July 4, 1939. R. ZIMMERMAN 2,164,852

IMPRINTING SYSTEM FOR PRINTING PRESSES

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Fig. 2.

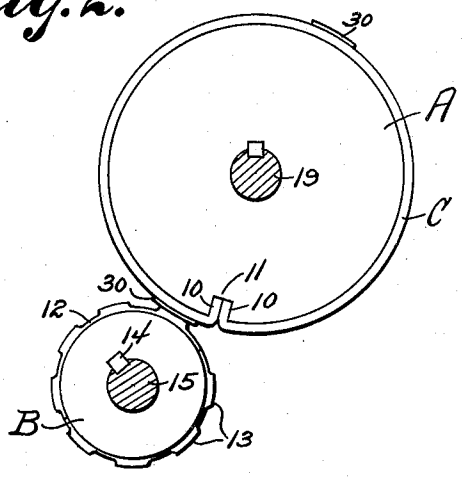


Fig. 3.

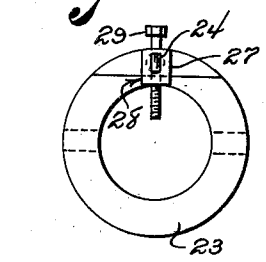
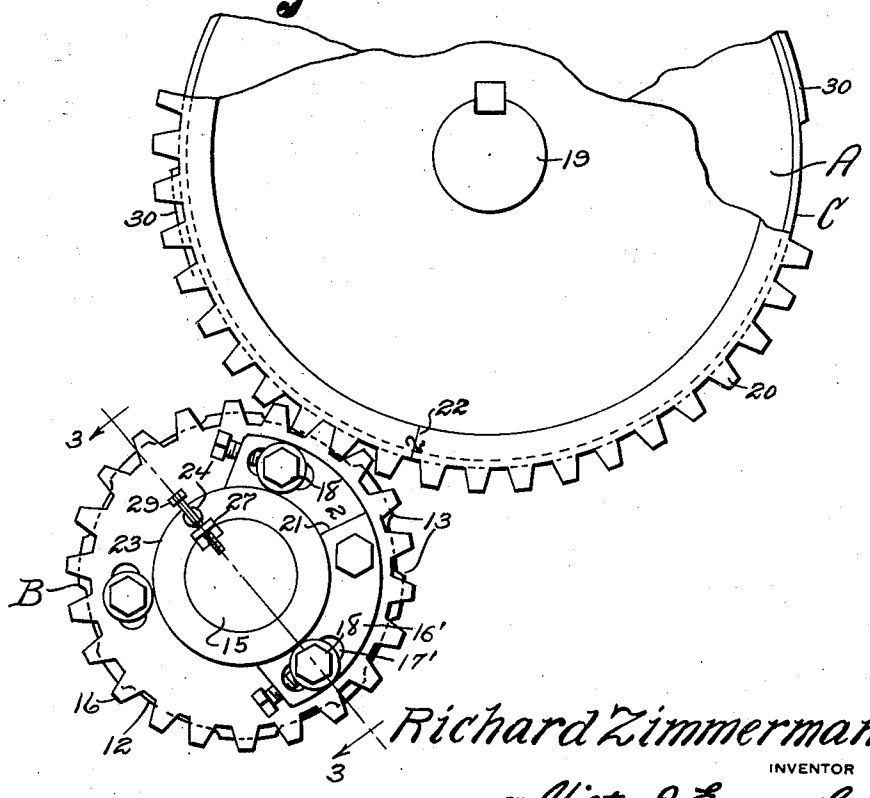


Fig. 1.



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Fig. 3.

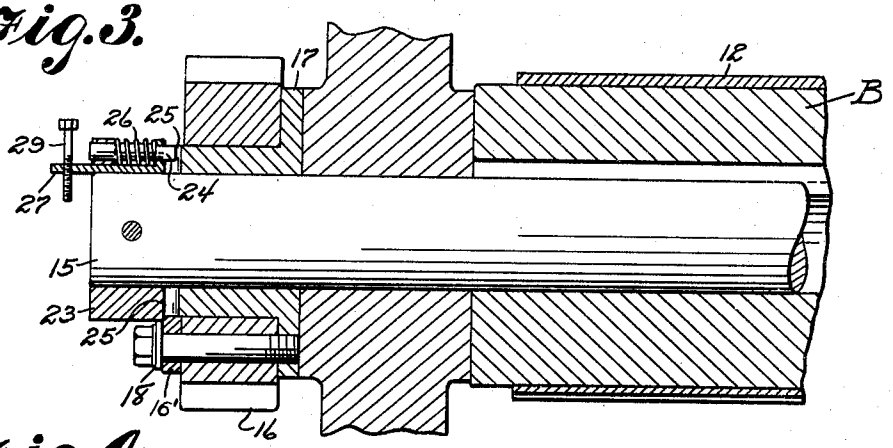


Fig. 4.

