

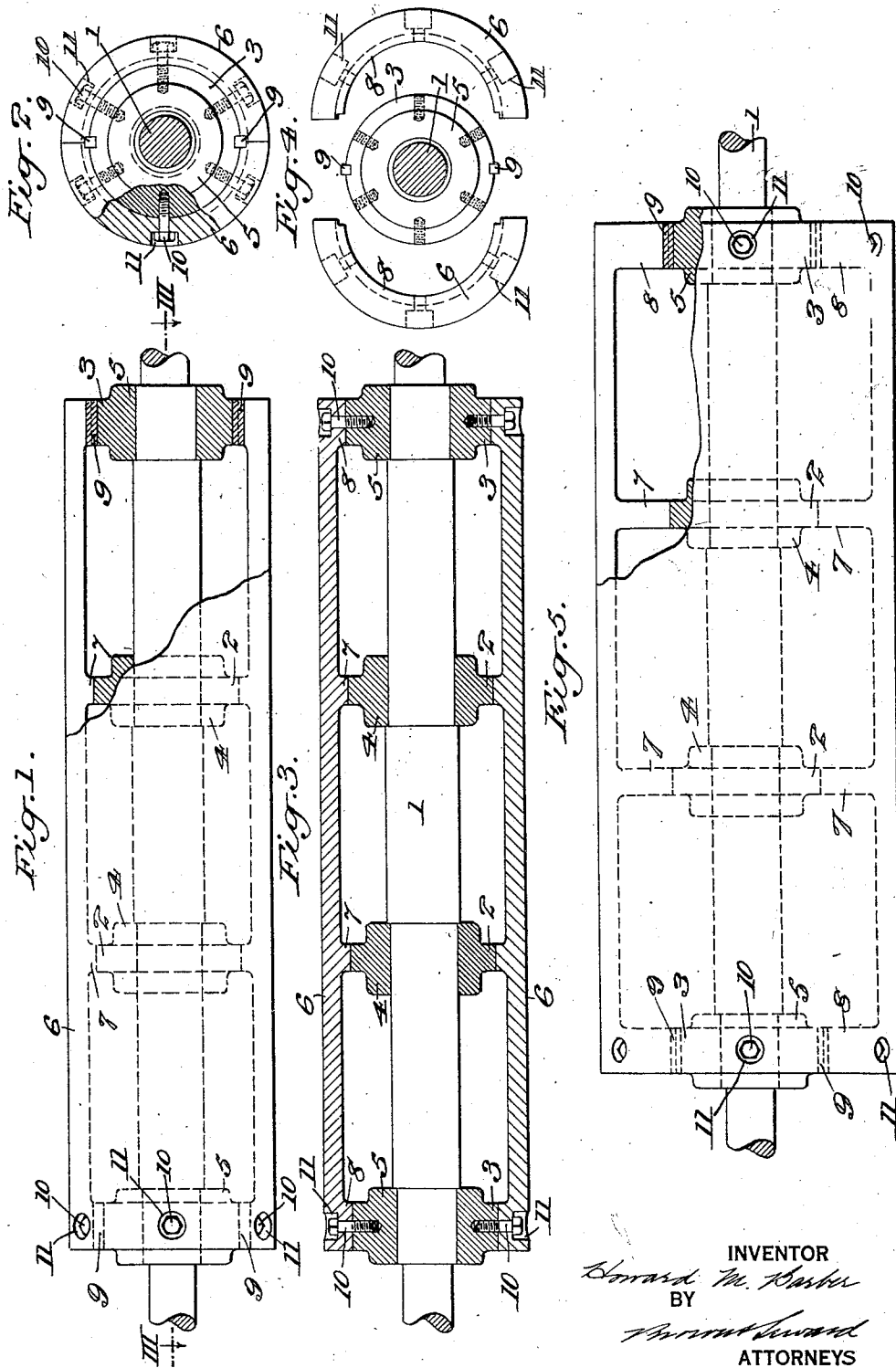
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PLATE CYLINDER FOR PRINTING PRESSES

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UNITED STATES PATENT OFFICE

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PLATE CYLINDER FOR PRINTING PRESSES

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In printing presses the usefulness of the press is greatly enhanced by a construction in which a plate cylinder of one diameter may be substituted for a plate cylinder of another diameter. This operation is expensive because of the time and labor involved in the removal and replacement of the cylinders and the necessary readjustment and realignment thereof especially in multi-color presses where a plurality of plate cylinders are employed. This operation is also expensive because of the necessity of keeping on hand a considerable stock of complete plate cylinders of different diameters.

