July 19, 1960 C. S. CRAFTS 2,945,284

PLATE LOCATING MECHANISM FOR STEREOTYPE PLATE FINISHING MACHINE

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Fig. 1

Fig. 4

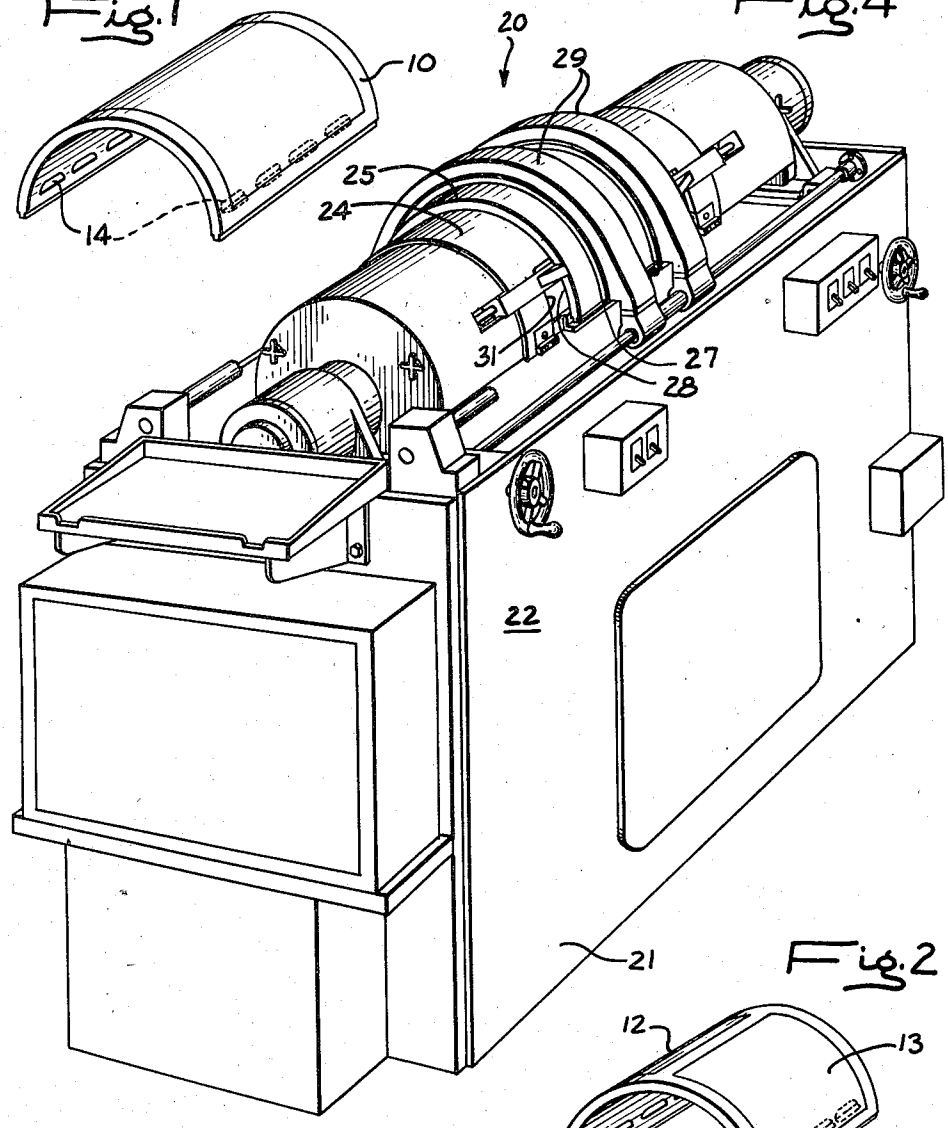

Fig. 2

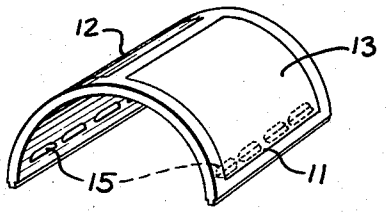

Fig. 3

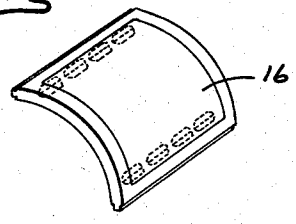

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PLATE LOCATING MECHANISM FOR STEREOTYPE PLATE FINISHING MACHINE

