May 1, 1928.

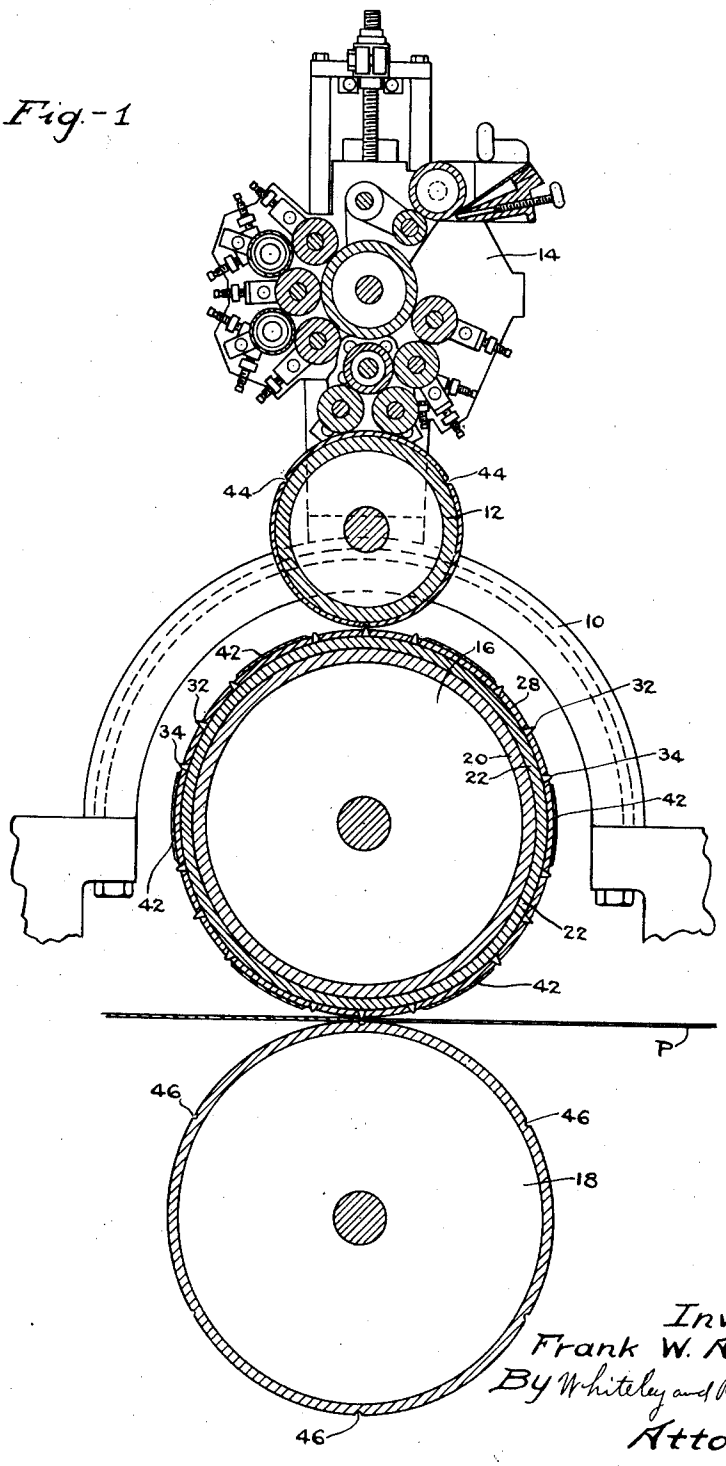
1,668,258

F. W. ADSIT

BLANKET ROLLER FOR PRINTING MACHINES

Filed Sept. 18. 1926 2 Sheets-Sheet 1

Fig. 1



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May 1, 1928. 1,668,258

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Fig-2.

