

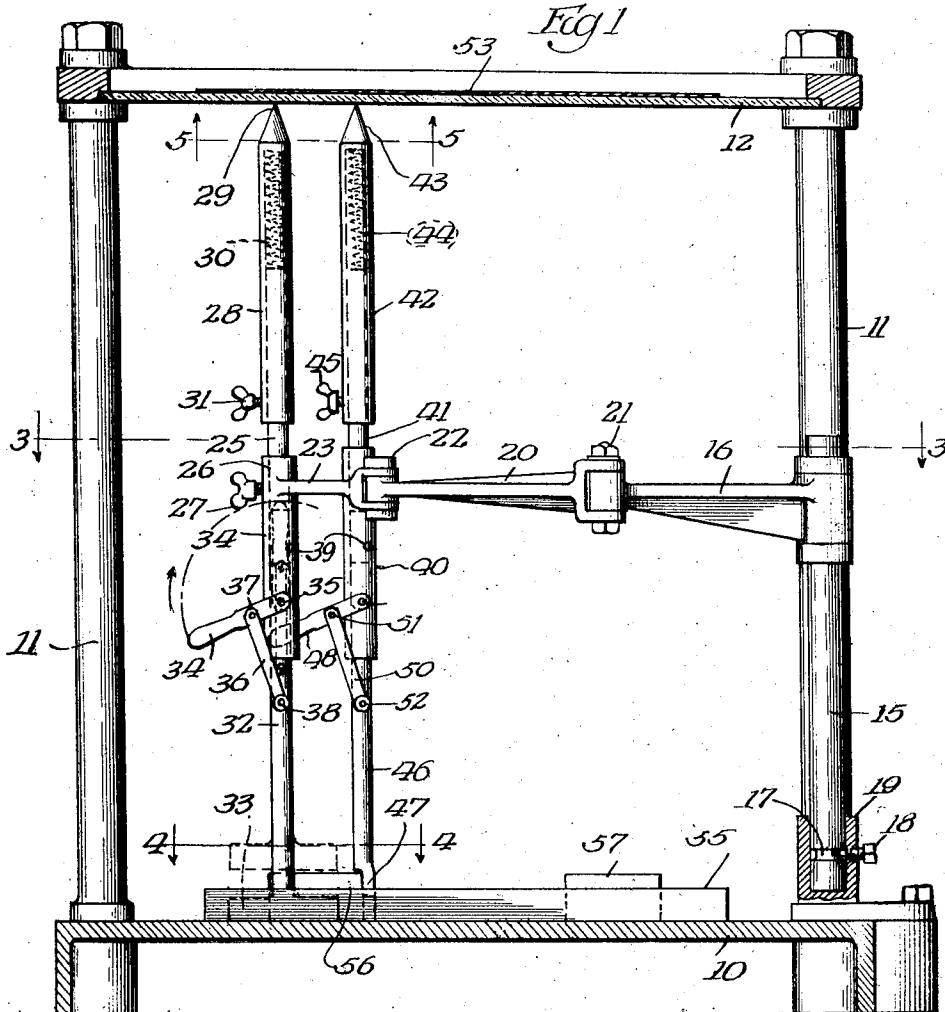
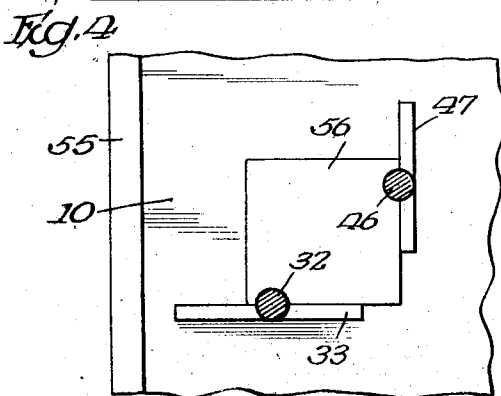
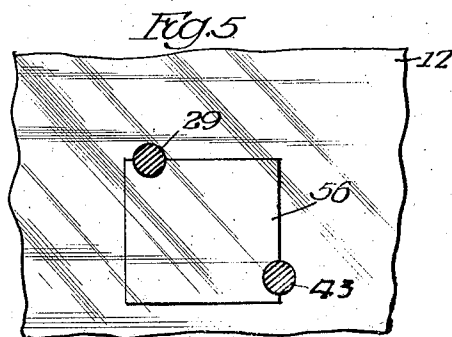
March 20, 1928.