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Fig. 5

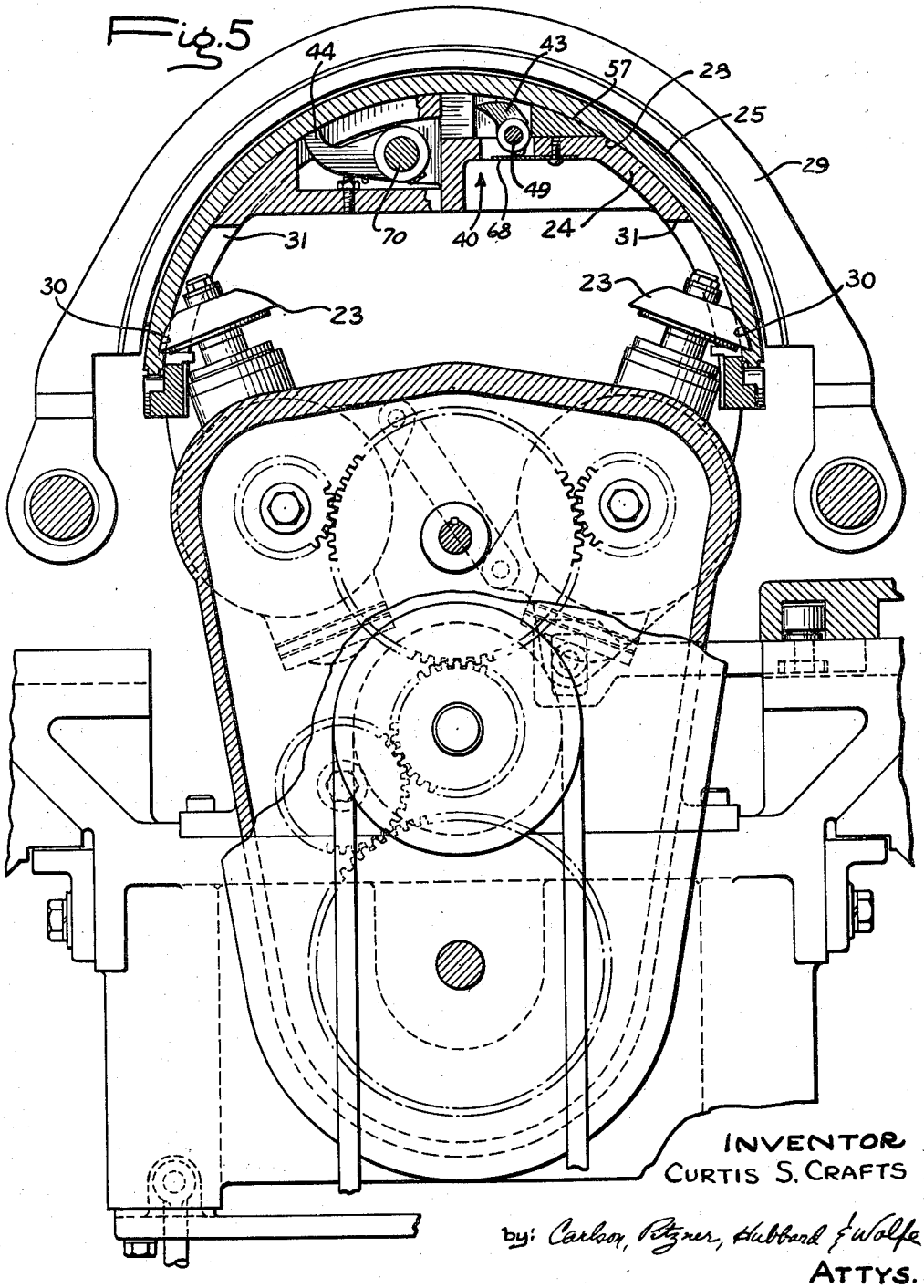

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PLATE LOCATING MECHANISM FOR STEREOTYPE PLATE FINISHING MACHINE

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Fig. 6

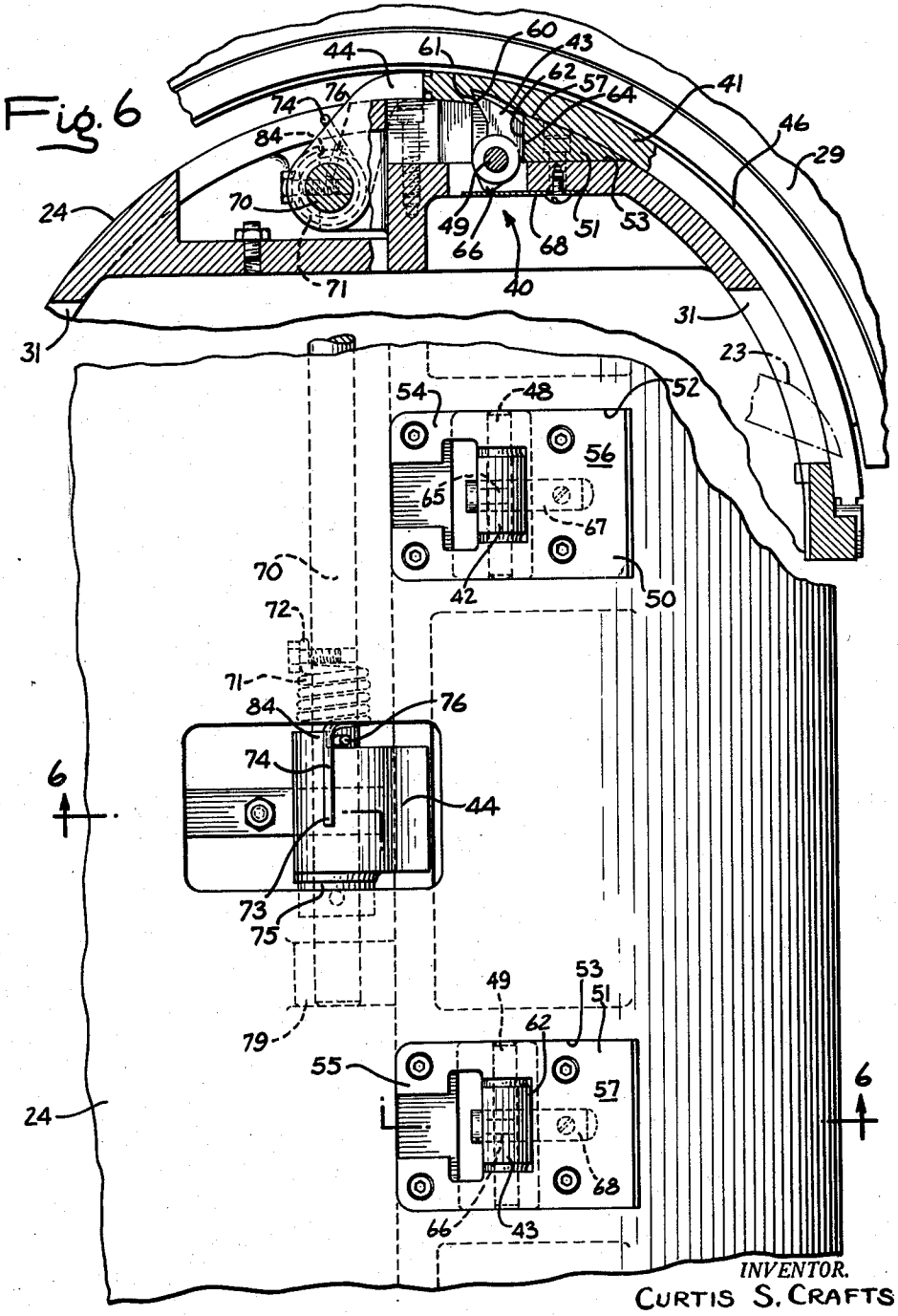

Fig. 7

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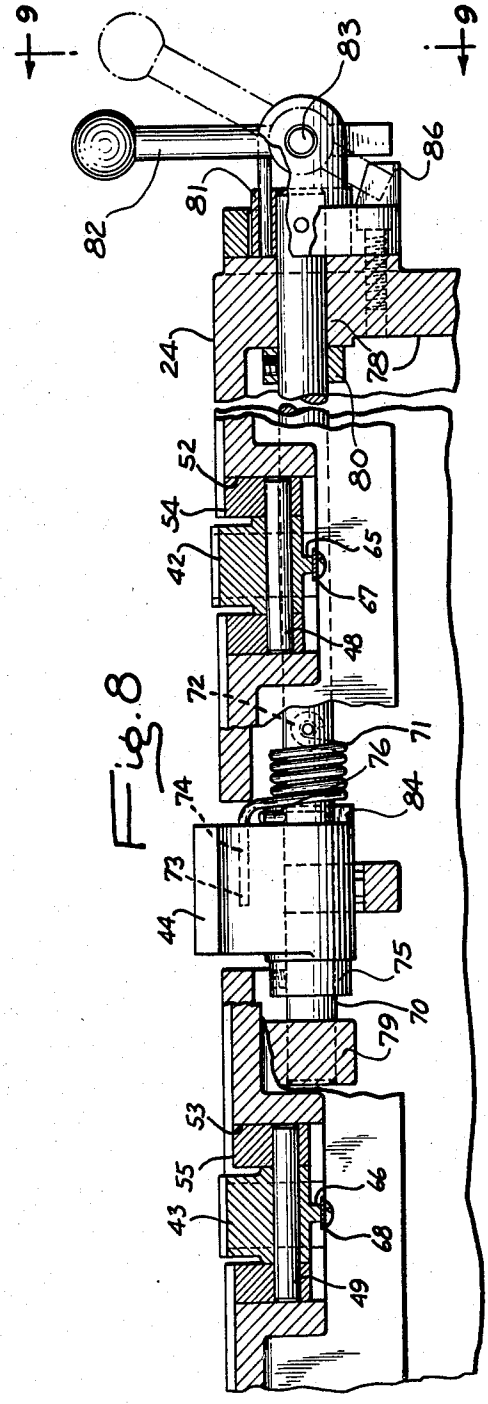

