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METHOD AND APPARATUS FOR ALIGNING AND RETAINING TYPE
AND THE LIKE FOR PRINTING
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2,902,930

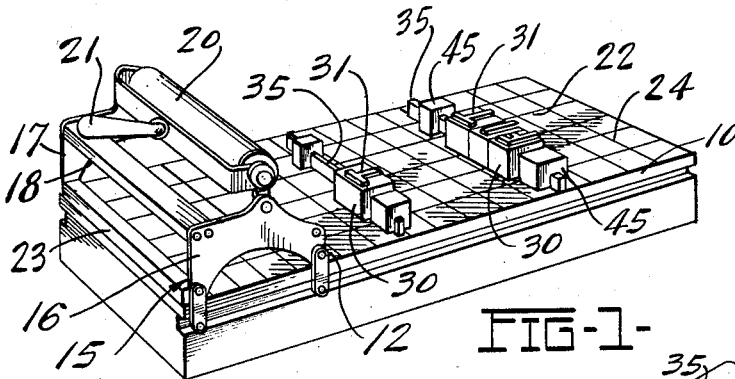


FIG-1-

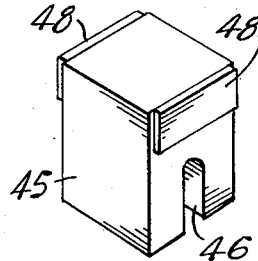


FIG-5-

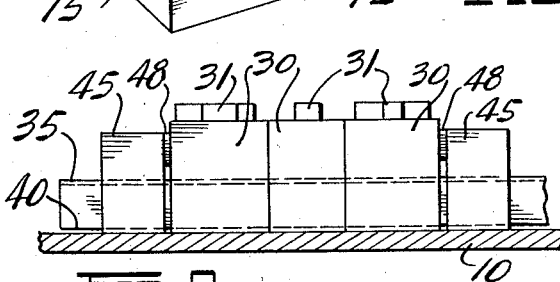


FIG-2-

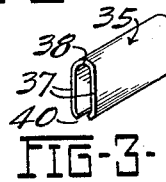


FIG-3-

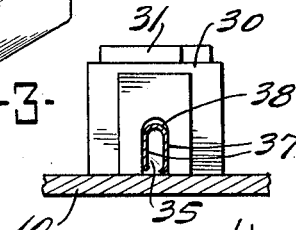


FIG-4-

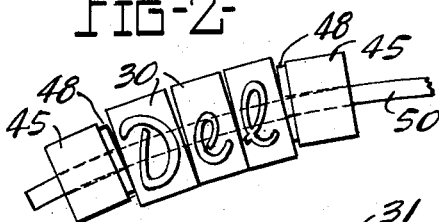


FIG-8-

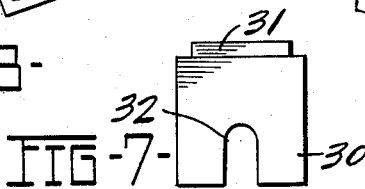


FIG-7-

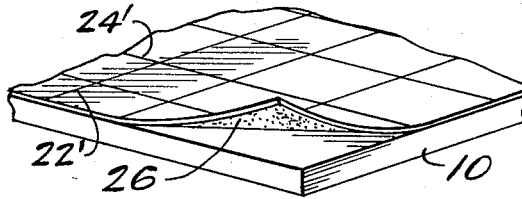


FIG-6-

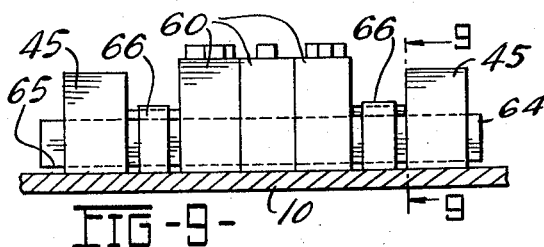


FIG-9-

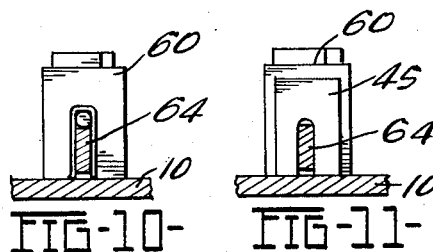


FIG-10-

FIG-11-

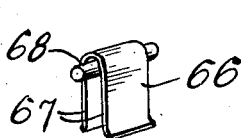


FIG-12-

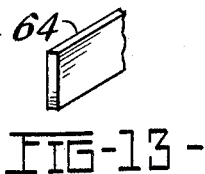


FIG-13-

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**METHOD AND APPARATUS FOR ALIGNING AND
RETAINING TYPE AND THE LIKE FOR PRINT-
ING**