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1,662,830

PRINTER'S REGISTER APPARATUS

Original Filed Dec. 14, 1925 2 Sheets-Sheet 1



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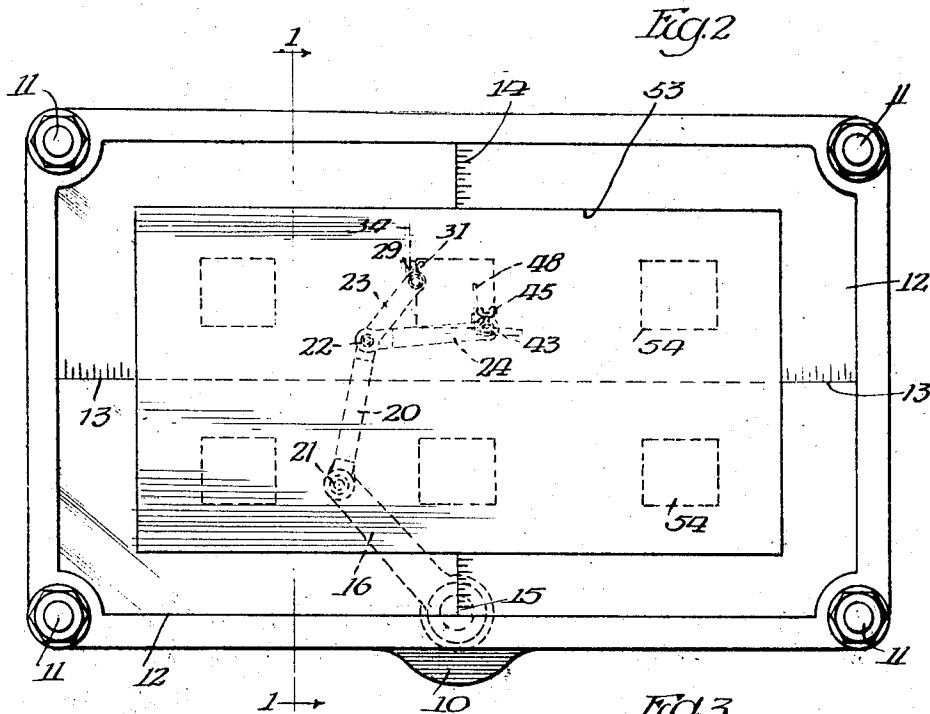
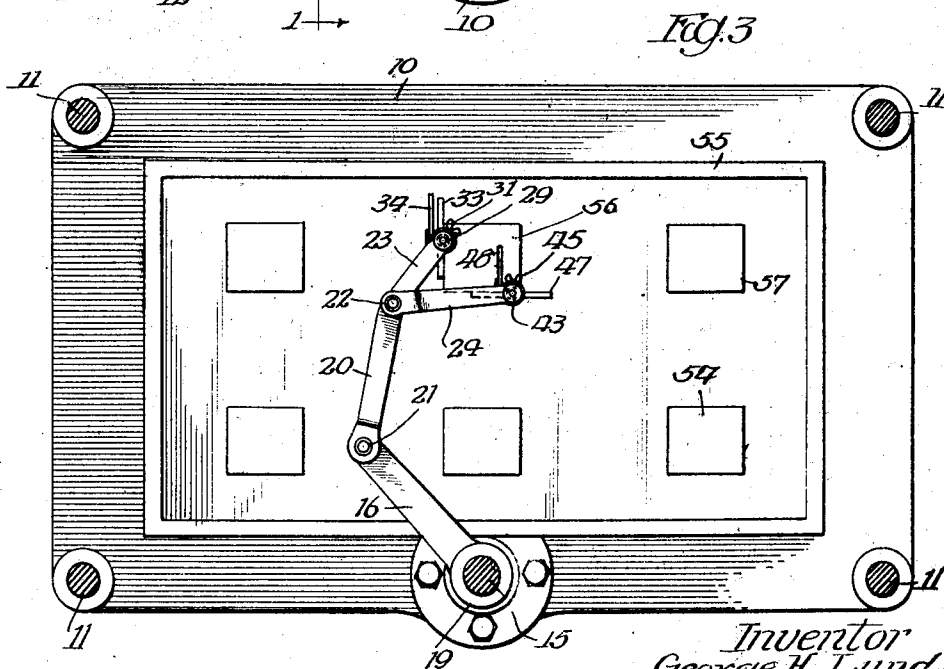
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PRINTER'S REGISTER APPARATUS

Original Filed Dec. 14, 1925 2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE.

