

G. A. EDDY.
 FEEDING TAPE MECHANISM FOR PRINTING PRESSES.
 APPLICATION FILED AUG. 10, 1910.

1,052,468.

Patented Feb. 11, 1913.

2 SHEETS—SHEET 1.

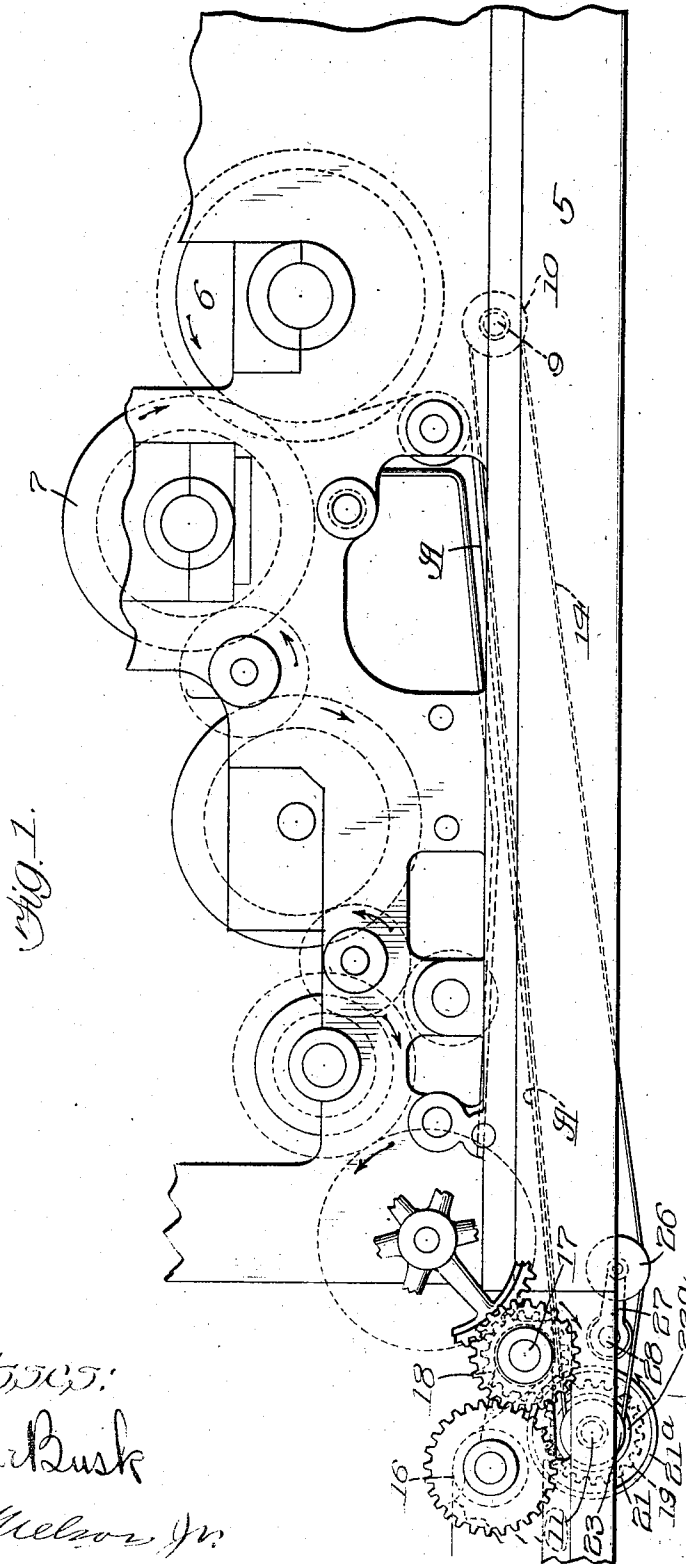


Fig. 1.

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Inventor:
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 By
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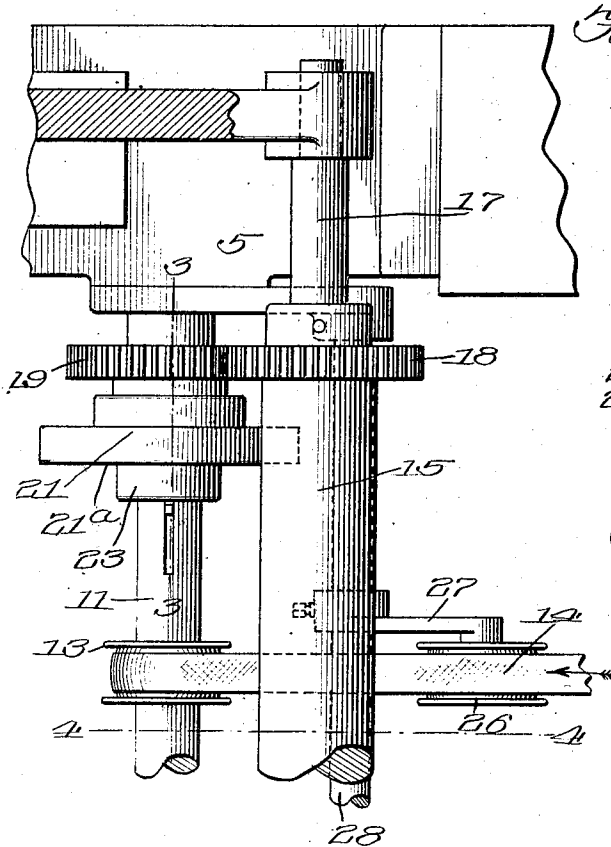


Fig. 2.