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Application February 14, 1957, Serial No. 640,250

13 Claims. (Cl. 101—381)

This invention relates to a method and apparatus for aligning and supporting types for printing operations and more especially to a method and apparatus for aligning type and supporting the type upon a platen or surface in a manner facilitating the positioning and removal of the type from a supporting platen. The present invention is especially usable for aligning and positioning types for the printing of signs, placards and the like and avoids and eliminates certain difficulties that have been encountered in methods of aligning and retaining type heretofore employed in this art.

One method of printing involves the utilization of a type-supporting bed or platen provided with parallel grooves spaced over the platen area and adapted to receive type-retaining bars. This method presents limitations on type size and type spacing as the types or printing characters must be arranged in parallel rows, the distance between rows being governed by the spacing of the grooves which accommodate the types.

Another method involves the use of an adhesive surface provided on a platen, the adhesive being adapted to grip the types used in printing operations. This method, however, presents difficulties in that the adhesive must be replaced periodically and, by reason of the tenacious character of the pressure sensitive coating, considerable skill is required to arrange or orient groups of types in precise positions on the adhesive in preparing the make-ready.

The present invention embraces a method and apparatus of aligning types and retaining and supporting the types in a manner facilitating the composition of a make-ready for printing operations in a minimum of time.

An object of the invention is the provision of a method wherein a number of letters making up words or sentences are assembled upon one or more portable type aligning means so that the groups or assemblies of letters may be maintained as units and any number of such groups or assemblies arranged in any desired pattern upon a suitable bed or fixed platen or supporting surface and retained by magnetic forces.

The invention relates to a method and arrangement for aligning types and other printing characters especially usable in preparing or printing placards, signs and the like wherein the types or characters may be engaged and forcibly, yet removably, maintained on a bed plate or platen in any desired motif or configuration.

Another object of the invention is the provision of an arrangement wherein a series of printing types or characters may be readily and quickly aligned through engagement with an aligning member and the assemblage of type and aligning member secured in fixed relation upon a bed or fixed platen through the use of magnetic forces provided by magnetized members engageable with the type aligning means.

Another object of the invention is the provision of magnetized members engageable with a type aligning means wherein the magnetized members are provided with cushions of flexible or yieldable material engageable

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with end types of an assembly of types for exerting lateral pressure upon the types to maintain them in proper abutting relation.

Another object of the invention is the provision of an aligning bar for type which may be of curved or non-rectilinear shape for retaining types in curved patterns or designs and wherein magnetic means secures the type aligning means in proper engagement with the type and to secure the type onto a supporting surface or platen so as to resist lateral movement.

Another object resides in a method of forming guide lines or indices by etching or cutting the lines in the surface of a metal type-supporting platen or in a coating provided on the platen whereby the guide lines will not be worn away through extensive use.

Another object of the invention is the provision of means for aligning comparatively small printing types on a retaining means and applying fittings or clips onto the retaining means and engaging the aligning means with magnetized members arranged to hold the types in engagement with a platen and exert lateral forces against the types in alignment with the type aligning means.

Still a further object is the provision of cushion means engageable with an assembly of types which through magnetic means exerts lateral pressures upon an assembly of types to hold the types in abutting relation.

Further objects and advantages are within the scope of this invention such as relate to the arrangement, operation and function of the related elements of the structure, to various details of construction and to combinations of parts, elements per se, and to economies of manufacture and numerous other features as will be apparent from a consideration of the specification and drawing of a form of the invention, which may be preferred, in which:

Figure 1 is an isometric view of a printing device or apparatus illustrating the use of a form of the invention therewith;

Figure 2 is a side elevational view of an assembly of types held in assembled relation by the means of the invention upon the platen of the printing device;

Figure 3 is an isometric view illustrating a portion of one form of type-aligning means;

Figure 4 is an end elevational view of the assembly of types illustrated in Figure 2;

