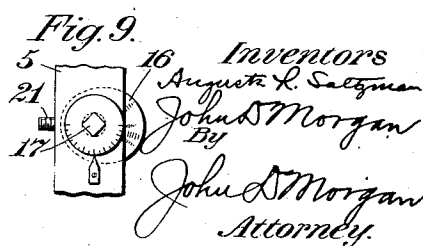
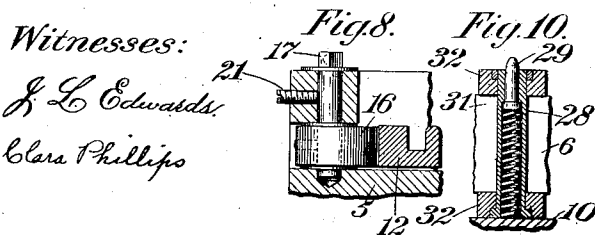
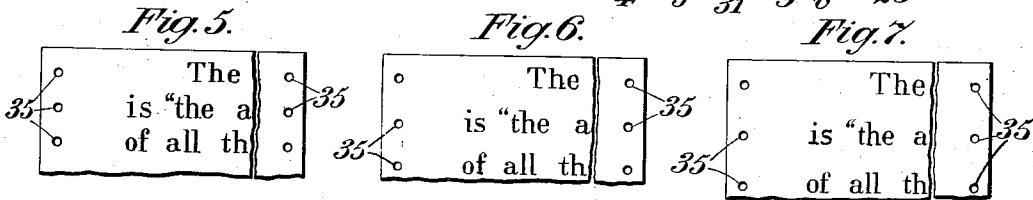
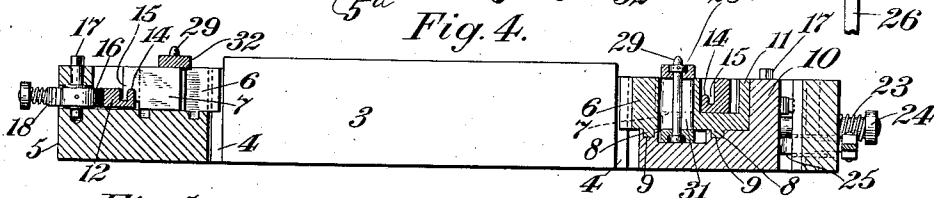
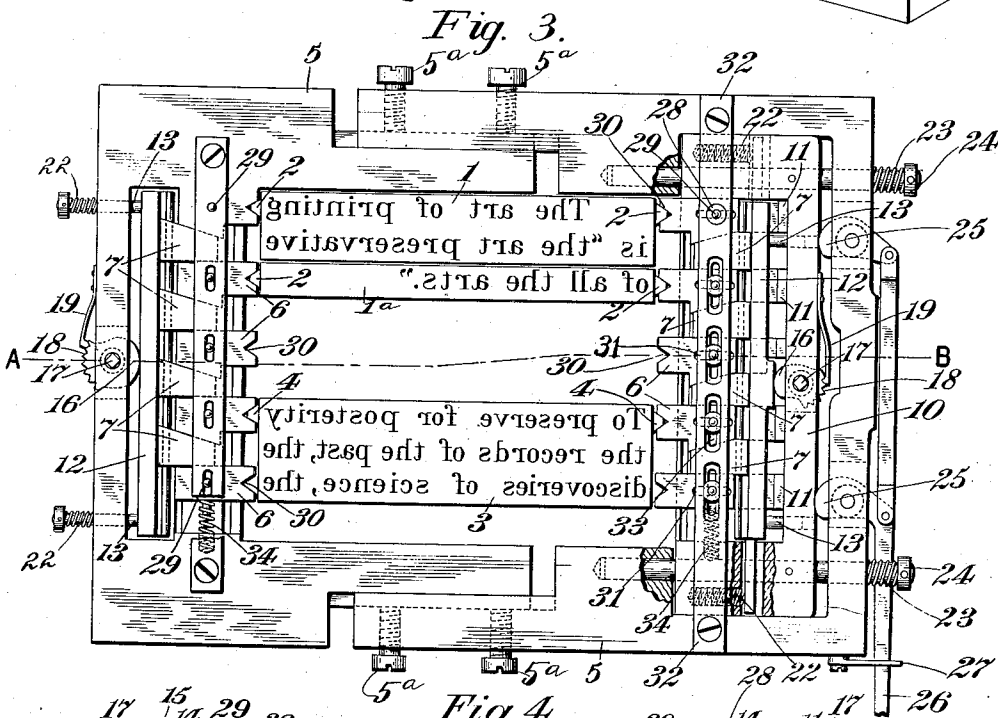
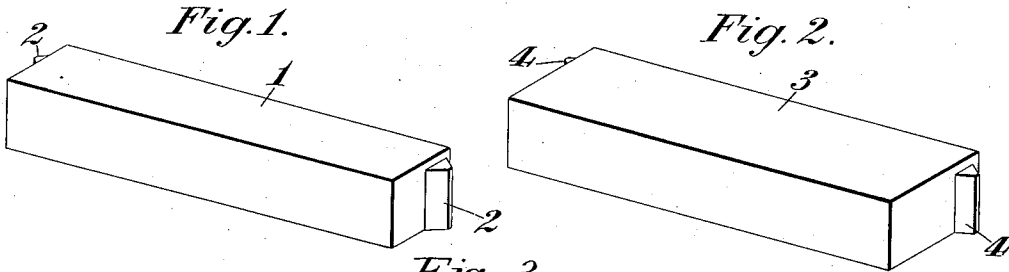