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PRINTER'S REGISTER APPARATUS.

Application filed December 14, 1925, Serial No. 75,290. Renewed February 4, 1928.

This invention relates to an improved registering apparatus particularly adapted, though not necessarily limited, for printers for preparing a plurality of forms or plates for multi-color work on a press, so that the plates or type from which an impression is to be taken will, when placed in a press, exactly register with the impression previously taken from other plates or forms in the same press.

A further object is to provide an improved apparatus of this character which will be of a simple and compact arrangement, easily manipulated thereby obviating the necessity of the services of an expert, and which will also be effective and efficient in operation.

To the attainment of these ends and the accomplishment of other new and useful objects as will appear, the invention consists in the features of novelty in substantially the construction, combination and arrangement of the several parts hereinafter more fully described and claimed and shown in the accompanying drawings illustrating this invention and in which;

Figure 1 is a view partly in vertical section, partly in elevation and partly broken away, of an apparatus of this character constructed in accordance with the principles of this invention.

Figure 2 is a top plan view of Fig. 1.

Figure 3 is a view taken on line 3—3 Fig. 1.

Figure 4 is a detail sectional view taken on line 4—4 Fig. 1.

Figure 5 is a sectional view taken on line 5—5 Fig. 1.

Referring more particularly to the drawings the numeral 10 designates a supporting base such as a table or a printer's composing stone, and projecting thereabove are a plurality of uprights 11 for supporting at any desired elevation a transparent plate 12, such as glass. This plate 12 may be held in position in any suitable manner and is preferably of substantially the same area as the support or stone 10.

The transparent plate 12 may be provided with a series of indications or graduations 13 extending lengthwise thereof, and a series of indications or graduations 14 extending transversely thereof for a purpose to be hereinafter described.

Mounted upon a suitable support such as a standard 15, is an arm or bracket 16 which

is adapted to swing about the support, or if desired the support may be provided with a circumferential recess 17 to receive the end of a bolt 18 that projects through the wall of a socket 19 into which the upright 15 is inserted.

This construction not only permits the upright 15 to rotate in the socket, but renders it possible to detach the upright with all of the mechanism connected therewith and transfer the same to the socket of another apparatus.

The arm or bracket 16 is provided with an extension 20 pivotally connected thereto as at 21, and the extension 20 has pivotally connected to its extremity as at 22, two arms 23, 24 which are movable independently with respect to each other and with respect to the extension 20.

Carried by the free end of the arm 23 is an upright 25 which preferably fits into a socket 26 on the arm, and is held by means of a thumb screw 27, to permit of vertical adjustment of the upright with respect to the arm 23, if desired.

Telescoping over the upper end of the upright 25 is an indicator embodying a sleeve 28 which is provided with a pointed extremity 29. Interposed between the extremity of the upright 25 and the closed end of the tubular member or sleeve 28, is a spring 30 which tends normally to move the indicator 28 upwardly with respect to the upright 25, so that the indicator point 29 will have a yielding contact against the lower surface of the transparent plate 12.

The stress of the spring 30 is such that the point 29 will be held against the plate 12 only with sufficient friction as not to impede the movement of the point 29 over the lower face of the plate.

If desired, a set screw 31 preferably in the form of a thumb nut, may be provided for maintaining the indicator 28 in a fixed position with respect to the upright 25.

The socket 26 preferably terminates at a point a considerable distance above the support 10, and telescoped into the lower end of the socket is another indicator 32 provided with a pointer 33 preferably in the form of an extended base or foot. The indicator 32 is of such a length with respect to the socket 26, that the pointer 33 may be lowered into contact with the support 10 so as to rest thereupon. One of the lateral

faces of the pointer 33 is perpendicular to the axis of upright 25 and this face is in a plane passing through the point 29 of the sleeve 28.

Any suitable means may be provided for raising and lowering the indicator 32 and the pointer 33 above the support 10 so that the foot will not interfere with the operation of the workmen, and for lowering the indicator to cause the pointer 33 to rest upon the support 10.

A suitable and efficient means for accomplishing this result preferably embodies a lever 34 pivotally mounted by one end as at 35 upon the socket 26. A link 36 is pivotally connected by one end as at 37 to the lever 34 and by its other end as at 38 to the indicator 32.

