Nov. 1, 1938. B. A. I. KELLY 2,135,345

CARBON TRANSFER SET

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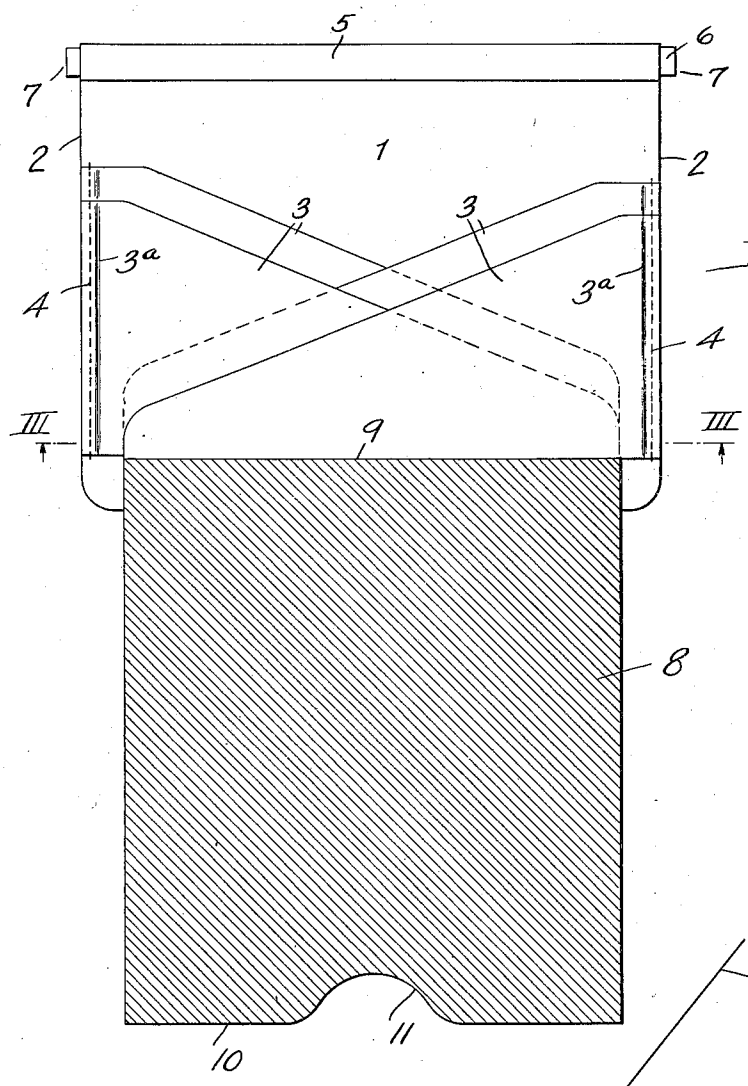


Fig. 1.

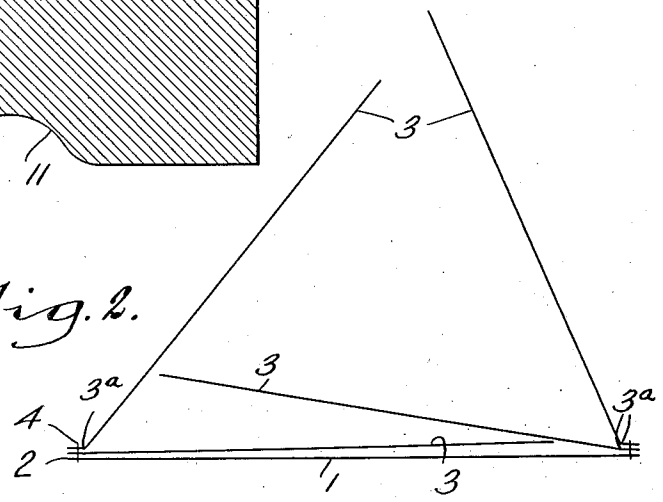


Fig. 2.

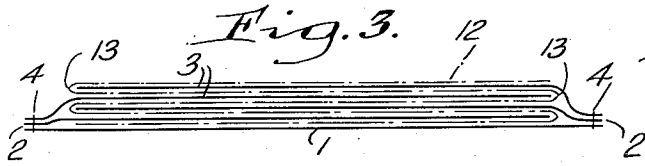


Fig. 3.

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CARBON TRANSFER SET

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6 Claims. (Cl. 282—29)

This invention relates to carbon transfer sets for use in connection with typewriters, calculating and tabulating machines and office recording machines of a similar nature wherein a plurality of superposed record sheets are used with the sheets of the carbon transfer set suitably interleaved.

It is a general object of the invention to provide a carbon transfer set of the class mentioned having improved features of construction adapting it for more effective use in connection with the positioning of the carbon or transfer sheets in interleaved transfer relation with record strips of the long continuous traveller type and which, moreover, is of such a simple structural nature that it may be expeditiously manufactured with a minimum of production costs.

