

July 5, 1932.

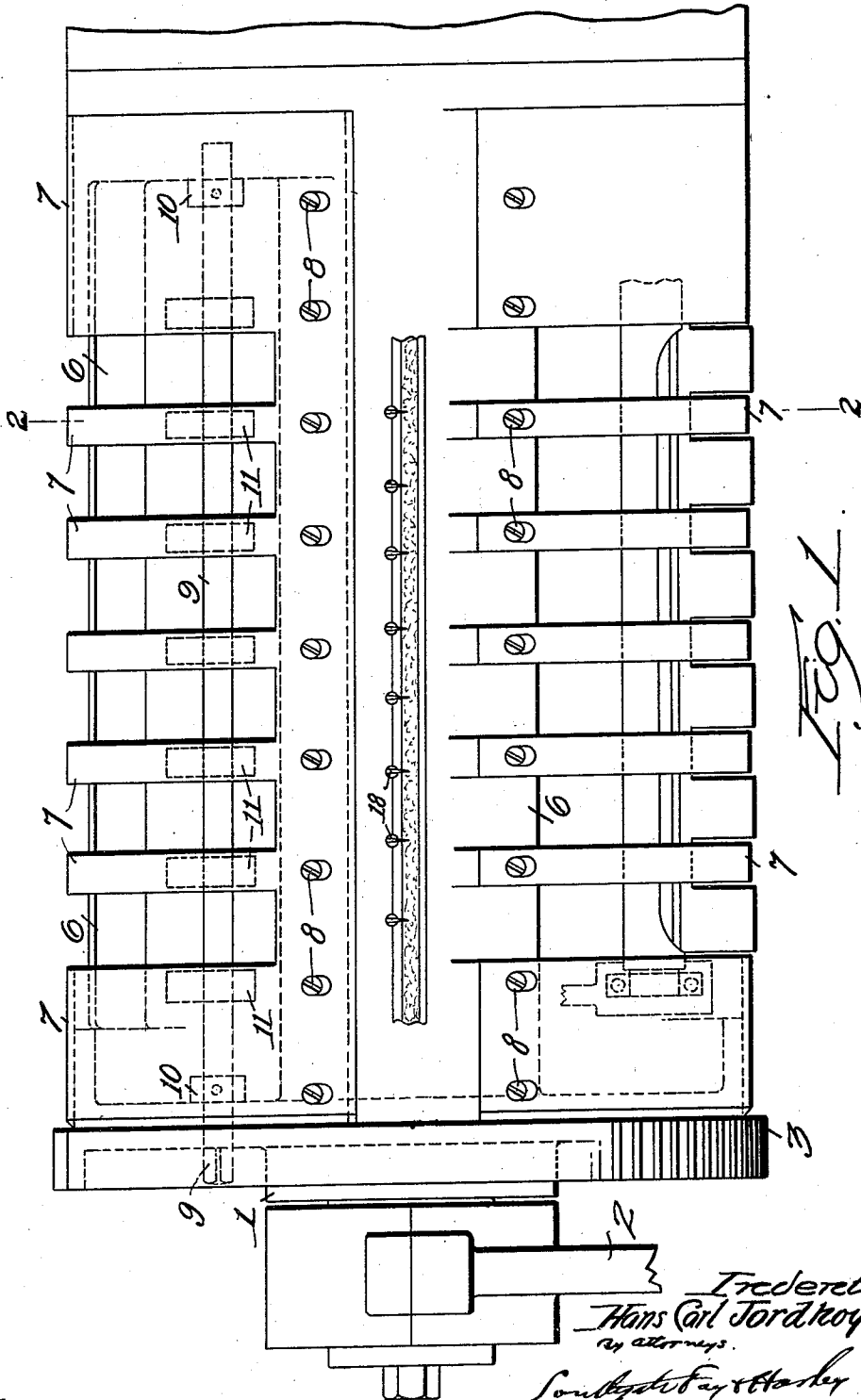
H. C. JORDHOY

1,865,696

ADJUSTABLE FOLDING CYLINDER

Filed Sept. 19, 1930

3 Sheets-Sheet 1



W. J. W.
C. F. W.

Inventor
Hans Carl Jordhoy
By attorneys
Soulard & Hasker

July 5, 1932.

