April 25, 1933. H. A. SWANSON 1,905,526

TYPE CARRYING CYLINDER

Filed Oct. 7, 1931

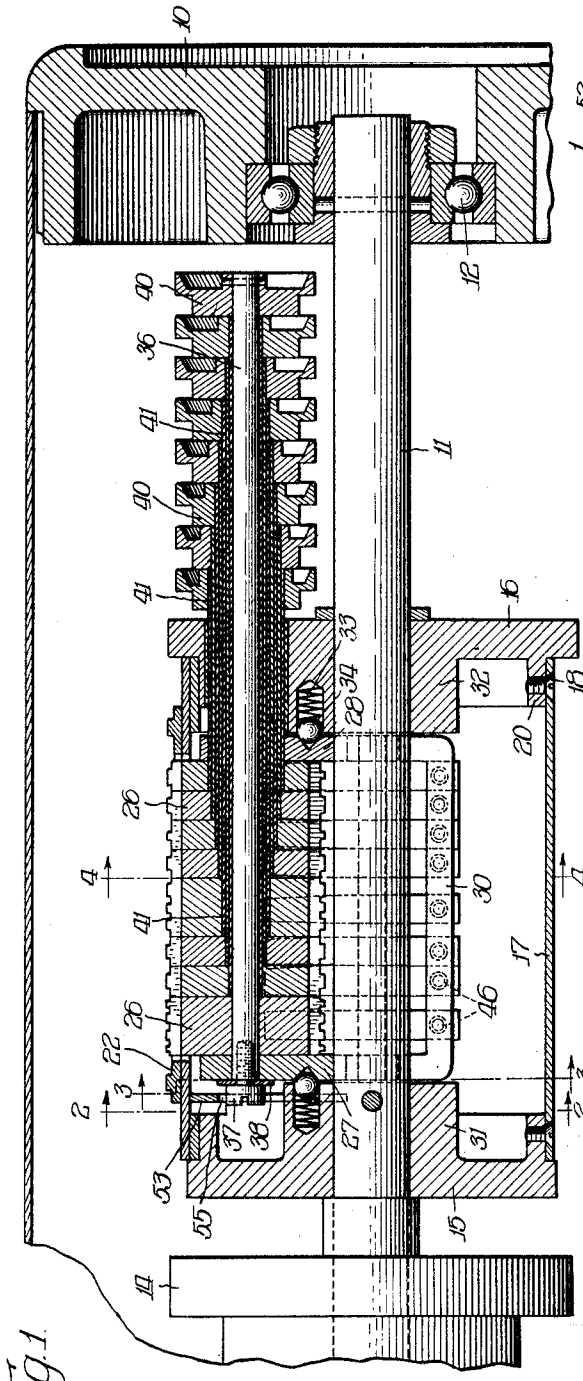


Fig. 1.

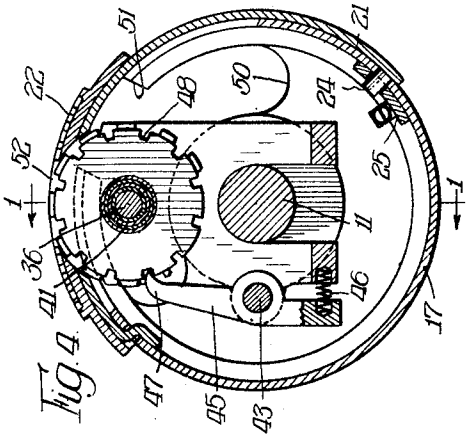


Fig. 4.

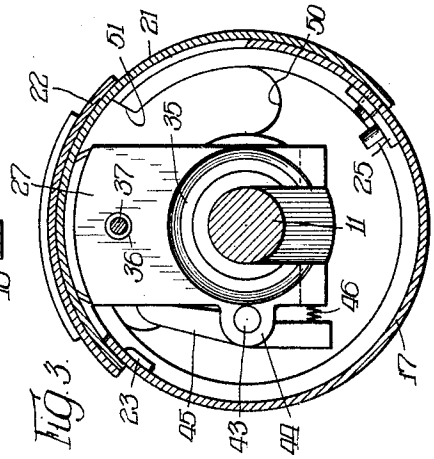


Fig. 3.

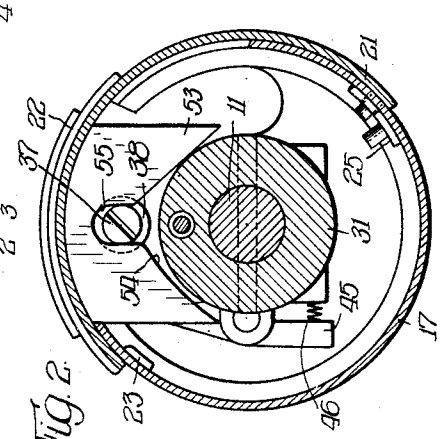


Fig. 2.

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UNITED STATES PATENT OFFICE

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TYPE CARRYING CYLINDER

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The invention relates in general to the art of printing having reference more particularly to type cylinders such as are employed in check signing or endorsing machines, the present device carrying a type form of definite insignia and type members associated with the form for presenting the date, batch number and other variable data.