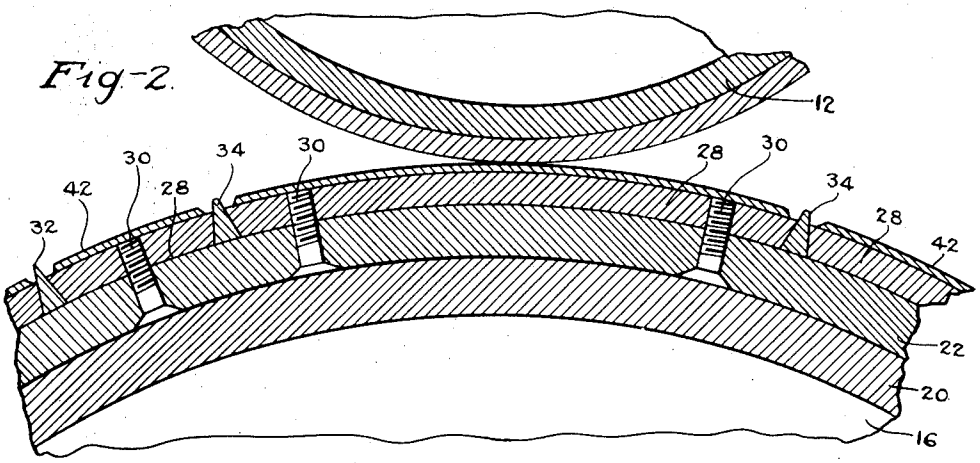


Fig-5

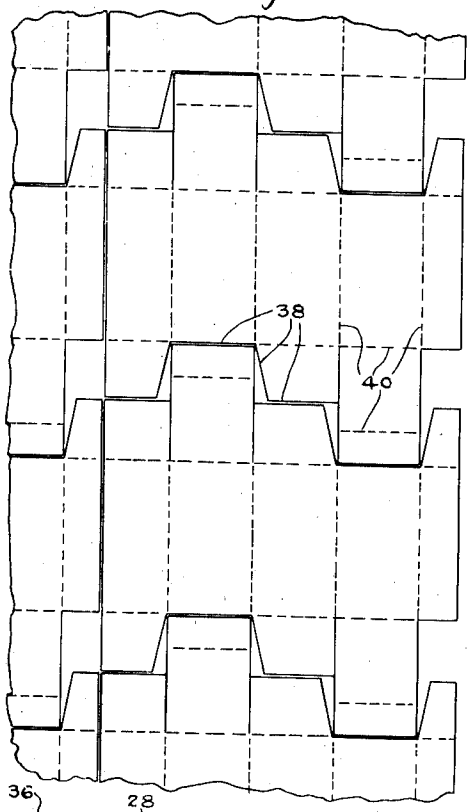


Fig-4

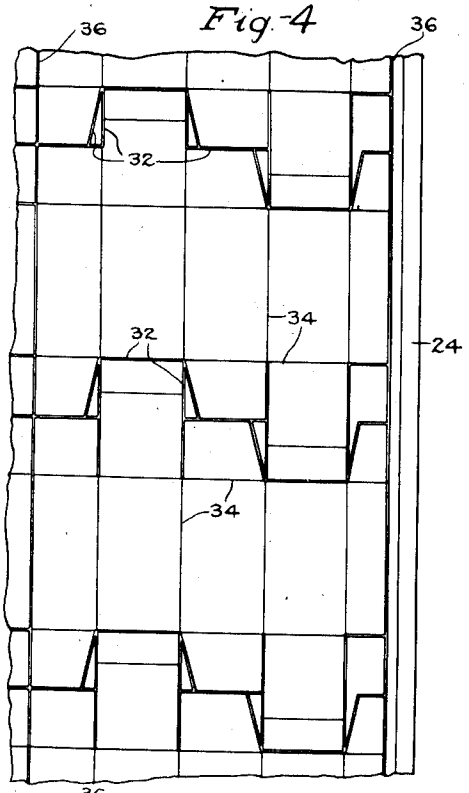
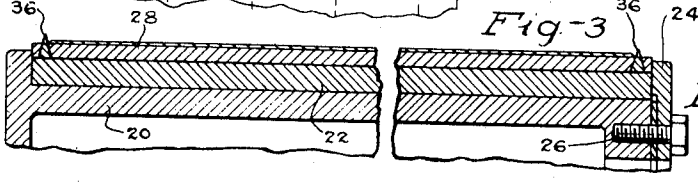


Fig-3



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UNITED STATES PATENT OFFICE.

FRANK W. ADSIT, OF ST. PAUL, MINNESOTA, ASSIGNOR TO ROTARY CARTON MACHINE COMPANY, OF MINNEAPOLIS, MINNESOTA, A CORPORATION.

BLANKET ROLLER FOR PRINTING MACHINES.

Application filed September 18, 1926. Serial No. 136,337.

My invention relates to printing presses and an object in general is to improve upon the construction disclosed in an application for color printing and cutting presses filed April 13, 1925, by myself jointly with Julius F. Emme under Serial Number 22,698. An object in particular is to provide a combined printing, cutting and creasing cylinder which will both print and cut paper or similar material, and which cylinder may also carry means for creasing the paper. I accomplish the objects of my invention by providing a cylinder upon the surface of which cutting and creasing rules are mounted. The printing means, in the form of sheet rubber, or other flexible material, will be attached to the cylinder in spaces between the rules.

The full objects and advantages of my invention will appear in connection with the detailed description thereof, and the novel features of my inventive idea will be particularly pointed out in the claims.