A further object of the invention is to provide a carbon transfer set having an improved structure and arrangement of the transfer sheet supporting elements whereby it may be conveniently used in connection with long continuous record strips of the fan-folded type as well as with long continuous record strips which are separate and distinct from each other.

Other objects of the invention will be in part pointed out in the detailed description below of an illustrative but preferred embodiment of the invention, and will be in part obvious in connection therewith.

According to the invention the transfer set comprises a backing sheet having a holder part and a series of transfer sheet supporting members, which may be blades, hingedly connected to a side margin of the holder so that they can be swung about their hinges clear of the holder.

Each supporting blade or the like serves as a holder for a carbon sheet, the latter being attached along its top edge to the blade. The blades may be superposed or otherwise so arranged that the carbon sheets are superposed for transferring inscriptions to the record sheets or strips. Preferably each blade extends completely across the carbon sheet so that the latter is rigidly supported over its full transverse length, but the width of the blades and the corresponding carbon sheets may vary in any given transfer set. The carbon sheets are of any desired length and preferably all the sheets of the set are of the same length, that is to say their free lower edges are in register.

For a more comprehensive understanding of the nature and objects of the invention reference is had to the following detailed description of the illustrative preferred embodiment of the invention, and to the accompanying drawing in which:

Fig. 1 is a plan view of a transfer set embodying the invention.

Fig. 2 is an end view of the article shown in Fig. 1 showing how the carbon supporting members are interleaved, and

Fig. 3 is a vertical section along the line III—III of Fig. 1, looking in the direction of the arrows.

Referring to the drawing for a detailed description of the embodiment of the invention there shown, the transfer set comprises a holder sheet 1, to the opposite marginal edges 2 of which are secured supporting blades 3 by any suitable means as for example by stitching 4, which may be of textile thread, light flexible wire, wire staples clinched at their free ends, or like means. The upper end 5 of the holder sheet is reinforced by the bar 6 having opposite lateral extensions to form stops 7 for the purpose hereinafter explained. A carbon sheet 8 is fixed as by an adhesive, stitching, or other known means to the lower edge 9 of each supporting blade 3.

Each blade 3 may be weakened along a line 3a adjacent and parallel to the line of stitching 4 so that it may hinge easily about the holder 1. The weakened hinge lines 3a may be made by creasing, scoring or perforating the blade material, or by bending so as to crush or weaken the fibers in cases where the blades are made of fibrous material such as paper, cardboard, or leather. Each blade extends completely across the carbon sheet 8 so that the latter is amply supported over its full width to ensure that the carbon sheets are held in correct register and will withstand the action of drawing the record sheets through the holder without displacement. The blades are shown in triangular form but obviously they may be rectangular or otherwise shaped. Further it will be understood that while the blades are shown superposed they may be otherwise arranged with the carbon sheets superposed. The carbon sheets 8 are of any desired length and are preferably arranged so that all their free ends 10 are in register.

As shown in the drawing, it is preferred to arrange the supporting blades 3 in superposed relation with each other and to attach them by means of the attaching device 4 to the opposite marginal portions of the holder or backing sheet 1. Each of the attaching devices 4 extends along one of the longitudinal marginal portions of the backing sheet 1 and is positioned at parts of the supporting blades which are overlapped with the

marginal portions of the backing sheet, thus providing longitudinal marginal reinforcements for said backing sheet. As shown, there are two supporting blades attached at each of the opposite lateral edges of the backing sheet and arranged in superposed relation with each other, although it will be understood that more than two blades may be thus mounted at each side of the device, or in some cases only one supporting blade may be attached at each opposite margin. These supporting blades extend from their supporting attachments toward the opposite edge of the set or device, the blades at one side being thus interdigitated with those at the other side. As shown, both the upper and lower supporting blades at each side of the backing sheet are spaced at the same distance from the rear stop 7, and the forward edges of all of the blades are substantially flush with each other. When the carbon sheets are attached as shown to these forward flush edges of the supporting blades a thoroughly balanced assemblage is provided. The rearward edges of the supporting blades 3 are preferably inclined as shown and the rearward margins of the lower blades extend rearwardly slightly beyond the edges of the overlying blades so as to provide ready access at all times to all of the blades so as to facilitate their manipulation as for example when the device is being threaded into position with the record strips or when it is being removed from said record strips.

With such an arrangement, in preparing the holder for use in typing, each supporting blade 3 carrying a carbon sheet 8 is swung clear of the holder 1 in turn while the appropriate record strip or sheet 12 (see Fig. 3) is introduced beneath it, the blades then being turned down over the record sheet as will be understood. The record strips or sheets 12 with interleaved carbon sheets are then introduced into the typewriter or the like in the usual manner.

From the foregoing description it will be seen that the improved transfer set is well adapted for use with long continuous stationery of the fan-folded type such as indicated in dot and dash lines in Fig. 3.