Figure 5 is an isometric view of one of the magnetized elements for retaining types in an assembled condition on the platen of the printing device;

Figure 6 is a fragmentary isometric view of a portion of the platen of the printing device illustrating a film of plastic or other coating bearing guide lines that may be utilized with the platen of the printing device as an assist in orienting type upon the platen;

Figure 7 is an end view of a type;

Figure 8 illustrates a curved type retaining means in conjunction with magnetic elements for retaining a group of types in assembled relation upon the curved retaining means;

Figure 9 is an elevational view of an assembly of types in conjunction with a relatively thin aligning means and illustrating a modified form of cushioning means for exerting lateral pressures upon the assembled types;

Figure 10 is a vertical sectional view taken substantially on the line 10—10 of Figure 9;

Figure 11 is an end elevational view of the arrangement shown in Figure 9;

Figure 12 is an isometric view of a clip or retaining member which may be utilized with the types and magnetic means to frictionally retain the types in the assembled relation such as illustrated in Figure 8, and

Figure 13 is a fragmentary isometric view of a solid bar form of type aligning means.

While the arrangement of the invention has been illustrated in association with a printing device especially adapted for printing placards, signs and the like, it is to be understood that the type aligning and retaining method and arrangement of the invention may be used with various forms and shapes of types of characters for printing on any surface where the type may be supported upon a metallic platen or bed plate having the properties of attracting a magnetic element or conducting magnetic forces.

Referring to the drawings in detail, and initially to Figure 1, there is illustrated a printing device or construction particularly adapted for mounting or setting up types, characters, displys, designs or other medium for transfer by printing or impression to a card, sheet or other medium adapted to be printed. The printing device is inclusive of a type-supporting bed or platen 10 of iron, steel or a ferrous metal alloy which is conductive or receptive to lines of force of a permanent magnet or magnetic element disposed adjacent the surface thereof. The type bed 10 may be supported upon a block 12 of metal or other suitable material to prevent distortion or warping thereof, or the platen may be fashioned without a separate support. The platen or type bed 10 is of a length and width suitable for accommodating various sizes of cards or sheets which are to be printed from types or characters supported upon the platen.

The arrangement shown in Figure 1 is inclusive of a movable carriage 15 having end frame sections 16 and 17 held in fixed spaced relation by means of transversely extending bars, one of which is indicated at 18 in Figure 1. The movable frame or carriage 15 is equipped with rollers not shown for reciprocation lengthwise of the type bed or fixed platen for performing printing operations, the carriage being provided with a pressure roll 20 and an operating handle 21, the pressure roll being arranged to be brought into contact with the reverse side of a card or sheet placed upon type or characters supported by the platen to effect the printing or transfer of an impression of the ink-coated type on the obverse side of the card or sheet. One end of the type bed is equipped with a clamp member 23 for holding the card or sheet to be printed.

The upper surface of the platen or bed 10 is preferably provided with sets of guide lines 22 and 24 extending respectively lengthwise and transversely of the platen to assist in the positioning or orientation of types upon the surface of the platen in forming a make-ready for carrying on printing operation.

The type arranging guide lines or indices 22 and 24 may be in the form of recesses etched directly into the surface of the type bed or fixed platen and the recesses filled with aluminum paint to render the lines readily visible. The surface of the type bed may be coated with enamel and the lines cut into the enamel coating.

A sheet of high strength paper bearing printed lines may be used. The paper sheet may be held to the corner regions of the platen by pressure sensitive tape, spots of glue or other suitable means facilitating ready removal and replacement of the sheet of paper.

As shown in Figure 6 the guide lines 22' and 24' may be imprinted upon a film of resin or plastic material such as a film of copolymer of vinyl chloride and vinyl acetate suitably plasticized and upon which the guide lines may be printed. The film 26 may be secured to the upper surface of the bed by a suitable tacky adhesive or other suitable joining material of a character which will facilitate easy removal of the film 26 for replacement when necessary.

The enamel coating, paper sheet or the film 26 bearing guide lines are preferably made relatively thin so that the gap between the upper surface of the metallic bed 10 and the magnetic type retaining elements is sufficiently small as not to substantially impair or reduce the magnetic lines

of force from the magnetic elements through the bed plate. In the arrangement of the present invention the upper surface of the platen 10 or the surface of the enamel, paper or film that may be disposed thereon is smooth and uninterrupted so that type may be oriented or positioned at any region and in any pattern on the surface.

