Sept. 9, 1952 C. V. CAPERS 2,609,613

COLLOCATING PRINTING MEMBER

Filed Jan. 29, 1947 2 SHEETS—SHEET 1

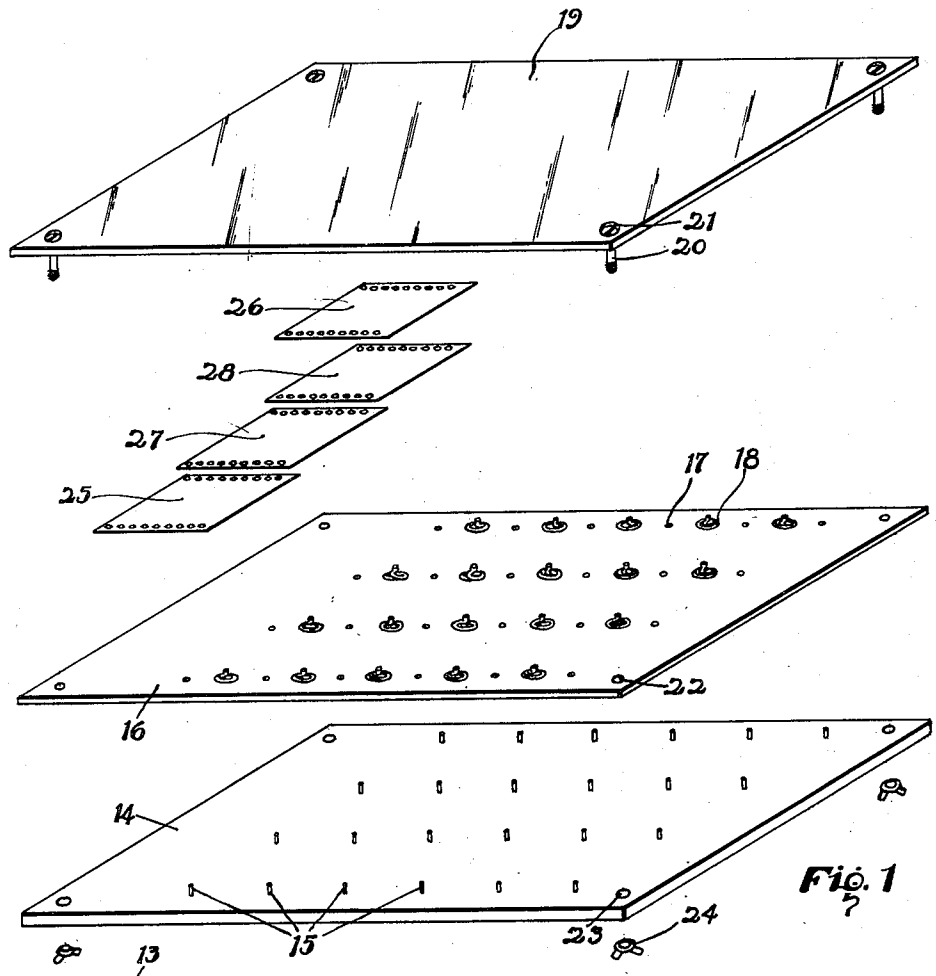


Fig. 1

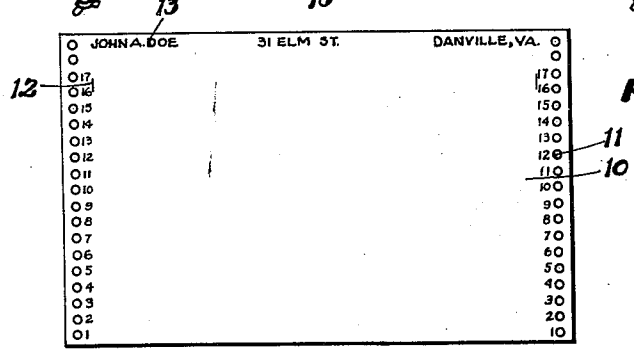


Fig. 4.