An object of the invention is to provide an improved construction of cylinder for the purposes described, which will embody means for rotatably mounting a number of type members in operative relation to a type form, the latter being detachably supported on the cylinder.

Another object is to provide a type carrying cylinder with a plurality of circular discs having type characters formed on their peripheries and so mounted in the cylinder as to be rotatable independently of each other to permit any desired type character to be rendered operative.

A further object is to provide a rotating type cylinder with a detachable unit including a yoke member for journalling a number of circular type discs provided with improved means extending exteriorly of the cylinder for adjustably positioning each disc.

A further object is to provide a cylinder and a yoke member, the latter rotatably mounting a plurality of circular type discs with co-operating means whereby the yoke member can be detachably supported within the cylinder.

A still further object is to provide a cylinder for carrying type members with a construction requiring relatively few parts, whereby each member is rotatably mounted in the cylinder, with means extending outwardly of the cylinder permitting their independent adjustment, and which will not interfere with the rotary movements of the cylinder.

With these and various other objects in view, the invention may consist of certain novel features of construction and operation as will be more fully described and particularly pointed out in the specification, drawing and claims appended hereto.

In the drawing which illustrates an embodiment of the device and wherein like reference characters are used to designate like parts—

Figure 1 is a sectional view taken lengthwise, substantially through the center of the cylinder, and showing the same constructed in accordance with the present invention;

Figure 2 is a transverse sectional view taken on line 2—2 of Figure 1;

Figure 3 is a transverse sectional view taken on line 3—3 of Figure 1, and

Figure 4 is a transverse sectional view taken on line 4—4 of Figure 1.

The present construction of type cylinder is shown as rotatably mounted within side frames 10, only one of which is shown, by means of the shaft 11 supporting the cylinder and being journaled at its ends in bearings 12 provided in the respective side members. By means of suitable mechanism 14 the shaft 11 is rotated either continuously or intermittently, but since the particular mechanism employed is not concerned with the present invention it is not shown and will not be described in detail. The cylinder comprises two end members 15 and 16, respectively, non-rotatably mounted on shaft 11 and connected in spaced relation by means of the arcuate plate 17 secured by screws 18 to flanges 20 provided on the inner wall of the end members, respectively. The plate 17 forms a portion of the drum of the cylinder, the remaining portion being provided by a type form 21 including an arcuate plate supporting the die 22, the type characters formed thereon providing the desired insignia to be carried by the type cylinder. The plate 21 of the type form has a depending lip 23 for insertion in an opening formed in the arcuate plate 17 and an inwardly projecting stud 24 located opposite the lip for insertion in an aperture formed in the arcuate plate 17, and which is adapted to be engaged by the locking lever 25 for locking the type form to the cylinder, but which permits the same to be readily removed for inspection and cleaning of the type discs also carried by the cylinder and which will now be described.

The circular type discs 26 are rotatably mounted in a yoke member formed of arms

27 and 28 connected by integral bars 30, the member being adapted to straddle the shaft 11 between the hubs 31 and 32 formed on the end members of the cylinder. In order that the yoke can be detachably supported within the cylinder the hubs 31 and 32 are recessed for receiving a coil spring 33 and a hardened steel ball 34, the latter being thus resiliently urged into the groove 35 formed on the arms 27 and 28 concentrically with the opening therein which receives the shaft 11. This construction enables the yoke member to be detachably held within the cylinder while permitting rotation of the same on the shaft 11 so that the type characters on the discs 26 can be correctly positioned with relation to the type form. Extending through the arms 27 and 28 is a rod 36 having its end adjacent arm 27 recessed for receiving the threaded screw 37, the head of which projects outwardly from the surface of arm 27, being spaced therefrom by the washer 38. On the inside of arm 27 is non-rotatably secured to the shaft 36 one of the circular type discs 26 and in order to permit rotation of the disc by the operator the right hand end of the rod is provided with a knurled wheel 40. The construction provides a number of circular type discs similar to the one secured to rod 36, all of the discs being confined within the spaced arms 27 and 28 and in order to permit actuation of each disc without disturbing the setting of its adjacent disc there is provided a plurality of tubes 41, either rotatably mounted on rod 36 or on the tube extending within the same and having fixedly secured to its respective ends one of the type discs 26 and a knurled operating wheel 40. Rotation by the operator of one of the wheels 40 will thus result in corresponding rotation of a particular type disc and this rotation will be independent of the remaining discs adjacent thereto. Although the present structure provides a tube 41 for an individual type disc it is to be understood that the invention is not limited thereto but also comprehends the arrangement where the number of operating wheels are reduced and where several discs are thus actuated through the actuation of one wheel.