Printing types of a character especially usable in the arrangement of the invention are illustrated at 30 in Figures 1, 2, 4 and 7. Each of the types 30 is inclusive of a body preferably of rectangular cross-section provided with a raised letter or character 31. All of the types or characters usable for printing operations are of the same overall height so that, when assembled in a position upon the platen or type bed 10, the faces of the types or characters will lie in a common plane. The individual types or bodies may be of different widths, depending upon the size of the printing character or letter carried by or formed on each type block or body.

Each of the type blocks or bodies 30 as shown in Figure 7 is provided with a longitudinally-extending open slot or recess 32, the slot being preferably open-ended at the lower or base surface of the type block as illustrated in the drawings. The slots 32 are preferably fashioned with parallel opposed walls, the slots being of the same width in the types in order to receive and accommodate a type-aligning member or means 35.

One form of type-aligning means 35 is illustrated in Figures 2, 3 and 4 and comprises a body or member of elongated configuration and of generally U-shaped cross-section providing parallel side walls 37 joined by a loop or bight portion 38 as shown particularly in Figures 3 and 4, the lower edge regions of the walls 37 being bent or directed slightly inwardly as at 40 to lend rigidity to the member 35.

The metal or material forming the type aligning means 35 is made sufficiently thin to facilitate inward flexing of the side walls 37 as the types 30 are slipped over the bar 35 and assembled, for example, into group configuration as illustrated in Figures 1 and 2. While a type aligning means or bar as illustrated is of hollow configuration, it is to be understood that other material may be used as a type aligning means such as a member of plastic, semi-hard rubber, or material of sufficient flexibility to frictionally receive the types 30 in the manner illustrated in Figures 2 and 4. The distance between the outer surfaces of the walls 37 of the type aligning means 35 is preferably slightly greater than the width of the slots 32 in the types 30 so that when the types are assembled upon the bar 35, the walls 37 are flexed or distorted slightly inwardly whereby the types are frictionally gripped by the walls 37 so as to retain the types upon the bar 35.

While it is preferable to fashion the bar 35 so that its walls are slightly flexed inwardly in receiving the types, it may be of a thickness to accommodate the types without flexure and yet maintain the types in aligned condition.

The type aligning means may be in the form of a solid metal bar fashioned of aluminum or the like of a thickness to be snugly, yet slidably, received in the open-ended slots or recesses 32 formed in the types.

The invention is inclusive of magnetic means for securing the type aligning and retaining means adjacent the obverse surface of the platen 10 to hold the types in assembled relation on the platen surface. Types such as those shown at 30 are usually made of lead, wood, hard rubber or other non-magnetic material. The present invention includes members, elements or blocks 45 fashioned of metal which has magnetic properties, the metal being hardened so as to become permanently magnetized. One of the magnetic elements or blocks 45 is illustrated in Figure 5.

Each of the magnetic elements 45 is formed with an open-ended slot 46 of the same dimensions as the slots 32 in the types 30 so as to be received upon or slipped over

the type aligning bar 35 in the same manner as the types 30.

The end surfaces of the magnetic blocks or elements 45 may be equipped with a layer of flexible rubber or other yieldable or compressible material forming cushions 48 adapted to engage the end faces of the end types in a group of types as illustrated in Figure 2. The members or cushions 48 of yieldable material may be joined to the faces of the magnetic blocks 45 by a suitable adhesive or, if the cushions 48 are formed of rubber they may be vulcanized to the blocks 45.

An assembly of types 30, the aligning bar 35 and magnetic blocks 45 is illustrated in Figure 2. It should be noted in Figure 2 that the lower edge regions 40 at the termination of the parallel walls 37 of bar 35 are, in assembled relation with the types and magnetic blocks, spaced slightly above the surface of the platen 10 so as not to impair a full and complete surface engagement of the types 30 and the magnetic blocks 45 with the platen. In the assembly of the types, the magnetic blocks straddling the type-aligning bar at each end of a series of types are disposed so that the cushions 48 on the blocks engage the end types so as to exert lateral pressure against the types in directions lengthwise of the type aligning bar so as to hold the types in abutting relation.