H. C. JORDHOY

1,865,696

ADJUSTABLE FOLDING CYLINDER

Filed Sept. 19, 1930

3 Sheets-Sheet 2

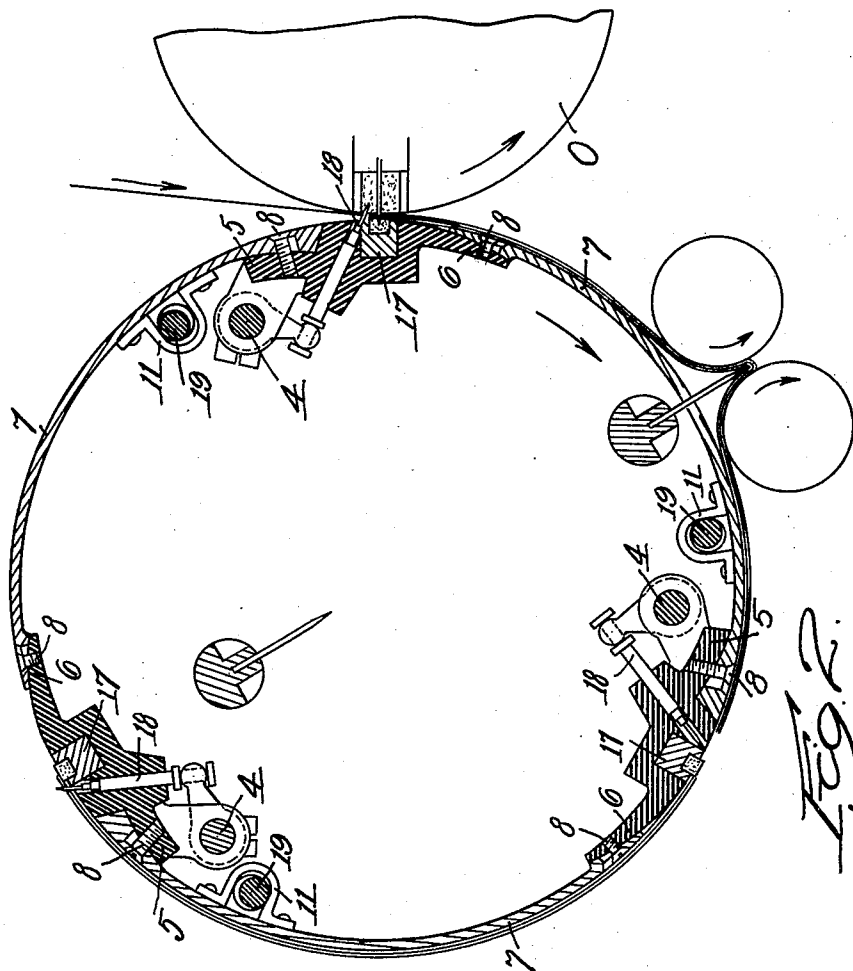


Fig. 2.

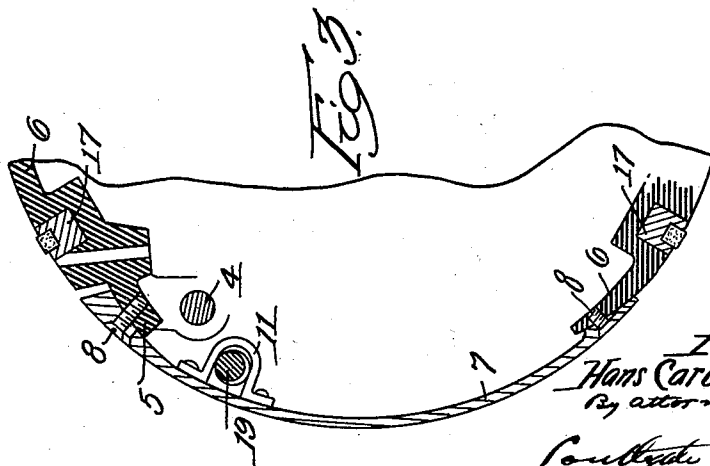


Fig. 3.