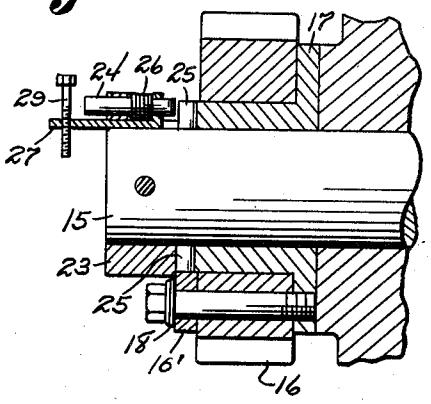


Fig. 5.

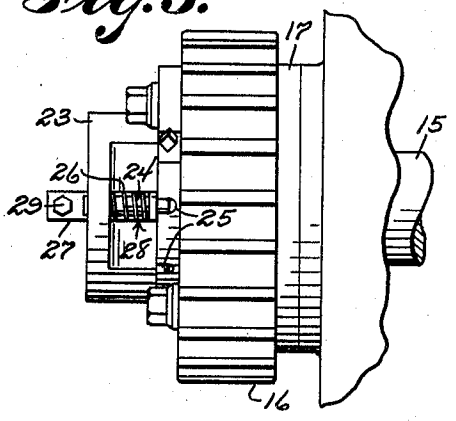


Fig. 6.

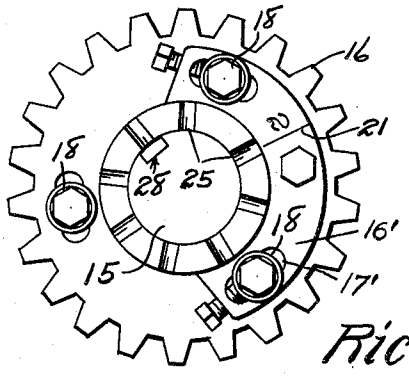
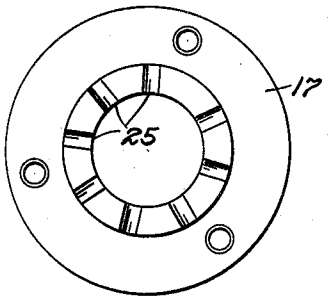


Fig. 7.



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UNITED STATES PATENT OFFICE

2,164,852

IMPRINTING SYSTEM FOR PRINTING PRESSES

Richard Zimmerman, Lawrence, Kans.

Application August 30, 1937, Serial No. 161,676

1 Claim. (Cl. 101—91)

The invention relates to an impression system for printing presses and more more especially to an attachment adapted for use with rotary printing presses for imprinting of names or other print matter simultaneously with the printing of circulars, folders or other print work involved in a single set-up.

The primary object of the invention is the provision of an attachment of this character, wherein the blanket cylinder will be raised while the impression cylinder of the printing press of the rotary type is equipped so that the same can be selectively adjusted whereby a particular imprint will be disposed for register with the rise on the blanket cylinder and in this manner the printing operation in the working of the printing press need not be stalled for the changing of printing matter where it is required that certain groups of a single set-up bear different imprints, as, for example, different names and addresses or different advertising or other matter in association with the single set-up of print matter in that different parties or concerns require the use of a large number of pieces of advertising literature, all exactly the same excepting as to the name of the user or distributor thereof.

Another object of the invention is the provision of an attachment of this character, wherein the plate cylinder of a rotary printing press can be turned with relation to the blanket cylinder without necessitating an interruption in the operation of the printing matter so that changed imprints can be made in a single set-up of print matter and thus obviating interruption in the printing operation and eliminating the necessity of stopping the machine for a change of imprint in the single set-up and thereby enabling the completion under the single set-up of print matter of print jobs bearing different imprints.

A further object of the invention is the provision of an attachment of this character, wherein a single set-up of print matter can be executed with dispatch and variable imprints included therein without necessity of stopping the printing machine for this purpose and at the same time avoiding excessive labor on the part of an operator of such press in that a shift for variable imprints can be had in the least possible period of time and in a ready and easy manner.

A still further object of the invention is the provision of an attachment of this character, which is simple in its construction, thoroughly reliable and effective in operation, requiring minimum attention, enabling quick change of imprint in a single set-up of print matter, and inexpensive to manufacture and install.

With these and other objects in view, the invention consists in the features of construction, combination and arrangement of parts as will be hereinafter more fully described, illustrated in the accompanying drawings, which disclose the preferred embodiment of the invention and pointed out in the claim hereunto appended.

In the accompanying drawings:

Figure 1 is a fragmentary end elevation of the blanket and plate cylinders of a printing press showing the attachment constructed in accordance with the invention applied.

Figure 2 is a view similar to Figure 1 showing the gearing removed and partly in section.

Figure 3 is a fragmentary sectional view on the line 3—3 of Figure 2 looking in the direction of the arrows.

Figure 4 is a view similar to Figure 3 showing the attachment in one adjusted position for a change of imprint in the printing operation of the printing machine.

Figure 5 is a fragmentary top plan view.

Figure 6 is an elevation of the type cylinder gear.

Figure 7 is an elevation of the gear hub for the plate cylinder.

Figure 8 is an elevation of the latch collar of the attachment.

Similar reference characters indicate corresponding parts throughout the several views in the drawings.