A. L. SALTZMAN & J. D. MORGAN.
 MEANS FOR POSITIONING TYPOGRAPHIC SURFACES.

APPLICATION FILED APR. 28, 1906. RENEWED JUNE 17, 1910.

1,056,839.

Patented Mar. 25, 1913.



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UNITED STATES PATENT OFFICE.

AUGUSTE L. SALTZMAN, OF EAST ORANGE, AND JOHN D. MORGAN, OF SUMMIT, NEW JERSEY.

MEANS FOR POSITIONING TYPOGRAPHIC SURFACES.

1,056,839.

Specification of Letters Patent.

Patented Mar. 25, 1913.

Application filed April 28, 1906, Serial No. 314,264. Renewed June 17, 1910. Serial No. 567,479.

To all whom it may concern:

Be it known that we, AUGUSTE L. SALTZMAN, of East Orange, in the county of Essex and State of New Jersey, and JOHN D. MORGAN, of Summit, in the county of Union and State of New Jersey, have invented new and useful Improvements in Means for Positioning Typographic Surfaces, of which the following is a specification.

The invention relates to chases for positioning and holding character-bearing surfaces, and in some of its features more especially to chases for use when contact transfers are made from one typographic surface to another, as a step in the production of a surface to be used either for planographic or relief printing.

Objects of the invention are to provide a chase for holding a plurality of character-bearing bodies in symmetrical relation and for varying their distances apart while preserving such symmetrical relation; to provide for automatically changing the line spacing for a plurality of line bars or other character-bearing bodies without "leading" or manual handling of any kind; to provide for changing the line spacing for typographic surfaces adapted to yield impressions or give impressions, by contact transfer or otherwise, such as planographic line bars, and for registering devices which are in constant relation to such surfaces in all positions; to provide for spacing a series of line bars, or other typographic surfaces, to receive an impression and for automatically changing the spacing for taking impressions from said line bars, or other typographic surfaces; to provide a chase which will accommodate bars of various lengths. These and other objects of invention will in part be obvious and will in part more fully appear hereinafter.

The invention consists in the novel parts, articles, improvements and combinations herein shown and described.

The accompanying drawings, referred to herein and forming a part hereof, illustrate one embodiment of the invention, the same serving in connection with the description herein, to explain the principles of the invention.

Of the drawings: Figure 1 shows a typographic surface; Fig. 2 shows a typographic surface of a different extent; Fig. 3 shows a chase with a plurality of typographic sur-

faces located and held therein; Fig. 4 is a section on the line A—B of Fig. 3; Figs. 5, 6 and 7 show typographic surfaces, respectively, bearing lines in a certain relation to each other and registering means in a definite relation to each line; Fig. 8 shows a detail in section of one form of adjusting means for the locating means; Fig. 9 is a plan of the mechanism shown in Fig. 8; and Fig. 10 is a detail of a modification of a portion of the mechanism.