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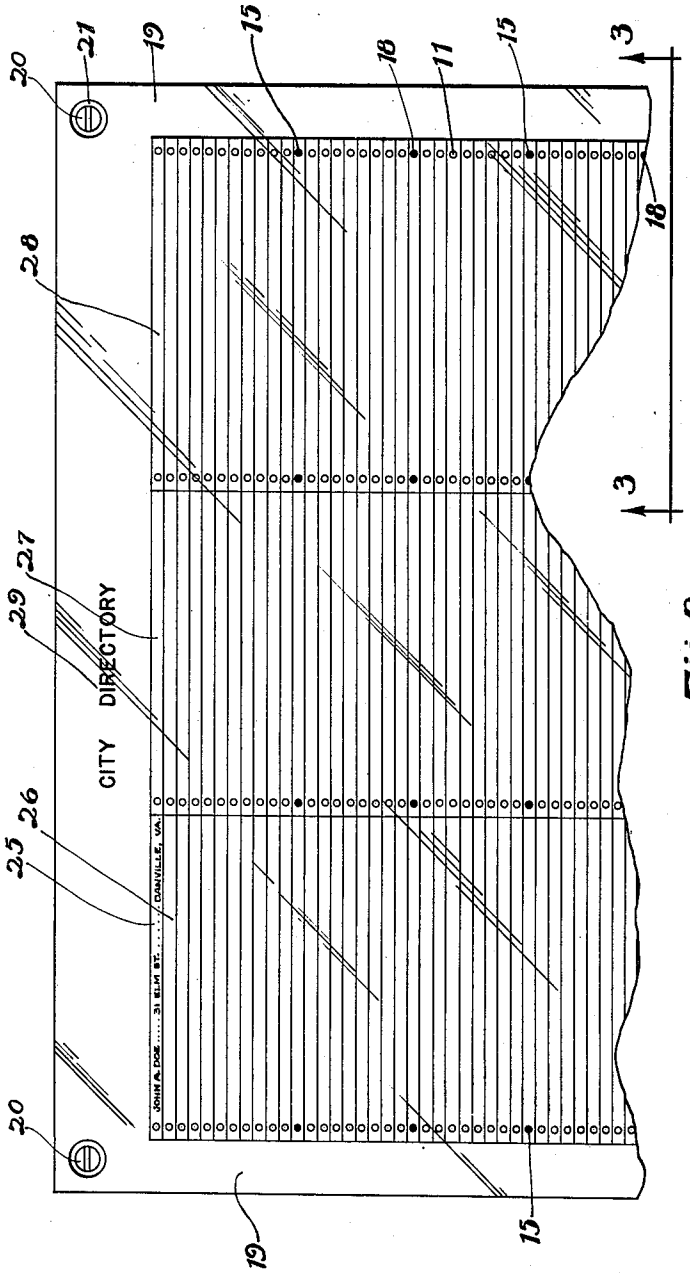


FIG. 2.

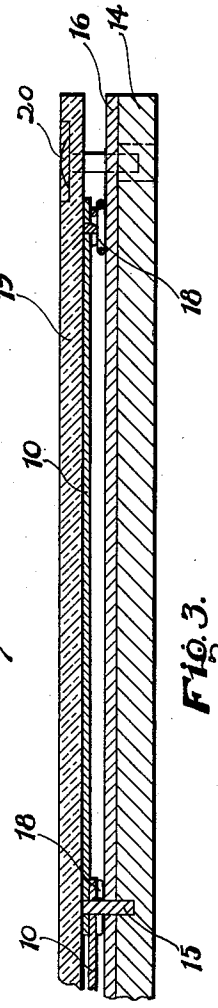


FIG. 3.

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Patented Sept. 9, 1952

2,609,613

UNITED STATES PATENT OFFICE

2,609,613

COLLOCATING PRINTING MEMBER

Claude V. Capers, Atlanta, Ga.

Application January 29, 1947, Serial No. 724,945

4 Claims. (Cl. 33—184.5)

1

This invention relates to printing, and more particularly to a new and improved apparatus for reproducing information in a speedy and efficient and economical manner.