Fig. 8

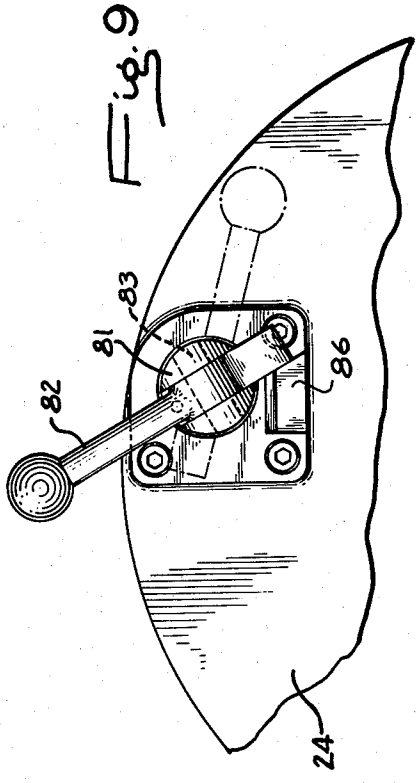

Fig. 9

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PLATE LOCATING MECHANISM FOR STEREOTYPE PLATE FINISHING MACHINE

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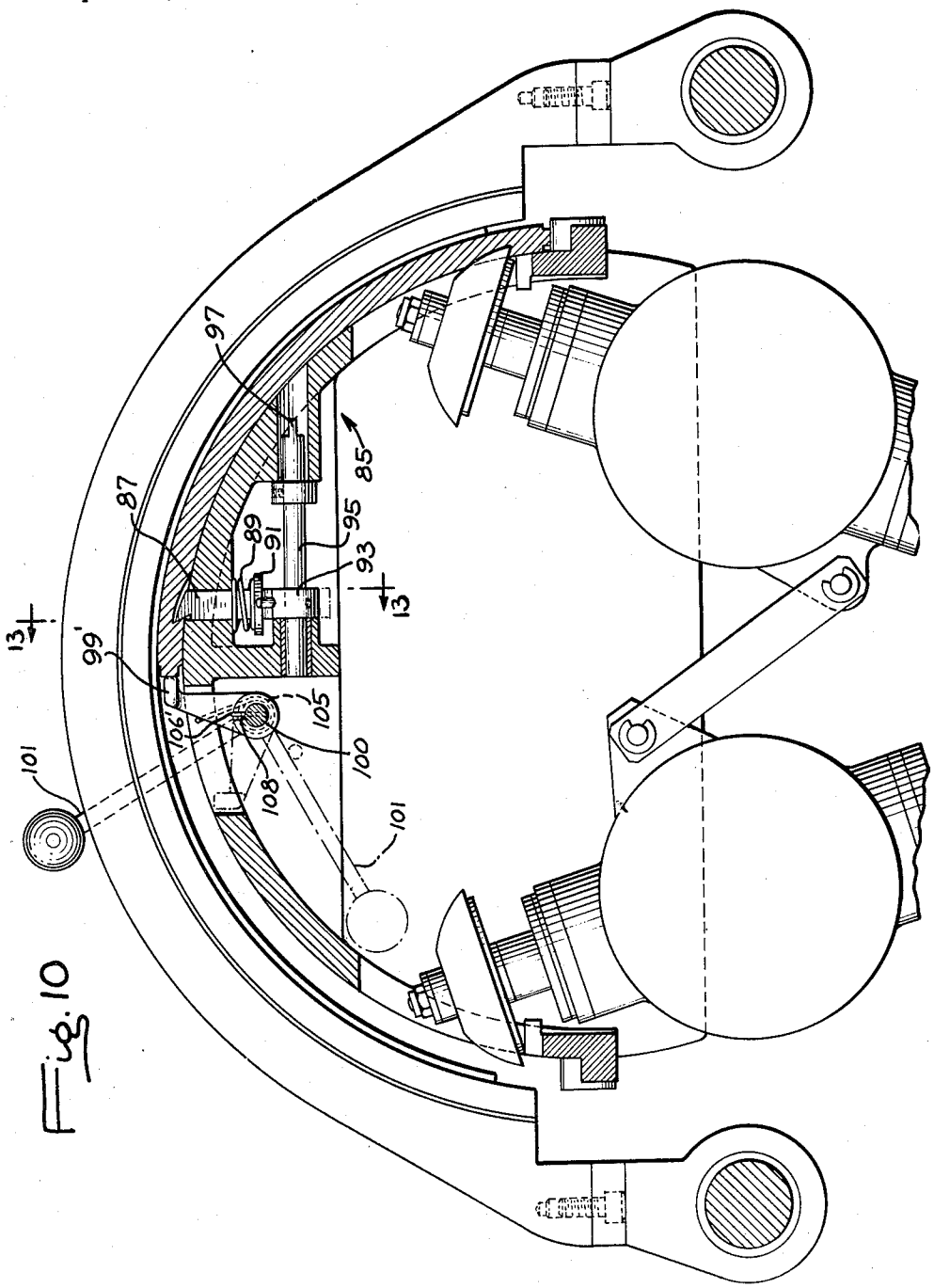

Fig. 10

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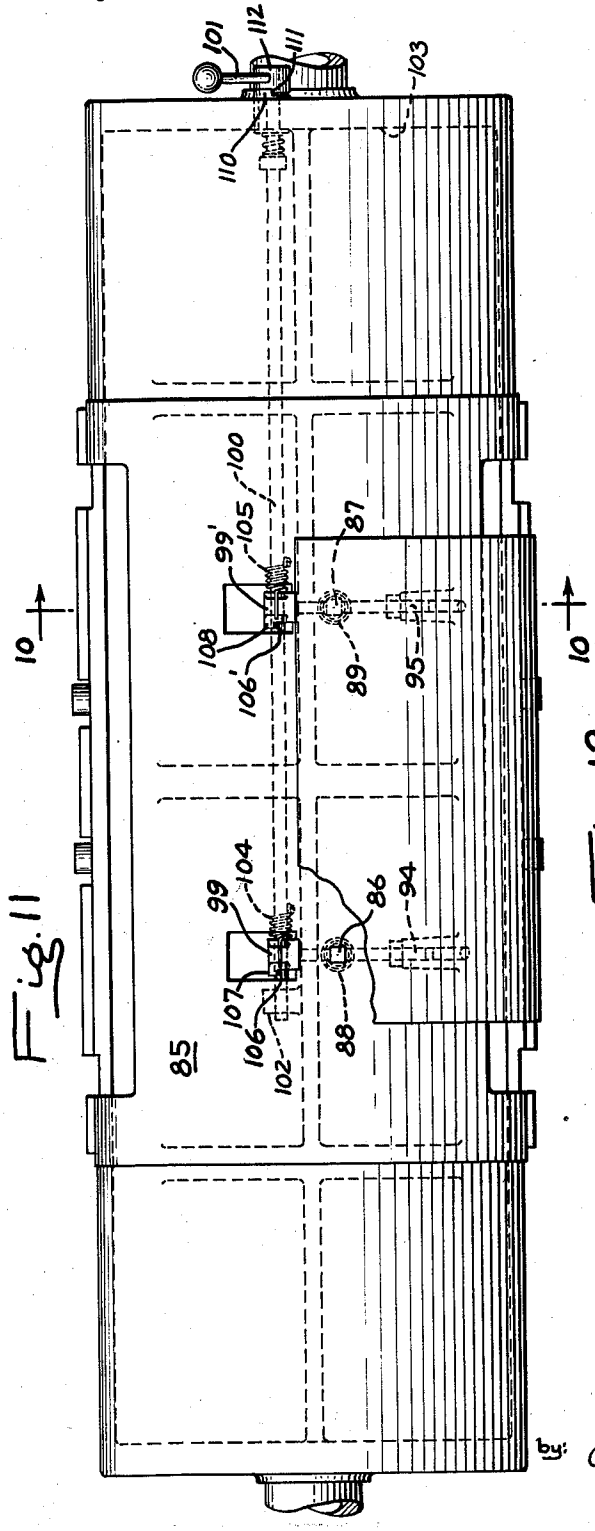