It is frequently desirable to change the relative position or distance apart of assembled typographic units without disturbing their symmetrical relation, as for instance, when the units are in the form of line bars it is frequently desirable to change the distance between the lines, or the "leading," while keeping the said bars in line series. This is ordinarily a laborious operation, involving the inserting or picking out of leads, and the pushing about of the typographic surfaces or bodies upon a support, as is well known. This invention contemplates providing means for so changing the relative position or distance of typographic bodies while preserving their symmetrical relation instantly, automatically and without any handling of the said typographic bodies. While such means are useful and available with various kinds of typographic surfaces or typographic bodies, it will be found especially useful with typographic surfaces or units which are adapted to both receive and yield character impressions. Among such surfaces are those of zinc and aluminum, colloidal surfaces, as well as others. With such surfaces it is frequently desirable to have the various typographic units in one position, or line space relation, to receive an impression of characters or lines of characters from a suitable surface, such as a transfer or offset surface, and to be in a different position, or line space relation, when giving an impression to such a surface. A particular instance of this is with typographic units bearing a line each which are given one spacing while receiving the impression and given a different spacing when impressions are taken from the said typographic bodies. Furthermore in the transferring of lines of characters from one surface to another it is frequently desirable to register the surfaces exactly with each other so that the lines of characters may be

transferred from the impression-giving surface to the impression-receiving surface so as to be in a definite relation upon the latter surface and to effect this suitable registering means are used. Such registering means are generally carried upon both the impression-giving and the impression-receiving surfaces or at least in definite relation thereto. In such case it is desirable to preserve the registering means in definite relation to the receiving surfaces and where the position of such surfaces have changed it is desirable that the position of the registering means be changed also. This invention accordingly, in some of its features, provides for changing the position of the typographic bodies while preserving the registering means in the predetermined relation thereto. It is further frequently desirable to use units of different line width, where line units are used, and the invention contemplates providing means of the general character indicated adapted to co-act with line units of various widths.

Other features of the invention will be set forth herein.

The said features of the invention, together with other features, have been embodied in a mechanism or apparatus, illustrated herewith by way of example. The said embodiment is particularly adaptable for use with typographic units each bearing a single line of characters or adapted to receive and carry a single line of characters. The use of the apparatus with such units will be clearly set forth herein. For some purposes, however, it is frequently desirable to use typographic surfaces or units of various sizes or extent and in the drawings herewith the mechanism or apparatus is shown as co-acting with units of various sizes or extent.

Referring to the accompanying drawings a typographic unit of a particular size or extent is indicated in Fig. 1 of the drawings by the reference numeral 1 while a typographic unit of a different size or extent is indicated in Fig. 2 of the drawings by the reference numeral 3. A unit of still different size or extent is indicated in Fig. 3 of the drawings by the reference numeral 1^a. As hereinbefore stated, for most purposes it will be found that units of uniform size each bearing a single line of characters in definite relation thereto will be found more generally useful, but it will be understood that with the present invention units of different sizes may be used for many purposes to obtain composition containing lines of matter equally spaced apart or spaced apart in integral line unit distances. Such an arrangement of typographic units is shown in Fig. 3 of the drawings.

In the illustrated embodiment the form of means for holding and positioning the typographic

surfaces may be styled a chase and is indicated generally by the reference numeral 5. The general structure of the chase 5, as shown herein, is that of a rectangular frame. The said frame is shown adjustable as to width, for the purpose of accommodating line units of different lengths. The particular form of adjustment illustrated comprises a slidable, dovetailed joint in the transverse members, suitable means for holding the said members in any position to which adjusted being shown as including set screws 5^a.

The various typographic units or surfaces are provided with means for co-acting with suitable means carried by the chase to effect the definite positioning and registering of the typographic units with respect to the said parts of the chase. In the illustrated embodiment, and referring to Fig. 1 of the drawings, there is shown attached to the typographic unit 1 triangular prismatic lugs 2 and upon the typographic unit 3, shown in Fig. 2 of the drawings, similar lugs 4 for the purpose indicated. The illustrated embodiment, furthermore, is shown constructed and arranged to co-act with surfaces adapted to receive and to give impressions by transfer, offset, or otherwise, and is therefore shown as embodying registering devices in definite relation to the typographic units carried by the chase 5 and also adaptable to co-act with registering devices carried by the transfer, offset, or other surfaces which give character impressions to the surfaces carried by the chase or receive them therefrom.