Broadly speaking, there are two principal methods of printing, these being known as letter press, and offset printing, the former involving printing from plates or slugs, as for example, printing produced by conventional linotype machines. This procedure is widely followed and is generally satisfactory, the principal drawback being, however, in the cost necessarily arising from the use of expensive equipment, highly paid operators and proofreaders, the rental expense of money tied up in large quantities of metal, and some loss of time resulting from inflexibility in the overall operation.

Offset printing is appreciably cheaper, the work being done in this instance from metal plates upon which photographic negatives have been superimposed, said plates being kept moist during the printing operation, and positive printing resulting from the areas of the plate which accept ink, in contrast to those portions which by virtue of being moist will not do so. While printing by the lithographic method is, as stated before, more economical, it has not heretofore been adaptable to many operations, as for example, the printing of telephone directories and other lists which must be set up on an individual basis.

An object of my invention is to readily permit the reproduction of information of this type by means of offset printing.

Another object is to make possible later deadlines in work of the instant type.

Still another object is to provide simple apparatus to accomplish the foregoing.

Another object is to make possible the printing of mailing lists from central locations, at small cost.

Another object is to reduce labor costs in printing.

Another object is to eliminate high make-up costs in the production of lists of various types.

Another object is to eliminate costs charged by printing companies for the rental of large quantities of metal used in casting of slugs in Letter Press printing.

These and other objects made apparent during the further progress of the specification are accomplished by means of the apparatus described herein; a full and complete understanding of my invention being facilitated by reference to the drawings herein, in which,

Fig. 1 is a composite exploded view of various

2

elements used in practicing the instant invention;

Fig. 2 is a plan view, fragmentary in part, showing the various elements of Fig. 1 in position, preparatory to photographing;

Fig. 3 is an enlarged vertical view, partially in section, and fragmentary in part, taken along the line 3—3 of Fig. 2, looking in the direction of the arrows;

Fig. 4 is an enlarged plan view of the type card contemplated to be used with my invention.

Like numerals indicate corresponding parts and elements throughout the various views of the drawings.

Succinctly stated, my invention works basically from card index-like slips on which line entries are typed or affixed in any desired manner, at the top. By employment of a guide plate and a holding frame (this latter being optional in some instances), said slips are positioned one below the other, so that only the printing on each slip shows when the slips are in proper position. When the entire page is made up, a glass or other transparent cover is placed over its top, thereby preventing the slips from moving or becoming dislodged when the frame is removed from the guide plate. Upon such removal, the remaining assembly is rigidly clamped together, and the entire page photographed for printing by lithography or related methods.

Referring now to the drawings, for a more detailed and more comprehensive explanation of my apparatus, (Fig. 4), it will be seen that I work from a series of index-like cards 10 of a size and shape calculated to fit the requirements of a given job, said cards being formed of any suitable material, (thin but stout rag paper is excellent), and having punched along their marginal edges a plurality of holes 11, which holes may be numbered or lettered, as a matter of convenience in properly aligning them with other elements of the instant invention. Five holes per inch may be optimum. If desired, printed guide lines 12 may be provided for the purposes of establishing left and right hand margins of the listings or other material 13, which may be affixed to the cards by means of a typewriter, billing machine, Varityper, in long hand, or by any other method or machine as deemed desirable. Cards thus prepared may, when not in active use, be filed alphabetically, either in a conventional card file arrangement, or preferably in a visible file, wherein they can be kept up to date, with a view of periodic re-printing of a given directory, catalog, or other printed matter.

Attention is now directed to master plate 14 of my device, this consisting of a sheet formed of metal or other desired material, and of such dimensions as to meet the requirements of the job to be performed. For example, in the drawing, a three column job is suggested, this being common to many telephone directories. For convenience in handling, cards 10 may be twice as large as the actual material to be reproduced by the lithographic process, which in turn means that plate 14 would be somewhat more than twice as wide and twice as long as the page of the directory being printed.

A series of pegs 15 are positioned at spaced intervals on plate 14, which pegs may be removable, collapsible, stationary, solid or hollow, and which are to possess the desired characteristics for their intended purpose, which is that of guiding and positioning cards 10 in their proper places in the assembly.

