Feb. 5, 1957 T. M. FORTNER 2,780,169

MARGIN MARKED DUPLICATOR MASTER SET

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Fig. 1.

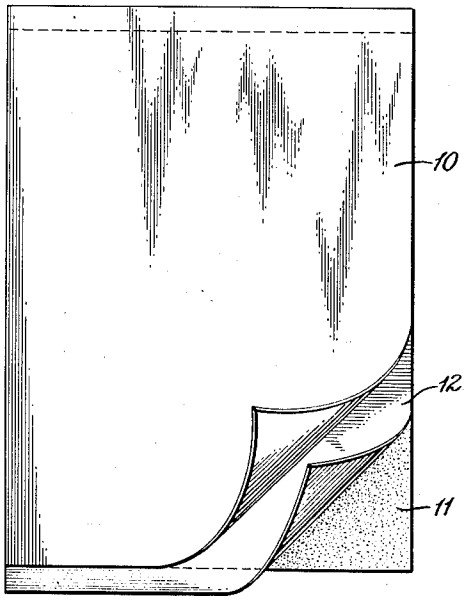
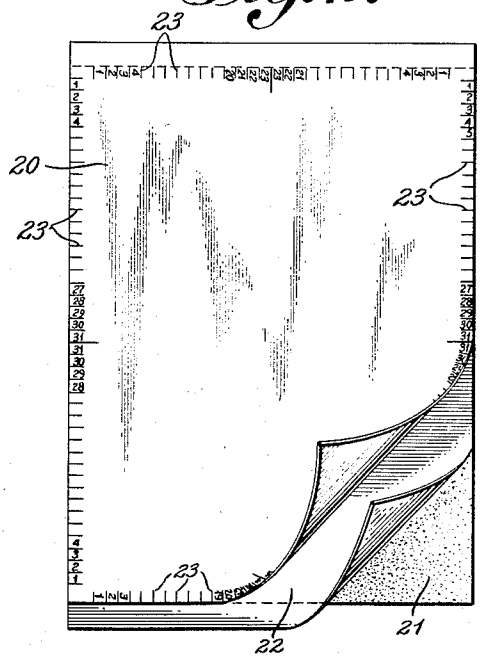


Fig. 2.



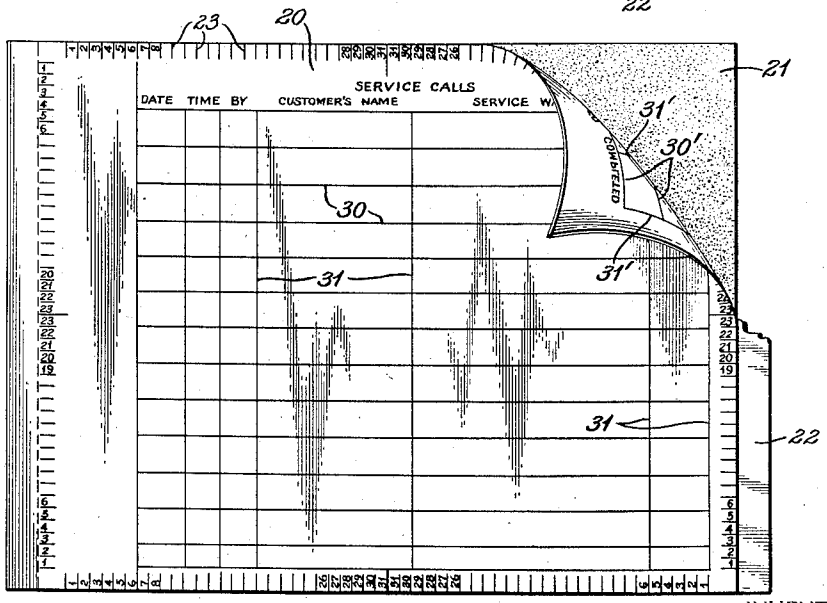


Fig. 3.

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MARGIN MARKED DUPLICATOR MASTER SET

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4 Claims. (Cl. 101—149.4)

The invention relates to a duplicator set whereby business forms and the like may be readily set up at the place of business of an ordinary user, which forms are intended to take the place of the more expensive stock forms in general use.

More particularly, my invention comprises a duplicator set for use in preparing business forms comprising a numbered margin master sheet and a carbon sheet secured thereto, the numbered marks being spaced to correspond with the line spacing of an ordinary typewriter, the numbering being progressive from the top and bottom respectively of the sheet to the center thereof, and being continued through the entire length of the margin, whereby vertical balancing is obtained.