Rotatably mounted on shaft 43 journaled in the lugs 44 formed on the yoke member are a plurality of levers 45 engaged at their lower end by the coil spring 46 which functions to resiliently urge the upper pointed end 47 formed on the levers into notches 48 formed on the periphery of each of the type discs 26 and functioning to space the type characters provided thereon. A lever 45 is mounted on shaft 43 for each of the respective type discs 26 rotatably mounted in the yoke member. The levers permit rotation of the type discs in either direction, functioning, however, to releasably lock the disc in adjusted position. Such construction is necessary since the type cylinder is adapted to be rotated in order to perform a printing operation and the vibration to which the yoke is correspondingly subjected would otherwise tend to rotate the type discs, inadvertently varying their adjusted position and altering the data indicated by the plurality of discs.

In order to permit the positioning of the yoke member carrying the discs and their actuating means on the cylinder an arcuate opening 50 is provided on the member 16 communicating with a passageway 51 formed in the flange 20 and it is to be noted that the arcuate plate 17 and the type form 21 are positioned on the cylinder in definite relation to the passage and opening. With the type form removed it will be seen that the yoke member can be located on shaft 11 within the cylinder with the operating rod and concentric tubes carried thereby being inserted through passage 51, and since opening 50 is formed arcuate the yoke member can be positioned as desired with relation to the type form. As shown in Figure 4 the form is provided with an aperture 52 and when the parts are in correct assembled relation the type characters provided on the discs are adapted to protrude through the aperture, having a definite alignment with each other and with the insignia on the die 22.

For automatically locating the yoke member in correct position with form 22 the present construction provides a depending flange 53, Figure 2, suitably secured as by welding to the inner surface of the form and having a V-shaped notch 54 formed on its lower edge, terminating at the apex in a slot 55. As the type form is located on the cylinder the flange will engage the headed screw 37 threaded to the rod 36 and since these parts are secured to the yoke member the latter is positioned on the shaft to allow the screw to locate within the slot 55. When the above procedure has been accomplished the type form will drop into place on the cylinder and when stud 24 enters its opening the latch 25 will releasably lock the form thereon.

From the above it will be seen that the present device although of relatively simple construction provides a type cylinder for performing printing operations with a plurality of rotatable discs carrying type characters on their peripheries and which are adjustable independently of each other to indicate as a whole the date, lot or serial number and other various data required to be printed in association with other definite insignia carried by the type form. The journaling of the discs within the cylinder is accomplished by means of the detachable unit including the yoke member and by the provision of a novel aligning flange on the type form the yoke is properly positioned with relation to the aperture in the form so that

merely assembling the parts insures accurate association of the same.

It will be understood that I do not wish to be limited by the exact embodiment of the device shown, which is merely by way of illustration and not limitation, as various and other forms of the device will of course be apparent to those skilled in the art without departing from the spirit of the invention or the scope of the claims.

I claim:

1. In a type cylinder of the character described, in combination, a cylinder including end members, an arcuate plate forming a portion of the drum of the cylinder and being secured to the members, a type form secured to the respective ends of the plate, and a yoke member insertable in the cylinder through the space formed by the drum plate and positioning for association with the type form a plurality of type discs.

2. In a type cylinder of the character described, in combination, a shaft mounting a cylinder including end members connected in spaced relation by an arcuate plate forming the drum of the cylinder, a yoke member positioned in the cylinder and journaling a plurality of discs, and cooperating means on the yoke and end members for detachably securing the yoke in the cylinder.

3. In a type cylinder of the character described, in combination, a shaft mounting a cylinder including end members connected in spaced relation by an arcuate plate forming the drum of the cylinder, a yoke member supported for limited rotary movement upon said shaft within the cylinder, and cooperating means on the yoke and end members for detachably securing the yoke in the cylinder, said means permitting movement of the yoke on its supporting shaft.

4. In a type cylinder of the character described, in combination, a shaft mounting a cylinder including end members connected in spaced relation by an arcuate plate forming the drum of the cylinder, a yoke member journaling a plurality of type discs positioned within the cylinder and straddling the shaft, means for detachably securing the yoke in the cylinder, and a type form for said plate having association with the type discs.

5. In a type cylinder of the character described, in combination, a shaft, a cylinder mounted on said shaft and including end members connected in spaced relation by an arcuate plate forming a portion of the drum of the cylinder, and a yoke member journaling a number of type discs, said member being supported on the shaft within the cylinder and being rotatable on the shaft, whereby movement of the discs bodily within the opening formed by the arcuate plate is possible.

6. In a type cylinder of the character described, in combination, a shaft, a cylinder mounted on said shaft and including end members connected in spaced relation by an arcuate plate forming a portion of the drum of the cylinder, and a yoke member journaling a number of type discs, said member being supported on the shaft within the cylinder and being rotatable on the shaft, whereby said discs are bodily movable to accommodate various type forms which serve to complete the drum of the cylinder.

7. In a type cylinder of the character described, in combination, a shaft, a cylinder mounted on said shaft and including end members connected in spaced relation by an arcuate plate forming a portion of the drum of the cylinder, and a yoke member journaling a number of type discs, said member being supported on the shaft within the cylinder, a type form detachably secured to the arcuate plate and having an opening through which characters on the type disc protrude, and latching means for the discs carried by said yoke.

Signed at Chicago, Illinois, this first day of October, 1931.

HJALMAR A. SWANSON.