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CUTTING AND COLLECTING MECHANISM FOR PRINTING PRESSES

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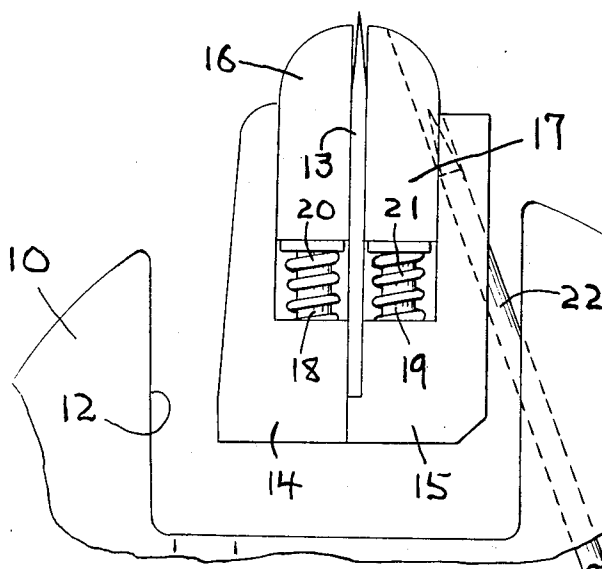
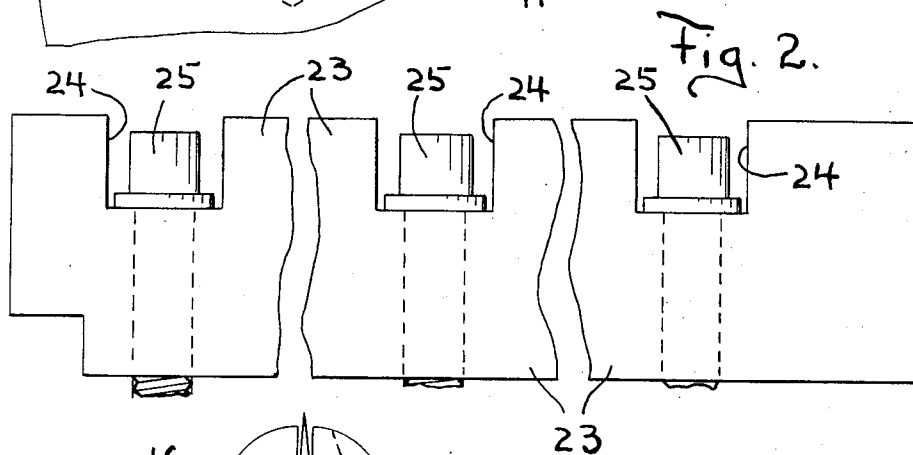
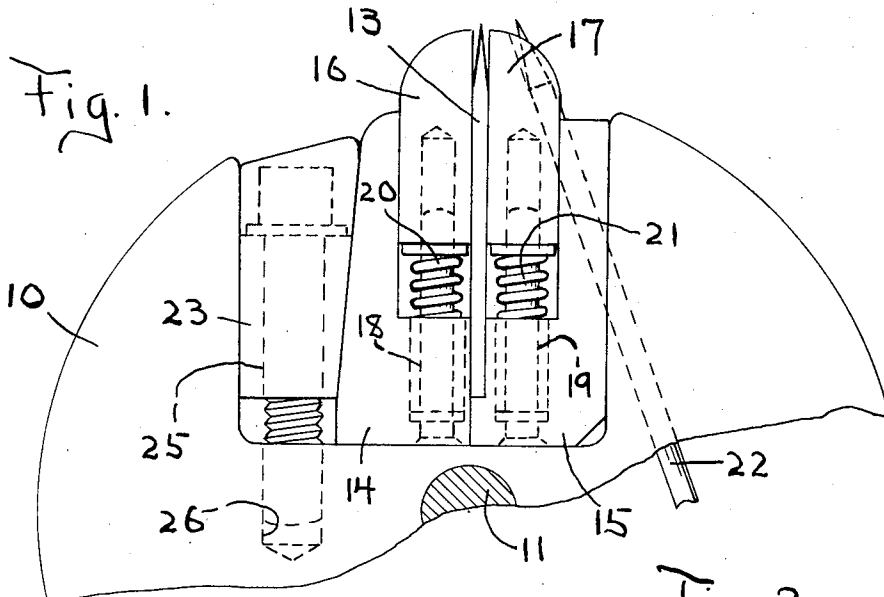


Fig. 3.