Fig. 11

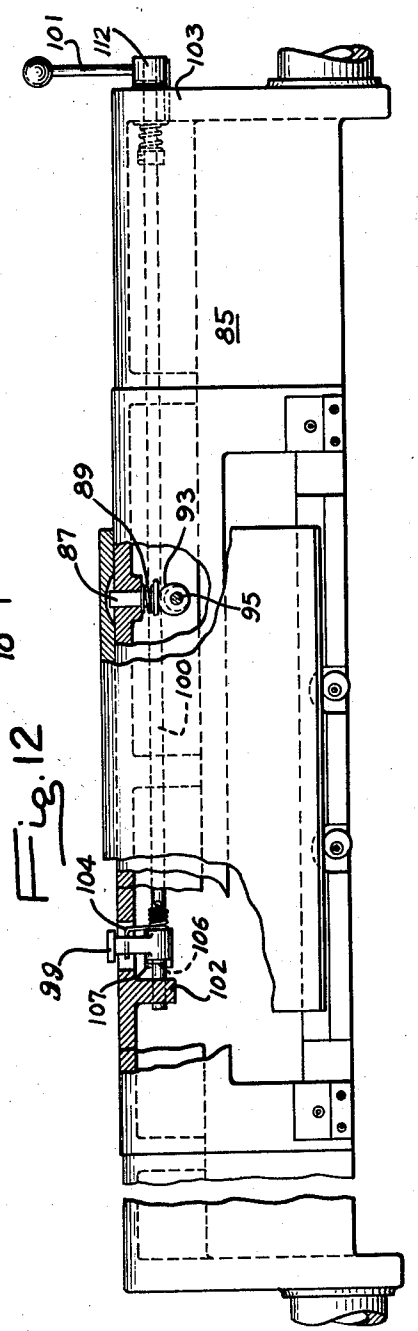

Fig. 12

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PLATE LOCATING MECHANISM FOR STEREOTYPE PLATE FINISHING MACHINE

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Fig. 13

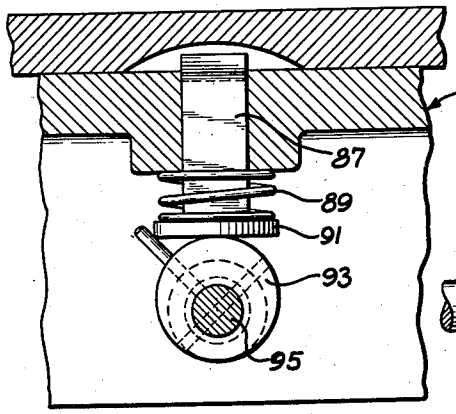

Fig. 15

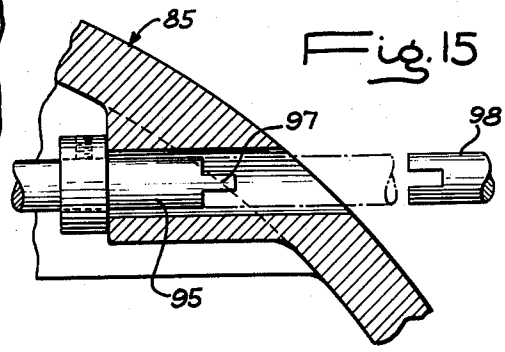

Fig. 14

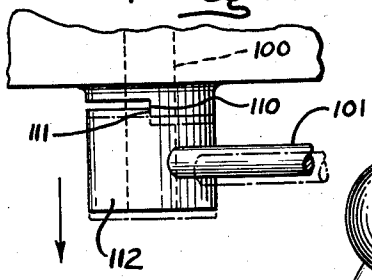

Fig. 16

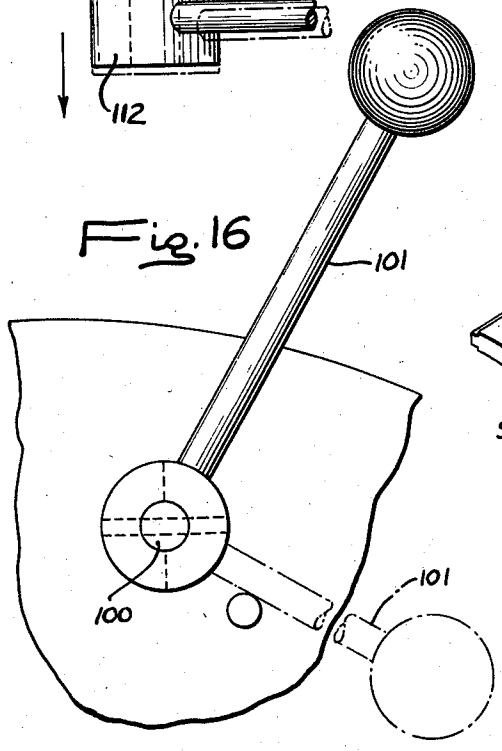

Fig. 17

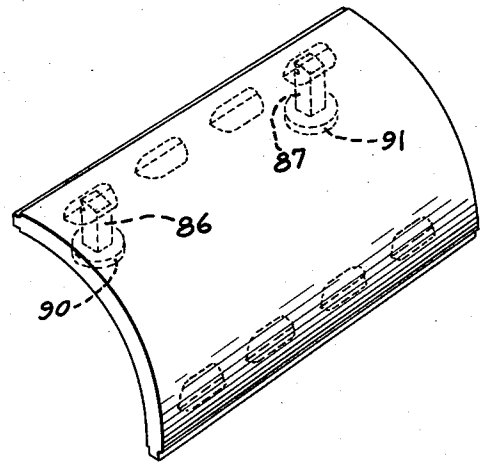

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PLATE LOCATING MECHANISM FOR STEREOTYPE PLATE FINISHING MACHINE

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Fig. 18

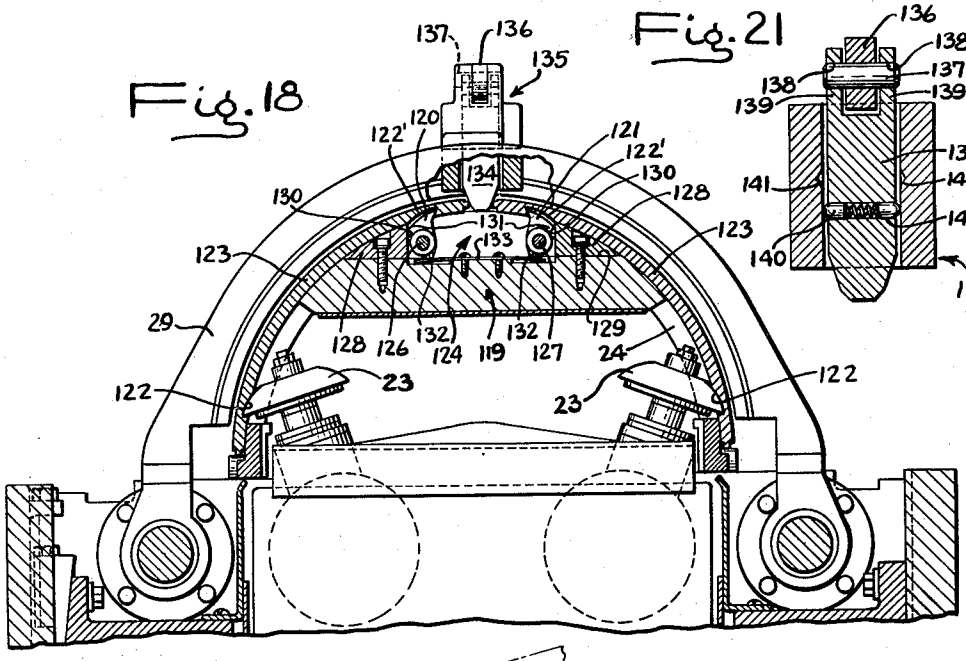


Fig. 21

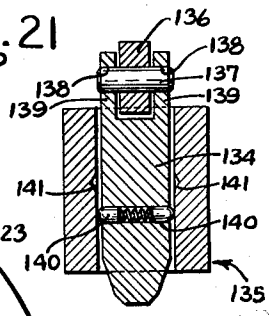


Fig. 19

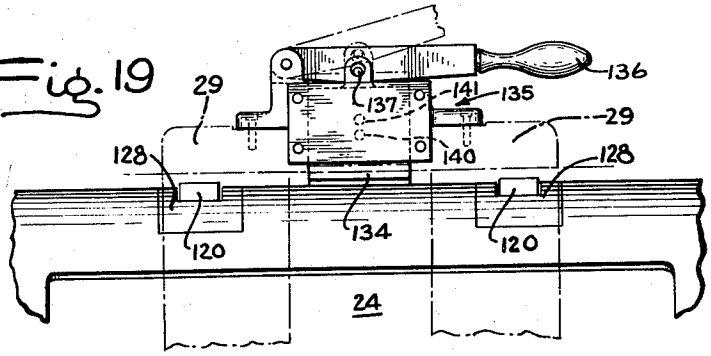
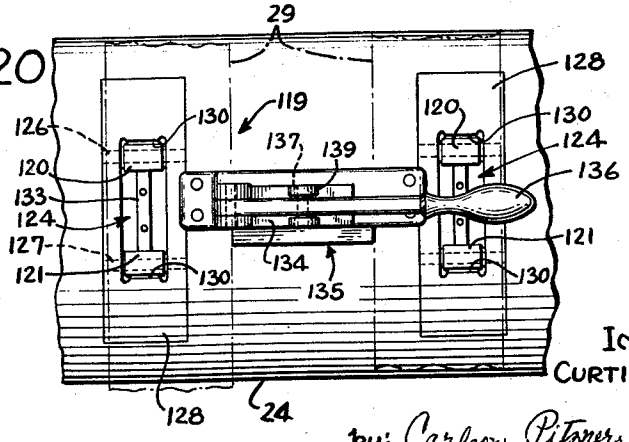


Fig. 20



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United States Patent Office 2,945,284 Patented July 19, 1960

2,945,284

PLATE LOCATING MECHANISM FOR STEREOTYPE PLATE FINISHING MACHINE

Curtis S. Crafts, Oak Park, Ill., assignor to Miehle-Goss-Dexter, Incorporated, Wilmington, Del., a corporation of Delaware

Filed Apr. 15, 1957, Ser. No. 652,759

10 Claims. (Cl. 29—21)

This invention relates to stereotype printing, and more particularly to a method and means for making stereotype printing plates used in the printing of tabloid newspapers and for milling tension lock-up pockets in the underside of such printing plates.

Modern newspapers are, generally speaking, given a format in either of two sizes, namely, full or regular page size newspapers and half-size newspapers known as tabloids. Heretofore in the printing of tabloid newspapers it has been the practice to use full size semi-cylindrical plates, each full size plate bearing the impression to print two tabloid pages.

In color printing processes, the individual colors are printed in separate impressions and by plates prepared especially for a particular color. Four colors are commonly used and they are individually printed successively on the moving web in newspaper presses, the last color usually being black. The color plate must be accurately positioned on the printing cylinder so that each color will register accurately with previously printed colors in order to produce a satisfactory reproduction. It is thus necessary for the printing cylinder to include means for adjusting the position of the plate relative to the cylinder so that it will register accurately with the previously printed colors.

In the printing of tabloid size newspapers, the stereotype printing plate bearing the impression for the front "hot news" page of the newspaper, in the ordinary press, also bears the impression to print the back page of the paper, copy for which may include an "ad" in a particular color. The news content of the front page often must be changed for different editions, but in most instances from edition to edition the back page or at least the color portion remains the same. Therefore, when the news changes, the entire full size plate, including that portion of the plate which bears the impression to print the back page, will have to be replaced. This is wasteful in terms of material and labor cost.

Furthermore, when a new full size plate containing later news copy on one half and the same color copy on the other half is prepared, it is likely that the color copy will not be in exactly the same location on the plate with respect to the plate lock-up mechanism, as it was in the previous plate. Therefore, the new plate will have to be readjusted on the printing cylinder so that the color will be in register with previously printed colors before the later edition can be run off. This adjusting is tedious and time consuming, thus contributing to higher costs. Changes in position of the news copy on the new plate and printed page will not be noticeable and can be disregarded, but the color plate must be registered within a small fraction of an inch so that the colors will not be over printed.