Witness
C. F. Wessom

Inventor
Hans Carl Jordhoy
By attorneys.
Coulter, Fay & Harber

July 5, 1932.

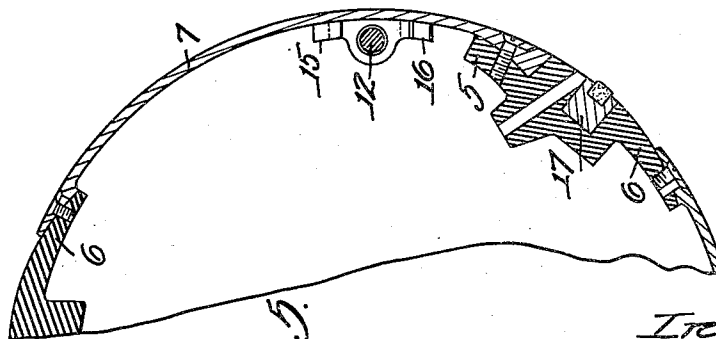
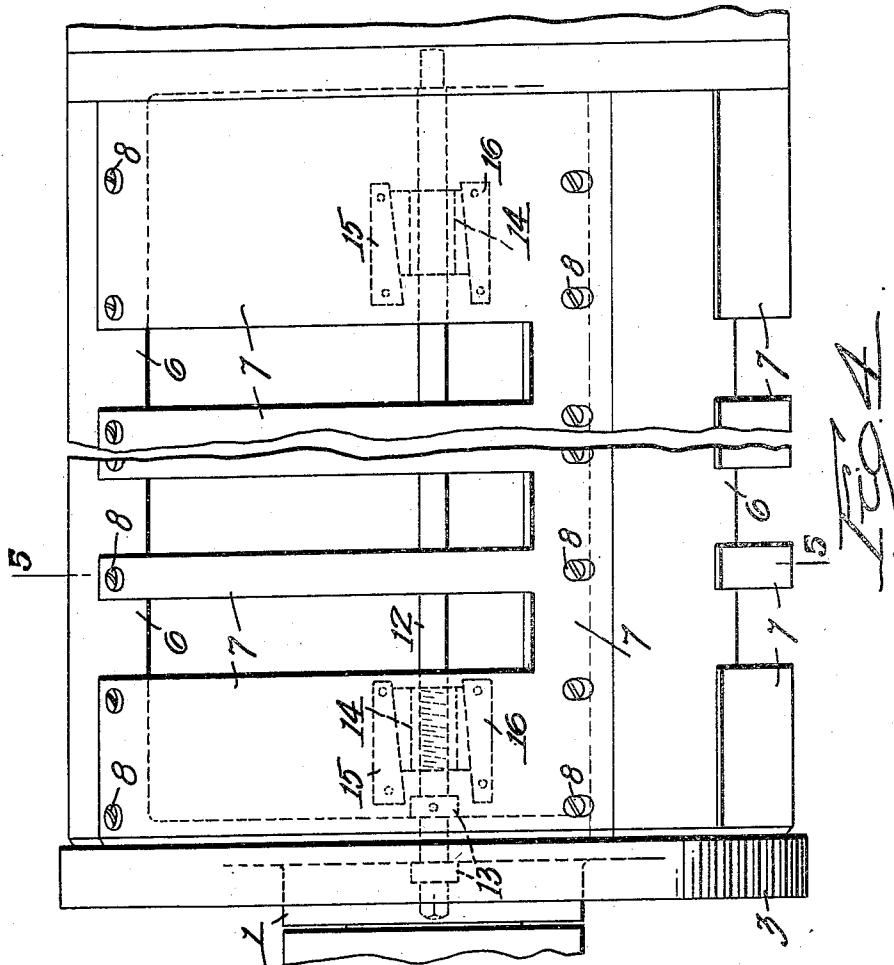
H. C. JORDHOY

1,865,696

ADJUSTABLE FOLDING CYLINDER

Filed Sept. 19, 1930

3 Sheets-Sheet 3



W. H. W.
G. F. Warren.

Fig. 5.