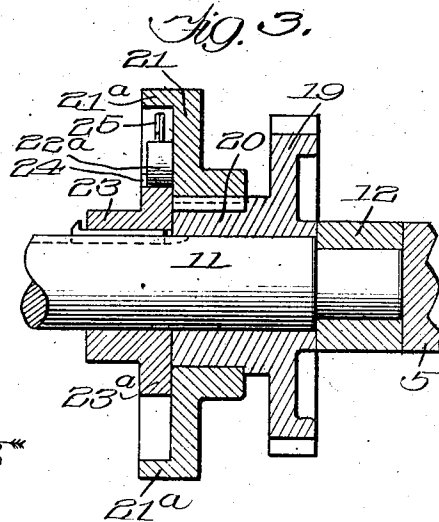


Fig. 3.

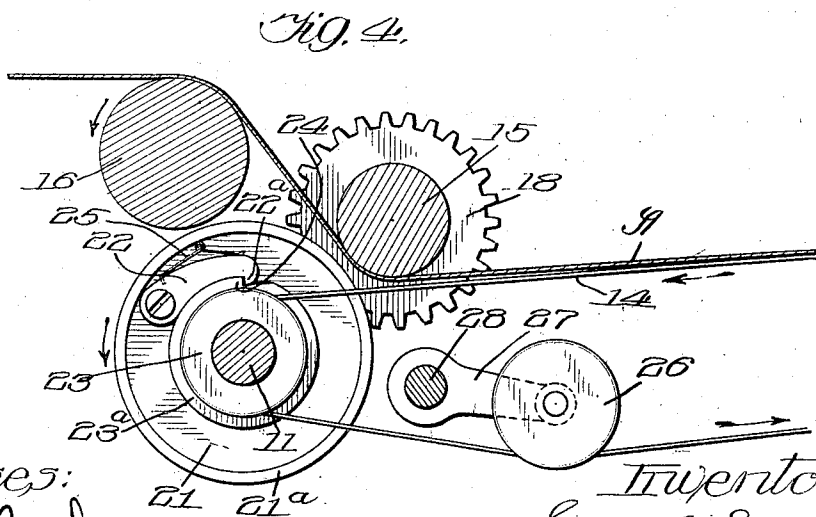


Fig. 4.

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UNITED STATES PATENT OFFICE.

GEORGE A. EDDY, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE GOSS PRINTING PRESS COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

FEEDING-TAPE MECHANISM FOR PRINTING-PRESSES.

1,052,468.

Specification of Letters Patent.

Patented Feb. 11, 1913.

Application filed August 10, 1910. Serial No. 576,553.

To all whom it may concern:

Be it known that I, GEORGE A. EDDY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Feeding-Tape Mechanism for Printing-Presses, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to improvements in feeding tape mechanism by means of which a web of paper is led from one part of a machine, such as a printing press, to another, and its object is to provide new and improved mechanism by means of which the tapes may be automatically thrown out of operative relation to the paper as soon as a given speed is attained.

As is well known, feeding tapes or lead tapes are common in printing machinery for the purpose of conveying the web from one portion of the machine, directly acting upon the web, to another portion of the machine, and particularly for the purpose of leading a web through the machine in starting the press. Of course as the web is fed positively through certain operative parts of the machine, during their movement the tapes which lead the web from such operative portion of the machine to another must move at the surface speed of the web. When the web, however, is led completely through the machine, its leading tapes become unnecessary, as the continuous web passes through the machine by the engagement therewith of the several operative parts. In presses, however, in which a high speed is attained during their printing operation, the continuous running of the tapes and of the pulleys which carry them becomes very objectionable on account of the vibration caused by the extremely rapid rotation and movement of the rotating and moving parts.

It is the object, therefore, of my invention to provide a new and improved mechanism by which the leading tapes may be used to thread the web through the press in starting the press and when the press is running at a low speed, but in which the moving parts may be stopped automatically as soon as a given speed is attained.

In the accompanying drawings,—Figure 1 is a view of a portion of the end of a printing press, lying toward the folding and de-

livery mechanism, and showing diagrammatically certain portions of the printing mechanism; Fig. 2 is an enlarged detail, being a top or plan view of the mechanism for automatically stopping the rotation of the tape feeding shaft; Fig. 3 is an enlarged detail, being a section on line 3—3 of Fig. 2; and Fig. 4 is an enlarged detail, being a section on line 4—4 of Fig. 2.

Referring to the drawings,—5 indicates a portion of the bed of a printing press. 6 indicates one of the impression cylinders, and 7 one of the type cylinders, of such press,—the pitch lines of the driving gear being indicated by dotted lines. As the parts may be of any well-known description and form of themselves no part of my present invention, it is believed it is unnecessary to describe it or illustrate it further here.