In the accompanying drawings, which illustrate the application of my invention in one form,—

Fig. 1 is a view in vertical section showing my improved printing, cutting and creasing cylinder and the parts which cooperate directly therewith. Fig. 2 is an enlarged sectional view showing a portion of the improved cylinder and a portion of the plate cylinder which cooperates therewith. Fig. 3 is a fragmentary cross sectional view of the improved cylinder. Fig. 4 is a plan view showing a development of the improved cylinder. Fig. 5 is a plan view showing the shape of the blanks after the paper has passed the improved cylinder.

Referring to the construction shown in the drawings, the numeral 10 designates an arcuate support similar to that disclosed in the application above referred to and which may be employed to support a number of units each of which includes a plate cylinder 12, and associated inking mechanism 14 of any suitable construction. It will be understood that when a number of printing and inking units are employed, each of them may be supplied with ink of different color to provide for multi-color printing, and these various inking units are mountable around and on the arch-member 10, and the plate cylinder of each inking unit will come into contact with a printing cylinder 16. The plate cylinders, such as designated by the character 12, engage with the improved cylinder 16, which constitutes the essential feature of my present invention, and this cylinder engages a compression cylinder 18 located opposite the plate cylinder. The paper P which is operated upon is fed between the cylinder 16 and the cylinder 18, the latter constituting in effect a compression cylinder. The cylinder 16 includes a core member 20 on which a cylindrical shell 22 is removably held by a ring 24 secured to one side of the core by screw bolts 26, as shown in Fig. 3. A plurality of curved plates 28 are secured around the shell 22 by screw bolts 30, as best shown in Fig. 2. In the embodiment shown, the margins of the plates 28 are so shaped and spaced from each other as to form dovetailed gaps for holding cutting rules 32 and creasing rules 34. While both cutting and creasing rules are shown, it will be understood that if desired only cutting rules may be employed on the cylinder 16. One manner in which both forms of rules may be arranged is shown in Fig. 4, which is a development of the cylinder 16 and upon which cylinder there are circumferentially arranged cutters 36 for trimming the margins of the paper and for cutting the paper longitudinally when more than one blank is produced transversely of the machine. The blanks when operated upon by the cutting and creasing rules shown in Fig. 4 have the shape shown in Fig. 5 in which the full lines 38 indicate the outlines of the blank and the dotted lines 40 indicate crease lines. In order to employ the cylinder 16 for printing directly upon the paper, sheet rubber or other flexible material 42 is secured to the outside surface of the plates 28. This printing means may be secured or attached to the plates in any suitable manner, as by vulcanizing, gluing or electro-plating it in position. The printing means will not extend over the cutting and creasing rules, nor is it necessary to supply it except at the places which are to be imprinted from the plate cylinders. In order to prevent damage to the plate cylinders from the rules, the surface of the plate cylinders is provided with grooves 44 for receiving the outer edges of the rules, and the surfaces of the compression cylinder 18 is provided with similar grooves 46.

The operation and advantages of my invention will now be obvious. By providing the combined printing, cutting and creasing

cylinder, the size of the machine is greatly reduced and the operation simplified. Since the shell which carries the printing means and the rules is removably attached to the core of the cylinder, any one shell may be readily removed and quickly replaced by other shells constructed to produce printed material of various shapes and sizes.

I claim:

1. A cylinder for printing presses comprising a core member, a cylindrical shell member, means for removably holding said shell member around said core member, a plurality of curved plates secured around said shell with the margins of said plates separated from each other by dovetail gaps, cutting rules triangular in cross section held in said dovetail gaps by said margins, and printing blanket material interposed in spaces between said rules.

2. A cylinder for printing presses comprising a core member, a cylindrical shell member, means for removably holding said shell member around said core member, a plurality of curved plates secured around said shell with the margins of said plates separated from each other by dovetail gaps, cutting and creasing rules triangular in cross section held in said dovetail gaps by said margins, and printing blanket material interposed in spaces between said rules.

3. A cylinder for printing presses comprising a cylindrical member, a plurality of curved plates secured around said cylindrical member with the margins of the plates separated from each other by dovetail gaps, cutting rules triangular in cross section held in said dovetail gaps by said margins, and printing blanket material interposed in spaces between said rules.

4. A cylinder for printing presses comprising a cylindrical member, a plurality of curved plates secured around said cylindrical member with the margins of the plates separated from each other by dovetail gaps, cutting and creasing rules triangular in cross section held in said dovetail gaps by said margins, and printing blanket material interposed in spaces between said rules.

In testimony whereof I hereunto affix my signature.

FRANK W. ADSIT