It is a principal object of the present invention to provide a method and means for preparing tabloid page size stereotype printing plates for printing tabloid newspapers. With the stereotype plate prepared in accordance with this invention, tabloid newspapers may be printed more economically, for these wasteful practices are eliminated. Thus while the major part of the tabloid newspaper may be printed in conventional fashion, with full size printing plates bearing the impression of two tabloid pages, those pages of the newspaper requiring change from edition to edition may be printed by means of individual tabloid size plates.

More specifically, it is an object of the present invention to provide a method for making tabloid stereotype printing plates, involving the steps of casting a full size semi-cylindrical stereotype plate with the type impression on the periphery of it to print two tabloid pages and finishing the underside of the plate; cutting rows of tension lock-up pockets adjacent the lateral edges of the full-size plate; separating the plate in two, to form two individual tabloid size printing plates; and cutting tension pockets adjacent the newly sawed edge of these individual plates. During this cutting operation the plate is accurately located by means of the previously cut row of lock-up pockets, to insure that the new row of pockets is correctly positioned on the underside of the tabloid plate.

Another and a principal object of this invention is to provide apparatus for milling tension lock-up pockets in the underside of such individual tabloid size printing plates. A more detailed and related object thereto, is to provide plate locating mechanism for precisely and accurately positioning the plate during the milling operation. As described hereinbefore, in one aspect the invention is concerned with the preparation of individual tabloid size printing plates by separating or sawing a full size plate in two, this full size plate having previously been processed to form rows of tension pockets in the finished underside of the plate, thus leaving the individual plate with a single row of tension pockets adjacent one of its edges. It is an object hereof to utilize this row of pockets in the individual tabloid size plate, for locating the plate during the operation of cutting the second row of pockets in it, so that the parallel rows of pockets in the finished plate are spaced accurately. Other objects will appear from the following description taken in connection with the accompanying drawings, in which:

Figures 1 and 2 are perspective views of semi-cylindrical or full size stereotype printing plates;

Fig. 3 is a perspective view of a tabloid size stereotype printing plate;

Fig. 4 is a perspective view of a machine for milling tension lock-up pockets in stereotype printing plates;

Fig. 5 is a section taken through the machine of Fig. 4 illustrating this machine equipped with a locating mechanism for tabloid plates;

Figs. 6–9 are detail views illustrating this locating mechanism;

Fig. 10 is a section taken through the machine of Fig. 4 illustrating this machine equipped with an alternative form of locating mechanism for tabloid plates;

Figs. 11–17 are detail views illustrating this alternative locating mechanism; and

Figs. 18–21 are views illustrating a further alternative form of plate locating mechanism.

While the invention is shown and described in detail with reference to particular embodiments thereof, there is no intention that it thus be limited. On the contrary, it is intended to cover all modifications, alternative constructions and equivalents falling within the spirit and scope of the invention as defined in the appended claims.