Inventor
Hans Carl Jordhoy
by attorneys
Southgate Fay & Washley

UNITED STATES PATENT OFFICE

HANS CARL JORDHOY, OF NORTH PLAINFIELD, NEW JERSEY, ASSIGNOR TO WOOD NEWS-PAPER CORPORATION, OF NEW YORK, N. Y., A CORPORATION OF VIRGINIA

ADJUSTABLE FOLDING CYLINDER

Application filed September 19, 1930. Serial No. 483,003.

The principal objects of this invention are to provide means for adjusting the effective diameter of a three-part folding cylinder to enable the cylinder to run for collecting without putting any undue strain on the web and thereby tearing or breaking the web as it passes between the cylinders and also to provide this means in a simple and inexpensive form.

Other objects and advantages of the invention will appear hereinafter.

Reference is to be had to the accompanying drawings in which

Fig. 1 is a side view of a three-part folding cylinder constructed in accordance with this invention;

Fig. 2 is a transverse sectional view on the line 2—2 of Fig. 1 showing the cylinder in its contracted condition for running collect and showing the cutting cylinder;

Fig. 3 is a similar view showing the folding cylinder expanded for running straight;

Fig. 4 is a view similar to Fig. 1 showing a modification, and

Fig. 5 is a sectional view thereof on the line 5—5 of Fig. 4 showing the cylinder in its contracted position.

It has been stated that this invention relates to the adjustment of the effective diameter of a folding cylinder. The invention is shown as applied to a three-part cylinder. The folding couples arranged for use in connection with the printing and associating of newspapers have been built heretofore for delivering straight or collect products. In one case each consecutive printed section is folded and delivered separately and in the other case two sections of newspapers are folded together. When the latter is done the first section coming through is retained on the folding cylinder, if it is a three-part cylinder, for one revolution after it is folded and until the next section comes down through the folding couple. Then the two sections are released and passed to the folding rolls. When this is done one printed section lies between the folding cylinder and a second section before the latter is severed from the web. This increases the effective diameter of the folding cylinder and puts an extra strain

on the web due to the increased speed, which is apt to break the web or tear out the paper pins.

This invention is designed to provide means for relieving this strain by reducing the effective size of the folding cylinder at the point at which the cutting takes place.

I have shown a three-part folding cylinder 1 rotatably mounted in bearings in the frame 2 and provided with a gear 3 which is driven from some convenient part of the press to operate the folding couple. This couple of course comprises this folding cylinder 1 and the cutting cylinder 0. The folding cylinder as usual is arranged to carry bearings for arm shafts 4 and slides in which the cutting rubber boxes 17 are located. The pin mechanism, folding blade mechanism and cutting couple operate in the usual manner. The paper pins 18 are ejected and withdrawn in the correct positions for the proper handling of the product. Of course, on collect products one cutting blade is silenced.

In each of the three sections of the folding cylinder are provided stationary curved surfaces 5 and 6. These are eccentric with respect to the cylinder and on each pair of them is located a concave cover plate 7 which has surfaces of the same curvature and eccentricity bearing on these surfaces 5 and 6. The three cover plates constitute the outer surface of the cylinder against which the paper contacts. Each cover plate 7 is adjustably secured to the cylinder 1 by a series of screws 8 arranged along each edge of each cover plate 7. These screws pass through slots elongated circumferentially. It will be seen therefore that the three plates 7 can be moved up the inclined curved surfaces 5 and 6 to enlarge the effective diameter of the cylinder. In Fig. 2 they are shown in their contracted position in which they are used for running a collect product. In Fig. 3 one of these plates is shown in its expanded position for running a straight product.

