Nov. 13, 1928. 1,691,890

O. C. F. MEISEL

TUCKER

Original Filed Aug. 25, 1926

Fig. 1.

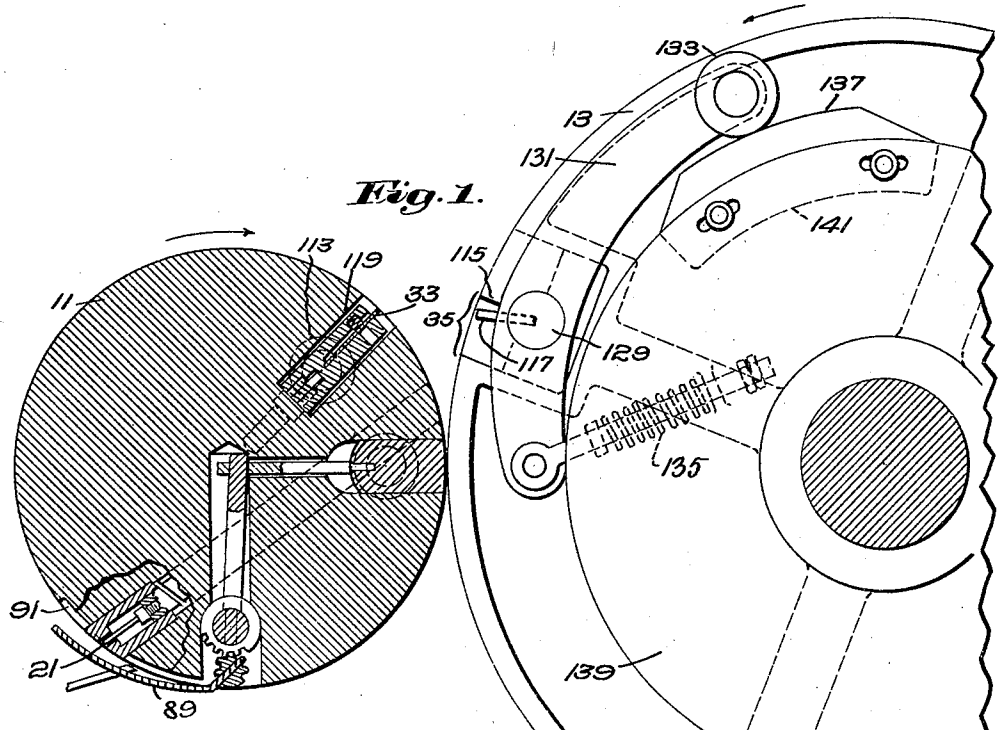
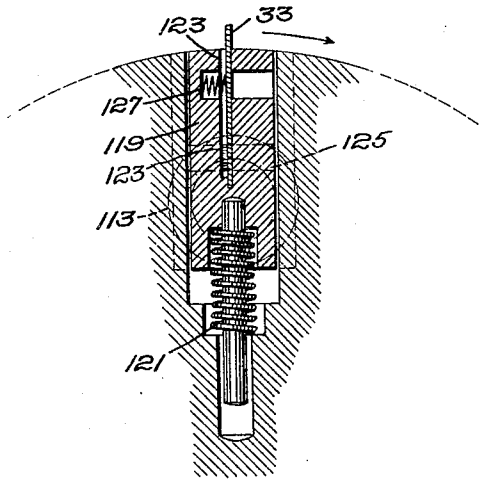


Fig. 2.



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TUCKER.

Original application filed August 25, 1926, Serial No. 131,368. Divided and this application filed December 20, 1927. Serial No. 241,371

This invention relates to tuckers such as are used in sheet handling mechanism in connection with printing presses and the like to fold a sheet or web, and the object is to provide an improved mechanism of this character. My invention will be well understood by reference to the following description taken in connection with the accompanying drawings, wherein:

Fig. 1 is a section through an accumulating cylinder of a sheet handling mechanism embodying in its construction a tucker blade illustrative of the principles of my invention, a cooperating cylinder being shown in end elevation; and

Fig. 2 is a fragmentary view on an enlarged scale showing the tucker in section.

