Jan. 20, 1931. W. H. BANZETT 1,789,292

PRINTING PRESS CYLINDER

Filed April 5, 1928

Fig. 3.

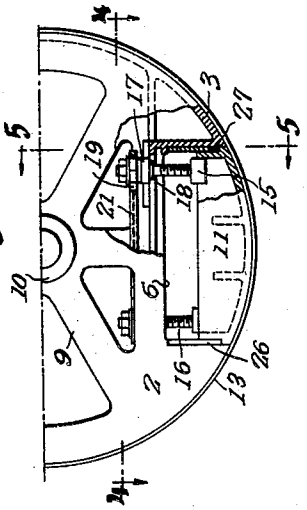


Fig. 2.

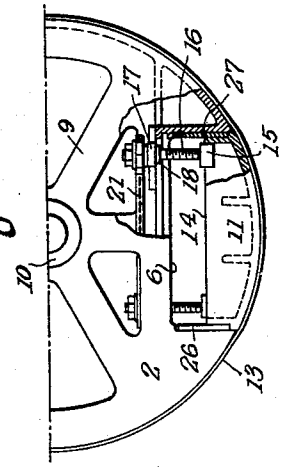


Fig. 1.

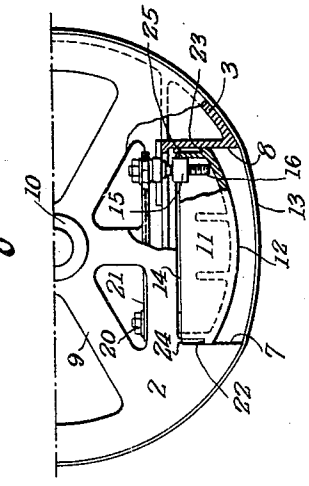


Fig. 5.

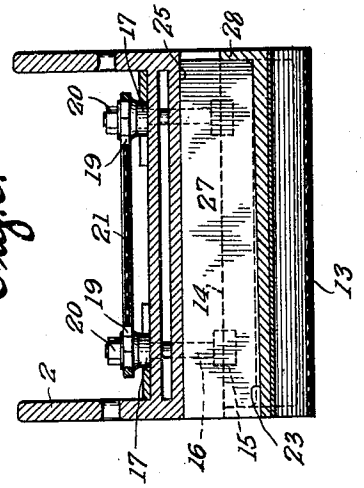
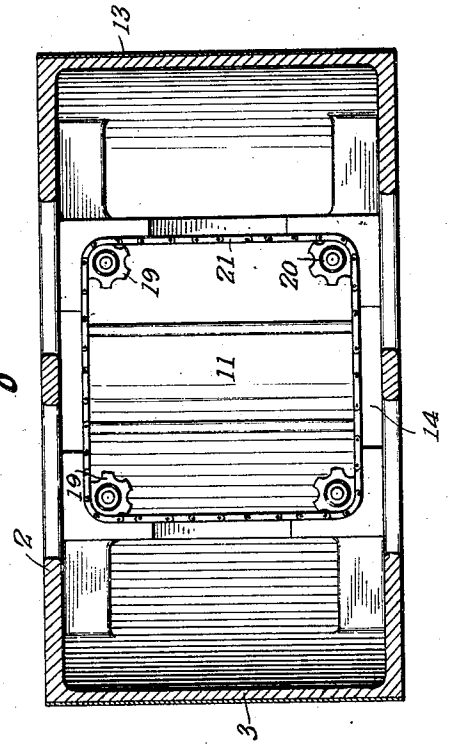


Fig. 4.



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Patented Jan. 20, 1931

1,789,292

UNITED STATES PATENT OFFICE

WILLIAM H. BANZETT, OF BERGENFIELD, NEW JERSEY, ASSIGNOR TO AMERICAN LITHOGRAPHIC COMPANY, INC., OF NEW YORK, N. Y., A CORPORATION OF NEW YORK

PRINTING-PRESS CYLINDER

Application filed April 5, 1928. Serial No. 267,596.

This invention relates to printing press cylinders, particularly such as are adapted for carrying a yieldable blanket and has for its object to provide a cylinder of the class specified on which an endless blanket may be assembled readily and accurately in position.

To these ends my improvements comprise features illustrated in their preferred embodiment in the drawing accompanying this specification, wherein

Figure 1 is an end elevation, partly in section, of half of a printing press cylinder embodying my improvements. Figs. 2 and 3 are similar views showing successive steps in the operation of assembling a blanket on the cylinder. Fig. 4 is a section on line 4—4 of Fig. 3 and Fig. 5 is a section on line 5—5 of Fig. 3.

The scale of Figs. 1, 2 and 3 is the same. The scale of Figs. 4 and 5 is the same but about one and one-half times larger than that of the earlier figures.

My improved device is directed to a solution of that well known problem in the art, to wit: the suitable assembly of a yieldable blanket on the face of a rigid cylinder and the bringing of that blanket into taut condition snugly against the periphery of the cylinder. Numerous arrangements more or less successful have been devised to this end, and in the particular class to which the present improvements pertain, several types of cylinders having portions of their peripheries retractable to permit the assembly of an endless blanket therearound are known.