It is to be understood that the flexible cushions 48 may be omitted and the end surfaces of the magnetic blocks 45 brought into direct metallic engagement with the types 30, the operator, in positioning the magnetic blocks 45, exerting endwise pressure on the blocks to bring them into snug engagement with the types. The use of the cushions 48 however facilitate the retention of types in abutting engagement by the magnetic blocks as the cushions automatically exert pressure or force against the types in the direction of the aligning bar 35 when the types of a group and magnetic blocks are supported on the platen.

Through this arrangement of type aligning and magnetic retaining means for the types a sign or other information-conveying visual medium may be printed with individual words, phrases, sentences or characters which may be disposed in various positions of orientation upon the surface of a platen 10 or on the film 26 or lined paper sheet which may be used with the platen as there is no limitation in the placement or positioning of the types in carrying on printing operations. With the present arrangement there are no grooves or other projecting type-positioning devices on the platen and any desired spacing of types or assemblies of types may be used and securely held by the magnetic means in any desired position. As the blocks 45 are of permanently magnetized character, they do not deteriorate and always exert the same effective force in a direction holding the type in assembled or oriented position on the platen 10.

As illustrated in Figure 8, the type aligning means may be in the form of a curved bar 50 which may be formed of metal such as aluminum or other metal alloys which may be flexed or formed into a curved position. The bar 50 is preferably of rectangular configuration in cross-section and of a transverse thickness sufficiently less than the thickness or width of the slots 32 in the types to accommodate the curvature of the bar 50. Figure 8 illustrates an assembly of types on the curved bar 50, the magnetic blocks 45 holding the types in assembled relation with the flexible cushions 48 on the types exerting pressure lengthwise against the end types of the group.

In the standard size of types utilized for the sign printing purposes it is at present conventional that the types are of .918 inch in height. In the types illustrated in connection with the aligning bars 35 and 50 it has been found that a slot having a width of about one-eighth of an inch and a height of about three-eighths of an inch is satisfactory in the standard size types. Where a curved type aligning means such as the bar 50 is employed, the bar may be several thousandths of an inch

less than the normal width of the slots in the types 30 and blocks 45 to accommodate the curvature of the bar in the slots.

Figures 9 through 13 illustrate a type aligning and retaining means especially adaptable for use with comparatively thin types. In this form, the types 60 are provided with lengthwise slots which are narrower than the slots 32 in the types 30 hereinbefore described. The retaining bar 64 usable with the types 60 is preferably of rectangular cross-section as illustrated in Figures 10, 11 and 12 and is of a lateral thickness or dimension to be slidably yet snugly received in the slots in the types 60.

In order to assist in the retention of the types upon the bar 64, spring clips or members 66 preferably of U-shaped configuration as shown in Figures 10 and 12 are adapted to be received on the bar 64 in the relative positions illustrated in Figure 9 in assembly with a group of types 60. Each of the clips 66 is preferably provided with a pin or member 68 of rubber or other suitable yieldable material, portions of the pin 68 extending beyond the ends of the clip in the manner illustrated in Figures 9 and 12.

As shown in Figure 9, a clip 66 is preferably disposed at each end of a group of types arranged on the bar 64 and the frictional grip between the clips 66 and the bar 64 serving to exert lateral or endwise pressure against the types 60 to hold them in abutting relation. A pair of magnetic blocks 45 are disposed, one at each end region of the types 60 shown in Figure 9 straddling the bar 64 and in a position engaging the ends of the pins 68 exerting pressure endwise of the pins 68 to assist in holding the types 60 in proper position. The clips 66 are made of spring metal so that the parallel walls 67 of the clips frictionally grip the side walls of the type aligning bar 64. The bar 64 is made of a depth slightly less than the depth of the slots or recesses in the types 60 so that the lower edge wall 65 of the bar is out of engagement with the upper surface of the platen 10 so that there is full and complete area or surface engagement of the types 30 and the magnetic blocks 45 with the platen whereby the letters or characters of the types will be arranged in a common plane.

The retaining or type aligning bar 64 may be made or configured with a slight curvature and when it is desired to dispose the types 60 in a slightly curved motif, the bar 64 is fashioned to a slightly lesser thickness than the width of the slots or recesses in the types 60 and magnetic blocks 45 in order to accommodate the curvature of the bar.