A frame 16 (Fig. 1) formed of metal or other suitable material is contemplated to be used with plate 14 in a manner described in detail hereafter; said frame having a series of apertures 17, which are spaced in such a manner as to be complimentary to and register with pegs 15 throughout; and frame 16 is also provided with a plurality of spring teats 18, preferably positioned midway between holes 17 and calculated to pass through selected apertures of cards 10.

A glass, or other transparent cover 19, of the same general dimensions as frame 16, is provided with a plurality of bolts 20, which are passed through openings 21 adjacent the corners of said cover, and which are calculated to register with similar openings 22 of frame 16, and 23 of plate 14. A plurality of wing nuts 24 engage bolts 20 in a conventional manner.

In practicing my invention, cards 10 are first prepared as described heretofore. Frame 16 is then placed upon plate 14 in such a manner that pegs 15 of the latter pass through openings 17, the two elements then forming a flush fit. The first card 25 (Fig. 1) is then put at the top of the left hand column so that holes 8 fit over the first pegs 15 on either side of the column. The second card 26 is then put directly below this, so that its holes 9 fit over the same pegs, this being continued with each card directed and secured in position by one peg on either side of the column, the pegs being so positioned that after the uppermost holes of a card are thus affixed, the following card will engage successively pairs of pegs with its "1" holes.

When the first column is completed, the same procedure is followed with column two, with the left hand edge of card 27 and all subsequent cards in this column preferably overlapping the right hand edges of the cards in the first column. When column two is completely made up, the same procedure is followed in column three, beginning with card 28. This process may be carried out in expended or contracted form to meet the exigencies of any given situation or job. After all the individual entry cards are thus affixed on the frame in the desired arrangement, a proof 29 (Fig. 2) of the desired heading for the material may be mounted in place and glass 19 placed over the frame. Said heading may be mounted by pasting the proof on frame 16, or affixing such in place with transparent adhesive tape, or by other suitable means. It has also been found that in some applications, individual letters may be thus employed to make up suitable page headings. At this time, the spring

teats 18, positioned between the holes of frame 16 pass upwardly through the aligned holes on the cards and press against the glass, thereby facilitating the maintaining of the cards in perfect alignment. Bolts 20 pass through holes 22 and 23, and the entire assembly may now be safely inverted, and plate 14 removed, upon which wing nuts 24 are placed upon bolts 20 and tightened to a point where the entire assembly is firmly and snugly held in position.

The material is next photographed, and suitable plates prepared for printing by lithography or any other related printing process, it being apparent that the combined or completed frame may be photographed as is, reduced in size, or blown up, as desired.

It will be noted that the instant apparatus is subject to various modifications, as for example, under some conditions it may be desirable to eliminate frame 16 entirely, in which event, the cards 10 will be placed directly on pegs 15 of plate 14, and when assembled, bolts 20 of transparent member 19 passed directly through apertures 23, and then secured by wing nuts 24; or it may be desirable in such an arrangement to reverse bolts 20, securing them in upwardly extending relationship in holes 23, and then passing such bolts through openings 21 of glass member 19 and securing such with wing nuts, or in any other appropriate manner at the proper time. It is likewise apparent that whereas for purposes of illustration, I have described herein forming of columns starting at the upper left hand corner of my plate, it is apparent that I can just as well start at the bottom of a column and build upwardly, when using cards with desired information affixed adjacent the bottom edge thereof instead of the top, as shown in the drawing (Fig. 4).

It is also apparent that more than one line of information may be carried on any given card, it only being necessary in such event to correlate the holes of the next succeeding card in the column with their guide pegs in such a manner as to leave exposed the desired number of lines on the first card, and position the top of the second card adjacent thereto in a conventional manner. In this connection, it should be pointed out that in the interest of securing orderly, uniformly spaced printing, it is in most cases desirable that each line of information appear directly opposite and on center with corresponding holes or perforations in opposite sides of a card; and it is obviously desirable that each line should be printed so that the left and right hand margins of all the cards will be the same in each case, and the lines printed in a pre-determined spot, parallel to the top edge of the card.

Attention is called to the fact that material assembled in the manner disclosed herein may, if desired, be photostated, in cases where general printing of the lists is not contemplated, as for example, when inter-plant use or other limited distribution is in order.