The particular form of holding and positioning means carried by the chase 5 and adapted for engagement with the members 2 and 4 comprise bars or lugs 6 having V-shaped openings adapted to fit and interlock with said prismatic lugs 2 and 4 carried by the said typographic surfaces. The lugs 6, as shown, have their openings inclined at an angle corresponding to the angle of the lugs on the typographic surface supports, but the latter lugs are somewhat shorter, as clearly illustrated, thus facilitating the combined locating and holding movement mentioned. These locating and holding means are constructed to receive movements of such a nature as to adapt them to perform their functions, and such movements, in the present embodiment of the invention, consist of a longitudinal movement for the purpose of locating or positioning the various surfaces, and of a transverse movement for the purpose of holding or clamping the said surfaces in the position to which they may be adjusted by the said locating means. It is, however, not necessary that the locating and holding means on both sides of the chase should be given the holding and clamping movement, which

in this case is the transverse movement. Accordingly, the mechanism on one side only is shown as so movable. This mechanism will be first described in detail.

Means for imparting a locating movement, in this case longitudinally, to the locating and holding means 6 are provided. These means are shown as wedge members 7 located between the said members 6. As these wedges 7 progress between the members 6 it will be seen that they have a tendency to spread said members longitudinally and if the members 6 at one end of the series are in contact with the fixed part of the chase it will be obvious that the other members, if slidable, will all partake of a longitudinal motion. The said members 6 may be mounted so as to have such a sliding motion. This motion may be secured in various ways, and is shown in the present embodiment as being secured by providing the said members 6 with tongue portions 8 which fit into grooves 9 in the movable member 10. The members 6 may also be mounted with respect to the member 10 so that any movement of the said member 10 in a transverse direction will be communicated to the members 6 while the said members 6 will be free to move transversely, as just pointed out. For the purpose of causing the members 6 to so move with the said member 10 they are positioned to abut upon the member 10 as shown at 11.

While the adjusting members or wedges 7 have travel in one direction, as longitudinally, with the members 6, it is necessary that they have a movement independent thereof in order to give the longitudinal adjustment to the members 6. Suitable means for giving such a motion is provided and such means are illustrated as consisting of a bar 12 which is supported by the member 10, but is movable relatively thereto. Guiding means are provided, herein shown as pins 13, traveling in holes in the said member 10, and the said member 12 is provided with a hook portion 14 while the members 7 are provided with a counter-hook portion 15 taking into the said hook portion 14 to permit of free sliding motion of the wedges 7 with respect to the bar 12 but compelling the wedges to partake of any movement of the said bar 12. Means for accurately regulating the motion of the said bar 12 and through the wedges 7 of the adjusting members 6 are provided. Such means are shown as comprising a cam member 16 acting upon a face of the said member 12. The said cam is provided with actuating means, such as the turning head 17, and the amount of movement which it is desired to impart to the adjusting members 6 may be suitably regulated. Where it is desired that such movement shall be in units of any particular magnitude, this may be done by pro-

viding a tooth member 18 coacting with a spring detent 19 as shown in Fig. 3 or the movement may be regulated by means of a dial 20 and set screw 21 where desirable or convenient. The bar 12 is held to the cam face 16 by suitable means such as springs 22.

Means for moving the part 10 are provided, and such means are herein shown as cams 25, which are suitably connected to actuating means, such as a lever 26, which may have a detent 27 for holding it locked in position. These cams are shown as adapted to move the said part 10 in one direction only, and springs 23 acting upon the said member 10 through suitable means, such as the pins 24, are illustrated for moving it in the other direction, the pins 24 being integral with the structure of the member 10 and serving also as guides therefor.

In the embodiment illustrated it will be understood that by movement of the turning head 17 and its cam 16 the adjusting members or wedges 7 will have movement with respect to the locating and holding members 6 to give them a movement of location, the members 6 and members 7 having a common sliding motion in order for the members 6 to pass to the proper locating position. When in such position and the typographic surfaces are in alinement therewith, through the lever 26 and its cams 25, the member 10 is now given a movement transversely to the first-described movement and the members 6 are thereby moved into the holding position, and the said typographic surfaces are firmly held in their proper adjusted positions as determined by the members 6.

