presses.

One of the objects of the invention is to provide a device of this character by means of which an even and positive grip is applied to the paper throughout the full width thereof; thus two or more webs may be fed without danger of offset, perfect registration being insured.

Another object is to provide means whereby the adjustment of one of the feed rollers with respect to the other is even and positive, thereby assuring uniform tension.

Other objects will be in part obvious and in part pointed out hereinafter.

The invention accordingly consists in the features of construction, combinations of elements and arrangement of parts which will be exemplified in the construction hereinafter set forth, and the scope of the application of which will be indicated in the following claims.

In the accompanying drawings, wherein is shown one of various possible embodiments of this invention, and in which similar reference numerals refer to the same tion of the device, parts being broken away parts throughout, Figure 1 is a front elevafor the sake of clearness; and Fig. 2 is an end view of the same, the pulley being broken away for the sake of clearness.

Referring now to Fig. 1 of the drawings, 1 indicates a feed roller journaled in a suitable frame 2 and having secured thereto at one end a gear 3. Its companion roller 4 is journaled in bearings 5 sliding in slots 6 formed in the frame 2 and normally held in raised position by suitable springs 7 which engage the bearings and may be seated in recesses 8 formed in the frame. At one end of roller 4 a gear 9 is secured, which meshes with the gear 3 secured to the first roller. Motion may be communicated to the rollers by any suitable means, as, for example, by pulley 10 mounted upon an extension of the shaft of the roller 4. The surfaces of the two rollers are provided with a plurality of longitudinal and circumferential V-shaped grooves 11 and 12 thus providing said rollers with roughened surfaces. Pins 13 sliding in the frame 2 engage with the sliding bearings 6 and are preferably provided with enlarged heads 14 with which cams 15 secured to the shaft 16 engage, said shaft rotating in bearings 17 which slide in slots 18 formed in the frame. A handle 19 is secured to a collar 20, which, in turn, is secured to the shaft 16; by means of this the said shaft may be rotated for the purpose hereinafter described. Extending from the collar are stop pins 21 and 22, coöperating with stop pin 23 secured to the frame. The position of the bearings 17 within the slots 18 may be regulated by set-screws 24 threaded in the frame 2. The cams are eccentric, and when rotated so that the portions 25 are out of engagement with the pins 13 the set-screws 24 may be manipulated to cause the surfaces of the cams to press against the pins 13, and thereby move the roller 4 into the desired proximity with the roller 1, then by rotating the handle 19 the shaft 16 may be rotated to bring the eccentric portions 25 of the cams into engagement with pins 13, and these eccentric portions are so designed that this movement of the handle will force the upper roller 4 downward in such relation to the under roller as to give the desired pressure between the rollers for the drawing of the webs 26 between them.

The operation of the device is as follows: After the adjustment has been made as above described, the cams are rotated to remove their eccentric portions 25 from the pins, thus enabling the springs 7 to move the upper roller 4 slightly to permit of the webs of paper 26 being threaded between it and the lower roller 1, after which the cams are then rotated to bring their eccentric portions in contact with the pins, whereby the upper roller is depressed as above described and the proper pressure is obtained.

While three webs are shown at 26 as being fed through the feeding rollers, it will, of course, be understood that a greater or less number may be employed if desired

without in any way departing from the spirit of this invention.

It has been found that rollers having their surfaces roughened in the manner above described will operate upon a web which has been freshly printed without in any way blurring the freshly printed matter. This roughened surface also prevents any chance of offset which is a very important feature in presses, especially in those in which the operation is rapid.

As many changes could be made in the above construction and many apparently widely different embodiments of this invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

Having described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a device of the class described, in combination, a plurality of coacting feed rollers adapted to feed a plurality of registering webs, each of said rollers being provided with a plurality of sets of relatively close V-shaped grooves intersecting each other at right angles whereby sets of points engaging the webs are formed upon the rollers.

2. In a device of the class described, in combination, a frame, a roller journaled therein, a second roller co-acting with said first roller and journaled within bearings, said bearings being slidingly mounted within said frame, springs tending to move said bearings in one direction, slidable means engaging said bearings and adapted upon actuation to move said bearings in the opposite direction, and oscillating means for moving said last-mentioned means whereby said bearings will be simultaneously moved to provide an even adjustment of said second roller with respect to said first roller.

3. In a device of the class described, in combination, a frame, a roller journaled therein, a second roller coacting with said first roller and journaled within bearings, said bearings being slidingly mounted within said frame, springs tending to move said bearings in one direction, slidable means engaging said bearings and adapted upon actuation to move said bearings in the opposite direction, and oscillating means for simultaneously moving said last-mentioned means whereby said bearings will be simultaneously moved to provide an even adjustment of said second roller with respect to said first roller.

4. In a device of the class described, in combination, a frame, a roller journaled therein, a second roller coacting with said first roller and journaled within bearings, said bearings being slidingly mounted within said frame, slidable means engaging said bearings, a shaft mounted in bearings slidable on said frame, means carried by said shaft engaging said slidable means and adapted to actuate the same, means for rotating said shaft, and adjusting means for said shaft bearings.

5. In a device of the class described, in combination, a plurality of feed rollers adapted to feed a plurality of registering webs and means comprising pointed projections associated with the surfaces of said rollers coacting with the webs whereby a relative slipping of the webs as the same are fed is positively prevented, said rollers being arranged to bring the pointed projections of one roller in contact with the pointed projections of the other.

6. In a device of the class described, in combination, a frame, bearings mounted in said frame, a pair of coacting feed rollers having roughened surfaces mounted in said bearings, the bearings in one of said rollers being slidably mounted within said frame, a shaft mounted in said frame, bearings for said shaft, coacting means between the shaft and the movable bearings of one of said rollers for urging the roughened surfaces of said roller into closer engagement when said shaft is rotated, and means for adjusting the relative position of the bearings of said shaft.

In testimony whereof I affix my signature, in the presence of two witnesses.

EDWARD STINE.

Witnesses:
F. W. DAWSON,
M. E. AMADOR.

Correction in Letters Patent No. 1,185,260.

It is hereby certified that in Letters Patent No. 1,185,260, granted May 30, 1916, upon the application of Edward Stine, of Richmond Hill, New York, for an improvement in "Web-Feeding Mechanism," an error appears in the printed specification requiring correction as follows: Page 1, transpose lines 40 and 41; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 25th day of July, A. D., 1916.

[SEAL.]

F. W. H. CLAY,

Acting Commissioner of Patents.

Cl. 273.