Feb. 25, 1941. L. K. FLEISCHMANN 2,233,204

MULTIPLE CARBON HOLDER FOR CONTINUOUS FORMS

Filed Aug. 17, 1940

Fig. 1.

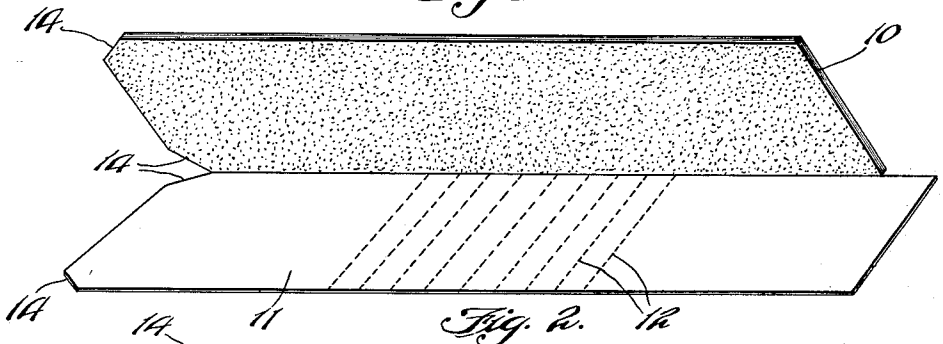


Fig. 2.

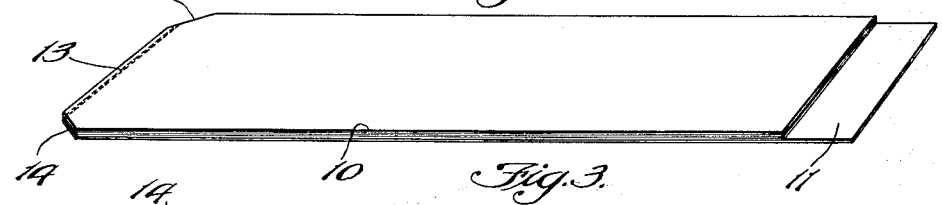


Fig. 3.

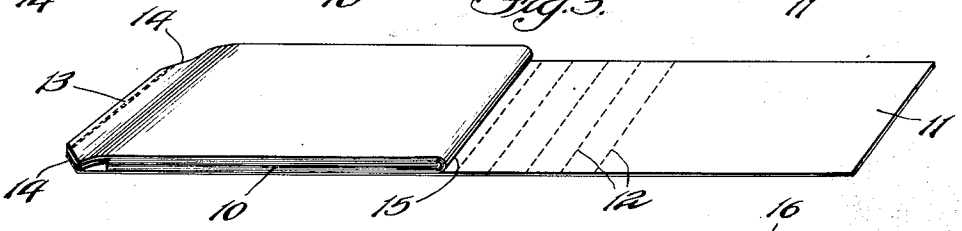


Fig. 4.