Referring now to the drawings, Figure 1 illustrates a full size, semi-cylindrical, stereotype printing plate **10**. This plate might be used, for example, in the printing of a full size newspaper page in one of the dailies printed in

chined, insertable bodies 50, 51 carried within cavities or recesses 52, 53 formed in the saddle. The bodies employed to support the fingers are made of a light metal and bolted in place as shown in Fig. 6, and in the present instance comprise U-shaped segments 54, 55 presenting surfaces 56, 57 conforming to the outer surface of the saddle and forming a portion of the same. In order to more precisely locate the plate, the hooks 42, 43 taper to a fine edge 60 and thus are shaped to neatly fit in the notched side wall 61 of the respective tension pocket. Opposite this edge on what may be termed the back 62, the hook is formed with a flat area 63 arranged, when the finger is raised to operative position as shown in Fig. 6, to abut a meeting planar surface 64 formed in the insertable body on which the finger itself is mounted. The arrangement is such as to back up and rigidly or firmly hold the hook upright once it has been manually lifted to extend above the outer surface of the saddle.

The hooks 42, 43 are operated independently. To maintain each locating hook upright, or in the alternate position below the surface of the saddle, the hook is fashioned with a nose portion 65, 66 which bears against a flat spring 67, 68 attached to the insertable body bolted in the saddle. The pressure of the spring is sufficient to hold the hook in either position while still permitting the hook to be shifted manually, and with reasonable ease, from one position to the other.

As hereinbefore described, the single biasing finger 44 which faces these hooks and engages the edge of the plate at a point between them, applies spring pressure for holding the plate against the hooks. In the operation of the milling machine, after the plate is located on the machine saddle it is held securely during the milling operation by means of the clamping mechanism with which the machine is equipped. As shown in Fig. 6, the clamps 29 expand into engagement with the plate and urge it against the saddle. The single biasing finger 44 engaging the edge of the plate, supplies means for holding the plate against movement while clamping is applied. For this purpose, the biasing finger 44 is rotatably mounted on a shaft 70 which in turn is journalled in the crown of the saddle. A control handle 82 for turning the shaft 70 and raising and lowering the biasing finger 44 from operative to inoperative position is attached to one end of the shaft, outside of the saddle.

To supply the spring pressure for urging the biasing finger 44 against a tabloid page size plate placed on the saddle, a torsion spring 71 surrounding the shaft and having one end 72 anchored thereto is employed. The other end 73 of the spring is formed with a straight portion 74 parallel to the shaft so that it will bear against the back of the holding or biasing finger 44 when the shaft is rotated counterclockwise as shown in Fig. 9. In the present instance, the biasing finger 44 is held on the shaft 71 between a collar 75 and a pin 76 extending part way through the shaft and it is freely rotatable to a limited extent on the shaft.

For mounting the shaft 70 on the saddle, as shown in Fig. 8, one end of the shaft is supported in the end wall 78 of the saddle, and the other end in a boss 79 formed in the saddle casting. To prevent endwise movement of the shaft it is held in position by a collar 80 on the inside of the end wall 78 and a clevis 81 pinned to the shaft on the outside of the saddle. A locking handle 82, by means of which the shaft may be rotated and thus the biasing finger 44 raised and lowered from operative to inoperative position, is mounted on a pin 83 in the clevis. This locking handle is pivotally supported on the pin so that it may swing outwardly as viewed in Fig. 8.

Motion of the shaft in one direction is transmitted to the biasing finger 44 rotatably mounted on the shaft by means of the pin 76 fixed to the shaft and a segmental boss 84 on the hub of the finger 44. With this arrangement, the shaft 70 when turned clockwise as shown in Fig. 9 by the handle 82, transmits motion to the biasing finger 44 to lower it. When the handle is turned counterclockwise as shown in Fig. 9, the torsion spring, bearing as it does against the biasing finger 44, acts to urge the said finger against the edge of the printing plate on the saddle. For example, as shown in Fig. 6, the finger 44 forces the plate towards the right until the face of the hook 43 engages the side wall 61 of the tension pocket in which it is received, locating and locking the plate in position. To stress the torsion spring 71, the control handle is turned approximately 30° beyond the point at which the biasing finger engages the plate. The position of the handle corresponding to the initial engagement of the biasing finger 44 with the printing plate is approximately vertical, the solid line position of Fig. 9. The down position (dotted) of the handle as shown in this figure and Fig. 16 corresponds approximately to that position of the handle when the biasing finger lies within the saddle. The full line upright position of the handle 82 in Fig. 9 is that position the handle assumes to stress the torsion spring and upon reaching this latter position, the top of the handle is moved away from the saddle, as shown in the dotted position of Fig. 8, effecting engagement of the lower end of the control handle with a locking lug 86. The friction between the parts, and the constant pressure exerted by the spring holds these parts in locked position.

To release the holding finger 44, as for example following the completion of a milling operation on a tabloid page size plate, the upper end of control handle 82 is pivoted towards the saddle to separate the lower end of the handle from engagement with the locking lug 86. The control handle 82 and the shaft 70 are then free to rotate first under the urging of the torsion spring 71, and after the stress in the spring has been relieved, by turning the shaft further in a counterclockwise direction by means of the control handle to the down (dotted) position of Fig. 9. The said further turning of the shaft causes pin 76 to engage segmental boss 84 and this carries finger 44 into retracted position.

The machine shown in Fig. 4, is provided with milling heads 23 (Fig. 5) located to mill tension lockup pockets in both edges of a full size plate supported on the saddle of the machine. With an individual tabloid size plate precisely located on the saddle as shown in Fig. 6, by means of the locating mechanism 40 hereinbefore described, a row of tension pockets may be cut adjacent the newly sawed edge of this plate. The actual milling of the pockets is carried out in a conventional fashion, using the milling head arrangement found on the machine. The milling heads of this arrangement pivot into contact with the underside of the plate clamped on the saddle to mill the pockets, the distance between these pockets being precisely determined in relation to the previously milled row of pockets on the other edge of the plate.

In the form of the invention illustrated in Figs. 5–9, in the crown of the saddle the locating mechanism 40 is arranged in such a way that the parts may be disposed in a position within the saddle so as not to interfere with a tension pocket milling operation carried out on a full size plate. Moreover, the mechanism components may be raised manually to an erect or upright position extending above the surface of the saddle to engage an individual tabloid size plate for locating the same on the saddle while a second row of tension pockets is formed adjacent the newly sawed edge of this plate.

Further in accordance with the invention, an alternative form for the locating hook and biasing finger arrangement shown in Figs. 5–9, is illustrated in Figs. 10–17. The same general arrangement of locating hooks and biasing finger is employed for engagement within the tension lockup pockets adjacent the finished edge of the tabloid plate, and engaging the edge of the plate to insure that the hooks are properly seated within the tension pockets and to prevent movement of the plate while clamping is applied. While the same general arrange-

ment is used, the construction of the hooks and biasing finger differs somewhat from that employed in the previously described form. The saddle 85 of a milling machine like that illustrated in Fig. 4, is again provided with a plurality of cavities along the crown to accommodate the locating hooks 86, 87. The locating hooks, in the present instance, are plunger-like and are urged towards their hidden position by coil springs 88, 89 compressed between the inside wall of the saddle and flanges 90, 91 borne mediately of the hooks themselves. While ordinarily the hooks are retracted by the coil springs and forced downwardly to their lowered position within the saddle, these hooks may be raised to an operative position by means of cams 93 operable from the outside of the saddle. For convenience, in the exemplary form of the invention shown, a key or the like is used for turning the cams and raising the hooks. Accordingly, the cams are non-rotatably mounted on rods 94, 95 supported on the saddle, and formed on one end with a cross tongue 97 (Figs. 10, 15) to be received in a slotted key 98. In the arrangement illustrated, the rods 94, 95 are rotatably mounted within the saddle casting on a chord of the cylindrical surface of the saddle, and the surface of the saddle bored to make the ends of the mounting rods accessible. A key for turning each mounting rod may therefore be inserted within the respective bore in the saddle. The cams carried by the rods turn with the rod to elevate the plunger-like locating hooks and compress the springs. Upon rotation of the mounting rod and cam in the opposite direction, the coil springs act to retract the hooks.