In accordance with my invention a margin marked duplicator sheet is employed as part of a duplicator set consisting of an upper master sheet, a bottom carbon sheet with its coated face uppermost, and an intermediate buffer sheet. This combination makes it possible to set up the forms with untrained ordinary personnel at the place of business of an ordinary user without additional measuring.

As is well known, in certain types of duplicating the impression is made from a master sheet prepared by drawing or typing on a sensitized material with special ribbon or instruments, or with carbon paper. One of the most important uses of this type of duplicating is in preparing ruled forms and documents and similar material on the premises of the average place of business while using the ordinary unskilled worker and a simple method. If the above requirements are met there is a large saving of expensive printing costs in the preparation of forms or documents, and the forms prepared are suited to the needs of the particular business, and are much more satisfactory than stock forms. The preparation of such forms and documents has become a large item of business expense, and any system which permits the preparation of the exact form needed with ordinary personnel and without undue expenditure of time results in considerable saving in cost. Nearly every business has need of many forms which can be cheaply and quickly prepared, and if there is available on the market a sheet on which the form can be quickly and accurately prepared it will meet a considerable need for these businesses. If the forms must be prepared by personnel with unusual training, or if they can be prepared only by tedious and inaccurate measuring of each line and space, the result is a form or document almost as expensive as a custom printing job. The savings and convenience can be obtained only by some method that will allow the work to be done quickly and accurately by ordinary clerical help and with ordinary equipment.

The invention will be more readily understood by reference to the accompanying drawings and the following detailed description in which an illustrative embodiment of the invention is set forth by way of illustration rather than by way of limitation.

In the drawings:

Fig. 1 is a duplicator master set without scale, now on the market.

Fig. 2 is such a master set with the master sheet scaled in accordance with the present invention.

Fig. 3 is such a scaled master sheet and set with a quickly drawn form to illustrate the use for which the sheet is designed.

The plain master set shown in Fig. 1 is now on the market and sold in thousands of sets per month. Such a set comprises an outer blank sheet **10** called the master sheet, a bottom carbon sheet **11** with its upper face coated with suitable transfer material, and a buffer sheet **12** inserted between the master sheet and the carbon sheet for shipping and storage purposes. In order to use this master set in the preparation of a form it is necessary to mark with a ruler on all four sides of the master sheet, measuring each mark to achieve the same distance and thus permit the drawing of parallel lines. Great care must be exercised that each mark is in place, and the mark must be placed by sighting down the ruler at the same angle, must be made with the same size lead, and must be carefully placed, otherwise the resulting lines wil run at angles and present a poor appearance. It is ordinarily necessary with the usual untrained personnel to make each quarter inch mark on the sheet even though only two or three lines are to be placed on the form, otherwise errors will be made in measuring lines which are placed varying distances apart.

After the marks are placed on the four edges of the sheet the lines are drawn by the use of a ruler or other object having a straight edge by placing the ruler from the mark on one edge to the corresponding mark on the opposite side and using a pencil, pen or other proper instrument. Here also, without numbering the marks, the user must count the marks on each side to insure that the straight edge extends from a mark to its corresponding opposite mark. Many master sheets have been ruined by a hastily placed straight edge giving a line running at an angle.

Even after the above has been done carefully and accurately, the resulting form is not easily used by the typewriter for the reason that the lines and columns drawn on the form do not match the column and line spacing of a typewriter. If the form is to be filled in on a typewriter either on the master itself or on the duplicated product, the ruler used to make the marks on the edge of the master set must be so spaced as to conform to ordinary typewriter line spacing which as is well known is six to the inch, which is not true of an ordinary ruler.

In accordance with the present invention, instead of using a plain master sheet I employ as the upper sheet of my improved master set a master sheet **20** (Fig. 2) having short spaced lines or marks **23** extending inwardly along all four margins. These lines are so numbered as to begin with the number **1** (one) in each corner, with the numbers increasing toward the middle of each of the four sides. The remaining sheets **21** and **22** in this set correspond to the sheets **11** and **12** of Fig. 1. The spacing of the edge marks **23** is made to conform to ordinary typewriter line spacing (six to the inch).

The application of my invention to the making of forms is illustrated in Fig. 3, wherein sheets **20**, **21** and **22** correspond with those of Fig. 2 except that a series of horizontal vertical rule lines **30** and **31** are indicated on the outer face of the master sheet providing the desired form on the face of this sheet, including lined columns which may be identified by suitable typed indicia as indicated.