As understood by those familiar with this art the superposed strips 12 of the fan-folded stationery are connected together by longitudinal folds 13, all of the strips 12 being formed from a wide sheet longitudinally folded at 13. It will also be clear that the improved transfer set is well adapted for long continuous stationery in which the superposed record strips are separate and independent from each other.

It will be understood that with holders of the kind hereinbefore described the interleaved record sheets can be pulled through the holder in the usual way without moving the carbon holding blades. The stops 7 are arranged on the part of the holder 1 which does not enter the typewriter or like machine, and engage a suitable abutment on each side of the machine so that the holder will be checked and held in fixed position while the record sheets are pulled therethrough. The free ends of the carbon transfer sheets may have cut out portions 11 in the known manner to enable the edges of a set of record sheets to be grasped without gripping the transfer sheets when it is desired to pull the record strips through the holder before they are torn off.

The device may be made of any suitable material. The holder portion 1 is preferably of a stiff paper or similar sheet fibrous material, an extension at the forward end of which (not shown) may form a backing sheet for the transfer set and each carbon holding blade 3 or the like is also preferably of a like material.

It will be understood by those familiar with this art that in the continuous stationery herein referred to the record strips or sheets 12 are usually divided by weakened transverse severance lines into a series of form sheets or lengths provided with appropriate blank forms for inscription reception. Also the expression "carbon transfer sheets" is intended to include transfer sheets of any kind suitable for use in manifolding systems of the kind referred to.

Having described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A transfer set including, in combination, a backing sheet, a plurality of transfer sheet supporting blades attached to the opposite laterally disposed marginal portions of said backing sheet, said supporting blades being arranged in superposed relation with each other at each side of the backing sheet and each having a hinge adjacent its attachment with the backing sheet to provide for swinging movements thereof away from said sheet, and a transfer sheet attached to each of said blades.

2. A transfer set including, in combination, a backing sheet, a plurality of transfer sheet supporting blades attached to the opposite laterally disposed marginal portions of said backing sheet, said supporting blades being arranged in superposed relation with each other at each side of the backing sheet and each having a hinge adjacent its attachment with the backing sheet to provide for swinging movements thereof away from said sheet, each lower supporting blade having a rearwardly disposed marginal portion extending rearwardly beyond and out from underneath the adjacent edge of the adjacent overlying blade, and a transfer sheet attached to each of said blades.

3. A transfer set including, in combination, a backing sheet, a plurality of transfer sheet supporting blades attached to the opposite laterally disposed marginal portions of said backing sheet, said supporting blades being arranged in superposed relation with each other at each side of the backing sheet and each having a hinge adjacent its attachment with the backing sheet to provide for swinging movements thereof away from said sheet, a stop lug at the rear of said backing sheet, the forward attaching margins of said blades being positioned substantially equidistant from said stop lug, and a transfer sheet attached to each of said blades.

4. A transfer set including, in combination, a backing sheet, a plurality of transfer sheet supporting blades attached to the opposite laterally disposed marginal portions of said backing sheet, said oppositely attached supporting blades being arranged in superposed relation with each other at each side of the backing sheet and each having a hinge adjacent its attachment with the backing sheet to provide for swinging movements thereof away from said sheet, each lower supporting blade having a rearwardly disposed marginal portion extending rearwardly beyond and out from underneath the adjacent edge of the adjacent overlying blade, a stop lug at the rear of said backing sheet, the forward attaching margins of said blades being positioned substantially equidistant from said stop lug and a transfer sheet attached to the attaching margin of each of said blades.

5. A transfer set including, in combination, a backing sheet, a plurality of transfer sheet supporting blades attached to the opposite laterally disposed marginal portions of said backing sheet, said supporting blades being arranged in superposed relation with each other at each side of the backing sheet and each having a hinge adjacent its attachment with the backing sheet to provide for swinging movements thereof away from said sheet, a transfer sheet attached to each of said blades, and a stop lug at the rearward portion of said backing sheet, the parts of said supporting blades to which the transfer sheets are attached being relatively superposed and positioned at the forward part of said backing sheet.

6. A transfer set including, in combination, a backing sheet, a plurality of transfer sheet supporting blades attached to the opposite laterally disposed marginal portions of said backing sheet, said supporting blades being arranged in superposed relation with each other at each side of the backing sheet and each having a hinge adjacent its attachment with the backing sheet to provide for swinging movements thereof away from said sheet, a transfer sheet attached to each of said blades, and a stop lug at the rearward portion of said backing sheet, the parts of said supporting blades to which the transfer sheets are attached being relatively superposed and positioned at the forward part of said backing sheet, the attachment of said blades to said backing sheet including attaching means extending along the opposite longitudinal marginal portions of the backing sheet at parts of said blades which are in overlapping relation with the backing sheet.

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