Companion to each locating hook 86, 87, in the form of the invention illustrated in Figs. 10–17, is a biasing finger 99, 99' mounted to be engageable with the edge of a tabloid printing plate placed on the saddle for forcing the plate onto the locating hooks. These fingers 99, 99' are mounted on a shaft 100 in turn supported by the saddle, in a similar way to the arrangement employed in the form of the invention described previously. This shaft 100 may be rotated by a control handle 101 attached to a collar 112 which is pinned to the end of the shaft and the shaft is journalled in the saddle in a boss 102 and in the end wall 103 of the saddle casting. In a manner quite similar to that described previously, each biasing finger is acted upon by torsion springs 104, 105, which raise the respective biasing finger to operative position above the surface of the saddle, and then upon additional rotation of the shaft act to force the finger into engagement with the edge of the plate to force the plate into engagement with the locating hooks 86, 87 and to secure proper seating of the hooks within the tension pockets in the underside of the plate.

Rotating the shaft 100 clockwise as viewed in Fig. 16 by means of the control handle 101, lowers the biasing fingers 86, 87 to a position below the surface of the saddle. The control handle movement and turning motion of the shaft in this direction is transmitted to these fingers by pins 106, 106' fastened in the shaft and, as shown in Figs. 11 and 12, engaging flats provided by segmental bosses 107, 108, carried on the sides of each of the fingers. These fingers 99, 99' are free to rotate on the shaft 100. This is for the purpose of permitting the shaft to be turned by means of the control handle, angularly beyond the point at which the biasing fingers are positioned in engagement with the plate in order to stress the torsion springs which, in turn, apply spring force to these biasing fingers to urge the biasing fingers against the plate. As shown in Fig. 14, a simple means for locking the handle in position to stress the springs may be provided by offset shoulders 110, 111 carried respectively on the saddle casting and collar 112.

As in the form of the invention described earlier in connection with Figs. 5–9, the locating mechanism found on the crown of the saddle may be positioned below the surface of the saddle in an inoperative position, so as not to interfere with a full size printing plate clamped on the saddle. Moreover, the locating hooks and companion biasing fingers may be easily shifted to an operative position extending above the surface of the saddle, for engagement with a tabloid size printing plate, located on one side of the saddle in position to receive the second row of tension pockets adjacent the newly sawed edge of the plate. Thus, it will be readily observed, a machine for milling tension pockets in full size printing plates may be equipped to accommodate tabloid size plates while still allowing its use in the manner originally intended. This increases the versatility of the machine and enables its use in the preparation of individual tabloid size printing plates, in the manner and by the method for preparing such plates described hereinbefore.

Further in keeping with the invention, means may be provided as illustrated in Figs. 18–21, for locating two tabloid plates obtained by sawing a full size plate in sections, on the saddle during the milling operation wherein a second row of pockets is milled adjacent the newly sawed edge of the respective plates. In this instance, the plate locating mechanism 119 is arranged so as to position the two plates so that one is on each side of the curved saddle, and by means of the locating mechanism the plates are positioned so that the new pockets 122 when cut by the milling cutters 23 as shown in Fig. 18, are accurately spaced from the existing pockets 122'. Referring to Fig. 18, it will be seen that this locating mechanism 119 embodies an assembly including locating hooks 120, 121 arranged in pairs, one pair on each side of the longitudinal center line of the saddle 24. The hooks of each pair are mounted to engage the existing pockets 122 in tabloid plates on the respective side of the saddle, for positioning the plates so that a second row of pockets can be milled along the sawed straight edge of the plate. In the present instance, as shown in Fig. 20, the hooks of each pair are spaced longitudinally on the saddle so as to engage in the end pockets of the plates. The locating hooks 120, 121, as in the previous forms of the invention, are pivotally mounted so that they may be positioned below the surface of the saddle within a cavity 124 or may be manually lifted to a position where they extend above the surface of the saddle to engage the tabloid plates, in which position the hooks are shown in Fig. 18. Referring to the same figure, the locating hooks are supported on mounting rods 126, 127 which are carried by a machined segment 128 which itself is mounted on the top of the saddle 24 within a transverse cavity 129.

The outside surface of the segment 128 conforms to the surface of the saddle and provides a continuation thereof and the segment may itself be recessed to provide the cavity 124 for receiving the locating hooks 120, 121. The opposite end walls 130 of the cavity or recess within the segment 128 are vertical and accurately machined to provide a stop against which the back 131 of each locating finger bears when in the outward position depicted in Fig. 18. To resiliently maintain the locating fingers in either position, a nose portion 132 is provided which bears against a flat spring 133.

In this form of the invention, a wedge 134 is employed for forcing the tabloid page size plates against the locating hooks, to prevent shifting of the plates on the saddle when clamping is applied. As shown in Figs. 8, 18 and 21, this wedge is mounted to move vertically within a slide provided in a bracket 135 mounted above the crown of the saddle, for example, by means of bolts, upon the arcuate, rigid backing supports for the plate clamps 29 provided for clamping the plate on the saddle of the machine. The wedge 134 may be forced against the plates by means of a wedge handle 136. This wedge handle may actuate the wedge by means of a pin 137 which is fastened to the wedge handle and extends through opposite slightly enlarged openings 138 which are provided on ears 139 above the body of the wedge.

This connection provides a limited range of movement of the wedge handle 136 from a horizontal position, as shown in solid lines in Fig. 19, to an angularly extending raised position as shown in dash-dot lines in this same figure. Spring biased detents 140 and detent wells 141 (Fig. 21) are employed for holding the wedge in its rased position spaced away from the saddle so as not to interfere with the normal operation of the machine to mill full size stereotype plates.

With this form of the invention, both tabloid plates formed from one semi-cylindrical plate may be positioned on the machine without turning either plate end for end on the saddle. A plate finishing machine as shown in Figure 4 may include features for use in preparing full size semi-cylindrical plates for printing color, such as image registering mechanism, plate stops and skewing devices. Ordinarily such a machine also provide a cutter on each side of the machine which trims one end of the full size plate at both corners for sidelay register purposes. With the locating mechanism here shown, a tabloid plate be positioned on the saddle in the same endwise relation to that it originally held while part of the full size plate, but shifted to a position on the opposite side of the saddle. When the tabloid plate is so positioned, the trimming mechanism with which the machine is ordinarily equipped may be utilized for trimming the other corners for registering purposes.

I claim as my invention:

1. The method of making tabloid stereotype printing plates comprising the steps of: casting a full size stereotype printing plate with the impression for two tabloid pages on the periphery of it; cutting rows of tension pockets adjacent the lateral edges of the full size plate; separating the full size plate half lengthwise thereby forming two individual tabloid plates; and cutting a second row of tension pockets adjacent the newly made edges of the original halves now constituting tabloid printing plates, thereby providing the plates with tension pockets adjacent both lateral edges for cooperation with tension lock-up mechanism provided on the printing cylinder.

2. The method of making partial size stereotype printing plates, comprising, the steps of casting a full size stereotype printing plate with the impression for at least one partial size page on the periphery of it; cutting a row of tension pockets adjacent at least one of the lateral edges of this full size plate and on the underside of the plate portion bearing the page impression; separating the full size plate in half lengthwise thereby forming individual plates; and cutting a second row of tension pockets adjacent the newly made edge of the individual plate bearing the page impression thereby providing said plate with tension pockets adjacent both lateral edges, locating the plate for the latter cutting operation by means of the row of tension pockets previously cut.