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CUTTING AND COLLECTING MECHANISM
FOR PRINTING PRESSESCurtis S. Crafts, Oak Park, Ill., assignor to The
Goss Printing Press Co., Chicago, Ill., a corpo-
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3 Claims. (Cl. 164—68)

My invention relates to cutting and collecting mechanisms for printing presses and particularly to an improved mounting means by which certain of the operating parts are secured in position upon the cooperating cylinders for the operations comprising cutting, collecting and folding the paper. As the speeds at which newspaper presses are run are increased upon the growing demands of the publishers, the difficulties in the matter of securing the cutting blade satisfactorily in position upon the cutting cylinder or of securing the cutting groove means satisfactorily in position upon the folding cylinder have likewise increased.

It is the object of my invention to provide a new and improved form and arrangement of parts comprising a securing means for the cutting blade of a cutting cylinder or for any other part which may be held in position longitudinally of the cylinder at the face thereof and which it may be desirable to remove from time to time.

It is one of the objects of my invention to provide an improved arrangement of this type which shall be very effective for holding the operating part rigidly in position, which will be continuously effective for this purpose regardless of any ordinary wear of the parts, which will be effective throughout the full length of the blade or other part for holding it from bowing outwardly at an intermediate point, and which can be manipulated quickly and easily for the removal of the part from position and the attachment of a new part again into position without disturbing other operating parts carried by the cylinder.

It is another object of my invention to improve devices of this type in sundry details hereinafter pointed out. The preferred means by which I have accomplished my several objects are illustrated in the drawing and are herein-after specifically described. That which I believe to be new and desire to cover by Letters Patent is set forth in the claims.

In the drawing,—

Fig. 1 is an end view of a portion of a cutting cylinder showing a cutting blade secured in position thereon by the use of my improved mechanism;

Fig. 2 is a face view of an elongated wedge shaped block forming a part of my improved mechanism as shown in Fig. 1; and

Fig. 3 is a view similar to Fig. 1 but showing the wedge block removed and showing the cutting blade and its associated parts partially re-

moved without retracting the collecting pins of the mechanism.

Referring to the several figures of the drawing, in which corresponding parts are indicated by the same reference characters, 10 indicates the cutting cylinder of a newspaper printing press supported by means of a shaft 11 from any suitable bearings. As is best shown in Fig. 3, the cylinder 10 is provided with a groove 12 at its face longitudinally of the cylinder within which a cutting blade 13 and its associated parts are mounted.

In the arrangement shown, the cutting blade 13 and its associated parts are in the form of an elongated block comprising sections 14 and 15 between which the blade 13 is secured at its inner edge, the blocks and the blade being secured very strongly together by any suitable means not illustrated. At their outer edges, the sections 14 and 15 are provided with rabbets at opposite sides of the blade for the reception of cheek woods 16 and 17 which are slidably mounted upon pins 18 and 19 respectively carried by the sections 14 and 15. Coiled springs 20 and 21 are mounted upon the pins between the inner faces of the bars 16 and 17 and the inside faces of the rabbets, whereby the bars 16 and 17 are held normally in protracted position as shown in Fig. 1 but are capable of being pushed inwardly for clearing the operative edge portion of the blade during the operation of cutting one or more webs of paper. Inasmuch as this arrangement forms in and of itself no part of my present invention, it is believed to be unnecessary to describe the same further.

As is well understood in the art, the cylinder 10 is bored out at intervals for the reception of collecting pins 22 which are arranged in oblique position so as to converge outwardly with the blade 13. The section 15 of the block by which the blade is mounted in position is provided with openings in alignment with the bores of the cylinder 10, and the outer end portion of the bar 17 is grooved at intervals so as to permit the collecting pins to move outwardly into close proximity to the edge of the blade when desired. The means for holding the pins 22 in position and for giving them the desired reciprocatory movements is not illustrated, since it can be of any approved form well understood by those skilled in the art.