It is frequently desirable, as hereinbefore stated, to locate the typographic surfaces held by the chase in a definite relation with respect to lines of matter upon another surface, as for the purpose of transferring the matter from the latter surface to the former surfaces, and means for accomplishing this are provided. In the present embodiment such means are shown as comprising pins 28 having points 29. These pins are shown mounted in a definite relation to the locating or alining means 30 of the members 6, and are so constructed as to partake of the locating movement of the members 6, but, when desired, may be stationary with respect to the clamping or holding movement of the said members 6. Proper means for accomplishing this end are provided. In the members 6 a longitudinal slot 31 is shown which is of approximately the same diameter as the pin 28. This provides for movement along the slot of the member 6 with respect to the pin, but movement transversely thereto would be partaken of by the pin also. The said pin 28 is mounted in a

guiding member, or bar, 32 which is fixedly mounted with respect to the chase 5. In the said guiding member 32 is a slot 33 substantially perpendicular to the slot 31 in the members 6, and the arrangement of the said slots permits of movement of the locating pins 28 with the members 6 during their locating movement while restraining the said pins from partaking in the holding or clamping movement of the said members 6. Suitable means for causing the members 6 to follow any retrograde movement of the adjusting wedges 7 are provided, shown as springs 34.

Where it is desired to bring the typographic surfaces carried by the chase into definite relation with other typographic surfaces, such as transfer sheets or into definite relation with lines of characters carried by transfer sheets, offset surfaces, or other typographic surfaces adapted to give an impression to the surfaces carried by the chase or to receive an impression therefrom, these various functions may be effected by this invention. When the illustrated and described mechanism of the invention is to be used for this purpose, the cooperating transfer sheet, or other typographic surface, is provided with registering means bearing definite relation to the lines of characters upon such transfer sheet or other surface, of a form suitable to cooperate with the registering means carried by the chase. In Figs. 5, 6 and 7 of the drawings are shown typographic surfaces bearing lines of characters and having registering means in definite relation thereon in the form of registering perforations centered with reference to each line of characters. The lines of characters upon the said surfaces are differently spaced, or "leaded." The typographic surfaces in the chase, whether planographic, colloidal, or other suitable surface, may be automatically adjusted so as to receive the impression of the lines of characters upon the said surfaces carried by the chase in a predetermined desired relation. It will be very simple to bring the registering means on the chase into register with the registering means carried by the transfer sheet or other surface and the lines of characters upon the sheet will then be in proper register to be put down upon the bars or other typographic surfaces carried by the chase. In Fig. 3 of the drawings a chase has been shown as carrying units taking different numbers of lines. In practice, however, it will generally be found convenient to use units carrying one line each. One such unit is shown as carried in the chase 3 and the operation of the chase in carrying only one line units will be obvious.

With one-line units, matter can be transferred to the typographic surfaces carried by the chase from a transfer surface, offset

surface, or other suitable surface, with the lines spaced a certain distance apart so that the lines may be received symmetrically upon the said line units carried by the chase and then a transfer, offset, or other impression taken therefrom for reproduction after the typographic surfaces carried by the chase have been adjusted to a different predetermined relation with respect to each other, that is, the relative positions, or distance between the different bars, may be changed without altering their symmetrical relation. For instance, after an impression is laid down on the bars with the spacing in Fig. 5 and it is desired to take an impression off from the bars with the line spacing, or "leading," shown in Fig. 7, it will only be necessary to bring the registering pins 29 into proper relation with the registering holes 35 in the sheet when the impression is laid down on the bars and then to bring the said pins into the same relation with the registering holes 35 in the sheet shown in Fig. 7 when the impression is to be taken from the bars. It will be equally obvious that the distance between lines can be changed while preserving the symmetrical relation of the bars to each other, and therefore of the entire composed matter, the operations above set forth being illustrative only. It will be further understood that the chase may be used with typographic surfaces or bodies other than those mentioned, as for instance, relief line slugs or electrotype plates might be used for certain purposes and in certain connections. It will also be understood that the term "chase" as used herein indicates a mechanism of much greater efficiency and capacity than the ordinary chase as it embraces means for positioning typographic surfaces rather than means for merely locking them up in a form for proofing and other purposes, in the manner of the ordinary printer's chase.