As a further variation, in offices where there are thousands of card files accumulating constantly, inactive card listings may be assembled by my method and photographed on microfilm which may be held indefinitely, thereby eliminating substantial file and office space.

Still another application of my invention would permit the home office of a company to print mailing lists on perforated gummed paper, and by this means, branch or district offices could be provided with sticker labels already addressed and ready to be placed on mail designated for

local distribution. In this manner, the basic files of the home office could be used to provide stickers or labels for branch offices without the necessity of addressing envelopes at such points, this in turn insuring accuracy, economy, and more rapid service.

From the foregoing, it is apparent that I have disclosed a new, useful, and unique apparatus for use in reproducing information by a printing process. That my invention is particularly adapted for use with telephone directories, city directories, catalogs, price listings, mailing lists, dictionaries, and a myriad of other printing jobs, now customarily done by Letter Press printing. That my invention permits the doing of this work by Offset Printing, thereby eliminating expenses, inaccuracies, and delays inherent in the other method. Actual savings of from 30 to 50% in printing costs are made possible.

While I have herein described in some detail certain printing apparatus, it is apparent that variations and modifications thereof my be resorted to, which changes may be effected without departing from the scope of my invention; and that accordingly, the appended claims are to be accorded a range of equivalents and scope fairly in keeping with my contribution to the art.

I claim:

1. In a device of the character described, a generally rectangular master plate, a plurality of vertically extending pegs spacedly mounted thereon, a supporting frame having a plurality of spaced apertures corresponding in position to the pegs of said master plate, a series of spring teats spacedly anchored to said frame, a plurality of cards adapted to be mounted on said frame in conjunction with said pegs and teats, the marginal edges of said cards having holes for receiving said pegs and teats, the position of the holes in the cards corresponding to that of said pegs and teats, a transparent cover for said cards and frame, and means for rigidly securing said cover to said cards and frame.

2. In a device of the character described, a master plate, a plurality of vertically extending pegs spacedly mounted thereon, a supporting frame having a plurality of spaced apertures corresponding in position to the pegs of said master plate, a series of spring teats spacedly anchored to said frame, a plurality of cards adapted to be mounted on said frame in conjunction with said pegs and teats, said cards having holes in their marginal edges for receiving said pegs and teats, the position of the holes in the cards corresponding to that of said pegs and teats, a glass cover for said cards and frame, and means for rigidly securing said cover to said cards and frame.

3. In a device of the character described, a master plate, a plurality of vertically extending card receiving members mounted thereon, a supporting frame having a plurality of spaced apertures formed therein and corresponding in position to the card receiving members of said master plate, a series of spring teats spacedly anchored to said frame, a plurality of cards adapted to be mounted on said frame in conjunction with said card receiving members and teats, said cards having holes in their marginal edges for receiving said card receiving members and teats, the position of said holes in the cards corresponding to that of the card receiving members and teats, a transparent cover for said cards and frame, and means for rigidly securing said cover to said cards and frame.

4. In a device of the character described, a master plate, a plurality of pegs spacedly mounted thereon, a supporting frame having a plurality of apertures, corresponding in position to the pegs of said master plate, a series of spring members mounted on said frame, a plurality of cards adapted to be mounted on said frame in conjunction with said pegs and spring members, said cards having a plurality of apertures in their marginal edges for receiving said pegs and spring members, said holes being so positioned as to correspond to that of the pegs and spring members, a transparent cover for said cards and frame, and means for securing said cover to said cards and frame in such a manner as to hold said cards securely in place.

CLAUDE V. CAPERS.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
Re. 19,994	Niemann et al.	June 2, 1936
851,693	Raynor	Apr. 30, 1907
998,541	McBee	July 18, 1911
1,000,360	Barlow	Aug. 15, 1911
1,644,676	Hurley	Oct. 11, 1927
1,808,320	Schaffer	June 2, 1931
1,831,381	Danat	Nov. 10, 1931
1,943,645	Wallace	Jan. 16, 1934
1,956,917	Fritsche	May 1, 1934
2,398,487	Zalkind	Apr. 16, 1946