This invention relates to a lay-out board upon which may be quickly and conveniently arranged and composed facsimiles, for example, of material, such as want-ads, to be graphically reproduced and to a method of preparing a lay-out of such material.

Herefore it has been common practice, particularly in certain of the graphic arts, in preparing a page for reproduction, to lay out or arrange on a make-up sheet of cardboard or the like, in the relative positions desired, the various component parts of the material to appear on said page. When the various parts have been satisfactorily positioned, each of said parts has then been pasted in position on the make-up sheet and the entire sheet has been photographed. From the photograph, a suitable plate has been engraved or otherwise prepared from which the desired page may be printed.

This method of laying out material in the position in which it is to appear on a finished page or sheet has been used in the production of booklets, catalogues and advertisements, and has been used in the preparation of plates from which the pages of a newspaper may be printed. Once the material has been laid out on the make-up sheet and pasted thereto, however, the arrangement of the material has not been readily variable. The difficulties encountered in trying to re-arrange the pasted material, and thus change the facsimile of the page laid out on the sheet, will be particularly apparent from a description of the problems met in using lay-out sheets in the preparation of pages of classified advertisements, for example.

Herefore in the preparation of a facsimile of a page of classified advertisements, each advertisement which is to appear on the page has first been typed by an electric typewriter or the like on a slip of paper of proper size. Each of the various slips of paper have then been individually pasted upon the make-up sheet in page form and the facsimile of the desired page thus prepared for photographing. To change the content of the page reproduced from the facsimile, the original facsimile must be revised by removing from the make-up sheet those advertisements which are no longer desired and pasting in their place new advertisements. When the facsimile has been comprised of a great many small classified advertisements pasted upon the sheet, it will readily be understood that any substantial change made in the facsimile has required the expenditure of considerable time, and that a general rearrangement of the advertisements within the facsimile, after such facsimile has once been prepared, has been difficult and impractical. For this reason printers of newspapers employing the use of make-up or lay-out sheets in the preparation of plates for the printing of their publications have found it necessary to severely limit the number of change in the pages of their newspapers from one edition to another. Some of such printers of newspapers, for example, have found it necessary, for economic reasons, to require that pages of classified advertisements be printed in several editions without any change in order to avoid the expense of changing the pasted facsimiles of said pages.

An object of the present invention is to provide a lay-out board upon which the component parts of a facsimile of material to be graphically reproduced may be quickly and conveniently arranged on said board in any desired relative position and retained by said board in said position.

Another object of the invention is to provide a lay-out board of the above character upon which the various component parts of said facsimile may be quickly interchanged or re-arranged, and which may be quickly withdrawn from said facsimile and other parts substituted therefor.

Still another object of the invention is to provide a lay-out board of the aforesaid character comprising a board having magnets in association therewith, and magnetic strips upon each of which the may be prepared a component part of a facsimile of material to be graphically reproduced, said magnetic strips being readily arrangeable on said board to provide said facsimile.

A further object of the invention is to provide a novel and highly useful method of preparing a lay-out of a multiplicity of items of want-ads copy or the like for photographic reproduction preparatory to printing the same in a publication such as a newspaper.

Further objects and advantages of my invention will be apparent from the following detailed description of a preferred embodiment thereof taken in connection with the accompanying drawings in which is illustrated, by way of example, a form of my invention particularly adapted for use in laying out newspaper columns of classified advertisements. It will be understood, however, that the shape and size of the board may be varied as desired, depending upon the nature of the material to be laid out thereon.

In the drawings:

Fig. 1 is a top plan view of a composing board embodying my invention, showing a portion of a facsimile of a column of a desired publication...
arranged thereon, said board being fabricated in two abutting sections and portions of each being shown cut away for convenience in illustration;

Fig. 3 is a similar view taken on the line 3--3 in Fig. 2;

Fig. 4 is an elevational view taken on the line 4--4 in Fig. 1 to illustrate a means by which the two sections of the board may be secured one to the other;

Fig. 5 is a perspective view of an end portion of one of the sections of the board showing in detail the means by which individual component parts of the facsimile prepared on a magnetic medium may be applied thereto;

Fig. 6 is a detailed perspective view of a strip of paper or the like upon which a component part of the facsimile may be prepared for arrangement on the composing board, one corner of said strip being turned upwardly to illustrate a coating of magnetic material on the back side thereof; and

Fig. 7 is an enlarged cross-sectional view taken on the line 7--7 in Fig. 6 to show in further detail the coated strip.

In the drawings, the numeral 10 indicates a rectangular board of a non-magnetic material, such as wood or the like, which serves as a base for one-half of the illustrated embodiment of my invention. Secured along opposite side edges of the board 10, as by screws 11, are strips 12 and 13, of metal or the like, each of which has formed along its upper edge a flange 14 which extends inwardly over the board. It will be seen that a space 15 is thus provided between the lower surfaces of the flanges and the upper surface of said board along opposite sides of the latter (Fig. 2).