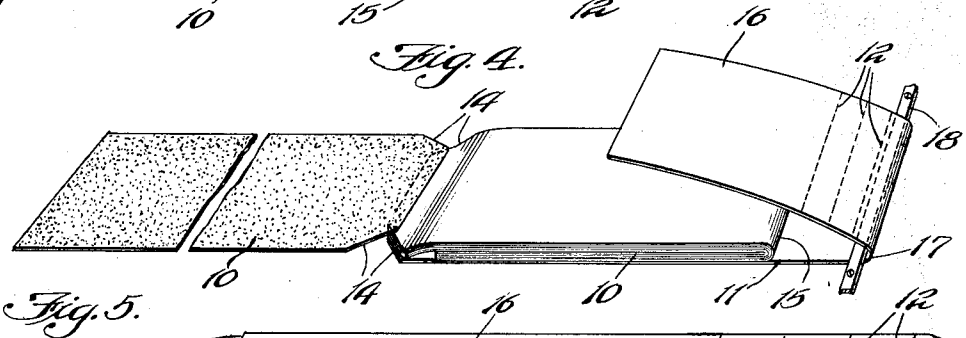
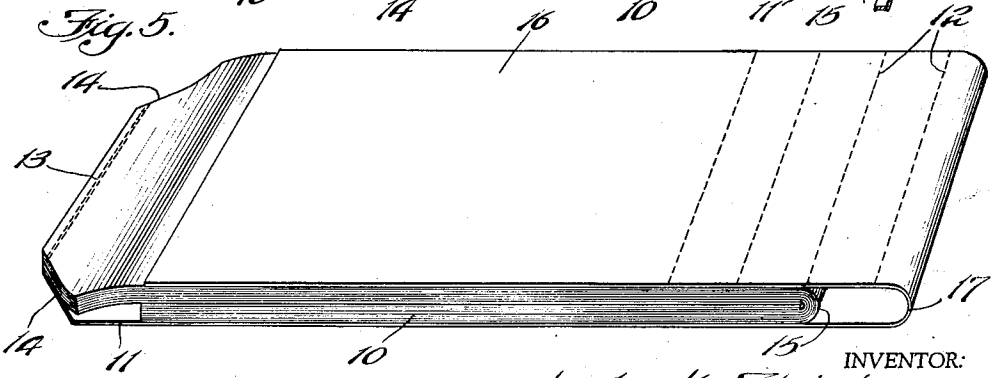


Fig. 5.



INVENTOR:
Lester K. Fleischmann
BY Kent W. Worrell
ATTY

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MULTIPLE CARBON HOLDER FOR CONTINUOUS FORMS

Lester K. Fleischmann, Chicago, Ill.

Application August 17, 1940, Serial No. 353,051

10 Claims. (Cl. 282—8)

This invention relates in general to multiple manifolding devices and more particularly to the multiple carbon sheets having a common leader attached thereto for use on billing machines and typewriters and adapted to economize and facilitate the application and use of carbon paper in multiple manifolding.

An important object of the invention is in the provision of a plurality of carbon sheets attached to a common leader and adapted to be separately folded for use and for holding those not in use out of the way.

A further object of the invention is in the provision of a leader sheet which has indicated folded lines thereon and overlaps a reserved magazine of carbon sheets to prevent the carbon sheets not being used from engaging the sheets being manifolded.

A still further object of the invention is in the provision of a flexible sheet leader with a plurality of carbon sheets attached thereto by a seam cut off at the ends to offer the least obstruction at these points as the multiple carbon holder is inserted between and moved relatively to the sheets which are manifolded.

Other objects of the invention will appear in the specification and will be apparent from the accompanying drawing illustrating the invention, in which

Fig. 1 is a perspective view of a leader sheet and a plurality of carbon sheets before they are attached together;

Fig. 2 is a perspective view of the sheets shown in Fig. 1 after they have been fastened together at one end;

Fig. 3 is a perspective of all carbon sheets with their free ends folded together under their other portions;

Fig. 4 is a perspective view illustrating the outermost carbon unfolded or extended for use, and the free end of the leader sheet folded to engage a bar of a manifolding machine and partially extending over the folded end of the carbons not in use; and

Fig. 5 is a perspective of a multiple carbon holder in accordance with this invention as ordinarily folded and supplied to a customer.

This invention is particularly applicable to typewriters, billing machines and other manifolding devices particularly equipped to carry and type continuous forms. Such forms are now commonly used in manifolding machines either in the fanfold form with successive lateral openings on opposite sides or in the open web type in which a plurality of printed strips are foldable on transverse score lines, the outer or printed ends being torn off as printed. In each type, after the form at the end of the strip is typed and manifolded, the carbons are pushed back, the completed forms are torn off and the carbons are in place for the next invoice to be typed. This requires strips of carbon interposed between the billing forms which are usually fastened to a special carbon carrier at the back of the machine by means of which carbons are withdrawn together before the typed and manifolded forms at the ends are torn off. As the lower edges of the carbons become worn, they are removed several inches at a time until finally the carrier sheet comes close to the platen of the machine. In the ordinary manifolding installation, a new carbon sheet must be inserted and sometimes an entirely new sheet and attached leader must be replaced, depending upon the connection of the carbon sheet. In the present invention, it is necessary only to unfold another carbon sheet from the multiple holder to extend it outwardly for use between the sheets which are manifolded, without inserting a new leader sheet.