The manner of operation will be obvious from the foregoing description but a further brief statement of operation will be given. For the purpose of accommodating bars of different length the top and bottom members of the frame 5 are shown slidably dovetailed into each other and having means, shown as set screws 5*, for securing them to adjusted position. In order to automatically adjust the typographic bodies carried by the chase to a predetermined relation while preserving their symmetrical relation, as for instance, varying the line distance between various bodies while preserving such bodies in their symmetrical relation so that the increase or decrease between the respective lines may be uniform throughout, the members 6 are shown as being longitudinally movable with respect to the chase and such movement is proportioned automatically between the various

members 6 so as to secure the result above indicated. After the typographic bodies have been inserted into the chase in engagement with the members 6 the lever 26 is actuated to move the member 10, thereby holding or clamping the typographic bodies in the locating and holding members 6. If the cam 16 be now actuated by means of the turning heads 17 they will cause the bars 12 to move inwardly against their springs, or outwardly in obedience to the pressure of their springs moving the slidable wedges 7 with respect to the members 6. If the wedges 7 are moved inwardly a transverse movement will be given to the holding and locating members 6, causing them to separate one from the other, said movement being taken up by the compression of the springs 34. If the wedges 7 are withdrawn the members 6 will move toward each other and will be kept to position in contact with the wedges 7 by the expansion of the springs 34. The registering pins 29 will slide in their slots 33 so as to remain in definite relation to the locating and holding means 6. When it is desired to remove the typographic surfaces from the chase actuation of the lever 26 will permit the member 10 to move backwardly in obedience to the pressure of its springs 23 without disturbing the relation of the holding and locating members 6 with reference to each other but allowing them to recede from the typographic surfaces sufficiently so that said surfaces may be removed.

In Fig. 10 of the drawings is shown a form of pin 28 in which the point 29 is depressible, which is sometimes useful in making the impressions.

The invention, in its broader aspects, is not limited to the particular constructions shown, nor to any particular constructions by which it has been or may be carried into effect, as many changes may be made in the construction without departing from the main principles of the invention and without sacrificing its chief advantages.

What we do claim as our invention and desire to secure by Letters Patent, is:

1. A chase constructed and arranged to hold a plurality of character-bearing bodies, said chase having means for automatically adjusting said bodies to one of a plurality of relations with respect to each other.

2. A chase constructed and arranged to hold a plurality of character-bearing bodies, said chase having means for automatically adjusting said bodies to one of a plurality of predeterminable relations with respect to each other and for holding the said bodies in such relation.

3. A chase constructed and arranged to hold a plurality of character-bearing bodies, said chase including in combination means for holding said character-bearing bodies in symmetrical relation with respect to each

other and means for changing their positions without disturbing their symmetrical relation.

4. A chase constructed and arranged to hold a plurality of character-bearing bodies, said chase including in combination means for holding said bodies in symmetrical relation to each other, and means for changing the distance between the respective bodies without disturbing their symmetrical relation.

5. A chase constructed and arranged to hold a plurality of bodies each bearing a line of characters in symmetrical relation, and means for symmetrically changing the distance between the said various bodies.

6. A chase constructed and arranged to hold a plurality of bodies each bearing a line of characters in symmetrical relation, and means for uniformly changing the distance between the various bodies.

7. A chase constructed and arranged to hold a plurality of bodies bearing lines of characters, said chase having means for positioning said bodies with reference to each other so that the lines of characters thereon will be in one of a plurality of relations to each other.

8. A chase constructed and arranged to hold a plurality of bodies each bearing a line of characters, or a plurality of lines of characters, said chase having means for positioning said bodies with reference to each other so that the lines of characters thereon will be in one of a plurality of predeterminable relations to each other.

9. A chase constructed and arranged to hold a plurality of bodies each bearing a line of characters, or a plurality of lines of characters, said chase having means for positioning said bodies with reference to each other so that the lines of characters thereon will be in one of a plurality of predeterminable relations to each other, and means for holding the said bodies in a position to which they may be adjusted.

10. A chase constructed and arranged to hold a plurality of typographic bodies including in combination positioning means for the said bodies, registering means in definite relation to said positioning means, and means for adjusting said positioning and registering means to various predeterminable relations.

11. A chase constructed and arranged to hold a plurality of line-bearing bodies, said chase including in combination a plurality of members holding such line-bearing bodies, registering means in definite relation to the various holding members, and means for changing the position of the holding members with reference to each other while preserving the registering means for each holding member in definite relation to its holding member.