Another board 16, of similar shape and size and of the same material as that of the board 10, is shown in Fig. 1 with one of its ends abutting an end of the board 10. Like said board 10, the board 16 has secured along its opposite sides (as by screws not shown) strips 17 and 18 which correspond to the strips 12 and 13, respectively, and have formed along their upper edges flanges 19 identical to the flanges 14 on the strips 12 and 13.

A plurality of lines of permanent bar magnets 20, having U-shaped cross-sections, are press-fitted or otherwise secured in end-to-end position in slots provided therefor in, and longitudinally of, the boards 10 and 15. The uppermost edges of said magnets are, or may be, flush with the upper surfaces of said boards in the manner illustrated, or, if desired, may be disposed below the level of said surfaces. Said magnets are so magnetized that their opposite legs thereof, as seen in cross-section, comprise opposite magnetic poles. The arrangement of the poles of each magnet with respect to the poles of the other magnets may be as is shown in the Figs. 2 and 5 wherein the reference letter "N" represent north magnetic poles and the reference letter "S" represent south magnetic poles of said magnets.

It will be understood from the drawings, and particularly from Fig. 1, that the lines of magnets may extend from one end to the other of the boards 10 and 16. Five parallel lines of said magnets are shown in the drawings by way of illustration, but it will be apparent that the number of the magnets and the number of lines thereof, as well as the shape of said magnets, may be varied without departing from the spirit and scope of the invention.

A sheet 21 of non-magnetic material, such as paper, may be spread over the upper or working surface of each of the boards to keep the same clean and may be secured thereto, as by an adhesive 22, applied to the back side of said sheet 21. Said boards may be secured to the other at their abutting ends as, for example, by dowels (not shown) or by means of hooks 23 which may be pivotally mounted upon screws 24 which may be threaded through the strips 12 and 13 adjacent the abutting end of the board 10. When said hooks are used, they may be arranged to receive protruding screws 25 suitably engaged to the other side of the board 16 or threaded into the strips 17 and 18 thereof, thus retaining said boards in the abutting position shown in Fig. 1. To disengage the two boards, the hooks 23 may be raised to the position illustrated by the broken lines in Fig. 4. The other end of the board 10 may also be provided with protruding screws 25 corresponding to those previously described and shown on the board 16. It will thus be understood that the boards 10 and 16 may be identical and that any number of said boards may be joined end-to-end if desired.

The upper flat surface of the forwarding said boards, or the surface of the non-magnetic material 21, if the latter has been applied to said boards, serves as a working surface for receiving a plurality of replaceable strips 26 of magnetic material upon each of which has been typeset, or printed, or otherwise prepared, a component part (such as a classified advertisement) of material which is to appear in a publication. In the embodiment shown, each of said strips 26 comprises a strip of paper or the like having secured upon the back surface thereof a coating of magnetic material 27, such as iron dust. Adjacent the right-hand edge of each of the strips, as viewed in Fig. 6, may be a guide line 28 parallel to said edge. A similar line 29 may be provided on said strip inwardly from and parallel to the left-hand edge of the strip. Approximately midway between the line 23 and the left-hand edge of the strip may be another line 30. Each half of the material to appear in the publication are prepared on the strips by typewriter, the lines 28 and 29 may serve as guide lines for the typist and the body of the advertisement may be entered on each strip between said lines. In the space between the line 23 and the left edge of each strip may be entered a code number for the item prepared thereon, and a date or other information pertaining to the item may be entered in the space between the lines 29 and 30, as shown by the numerals in Fig. 6.

The particular embodiment of the apparatus of my invention shown in the drawings is especially adaptable for use in the composing of facsimiles of columns or portions of the columns of a desired publication. It will readily be understood, however, that by varying the shape of the boards 13 and 16, or by varying the shape of a single one of said boards and using the latter board alone, a facsimile of magnetic poles of said magnets. Furthermore, such as an entire page thereof, may be prepared on said board or boards by employing the method of my invention about to be described.

The advertisements or items to be arranged on the composing board shown in the drawings may be prepared by an electric typewriter, for example, on a continuous roll of paper or the like, to the back surface of which has been previously
applied a coating of the magnetic material 27 and upon the other surface of which has been prepared the lines 28, 29 and 30. To provide maximum efficiency and to avoid all but a minimum of subsequent cutting and trimming, the paper may be of a width equal to or slightly less than the width of the boards 10 and 16. After a number of the items have been prepared on a continuous strip of paper from said roll, said strip may be cut or otherwise severed on lines at right angles to the edges thereof between each of the advertisements, or in providing a plurality of separate strips 26 of said paper, each with a single item thereon. Each of said separate strips 26, it will be observed, will be of an equal width, but will vary in length depending upon the number of lines of printed matter thereon. Said prepared strips 26 may then be quickly arranged in any order desired in column position on the boards 10 and/or 16, as best illustrated by Fig. 5, to provide a facsimile of a column or a portion thereof.

In sliding the ends of the strips into the spaces under the flanges 14 and 15, the strips may be bent slightly by the fingers to the contour shown at 31 in Fig. 5. Having been applied to the board, said strips 26 will be retained thereon by the magnetic attraction of the magnets 20 to the coated surface 27 of the strips. The strips may be easily slid toward the top or bottom ends of the boards, as desired, without requiring their removal therefrom. In this manner it will be understood that a facsimile of a column of a desired publication may be made up or laid out upon the illustrated board in a minimum of time and with a minimum of effort.