In the present device means are provided not only to move a peripheral portion of the cylinder in and out, but also to locate that peripheral portion in its outer position in conformity with and in completion of the circumferential continuity of the cylinder. Also abutment means are provided for said peripheral portion, when in its outer position, so that said portion is sustained with security and accuracy in place and forms a highly reliable circumferential portion of the cylinder.

Directing attention now more particularly to the drawing, cylinder 2 may be of the usual hollow construction comprising a cylindrical shell 3 having one or more pockets or cavities as 6, with opposite walls 7, 8 thereof parallel with each other and with the axis of the cylinder. Said shell 3 may be provided with the usual arms 9 in reaching from its ends to axial hubs 10 respectively.

Movable radially within pocket 6 and bearing against opposite walls 7, 8 thereof for guidance is block 11, having a curved outer face 12 which, when said block is in its outer position, Fig. 3, conforms to the peripheral contour of the cylinder and forms an essential portion of the cylinder. When said block 11 is retracted within the cylinder, Fig. 1, endless blanket 13 may be slipped readily in an axial direction over and onto the cylinder, the direct distance between the outer ends of walls 7, 8 being enough less than the length of the curved face of block 12 to afford ample slack in said blanket.

For moving block 11 in and out relatively to the cylinder the following means are provided: On the inner face 14 of block 11, and preferably near the four corners thereof are fixed threaded nuts as 15 with which to engage screws as 16, whose axes are normal to a plane through the axis of the cylinder. These screws are rotatably mounted in bearings as 17 in the body of the cylinder and are restrained against endwise movement by collars as 18 on the one hand, engaging the under faces of said bearings and by sprockets as 19 engaging the upper faces of said bearings and said sprockets are held by nuts as 20, all respectively.

Encircling and engaging said sprockets is endless chain 21, whereby, when one screw is rotated, as by a wrench applied to nut 20, all said screws are rotated in unison and to the same degree. By this means block 11 may be moved in or out between walls 7, 8 in parallelism with the axis of the cylinder.

Block 11 is provided at each side thereof with seats 22, 23 and the opposite side walls 7, 8 of pocket 6 have abutments 24, 25 for the reception between said seats and abutments respectively, of spacing bars or keys 26, 27. For convenience, said keys are preferably slightly tapered and seats 22, 23 of block 11 are angularly disposed to correspond therewith. Also cylinder 2 is provided with stops

as 28 against which said keys are seated when in their inner positions.

It will be obvious to those skilled in the art, that a single key or spacer may be inserted between the inner wall of pocket 6 and the upper face 14 of block 11 with equal effect to the two keys 22, 23 for locating said block in the cylinder.

The operation of my improved device is as follows: Assuming block 11 to be in its retracted position, Fig. 1, endless blanket 13 is slipped onto the cylinder. A wrench is then applied to any one of nuts 20 and all of screws 16 are thereby rotated, through the chain connected sprockets 19, in such direction as to cause the outward movement of block 11. This outward movement of said block is continued until the curved face 12 thereof protrudes very slightly beyond peripheral conformity with the cylinder. This separates seat 22 and abutment 24 on the one side and seat 23 and abutment 25 on the other side suffiiently to permit the free introduction of keys 26, 27 between the respective seats and abutments. These keys are pushed in until they abut against stops 28 respectively. Then screws 16 are rotated individually in reverse direction, sufficiently to return block 11 to a position where its curved face 12 conforms with the periphery of the cylinder. At the same time keys 26, 27 are tightly gripped between the respective seats and abutments thus serving to locate said block accurately.

If desired or necessary, before screws 16 are rotated individually in reverse direction, chain 21 may be removed from sprockets 19 to afford freedom of action to said screws. In some cases, if chain 21 is slack, said screws may be operated a sufficient amount individually without removing said chain.

For removing the endless blanket from the cylinder the above described operation is reversed, the keys being first freed in their seats, then withdrawn, and the block 11 retracted within the cylinder.

I claim:

1. In a device of the character described the combination of a cylinder, a movable block therein, said block having a curved face, which in the outer position of said block conforms to the peripheral contour of said cylinder, means for guiding said block in a radial path, means for moving said block in parallelism with the axis of said cylinder, and a key insertable between said block and said cylinder for locating said block in operative position in said cylinder.

2. In a device of the character described the combination of a cylinder, a movable block therein, said block having a curved face, which in the outer position of said block conforms to the peripheral contour of said cylinder, means for guiding said block in a radial path, means for moving said block in parallelism with the axis of said cylinder, opposite seats on said block and opposite abutments on said cylinder and a key insertable between each seat and its respective abutment for locating said block in operative position in said cylinder.

3. In a device of the character described the combination of a cylinder, a movable block therein, said block having a curved face, which in the outer position of said block conforms to the peripheral contour of said cylinder, means for guiding said block in a radial path, a key insertable between said block and said cylinder for locating said block in operative position in said cylinder, means for moving said block including a plurality of screws mounted for rotation in said cylinder and restrained against endwise movement therein, each of said screws having a sprocket fixed thereon and an endless chain connecting said sprockets whereby said screws may be rotated in unison.

In witness whereof, I hereby affix my signature this 3rd day of April, 1928.

WILLIAM H. BANZETT.