By swinging the lever 34 about its pivot into the dotted line position as shown in Fig. 1, the pointer 33 will be raised and maintained in this elevated position.

A stop device 39 may be provided for limiting the movement of the lever 34.

Carried by the arm 24 in another socket 40 which has secured therein an upright 41 over which a sleeve or indicator 42 telescopes and this indicator is provided with a point 43 to engage the lower face of the plate 12, and the point 43 is preferably yieldingly held in engagement with the support by a spring 44. A set screw 45 may be provided for permanently securing the indicator 42 against adjustment with respect to the upright 41. Telescoping into and projecting below the socket 40 is another indicator 46 provided with a pointer preferable in the form of a base or foot 47, one of the lateral faces of which is perpendicular to the axis of upright 25 and forms a plane passing through the point 43. A lever 48 pivotally connected to the socket 40 is provided for raising and lowering the indicator 46 and pointer 47. A link 50 pivotally connected as at 51 to the lever and as at 52 to the indicator 46 is provided for raising and lowering the latter.

With this improved construction it will be manifest that the indicator points 29 and 43 may be moved to any desired position with respect to the plate 12. The brackets 16, 20 and arms 23, 24 permit of a wide range of movement of the points 29, 43 and of the pointer feet bases 33, 47, and to such an extent that substantially the entire area of the support 10 may be traversed by the pointers 33, 47.

In use and in order to arrange the forms or plates in a chase or frame so that when the chase and forms are placed into a press, the forms will exactly register on the work produced by other forms in the same press, the form must be made up upon the support or composing stone 10. This is accomplished in the following manner.

An impression is taken in the press upon a sheet 53 of the matter with which it is desired to register additional type or plates when another impression is made.

For the sake of illustration, the numeral 54 designates the subject matter which has been impressed upon the sheet. The sheet is then placed face downwardly upon the transparent plate 12. A chase or frame 55 is then placed upon the work plate or composing stone 10 so that one edge thereof will be in direct alinement with the edge of the sheet. This may be accomplished by means of one of the indicators or in any other suitable manner.

The operator then adjusts the indicators 28—42 in any convenient manner, but in such a way that the respective points 29, 43 will rest upon the lower face of the transparent plate 12 directly in line with a predetermined point of the field or impression on the sheet 53, such, for instance, as two edges or sides thereof. This will cause the pointers 33, 47 of the respective indicators 32—46 to be properly positioned in the chase or frame 55, and so that they will rest upon the work plate or stone 10, the perpendicular faces of the respective pointers 33—47 being in the same vertical plane as the respective points 29, 43 of the indicators 28—42. This will indicate the proper position that the block, plate, or type must be placed within the chase or frame 55 so that it will directly register with the corresponding impression upon the sheet 53, when the form is placed in the press. This is accomplished by reason of the fact that the pointers 33, 47 will indicate the two sides against which a type or plate 56 must be placed.

Similarly other blocks, plates, or types may be arranged to register with other of the impressions 54 on the sheet 53.

After one of the blocks, type, or plates has been arranged in the chase or frame 55, the usual furniture may be arranged in the frame to hold the plate in position, and the pointers 33, 47 may be raised by the respective levers 34, 48 to permit the indicators 32 and 46 together with the pointers 33 and 47 respectively attached thereto, to be moved out of the way so as not to interfere with the work of the operator.

The indications or graduations 13 and 14 on the transparent plate 12 may be employed as a means for properly locating work upon the work plate or stone 10 when the measurements of the matter to be printed are known by inches.

This is accomplished by placing one or the other of the pointers 29, 43 against the particular graduations 13, 14 and then lowering the respective feet 33, 47 against the support or stone 10.

With this improved invention it will be manifest that the services of an expert to

prepare, or "make ready" a form so that it will register with another form previously used, will be dispensed with. Furthermore considerable time and labor will be saved by the use of this apparatus.

While the preferred form of the invention has been herein shown and described, it is to be understood that various changes may be made in the details of construction and in the combination and arrangement of the several parts, within the scope of the claims, without departing from the spirit of this invention.

What is claimed as new is:—

1. A register apparatus including a support for the work, a transparent member supported thereabove and upon which member a sheet having matter delineated thereon is placed, and means disposed between the said support and member for indicating upon the said support predetermined points in the matter delineated on the said sheet, the said means including a pointer operating against the lower face of the transparent member and an additional pointer operable in close proximity to the face of the said support.