A indicates a web, which is passing through the press in the direction indicated by arrows in Fig. 1.

9 indicates a shaft journaled in the framework of the press in any suitable manner and carrying pulleys 10 in the usual manner.

11 indicates a roller-shaft, which is journaled in suitable bearings, as 12, in the framework of the press and carries secured thereto tape pulleys 13.

It will, of course, be understood that a plurality of pulleys 10 and 13 are mounted on the shafts 9 and 11, but I have only shown one in order not to unnecessarily encumber the drawings.

14 indicates tapes which pass around pulleys 10 and 13 moving in the direction shown by the arrows in the figures. Of course there will be a plurality of tapes, the same in number as the tape pulleys above described.

15—16 indicate guide-rollers, under and over which the web A passes in its way through the press.

The upper sides of the tapes 14, as will be best seen in Figs. 1 and 4, lie immediately below the web so that by their movement they will lead the web, after passing the impression and type cylinders 6 and 7, forward toward the rollers 15—16. The roller 15 is mounted on shaft 17, which is journaled in the framework of the press and suitably connected with the gearing of the press.

18 indicates a gear secured on the shaft 17

of roller 15 and connected with the gearing of the press so as to rotate in the direction indicated by the arrows.

19 indicates a gear, which is loosely mounted on the shaft 11 at one end thereof and so as to rotate freely thereon, and is provided with a hub 20.

21 indicates a disk, which is keyed, or otherwise secured, upon the hub 20 of the gear 19 and provided with a projecting peripheral flange 21^a.

22 indicates a pawl, which is pivoted at one end upon the face of the disk 21 inside the flange and close thereto and is provided with an engaging hook 22^a at one end thereof.

23 indicates a collar, which is keyed, or otherwise secured, upon the shaft 11 and is provided with a peripheral flange 23^a in registry with the pawl 22.

24 indicates a ratchet-notch, which is cut in the flange 23^a and adapted to be engaged by the hook 22^a of the pawl 22.

25 indicates a light spring secured to the inner side of the flange 21^a and bearing upon the pawl 22 in such a way as to normally hold it in engagement with the flange 23^a on collar 23.

26 indicates idler pulleys mounted in arms 27 on shaft 28, which is mounted in the framework of the press in the usual manner. The pulleys 26 simply operate as tension pulleys on the tapes in the well-known manner.

The parts above described rotating in the direction indicated by arrows, as above set forth, the gear 19 will carry with it the disk 21, which is secured to its hub as above described, and the pawl engaging the ratchet-notch 24 on collar 23 which is keyed to the shaft 11, will rotate the shaft 11, thus rotating the tape pulleys 13 and moving the tapes in the direction shown by the arrows. When the press is started and the web is fed forward between the impression and type cylinders 6 and 7, they will engage the lead end of the sheet, feed it forward to the feed rollers 15-16, and forward it through the press. The spring 25 is so adjusted that when any predetermined speed of rotation is reached it will yield under the centrifugal force of the pawl 22, which centrifugal force, of course, tends to throw the free end of the pawl outward out of engagement with the tooth 24. The tooth of the pawl therefore being freed from engagement with the notch, the rotation of the collar 23, and consequently the shaft 11, ceases automatically and the tapes cease their movement as long as the predetermined speed continues. In practice, and with the high

speed presses on which this device is intended to be employed, the spring is so constituted as to hold the pawl against the ratchet tooth against the action of centrifugal force until the shaft attains a speed of about 400 revolutions per minute, at which speed the centrifugal force of the pawl overcomes the action of the spring and the pawl flies out. In the presses for which this device is especially designed if the pawl were not so silenced, the shaft 11 would be running at a speed of about 2400 revolutions per minute by the time the press attained its full running speed, and the shafts carrying the pulleys would be thrown into such a state of vibration that they would be likely to break.

I have shown and described my improved mechanism as applied upon a press in a position near the end of the press at which the web passes into the folding and delivery mechanism just after the web is operated on by the last printing couple, and this is perhaps the position in which such leading tapes would be most frequently used. Of course, however, my invention might be employed in any form of high speed press and the leading tapes applied to any other convenient position in the press without departing from the object of my invention.

What I claim as my invention and desire to secure by Letters Patent is,—

1. In a web printing press, in combination, a shaft, pulleys secured to said shaft, forwarding tapes on said pulleys adapted to engage the paper from the web roll after it has left said roll and adapted to be driven by said pulleys, a driving disk for driving said pulleys, and connections between said driving disk and said shaft adapted to be automatically thrown out of engagement with said shaft when a predetermined speed has been reached.

2. In a web printing press, a shaft, driving pulleys attached to said shaft, forwarding tapes driven by said pulleys and adapted to engage the paper from a web roll after it has left said roll and forward the same to said press, a disk loose on said shaft, gearing for driving said disk, a ratchet-wheel secured on said shaft, a pawl carried by said disk and adapted to engage said ratchet and also adapted after a given speed is reached to be automatically disengaged from said ratchet by the action of centrifugal force.

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