Referring to the drawings in detail, A designates generally a blanket cylinder and B a plate cylinder, respectively, as built into a rotary printing machine or press. This blanket cylinder A, as is usual, supports its blanket C, the ends 10 of such blanket being fitted in the blanket slot 11 provided in said cylinder being conventional. The plate cylinder B carries the impression plate 12 which in this instant has the separated variable imprint impression areas 13 and such cylinder is splined or keyed at 14 to a turning spindle or axle 15 suitably journaled in the printing machine or press. The spindle or axle 15 carries a gear 16 which is adjustable on a gear hub 17 loose upon the spindle or axle 15, the adjustment being had at 18 while the spindle or axle 19 of the blanket cylinder A has fixed thereto a gear 20 meshing with and companion to the gear 16. These gears 16 and 20 at their exposed sides or faces carry indicators 21 and 22, respectively, as usual for the accurate setting of the cylinders A and B with respect to each

other. The indicator 21 is in the form of a segment 16' having slots 17', these receiving a pair of fasteners 18, so that the said segment can be adjusted relative to the gear 16.

The spindle or axle 15 outwardly of the gear hub 17 has pinned or otherwise made secure thereto a latching collar 23 having peripherally therein a sliding lock bolt 24 for engagement selectively in keeper notches 25 provided circumferentially in the outer end edge of the gear hub 17. This bolt 24 is urged into locking position by a coiled spring 26 about the same while operative upon the said bolt 24 to throw it to releasing position against the resistance of the spring 26 is an actuator slide 27 fitting a guideway 28 in the collar 23, the outer end of the slide 27 being fitted with a readily accessible finger piece or handle 29 for manual manipulation. The notches 25 in the hub 17 are in alignment with the imprint areas 13 of the impression plate 12 fitted upon the plate cylinder B and of a number corresponding to the number of imprint areas present upon the impression plate. Thus a selected imprint area 13 can be set for imprint activity with the blanket cylinder A by manually releasing the hub 17 with the gear 16 thereon from locked engagement by the bolt 24 and thus turning the said cylinder B for the desired set of the selected imprint area 13 so that in this manner these areas 13 bearing variable imprint matter can be selectively brought into action and in this way a single print set-up in the press can be altered with respect to varying imprint impressions of print matter.

In connection with the variable imprint activity of the press in the use of the attachment before described, it is necessary to prepare the blanket cylinder A and in this preparation the regular packing is taken from the said cylinder A and in substitute the blanket C is installed and this blanket is thickened or raised as at 30, the thickness or riser being effected in any manner whether composed of steel, composition material, fabric, rubber, wood or metal, whether attached to the cylinder or to the top, bottom or single blanket or draw sheet on cylinder or by any device for making the blanket cylinder circumference higher at one, two or more places than the remaining area of the cylinder and may be either stationary or movable on said cylinder and the thickness is in accordance with the requirements in particular types of rotary printing presses and this thickened zone 30 effects an imprint strip, being removed from the blanket slot 11 in the cylinder A and enables the imprinting to be done from the plate cylinder B in coaction with a selected imprint area 13 of the plate 12 carried by the said cylinder B. The riser or thickness 30 formed on the cylinder or on the blanket attached to cylinder should be made from two to four ems or picas wider than imprint desired to allow for sufficient printing surface.

Through the use of the attachment hereinbefore described, a single set-up job of print matter within the press can be executed and varying imprints had at the selection of an operator of the press so that the printed matter will have therewith different sets of imprints which is effected in a single operation of the printing machine. The imprints per page can be one or as many as the circumference of the cylinder and size of imprints desired will permit. The blanketing of the cylinder A for varying imprint from the plate cylinder B can be carried forth by an operator of the printing press without stopping the press in its working, being only required to slow down the said operation of the press and the stripping of the blanket cylinder A as to thickness of the imprint strip is left to the judgment of the operator of the machine and congruous with the type of such machine, the width of the strip 30 being greater than the width of the imprint area 13, thus giving assurance that there will be blanket enough to print and for changing from one imprint to another.

In the use of the attachment the printing press should be slowed to a slow speed for only a moment until an operator can actuate the handle 29 for clearing the lock bolt 24 from the notch with which it has been engaged and the momentum of the printing press then automatically throws the bolt 29 into the next notch 25 in the hub 17 thus perfecting the imprint change or shift through the use of said attachment.

What is claimed is:

An attachment for a rotary printing press having a blanket cylinder, a plate cylinder and a formation on said blanket cylinder comprising meshing gears between the said cylinders, a gear hub associated with the plate cylinder and carrying the gear companion thereto, said gear companion to the plate cylinder having arcuate slots uniformly separated from each other, adjusting bolts passed through the slots and engaged with the said hub, indicators on the respective gears for facilitating the accurate setting of the cylinders with respect to each other, a latching collar fixed to an axle of the plate cylinder and having a sliding locking bolt, the said gear hub having keeper notches selectively engaged by said locking bolt, means active upon the bolt for urging the same into locking position, an actuator slide having an adjustable finger piece associated with said collar, and adjustable means forming one of the indicators and engaged by certain of the adjusting bolts for minute adjustment purposes.

RICHARD ZIMMERMAN.