After a facsimile of material to be graphically reproduced has been laid out in the position desired on a board of my invention, the board may be placed in an upright position, if desired, and the facsimile thereon, comprising the various items on the strips 26 magnetically retained on the board, may be photographed. In case the facsimile has been prepared on a board of the shape illustrated in the drawings, said photograph, if necessary, may be reduced in size so that the width of the individual notices, advertisements or items of the facsimile, as reproduced by the photograph, are of the width desired in the finished publication. The edge of the photograph may be trimmed to remove the data concerning the items which appear on the left side of each of the strips 26, and an engraved plate, of zinc or the like, may then be prepared from the photograph by any of the well-known engraving processes. The various plates, which have been prepared in the above manner, each having an impression thereon of a facsimile of a column or a portion of a column, as the case may be, may then be arranged in page form and a mat pressed thereon to receive the impressions carried by said plates, and thus to receive the impression of an entire page of the desired publication. A stereotype or cylindrical casting may be prepared from the mat in any well-known manner, and the finished page may be printed in the usual way. Plates for use in other kinds of printing, such as lithography, may, of course, also be prepared from the photograph if desired.

Any of the facsimiles prepared in the above manner on the board or boards of my invention may be quickly and easily varied, changed, or re-arranged as desired. For example, when the board illustrated is used for laying out news-paper columns, immediately after a facsimile has been photographed as aforesaid, those strips 26 which may bear notices, items or advertisements which are not to appear in subsequent editions or issues of the publication, may be removed from the board and other strips 26 bearing new or different items or advertisements may be quickly applied to the board in place of those removed to provide a revised facsimile. It will be understood that, because the strips, after being applied to the board, may be easily slid thereon toward either end of said board, the original facsimile may be quickly "opened up" on the board to make the removal and replacement of the strips 26 easier in the composing of the revised facsimile. Upon completion the revised facsimile may be photographed, another plate prepared in the aforesaid manner, and another mat prepared, said mat having thereon the impression of a revised page to appear in a later edition or issue of the publication.

The two boards 10 and 16, when attached to each other, as in Fig. 1, may be used as a single board upon which may be prepared a facsimile of full length column of a newspaper, for example. The individual strips 26 may be slid from one of the boards to the other, as desired or required, in the composing of the facsimile. When the facsimile has been prepared, the upper half thereof on the board 16 and the lower half thereof on the board 10 may each be slid on the respective boards away from the line at which the ends of said boards abut, thus dividing the facsimile into two parts. The two boards may then be unfastened by raising the hooks 23, and each half of the facsimile photographed in the manner previously described. An engraved plate may be then prepared from each of the resulting photographs and said plates may thereafter be placed in end-to-end position in page form alongside the plates prepared for other columns of a particular page of a newspaper, for example. A mat may then be prepared upon said plates in the aforesaid manner to be used in the preparation of a stereotype of the page.

The foregoing detailed description has been given for clearness of understanding only, and no unnecessary limitations should be understood therefrom, but the appended claims should be construed as broadly as permissible in view of the prior art.

I claim:

1. A lay-out board for advertising matter to be graphically reproduced for printing, comprising a base of non-magnetic material, marginal flange members on said base having fixed retaining portions overlying and slightly spaced from the top surface of said base at the side edges thereof, a plurality of U-shaped magnetic bars embedded in and extending lengthwise of said base, the same being spaced at intervals transversely of the base, with the pole pieces of the magnets substantially flush with the top surface of the base, a surface sheet overlying said base and embedded magnets, and flexible strips of paper having the advertising matter to be reproduced therein and having a backing of magnetic material thereon placed on said surface sheet with the edges received and retained by said flanges and held on said board by said magnets.

2. A lay-out board for advertising matter to be graphically reproduced for printing,
comprising a base of non-magnetic material, marginal flange members on said base having fixed retaining portions overlying and slightly spaced from the top surface of said base at the side edges thereof, a plurality of magnets embedded in said base and so disposed as to afford magnetic attraction substantially throughout the length and breadth of said board, with the pole pieces of the magnets substantially flush with the top surface of the base, a surface sheet overlying said base and embedded magnets, and flexible strips of paper having the advertising matter to be reproduced typed thereon and having a backing of magnetic material thereon placed on said surface sheet with the edges received and retained by said flanges and held on said board by said magnets.

3. A lay-out board for advertising matter to be photographically reproduced for printing, comprising a base of non-magnetic material, marginal flange members on said base having fixed retaining portions overlying and slightly spaced from the top surface of said base at the side edges thereof, a plurality of magnets embedded in said base and so disposed as to afford magnetic attraction substantially throughout the length and breadth of said board, with the pole pieces of the magnets substantially flush with the top surface of the base, and flexible strips of paper having the advertising matter to be reproduced typed thereon and having a backing of magnetic material thereon placed on said surface with the edges received and retained by said flanges and held on said board by said magnets.

MAX H. JONES.

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