It is to be understood that any suitable material may be utilized for the type aligning means and that such means may be fashioned of different shapes of cross-sectional configuration other than those illustrated in the drawings. For example a bar of circular or oval cross-section may be employed for the purpose. The open slot configurations in the types may be of any suitable width and depth to accommodate the particular form and size of type aligning and retaining means employed which will attain the purposes and perform the functions as herein described.

It is apparent that, within the scope of the invention, modifications and different arrangements may be made other than is herein disclosed, the present disclosure is illustrative merely, the invention comprehending all variations thereof.

I claim:

1. In combination, means for supporting and retaining type during printing operations including a metal platen formed with a uniplanar type supporting surface, a group of non-magnetic types each formed with an open slot, non-magnetic type aligning means configured to be received in said slots in the type for positioning the types in predetermined relation, permanent magnets adapted for magnetic engagement with said platen, each of said magnets being formed with an open slot to receive said

type aligning means, said magnets being arranged adjacent the end types of the group on the platen surface and engaging the end types and exerting lateral pressure against said types under the influence of magnetic forces between said platen and said magnets.

2. In combination, means for supporting and retaining type during printing operations including a metal platen formed with a uniplanar type supporting surface, a group of non-magnetic types each formed with an open slot, non-magnetic type aligning means configured to be received in said slots in the type for positioning the types in predetermined relation, said non-magnetic type aligning means comprising a solid non-magnetic bar, permanent magnets adapted for magnetic engagement with said platen, each of said magnets being formed with an open slot to receive said type aligning means, said magnets being arranged adjacent the end types of the group on the platen surface and engaging the end types and exerting lateral pressure against said types under the influence of magnetic forces between said platen and said magnets.

3. In combination, means for supporting and retaining type during printing operations including a metal platen formed with a uniplanar type supporting surface, a group of non-magnetic types each formed with an open slot, non-magnetic type aligning means configured to be received in said slots in the type for positioning the types in predetermined relation, said non-magnetic type aligning means comprising a tubular resilient tension bar, permanent magnets adapted for magnetic engagement with said platen, each of said magnets being formed with an open slot to receive said type aligning means, said magnets being arranged adjacent the end types of the group on the platen surface and engaging the end types and exerting lateral pressure against said types under the influence of magnetic forces between said platen and said magnets.

4. In combination, means for supporting and retaining type during printing operations including a metal platen formed with a uniplanar type supporting surface, a group of non-magnetic types each formed with an open slot, non-magnetic type aligning means configured to be received in said slots in the type for positioning the types in predetermined relation, said non-magnetic type aligning means comprising a solid non-magnetic bar, permanent magnets adapted for magnetic engagement with said platen, each of said magnets being formed with an open slot to receive said type aligning means, said solid non-magnetic bar being in height less than the depth of the slots in said type and magnets, said magnets being arranged adjacent the end types of the group on the platen surface and engaging the end types and exerting lateral pressure against said types under the influence of magnetic forces between said platen and said magnets.

5. In combination, means for supporting and retaining type during printing operations including a metal platen formed with a uniplanar type supporting surface, a group of non-magnetic types each formed with an open slot, non-magnetic type aligning means configured to be received in said slots in the type for positioning the types in predetermined relation, said non-magnetic type aligning means comprising a tubular resilient tension bar, permanent magnets adapted for magnetic engagement with said platen, each of said magnets being formed with an open slot to receive said type aligning means, said tubular resilient tension bar being in height less than the depth of the slots in said type and magnets, said magnets being arranged adjacent the end types of the group on the platen surface and engaging the end types and exerting lateral pressure against said types under the influence of magnetic forces between said platen and said magnets.

6. In combination, means for supporting and retaining type during printing operations including a metal type-supporting member, a type adapted to be supported on the member, permanently magnetized elements disposed on the member adjacent the type and in magnetic relation

with the metal type-supporting member for securing the type in position on said supporting member, and yieldable means disposed between the adjacent surfaces of the magnetized elements and type arranged to direct lateral pressure against the type under the influence of magnetic forces between the member and magnetized elements.

7. In combination, means for supporting and retaining type during printing operations including a uniplanar type-supporting metal member, a group of types adapted to be arranged in abutting relation on the member, permanently magnetized elements disposed adjacent the end types of the group and in magnetic relation with the metal type-supporting member for securing the group of types on said supporting member, and yieldable means disposed between the surfaces of the magnetized elements and the end types of the group arranged to direct lateral pressure against the types under the influence of the magnetic forces between the elements and the type-supporting member.