3. In a machine for milling tension lock-up pockets in semi-cylindrical printing plates, the combination comprising, a saddle providing a semi-cylindrical reference surface conforming to the curvature of such plates, means overlying said reference surface and engageable with a plate carried on said reference surface for clamping said plate on said saddle, and means for positioning a tabloid size plate having the same curvature as the semi-cylindrical plate on said saddle while said clamping means is engaged, said positioning means including a row of plate locating members carried on the crown of the saddle and extending above the surface of the latter to be received in tension pockets adjacent one edge of the tabloid size plate so as to define the desired location for the latter.

4. In a machine for milling tension lock-up pockets in semi-cylindrical printing plates, the combination comprising, a saddle providing a semi-cylindrical reference surface conforming to the curvature of the plates, means overlying said reference surface and engageable with a plate carried on said reference surface for clamping said plate on said saddle, and means for positioning a tabloid size plate having the same curvature as the semi-cylindrical plate on said saddle while said clamping means is engaged, said positioning means including means providing a row of recesses along the crown of the saddle, plate locating members in each of said recesses, and means for pivotally mounting said members for movement between a position within said recess to a position projecting above the saddle surface, whereby said members are receivable in tension pockets adjacent one edge of the tabloid size plate so as to define a desired location for the latter.

5. In a machine for milling tension lock-up pockets in semi-cylindrical printing plates, the combination comprising, a saddle providing a semi-cylindrical reference surface conforming to the curvature of the plates, means overlying said reference surface and engageable with a plate carried on said reference surface for clamping said plate on said saddle, means for positioning a tabloid size plate having the same curvature as the semi-cylindrical plate on said saddle while said clamping means is engaged, said positioning means including plate engaging hooks mounted along the crown of said saddle and located for insertion in tension pockets adjacent one edge of the tabloid size plate so as to define a desired location for the latter, and a resiliently biased finger supported on the crown of said saddle in association with each of said hooks for engagement with the said one plate edge adjacent the tension pockets and acting on said one plate edge to urge the plate against said hooks so it is held solidly against movement.

6. In a machine for milling tension lock-up pockets in semi-cylindrical printing plates, the combination comprising, a saddle providing a semi-cylindrical reference surface conforming to the curvature of the plates, means overlying said reference surface and engageable with a plate carried on said reference surface for clamping said plate on said saddle, and means for positioning a tabloid size plate having the same curvature as the semi-cylindrical plate on said saddle while said clamping means is engaged, said positioning means including plate engaging members mounted along the crown of said saddle to extend above the surface of the latter and located for insertion in tension pockets adjacent one edge of the tabloid size plate so as to define a desired location for the latter, and resilient means supported on the crown of said saddle in association with said members for engagement with the plate edge adjacent the tension pockets and acting on said plate edge to urge the plate against said members so it is held solidly against movement.

7. In a machine for milling tension lock-up pockets in semi-cylindrical printing plates, the combination comprising, a saddle providing a semi-cylindrical reference surface conforming to the curvature of the plates, means overlying said reference surface and engageable with a plate carried on said reference surface for clamping said plate on said saddle, means for positioning a tabloid size plate having the same curvature as the semi-cylindrical plates on said saddle while said clamping means is engaged, said positioning means including means providing a pair of recesses longitudinally spaced along the crown of said saddle and on one side of the center line thereof, a plate locating hook pivotally mounted in each recess for movement from a position in said recess to an upright position extending above the saddle surface wherein said locating hooks are receivable in tension pockets adjacent one edge of the tabloid size plate, said recesses being arranged to define a desired location for the plate on the saddle, and means carried by the saddle and acting on said one edge of a tabloid plate to urge the plate solidly against said locating hooks, and thereby hold the former against movement including means providing a recess in the crown of said saddle on the opposite side of the center line from said first-mentioned recesses and between the latter, a shaft mounted in said last-named recess, and a spring biased finger mounted on said shaft and movable into resilient engagement with said one edge of the plate.

8. In a machine for milling tension lock-up pockets in semi-cylindrical printing plates, the combination comprising, a saddle providing a semi-cylindrical reference surface conforming to the curvature of the plates, means overlying said reference surface and engageable with a plate carried on said reference surface for clamping said plate on said saddle, and means for positioning a tabloid size plate having the same curvature as the semi-cylindrical plate on said saddle while said clamping means is engaged, said positioning means including means providing a pair of recesses longitudinally spaced along the crown of said saddle and on one side of the center line thereof, a plate locating hook mounted in each recess for movement from a position in said recess to an upright position extending above the saddle surface wherein the plate locating hooks are receivable in tension pockets adjacent one edge of the tabloid size plate, said recesses being arranged to define a desired location for the tabloid size plate on the saddle, and means carried by the saddle and acting on one edge of the tabloid size plate to urge the plate solidly against said hooks and thereby hold the former against movement including means providing a recess in the crown of said saddle on the opposite side of the center line from said first-mentioned recesses, a shaft extending from one end of said saddle into said last-named recess, a finger pivotally mounted in said last-named recess on said shaft, a spring between said shaft and said finger tending to urge the latter in a direction toward the plate locating hooks carried by the saddle, and means for rotating said shaft to raise said finger to an operative position adjacent the edge of a tabloid size plate on said saddle, said spring being effective to urge said finger against the edge of said plate and thereby resiliently urge the latter against said plate locating hooks.

9. In a machine for milling tension lock-up pockets in semi-cylindrical printing plates, the combination comprising, a saddle providing a semi-cylindrical reference surface conforming to the curvature of the plates, means overlying said reference surface and engageable with a plate carried on said reference surface for clamping said plate on said saddle, and means for positioning a tabloid size plate having the same curvature as the semi-cylindrical plate on said saddle while said clamping means is engaged, said positioning means including plate locating hooks mounted along the crown of said saddle longitudinally spaced on one side of the center line thereof and located for insertion in tension pockets adjacent one

edge of the tabloid size plate so as to define a desired location for the latter, a resiliently biased finger supported on the saddle between said spaced plate hooks and facing the latter on the opposite side of the center line of the saddle, and means for mounting said finger for engagement with the straight edge of a tabloid size plate carried on said saddle and on said plate locating hooks, to urge the tabloid size plate against said hooks so it is held solidly against movement.

10. In a machine for milling tension lock-up pockets in semi-cylindrical printing plates, the combination comprising, a saddle providing a semi-cylindrical reference surface conforming to the curvature of the plates, means overlying said reference surface and engageable with a plate carried on said reference surface for clamping said plate on said saddle, and means for positioning a tabloid size plate having the same curvature as the semi-cylindrical plates on said saddle while said clamping means is engaged, said positioning means including means providing a recess on the crown of said saddle, a plate hook mounted in said recess, means for mounting said hook in said recess for radial sliding movement from a position in the recess to a position projecting above the reference surface of said saddle, said hook being located for insertion in a tension pocket adjacent one edge of a tabloid size plate so as to define a desired location for the latter, said last-named means including a cam mounted under the hook on said saddle and movable in one direction to engage and move said hook radially, a return spring acting on said hook to move the latter below the saddle surface upon return movement of said cam; and means including a spring biased finger supported on the crown of said saddle adjacent said plate locating hook and movable into engagement with the straight edge of a tabloid size plate carried on said saddle to urge the plate against said plate locating hook and hold the plate solidly against movement.

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