In my improved arrangement, the groove 12 is made of considerably greater width than that of the block comprising the blade 13 and its connected parts so as to enable such block to be

given a movement into and out of operative position within the groove in an oblique direction corresponding to the direction of the pins 22 so that the block can be placed in position upon the
 5 collecting pins and moved downwardly to operative position as shown in Fig. 1 without the necessity for first retracting said pins 22.

The means for holding the block comprising the sections 14 and 15 in position within the
 10 groove 12 comprises a second elongated block or bar 23 which is of such size and shape as to fill the space between one side face of the block and the adjacent side face of the groove. In the arrangement shown, the block comprising the sections 14 and 15 is tapered outwardly, while the
 15 block 23 is correspondingly tapered inwardly in such an arrangement that when the block 23 is in operative position the block comprising the sections 14 and 15 is held very firmly in position
 20 in the groove, with pressure being applied throughout the full length of the blocks, such pressure being applied both inwardly and laterally. In my improved arrangement, the block 23 in its final operative position is spaced a short
 25 distance from the inner face of the groove, thus assuring that the parts shall always be capable of being tightened effectively regardless of any probable wear upon the parts.

In my improved arrangement, the wedge block
 30 23 is provided with notches 24 at intervals therealong for the reception of the heads of cap screws 25 which are arranged at spaced intervals along the bar for holding the bar very strongly in position, such cap screws being adapted to thread
 35 into suitably placed sockets 26 formed in the cylinder 10. By the use of my improved means, the wedge block 23 and the block comprising the sections 14 and 15 by which the cutting blade 13 is carried are secured very firmly in position
 40 both at the ends of the cylinder and at as many intermediate points as it is considered desirable to employ such securing means. By this improved arrangement, the cutting blade and its associated parts are held firmly in position with-
 45 out regard to the speed of rotation of the cutting cylinder.

By the use of my improved construction, in which the wedge block 23 is held in position by a limited number of cap screws 25, such wedge
 50 block can be very quickly and very readily removed from position, whereupon the cutting blade and its connected parts are made free to move outwardly out of the groove 12 regardless of the position of the collecting pins 22.

While I prefer to employ the form of apparatus as shown in my drawing and as above described, it is to be understood that my invention is not limited to such arrangement except so far
 60 as the claims may be so limited by the prior art, it being understood that changes might well be

made from the arrangement shown without departing from the spirit of my invention.

I claim:—

1. In a mechanism of the type described, the combination of a cylinder having a longitudinal
 80 groove in its face at one side, an elongated block in said groove and of less width than that of the groove, a cutting blade fixed in radial position on said block, a collecting pin mounted in said
 85 cylinder in convergent position with respect to said blade and extending through portions of both the cylinder and the block, and means for holding said block in position in said groove, comprising a second block secured in said groove
 90 alongside of said first named block at the side thereof opposite that at which said pin is located, the arrangement being such that said first named block can be removed from the groove when said second block has been removed and while the pin is still in its operative protracted
 95 position.

2. In a mechanism of the type described, the combination of a cylinder having a longitudinal
 100 groove in its face at one side, an elongated block in said groove and of less width than that of the groove, a cutting blade fixed in radial position on said block, a collecting pin mounted in said
 105 cylinder in convergent position with respect to said blade and extending through portions of both the cylinder and the block, a second block in said groove alongside of said first named block at the side thereof opposite that at which said
 110 pin is located and adapted by cooperative action to hold said first named block firmly in position in said groove, and bolts at spaced intermediate points along said second block for drawing said
 115 second block inwardly into operative holding position, the arrangement being such that said first named block can be removed from the groove when said second block has been removed and while the pin is still in its operative extended position.

3. In a mechanism of the type described, the combination of a cylinder having a longitudinal
 120 groove in its face at one side, an elongated block in said groove, a cutting blade extending outwardly on said block, a collecting pin slidably mounted in openings in said cylinder and block at one side of the block, a second block in said
 125 groove alongside of said first named block at the side thereof opposite that at which said collecting pin is located and adapted by a wedging action to hold said first named block firmly in position in said groove, and bolts at spaced intervals along said second block for drawing it inwardly into operative holding position, said first
 130 named block when released by the withdrawal of said second block being movable outwardly and laterally in said groove along said collecting pin while still in its fully projected position.

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