8. In combination, means for supporting and retaining type during printing operations including a metal member formed with a uniplanar type supporting surface, a group of types each formed with an open slot, type aligning means configured to be received in the slots in the types for positioning the types in predetermined relation, permanently magnetized elements adapted for magnetic engagement with the member, each of said magnetized elements being formed with an open slot to receive the type aligning means, each of said magnetized elements having a member of nonmetallic yieldable material mounted thereon, said magnetized elements being arranged adjacent the end types of the group on the platen surface with the nonmetallic members engaging the end types and exerting yielding lateral pressure against the types under the influence of magnetic forces between the member and the magnetized elements.

9. In combination, means for supporting and retaining types during printing operations including a metal bed formed with a uniplanar type supporting surface, said surfaces being provided with a plurality of guide lines, a group of types each formed with an open slot, a type aligning bar configured to be received in the slots in the types for positioning the types in aligned relation, permanently magnetized elements adapted for magnetic engagement with the bed, each of said magnetized elements being formed with an open slot to receive the type aligning bar, each of said magnetized elements having an element of nonmetallic yieldable material mounted thereon, said magnetized elements being arranged adjacent the end types of the group on the bed surface with the nonmetallic elements engaging the end types of the group and exerting yielding lateral pressure against the types under the influence of magnetic forces between the bed and the magnetized elements.

10. In combination, means for supporting and retaining type during printing operations including a metal platen formed with a uniplanar type supporting surface, a group of types each formed with an open slot, a type aligning bar configured to be received in the slots in the types for positioning the types in aligned relation, permanently magnetized members adapted for magnetic engagement with the platen, each of said magnetized members being formed with an open slot to receive the type aligning bar, said magnetized members being arranged in relation to the group of types assembled on the bar for urging the types of the group into abutting relation, said magnetized members being adapted to straddle regions of the bar adjacent the end types of the group disposed on the platen, and resilient means disposed between an end type of the group and the adjacent magnetized member whereby lateral pressure is applied to the types through the resilient means under the influence of magnetic forces between the platen and the magnetized members.

11. In combination, means for supporting and retaining types during printing operations including a metal platen formed with a uniplanar type supporting surface, said surface being provided with a plurality of type arranging guide lines, a group of types each formed with an open slot, a type aligning bar configurated to be received in the slots in the types for positioning the types in aligned relation, permanently magnetized members adapted for magnetic engagement with the platen, each of said magnetized members being formed with an open slot to receive the type aligning bar, said magnetized members being arranged in relation to the group of types assembled on the bar for urging the types of the group into abutting relation, said magnetized members being adapted to straddle regions of the bar adjacent the end types of the group disposed on the platen, and resilient means disposed between an end type of the group and the adjacent magnetized member whereby lateral pressure is applied to the types through the resilient means under the influence of magnetic forces between the platen and the magnetized members.

12. In combination, means for supporting and retaining type during printing operations including a metal platen formed with a uniplanar type supporting surface, a group of non-magnetic types each formed with an open slot, type aligning means configurated to be received in said slots in the type for positioning the types in predetermined relation, said type aligning means comprising a solid bar, permanent magnets adapted for magnetic engagement with said platen, each of said magnets being formed with an open slot to receive said type aligning means, said solid bar being in height less than the depth of the slots in said type and magnets, said magnets being arranged adjacent the end types of the group on the platen surface and engaging the end types and exerting lateral

pressure against said types under the influence of magnetic forces between said platen and said magnets.

13. In combination, means for supporting and retaining type during printing operations including a metal platen formed with a uniplanar type supporting surface, a group of non-magnetic types each formed with an open slot, type aligning means configurated to be received in said slots in the type for positioning the types in predetermined relation, said type aligning means comprising a tubular resilient tension bar, permanent magnets adapted for magnetic engagement with said platen, each of said magnets being formed with an open slot to receive said type aligning means, said tubular resilient tension bar being in height less than the depth of the slots in said type and magnets, said magnets being arranged adjacent the end types of the group on the platen surface and engaging the end types and exerting lateral pressure against said types under the influence of magnetic forces between said platen and said magnets.

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