For the purpose of angularly adjusting the cover plates, a shaft 9 is provided having a squared end. This shaft is carried in bearings at each end of the folding cylinder 1 and secured against end motion by collars 10 on

this shaft. Each shaft is equipped with an eccentric portion 19 near each end to cooperate with guide brackets 11 secured to the inside of each edge of a cover plate. Therefore
 5 by turning these shafts 9 in one direction or the other the cover plates can be moved to the two positions shown in Figs. 2 and 3.

Fig. 2 shows the cutting of the second section of a collected product with the effective
 10 diameter of the cylinder reduced. It will be seen that if the cover plate 7 were projected as shown in Fig. 3 a strain would be caused on the second section of the web as it passes around the folding cylinder and that this ad-
 15 justment obviates that strain and the possible breaking of the web or the tearing out of the paper pins caused thereby. This is an easy and simple adjustment for accomplishing this result.

20 The invention can be carried out in other forms and I have shown one in Figs. 4 and 5. The whole mechanism will not be described because with the explanation of the adjustment it is the same as that shown in Figs. 1, 2
 25 and 3.

In this case a shaft 12 placed similarly to the shaft 9 has a square head and is held against end motion by collars 13. At each
 30 end of this shaft is a nut 14 threaded on the shaft. These nuts are provided with parallel beveled sides and these sides cooperate with beveled surfaces on guides 15 and 16 secured to the cover plate 7. In this way the rotation
 35 of the shaft 12 causes a longitudinal motion of the two nuts 14 thereon and an angular motion of the cover plate to secure the same result as that previously described. This is just as simple as the other and in each case all
 40 three cover plates have to be adjusted by the shafts 9 or 12 before running collect.

Although I have illustrated and described only two forms of the invention I am aware of the fact that other modifications can be
 45 made therein by any person skilled in the art without departing from the scope of the invention as expressed in the claims. Therefore I do not wish to be limited in this respect but what I do claim is:—

1. The combination with a folding cylinder, of cover plates carried thereby, of means
 50 connecting the edges of adjacent cover plates and on which the cover plates rest, and means for moving the cover plates out and in to change the effective diameter of the folding
 55 cylinder, said cover plates constituting the paper engaging surface of the cylinder.

2. The combination with a folding cylinder, and cover plates movably mounted thereon and constituting the paper engaging surface
 60 thereof, of means connecting the edges of adjacent cover plates and on which the cover plates rest, of means for holding said cover plates either in a retracted or projected position to change the effective diameter of
 65 the cylinder.

3. The combination with a folding cylinder, and a series of convex cover plates around the cylinder and constituting the paper
 70 engaging surface, of eccentric curved surfaces at each end of each cover plate against which the cover plates rest, each of said eccentric surfaces having a headed member supported thereby, and circumferential slots
 75 near the edges of the cover plates for receiving said headed members, whereby the cover plates can be shifted up or down the eccentric surfaces and will be held against the eccentric surfaces by said headed members.

4. The combination with a folding cylinder, and a plurality of convex cover plates
 80 movably mounted thereon and constituting the paper engaging surface, of a shaft extending under each cover plate having means thereon for moving the cover plates as a whole to change the effective diameter of the
 85 cylinder.

5. The combination with a folding cylinder and a series of convex cover plates constituting the paper engaging surface of the cylinder, of a shaft under each cover plate, an
 90 eccentric on each shaft, said shafts being supported by the cylinder and guide brackets on the under side of each cover plate cooperating with said eccentrics, whereby the turning of the shaft will move the cover plates radi-
 95 ally.

6. The combination with a folding cylinder and a series of convex cover plates constituting the paper engaging surfaces of said
 100 cylinder, of a shaft extending under each cover plate and supported by the cylinder, each shaft having a screw-threaded portion and a nut thereon, the nuts being provided with parallel bevelled opposite sides, and a pair of guides on the under side of each cover
 105 plate having similarly beveled inner surfaces engaging the sides of the nuts, whereby the oscillation of said shafts will move the nuts along the sides and thereby produce an angular motion of the cover plates to change the
 110 effective diameter of the folding cylinder.

In testimony whereof I have hereunto affixed my signature.

HANS CARL JORDHOY.

115

120

125

130