Referring now more particularly to the drawing, a plurality of carbon sheets 10 are provided for each extension leader sheet 11. The carbon sheets may have a carbon ink surface on one side only, or on both sides and interleaved by thin sheets of plain paper, the plain paper to act as a protecting sheet for the first carbon in the form preventing the type from cutting the carbon; also, these interleaved sheets may be used against the ink surface of the carbon sheet to act as a block out to prevent certain information from registering on parts of any one copy of the form. The leader sheet is preferably of relatively tough, non-adhesive material such as waxed paper or the like, slightly longer than the carbon sheets 10 and having a number of printed, perforated, ruled lines, or other score lines 12 extending transversely thereof to relate or accommodate any size of carbon carrier. The ends of the carbon sheets of the leader sheet are placed together with the reproducing faces of the carbon sheets all facing the leader sheet, and the lowermost surface engaging it.

With the extremities of the sheets at one end all registering, they are securely fastened together by staples or a row of stitching 13 which forms a somewhat stiffened rib or ridge at this location.

The corners 14 of the sheets are therefore cut off at an angle either before the sheets are assembled or after they are stitched or fastened to-

gether. One object of this construction is to obviate a hard ridge or projection at either edge of the holder, for when a multiple holder of this kind is inserted between fanfold sheets, if the ridge formed by the seam fits too closely into the fold of the manifold sheet, which is usually scored, the tendency of the seam projection is to split or open the scored fold of the manifold sheet or to bind therein, making it difficult to withdraw the multiple carbon holder before the manifold copies are torn off.

After the carbon sheets are attached to the leader, they are all folded over inwardly about a line 15, approximately midway of their length, the carbon sheets either being folded separately or altogether and lying flatly against the surface of the leader sheet 11. The free end 16 of the leader sheet is likewise folded over inwardly about a fold line 17 which may coincide with one of the connected fold lines 12 and this forms a cover extending over the outside of the carbon sheets when they are not in use.

In order to apply this multiple holder to a manifolding machine, the free end or flap of the leader sheet is raised and a manifold attachment bar 18 is inserted transversely therethrough, the leader sheet being looped over the bar or wrapped around the bar to attach the leader thereto in a well known manner. At this time, the outermost carbon sheet is unfolded from the others and extended forwardly therefrom along the line of the seam as indicated more clearly in Fig. 4 and this carbon sheet is then extended between the sheets for manifolding to make a copy thereof. The free end 16 of the leader sheet is then folded flat against the remaining carbon sheets where it is retained flatly in position by the superposed manifolding sheets between which the carbons are inserted.

After once being placed in position between sheets which are being manifolded, it is a simple matter to continue the use of all of the carbon sheets in succession until they are entirely used up, it being necessary only to raise the next carbon sheet and extend it after the preceding one has been used up. In this manner, it is not necessary to attach the leader or to insert a new one, or to insert a new carbon sheet each time one sheet of carbon is used up. The free end 16 of the leader sheet being folded over, the folded end 15 of the carbon sheets prevents them from being engaged, raised or torn by the manifold sheets as the carbons and carbon holders are moved relatively to the manifolding sheets in advancing them to the printing position.

If desired, carbon sheets may be stitched or folded at slight angles for insertion on the left or right sides of a fanfold form or when carbon sheet is unfolded and extended for use between the parts of the form, it may be inclined at the stitch line so that it (the carbon sheet) will be feeding at a slight angle, pointed toward the closed side of the form; this angle of feeding will prevent the carbons from pulling out from the open sides of the form as the operator pushes the carbon carrier backward to withdraw the carbons from the completed form, prior to tearing off the finished form.