My invention is herein shown in connection with a sheet handling mechanism of the type more fully disclosed in my companion application, Serial No. 131,368, filed August 25, 1926, of which this application is a division and to which reference may be made for a fuller disclosure of details of such mechanism, including, among other things, the controlling cams.

Referring to Fig. 1 of the drawings, I there show an accumulating cylinder 11 adapted to deliver a signature of folded sheets to a cooperating cylinder 13. The cylinder 11 carries the pins 21 which are adapted to engage through the leading edges of the sheets which go up to make the signature and the tucker blade 33 which folds these sheets centrally and delivers them to cooperating mechanism 35 on the cylinder 13.

Toward the end of a cycle of the mechanism the parts come to the position illustrated in Fig. 1, and at this moment the pins 21 are released to the action of springs which retract the same, freeing the sheets, which, however, are held clamped between the two cylinders at the three o'clock position, viewing Fig. 1. The leading edges of the sheets may be stripped from the pins by the action of the stripper fingers 89 normally housed in the grooves 91 of the cylinder. All these parts may be constructed and operated as in my application referred to.

As the cylinders continue to revolve, the central portion of the sheets on the cylinder 11 is brought around to the three o'clock position and the tucker blade 33 is in opposition to the cooperating mechanism 35 on cylinder 13 and a suitable cam cooperating with cam roll 113 on the tucker blade carrier releases the latter, permitting the tucker blade 33 to be thrust outwardly and to fold the paper between the fixed surface 115 and the movable clamp bar 117 of the cooperating mechanism carried by cylinder 13 and as the blade passes the three o'clock position, which is its position of greatest extension, and the folding is completed, it is again retracted to free the same.

While the tucker blade mechanism might take various suitable forms, I may utilize that shown in detail in Fig. 2 wherein I have shown the cam rolls 113 as mounted on a radially reciprocating plunger 119 supported and normally thrust outwardly in the cylinder 11 by means of springs 121 mounted as there illustrated. Cam rolls 113 provide for retracting the plunger against the force of the springs. The tucker blade proper 33 is mounted lengthwise of this plunger in a suitable slot 123, the lower portion of which is of sufficient width only closely to receive the lower edge of the blade which is retained in position by means of transverse pins 125. The upper portion of the slot provides a clearance at the following side of the blade 33 which is supported in the position illustrated in the figure by means of compression springs 127. This arrangement is such as to permit the blade 33 as a whole to yield toward the left in the figure as the mechanism as a whole rotates to the right and thus its withdrawal from the cooperating mechanism on the cylinder 13 without danger of breakage is facilitated.

Referring to Fig. 1, the blade 33 enters as described between a fixed surface 115 and a clamp blade 117 mounted on a rock shaft 129 and closing against the fixed surface 115. The blade 117 is opened to the position shown in Fig. 1 when the parts are in the position shown to provide a clearance so that the tucker blade 33 may roll into position and is closed as it reaches the nine o'clock position corresponding to the full extension of the tucker blade, thus providing for the folding

or creasing of the signature. Movement of the blade 117 is herein shown as effected by means of a cam, shown in Fig. 1, which operates on a follower 133 on an arm 131 carried by shaft 129 and adapted to swing said arm counterclockwise against the action of spring 135. The cam is herein shown as having a toe, or rise 137 secured to a stationary disc 139. This rise portion may conveniently be formed of a section of a flanged ring having a cylindrical flange portion from which is formed the toe of the cam and an annular base portion the segment 141 of which may lie against the side of disc 139 and be adjustably bolted thereto in the manner indicated in the figure.

I have described in detail the construction illustrated in order that it might be well understood and without definitive or limiting intention. What I claim as new and desire to secure by Letters Patent I shall express in the following claims.

Claims:

1. In combination with a tucker blade a carrier therefor having a slot wider than the thickness of the blade, the blade being held therein at its inner part spaced from a wall of the slot, and yielding means supporting the blade away from said wall.

2. In combination with a tucker blade a carrier therefor having a slot wider than the thickness of the blade, the lower edge of the blade being held at the bottom of said slot against a wall thereof and yielding means in said slot to hold the body of the blade against said wall.

In testimony whereof, I have signed my name to this specification.

OTTO C. F. MEISEL.