2. A register apparatus including a support for the work, a transparent member supported thereabove and upon which member a sheet having matter delineated thereon is placed, means disposed between the said support and member for indicating upon the said support predetermined points in the matter delineated on the said sheet, the said means including a pointer operating against the lower face of the transparent member and an additional pointer operable in close proximity to the face of the said support, and means yieldingly holding the said pointer against the face of the said transparent support.

3. A register apparatus including a support for the work, a transparent member supported thereabove and upon which member a sheet having matter delineated thereon is placed, means disposed between the said support and member for indicating upon the said support predetermined points in the matter delineated on the said sheet, the said means including a pointer operating against the lower face of the transparent member, an additional pointer operable in close proximity to the face of the said support, and means for raising and lowering the last recited pointer with respect to the face of the said support.

4. A register apparatus including a work support, a transparent member spaced thereabove and upon which transparent member the matter to be registered is delineated, a swingingly mounted support operable intermediate the said work support and member, and a plurality of indicators mounted upon the support for movement therewith and

with respect thereto, said indicators being also bodily adjustable with respect to each other, each indicator including sections adjustable toward and away from each other, means adapting the end of one of the sections to be moved against the lower face of the transparent member and means adapting the end of the other section to be correspondingly positioned adjacent the said work support.

5. A register apparatus including a work support, a transparent member spaced thereabove and upon which transparent member the matter to be registered is placed, a swingingly mounted support operable intermediate the said work support and member, a plurality of indicators mounted upon the support for movement therewith and with respect thereto, said indicators being also bodily adjustable with respect to each other, each indicator including sections adjustable toward and away from each other, the end of one of the sections being movable against the lower face of the transparent member and the end of the other section being adapted to be correspondingly positioned adjacent the said work support, and means for raising and lowering the said end of the last recited section with respect to the said work support.

6. A register apparatus including a work support, a transparent member spaced thereabove and upon which transparent member the matter to be registered is placed, a swingingly mounted support operable intermediate the said work support and member, a plurality of indicators mounted upon the support for movement therewith and with respect thereto, said indicators being also bodily adjustable with respect to each other, each indicator including sections adjustable towards and away from each other, means adapting the end of one of the sections to be moved and yieldingly held against the lower face of the transparent member, means adapting the end of the other section to be correspondingly positioned adjacent the said work support.

7. A register apparatus including two supports spaced one above the other, the upper support being transparent, and against which transparent support rests the pattern to be registered, the other support receiving the work to be registered, and mechanical means mounted for free swinging movement between the supports and embodying a pointer adapted to move over the lower face of the transparent support, and an indicator adapted to be positioned in close proximity to the top of the other support to indicate the corresponding position of the pattern upon the said work support.

8. A register apparatus including a work support, a transparent support spaced thereabove provided with graduations, mechan-

ical means mounted for free swinging movement and adjustment between the supports and including a pointer adapted to be moved adjacent the lower face of the transparent support, and an indicator movable in proximity to the work support for indicating on the work support the corresponding positions of selected predetermined graduations on the transparent support.

9. A register apparatus including a work support, a transparent support spaced thereabove, provided with graduations and upon which transparent support the work to be registered rests, and mechanical means disposed between the supports for indicating upon the work support predetermined points on the transparent support, the said means including co-operating indicators one of which operates in close proximity to the lower face of the said transparent support and the upper face of the work support.

10. A register apparatus including a work support, a transparent support spaced thereabove, mechanical means disposed between the supports for indicating upon the work support predetermined points on the transparent support, the said means including co-

operating indicators one of which operates in close proximity to the respective adjacent faces of the supports, and means for moving one of the said indicators towards and away from one of said supports while the position of the other indicator with respect to the other support remains fixed.

11. A register apparatus including a work support, a transparent support spaced thereabove, mechanical means disposed between the supports for indicating upon the work support predetermined points on the transparent support, the said means including co-operating indicators one of which operates in close proximity to the respective adjacent faces of the supports, means for yieldingly holding one of the indicators against its respective support, and means for moving the other of said indicators towards and away from one of said supports while the position of the other indicator with respect to the other support remains fixed.

In testimony whereof I have signed my name to this specification, on this 11th day of December, A. D. 1925.

GEORGE H. LUND.