12. A chase constructed and arranged to hold a plurality of line bars, said chase having holding and positioning means for engaging each bar at both ends, and means for
5 varying the spacing between the various line bars, said last-mentioned means operating by moving the said line bars with respect to each other while held in the chase and so as to preserve the symmetrical relation between the said bars.
13. A chase constructed and arranged to hold a plurality of line bars having holding and positioning means for engaging each of the bars at both of its ends, mechanism for
15 varying the distance between the holding and positioning means for the respective bars, and a cam for controlling the said mechanism.
14. A chase constructed and arranged to hold a plurality of line bars having holding and positioning members for engaging each of the bars at both of its ends, said members being slidable longitudinally of the chase, a series of traveling wedges co-acting with
20 said holding and positioning members so as to give them a longitudinal movement while preserving their symmetrical relation, a cam for moving the said series of wedges, and means for holding the cam in any position
25 to which it may be moved.
15. A chase constructed and arranged to hold typographic surfaces adapted to receive or give impressions, said chase having holding means for such typographic surfaces, and means for moving said holding means to
30 correspond with the line spacings carried or desired upon a surface adapted to cooperate with the said typographic surfaces to impress characters thereon or to receive the impression of characters therefrom.
16. A combination with a transfer sheet bearing lines of characters of a chase constructed and arranged to hold a plurality of typographic surfaces adapted to receive and
35 to yield character impressions, said chase having means for positioning said typographic surfaces, and means for bringing said typographic surfaces into a relation with each other corresponding to the relation between the lines of characters upon
40 the transfer sheet.
17. The combination with a transfer sheet bearing lines of characters and registering marks in definite relation to such lines of characters, of a chase constructed and arranged to hold a plurality of typographic surfaces adapted to receive and to yield character impressions, said chase having
45 means for positioning said typographic surfaces, registering means in definite relation to the typographic surfaces held in the chase, and means for moving the typographic surfaces relatively to each other so as to bring the said registering means upon
50 the transfer sheet and the chase into register whereby the lines of characters may be transferred to the typographic surfaces in the same relation that they bear upon the transfer sheet.
18. The combination with a transfer sheet bearing lines of characters and registering marks in definite relation to said lines of characters, of a chase constructed and arranged to hold a plurality of typographic surfaces adapted to receive character impressions, said chase having means for holding the typographic surfaces, registering means in definite relation to said holding means, said registering means being adapted to cooperate with the registering means upon the transfer sheet, and means for moving said registering means upon the chase so that they will be in operative relation to the registering means upon the transfer sheet when the transfer sheet is laid down upon the chase.
19. A chase including in combination a plurality of holding means for a series of line bars, said holding means being movable longitudinally and transversely, a series of registering pins being movable longitudinally with the said holding means but not being movable transversely with the holding means.
20. A chase including in combination registering members constructed and arranged to co-act with registering means carried by a typographic surface in definite relation to lines of characters arranged in series upon said surface, and means for spacing or adjusting said registering members to correspond to the location of the registering means upon the typographic surface for different spacing between the lines of characters thereon.
21. A chase constructed and arranged to hold a plurality of character-bearing bodies, said chase having means for simultaneously adjusting said bodies to one of a plurality of positions with respect to each other.
22. A chase comprising a member for positioning and holding a typographic surface, said member having movement in one direction to position said typographic surface and movement in another direction in the same or a parallel plane to hold or fix such surface in position.
23. A chase constructed and arranged to hold a plurality of character-bearing bodies, said chase having means for automatically adjusting said bodies toward or from each other to a predetermined relation with respect to each other.
24. A chase constructed and arranged to hold a plurality of character-bearing bodies, said chase having means for automatically adjusting said bodies toward or from each other to a predetermined relation with respect to each other.
25. A chase constructed and arranged to

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hold a plurality of character-bearing bodies, said chase having means for automatically adjusting said bodies toward or from each other to a predetermined relation with respect to each other and for holding the said bodies in such relation.

26. A chase constructed and arranged to hold a plurality of character-bearing bodies, said chase having means for automatically moving the said bodies toward or from each other while preserving them in symmetrical relation.

27. A chase provided with means for

holding a plurality of line bars in page or column form and means for moving them toward or from each other lengthwise of the page or column without disturbing their symmetrical relation.

In testimony whereof, we have signed our names to this specification, in the presence of two subscribing witnesses.

AUGUSTE L. SALTZMAN.

JOHN D. MORGAN.

Witnesses:

CLARA PHILLIPS,

F. C. LUCAS.