It will be understood that in making the forms the intermediate buffer sheet **22** will be removed, resulting in the application of a negative or reverse form on the rear of the master sheet, and where certain types of car-

bon paper are used a form consisting of horizontal and vertical lines 30', 31' respectively, and type indicia will appear on the upper face of the carbon sheet, corresponding to the form appearing on the upper face of the master sheet.

In contrast to the ordinary method of preparing forms, which results in many wasted master sets, forms presenting a poor appearance, and much waste of time, the use of the proposed scaled master set makes for a quickly prepared, accurate and very presentable form by the use of any object having a straight edge. Merely placing such an object from one numbered mark to the opposite mark having the same number insures an absolutely accurate line, and by skipping the same number of marks on each line a perfectly balanced form is achieved. All lines and columns will conform with ordinary typewriter spacing, margins will be even, and the entire form is perfectly balanced. The resulting form takes about one-fifth the time required if no scaled master sheet is used, even if the users are experienced in preparing such forms.

I am aware that various details included in the present combination or system are in themselves old, but so far as I am aware I am the first to employ in a master set a master sheet having numbered and gauged markings on opposite sides and on the ends so as to permit the drawing of lines for ruled forms.

It has been proposed in Patent No. 898,916, for example, to provide a backing sheet, as contrasted with a master sheet, with markings for the purpose of indicating the distance to the end of the sheet. Also, in Patent No. 946,483, a proportional scale for the use of stair builders is disclosed having vertical and horizontal markings. In Patent No. 1,261,516 a master sheet numbered along one edge only is shown, the marking being designed to conserve and use entirely the carbon deposit. Patent No. 1,419,217 discloses carbon paper with partial marking on an extended edge, intended to warn an operator of the approach of the end of the sheet to be typed. No form can be drawn on such a sheet.

Patent No. 1,971,629 shows a protection sheet, combining the features of a proofreading carbon and a buffer sheet for shipping, and is used with a stencil sheet. The markings, which appear on the backing sheet of the stencil, with which the patent is used, appear on only three sides, are not numbered, and cannot be used to make forms.

Patent No. 2,090,425 relates to carbon paper only, is scaled on one edge only, and is designed for use in a binder of such carbons for making typed carbon copies, the purpose being to advise the typist of his position with relation to the top and bottom of the sheet.

Patent No. 2,203,280 relates to a superimposed protective film to be used with mimeograph stencils. The patent recites that the marks on the sheet are to be used as a typing guide. The marks are not numbered, are not spaced evenly on the two sides as compared with the top and bottom, and cannot be used to prepare the forms directly on the duplicator masters. In the spirit master process no protective overlay is needed, as this method does not involve the cutting or displacing of any material of the master sheet.

The following patents, among others relating to duplicating systems, are also known to me but do not disclose my improved margin marked and numbered master blank sheet used as part of a master set for the making of forms and the like: 2,060,190, Foster; 2,362,952, Watkins; 2,363,601, Lewis; 2,386,872, Lewis; 2,449,770, Dempsey; and 2,459,067, Erickson.

The invention has been described in detail for the purpose of illustration but it will be obvious that numerous modifications and variations may be resorted to without departing from the spirit of the invention. For example, various numbers and types of carbon sheets and intermediate sheets may be employed in connection with the scaled and numbered master sheet. Also the numbers could begin in the center of each edge of the sheet and from the center of each edge progress toward the corners.

I claim:

1. A duplicator set for use in preparing business forms, comprising a numbered margin marked master sheet, and a carbon sheet secured thereto, the numbered marks being spaced to correspond with the line spacing of an ordinary typewriter, the numbering being progressive from the top and the bottom respectively of the sheet to the center thereof and being continued throughout the entire length of the margin.

2. A duplicator set as set forth in claim 1, wherein the lowest numbers are at the top and bottom and the highest number is at the center of the marginal portion.

3. A duplicator set as set forth in claim 1 wherein the lowest numbering is at the center of the margin and the highest numbering at the top and bottom thereof.

4. A duplicator set for use in preparing business forms, comprising a numbered margin marked master sheet and a carbon sheet secured thereto, the marginal numbering in the master sheet extending along all four sides of the sheet and being progressive from the corners of the sheet to the centers of the margins, the numbered markings being spaced to correspond with the line spacing of an ordinary typewriter.

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