The object of my invention is to provide means whereby the diameter of the plate cylinder may be quickly and easily changed by the use of a common shaft member of a fixed diameter and a shell member of a predetermined diameter removably secured thereto and especially a plurality of shell members of different diameters, a selected one of which may be removably secured to the common shaft member, thereby eliminating the necessity of carrying a stock of complete plate cylinders of different diameters on hand and the incidental expense as well as the loss of time and labor due to the necessary replacement, readjustment and realignment of the cylinders.

My invention more particularly includes a shaft member having lateral flanges located at intervals along the same and a removable shell member of a predetermined diameter having internal annular ribs coinciding with the shaft member flanges, means being provided for securing the shell member to the shaft member, said shell member being preferably divided longitudinally to facilitate its removal from the shaft member.

A practical embodiment of my invention is represented in the accompanying drawings, in which:

Fig. 1 represents in side elevation, partly in section, a plate cylinder having a shell member of small diameter removably secured to the shaft member.

Fig. 2 represents an end view of the same.

Fig. 3 represents a section taken in the

plane of the line III—III of Fig. 1, looking in the direction of the arrows.

Fig. 4 represents an end view with the two sections of the longitudinally divided shell member separated from each other and from the shaft member.

Fig. 5 represents in side elevation, partly in section, a plate section having a shell member of larger diameter removably secured to the shaft member.

The shaft member of the plate cylinder is shown as comprising the shaft 1 and a plurality of lateral flanges located at intervals along the same. In the present instance there are two inner flanges 2 and two outer flanges 3 illustrated, the said flanges being carried by sleeves 4, 4 and 5, 5 respectively, which sleeves embrace and are permanently united to the shaft 1 in any suitable manner.

The shell member of the plate cylinder may be made of any desired diameter and a stock of these shell members of different diameters may be carried so that a shell member of a predetermined diameter may be removably secured to the shaft member. In the present instance I have shown shell members of two diameters. The smaller shell member is shown as divided longitudinally into two half sections 6, 6 and as provided with a plurality of short internal annular ribs arranged to coincide with the flanges of the shaft member, the two inner ribs being denoted by 7, 7 and the two outer ribs by 8, 8. Keys 9, 9 serve to lock the outer flanges 5, 5 to outer ribs 8, 8 and an annular series of radially disposed bolts 10 are provided for securing the shell member to the shaft member, which bolts are located at the opposite ends of the two members.

When a shell member of a different diameter as, for instance, a larger diameter than that represented in Fig. 5 is employed, the inner and outer annular ribs 7, 7 and 8, 8 are made of a greater length so that their inner edges will correspond with the outer edges of the inner and outer flanges 2, 2 and 3, 3 of the common shaft member. To secure this shell member of greater diameter to the shaft member, the bolts 10 may be made longer or the countersunk recesses 11 in the opposite

ends of the shell member may be made deeper, as desired.

From the above description it will be seen that the diameter of a plate cylinder may be readily changed by the removal of one
5 shell member and the attachment of a shell member of another diameter, thereby obviating the necessity of removing the shaft member. It will also be obvious that these shell
10 members of different diameters may be readily stacked in compact form and may be made at a considerable less cost than a complete cylinder.

It is evident that various changes may be
15 resorted to in the construction, form and arrangement of the several parts without departing from the spirit and scope of my invention, and hence I do not intend to limit myself to the particular embodiment herein
20 shown and described, but

What I claim is:—

1. A plate cylinder comprising a shaft member having circumferential flanges located at intervals along the same and a shell
25 member having internal annular ribs coinciding with said flanges and means for removably securing the shell member to the shaft member.

2. A plate cylinder comprising a shaft
30 member having circumferential flanges located at intervals along the same and a longitudinally divided shell member having internal annular ribs coinciding with said flanges and means for removably securing
35 the shell member to the shaft member.

3. A shaft member having circumferential flanges located at intervals along the same and interchangeable shell members of different diameters having internal annular ribs
40 of different lengths adapted to be fitted to said flanges and means for removably securing a selected shell member to the shaft member to produce a plate cylinder of a predetermined diameter.

4. A shaft member having circumferential
45 flanges located at intervals along the same and interchangeable longitudinally divided shell members of different diameters having internal annular ribs of different lengths
50 adapted to be fitted to said flanges and means for removably securing a selected shell member to the shaft member to produce a plate cylinder of a predetermined diameter.

In testimony, that I claim the foregoing
55 as my invention, I have signed my name this 17th day of July, A. D. 1928.

HOWARD M. BARBER.