The infolding of the carbon sheets and the overlapping of the extension leader, provides means for handling the carbon sheets without soiling the hands, with the least smearing of the carbon itself and with the least danger of smearing the sheets to which the carbons are applied since only one sheet of carbon is exposed at a time. The carbons and leader sheets may be of various sizes and lengths, but a single fold of both is considered best as the folding of a leader sheet and several sheets of carbon for each sheet to be manifolded, produces a considerable bulk, weight and thickness which tends to tear the manifold forms apart at their folded edges and prevents the carbons and holders from sliding freely with respect to the manifold sheets. This is another reason for making the leader sheet of smooth or waxed paper which does not adhere readily or form an obstruction to the sheets at either side of it.

I claim:

1. In a multiple carbon, a plurality of carbon sheets, one on top of the other, a leader sheet therefor, and means for securing all the sheets together at one end thereof, the sheets being folded inwardly midway of their lengths and the leader covering the ends of the carbon sheets.

2. In a multiple carbon, a leader sheet, a plurality of carbon sheets with their reproducing faces extending in the same direction and the lowermost one against the leader sheet, the sheets all registering at one end, and means for fastening all the sheets together at their registering ends, the free ends of the carbon sheets being folded intermediate their ends.

3. In a multiple carbon of the class described, a leader sheet and a plurality of carbon sheets on top of each other facing the leader sheet, and means attaching the sheets together at one end, the outermost carbon sheet being foldable outwardly for use, and the free ends of the other sheets being folded over inwardly midway of their lengths on top of the leader sheet, the folded free end of the leader sheet overlapping the folds of the said other sheets.

4. In a multiple carbon holder, a plurality of carbon sheets, a relatively tough leader sheet, means securing the sheets together at one end thereof with the carbon faces toward the leader sheet, the free ends of the carbon sheets being folded together inwardly and below the other portions thereof, and the free end of the leader sheet being foldable over the folded ends of the carbons.

5. In a multiple carbon holder, a plurality of carbon sheets, a relatively tough leader sheet, means securing the sheets together at one end with the carbon faces turned inwardly, the outermost carbon sheet being folded over to expose its carbon face upwardly, the free ends of the other carbon sheets being folded together inwardly and below the other portions, the free end of the leader sheet being foldable over to provide a bar engaging loop and the extremity overlapping the folded end of the carbons.

6. In a manifolding carbon holder, a plurality of carbon sheets, a leader sheet therefor, means for stitching the sheets together at one end in registering overlying relation, the outermost carbon sheet being foldable outwardly for use, and the corners at the stitched ends being cut off to eliminate a seam at the edges of the sheets.

7. A multiple carbon holder comprising: a leader sheet having a plurality of spaced, parallel, transverse lines of scoring at measured intervals; and a plurality of carbon sheets superposed on said leader sheet and having their front marginal edge portions secured thereto so that the single outermost carbon sheet may be inverted forwardly to extended position from the leader

for manifolding use, and said leader being foldable at a desired line of scoring to provide a bar-engaging loop with its free end overlapping a substantial portion of the unextended carbon sheets and providing a guard-apron therefor.

8. A carbon pack, adapted for use between a pair of continuous-form stationery strips, comprising: a folded leader sheet adapted to be anchored between forwardly advancing stationery strips; and a plurality of registering carbon sheets having their front marginal edge portions secured to the front portion of said leader sheet along a straight line so that the outer carbon sheet may be inverted forwardly to extended position from the leader sheet for manifolding use between the strips, the free end of the leader sheet being of sufficient length to form a guard-apron which extends a substantial distance over the reserve supply of carbon sheets.

9. A carbon pack as specified in claim 8, in which the unextended carbon sheets are folded inwardly towards the leader sheet.

10. A carbon pack as specified in claim 8, in which the line of connection between the carbon sheets and leader sheet is shorter than the width of the carbon sheets.

LESTER K. FLEISCHMANN.