Nov. 28, 1939. F. B. SMITH 2,181,212

MANIFOLD ENVELOPE STRIP

Filed Feb. 24, 1938 2 Sheets-Sheet 1

Fig. 1.

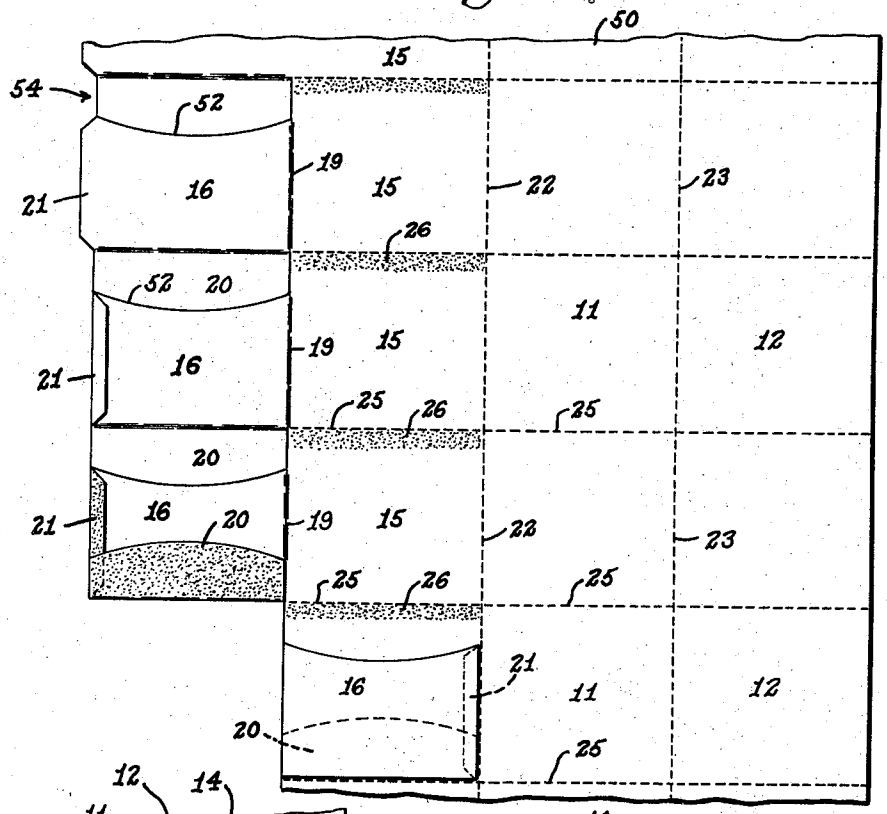


Fig. 2.

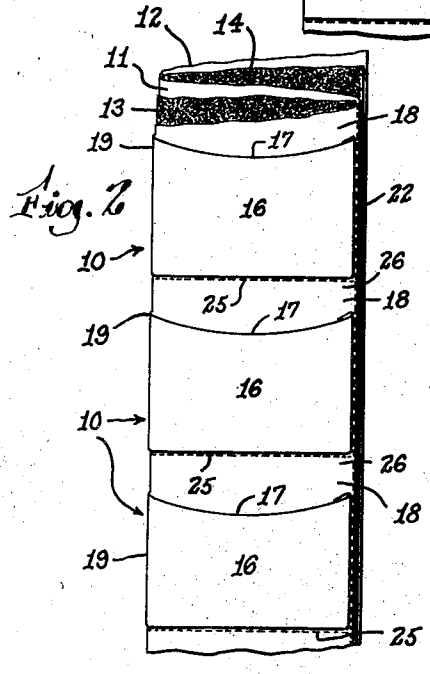
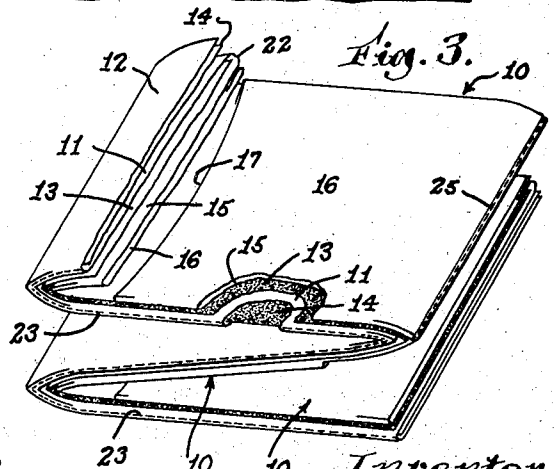


Fig. 3.



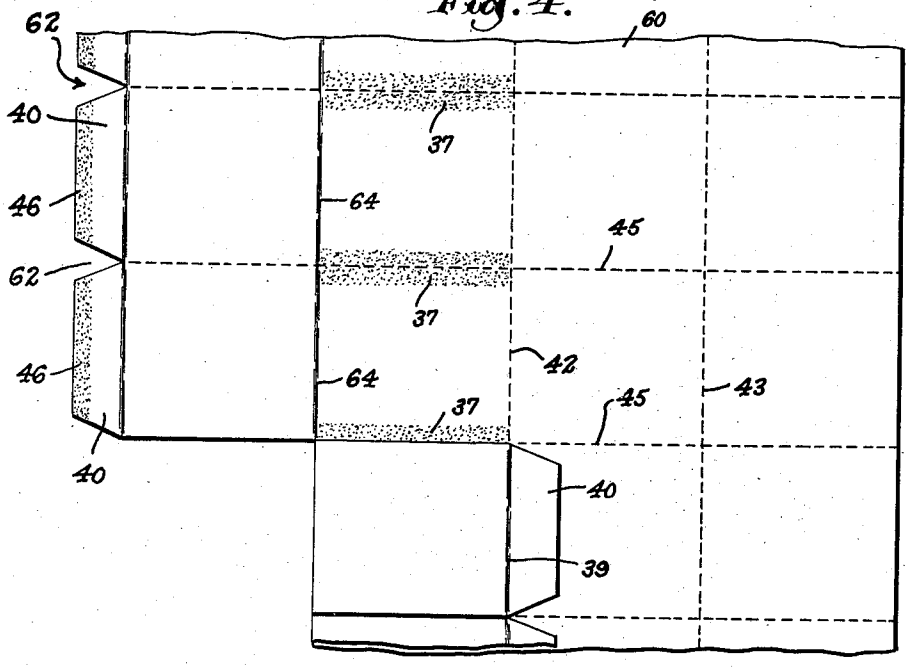
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MANIFOLD ENVELOPE STRIP

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Fig. 4.



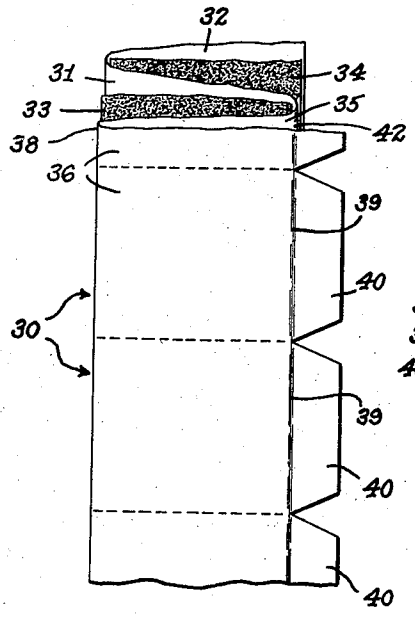


Fig. 5.

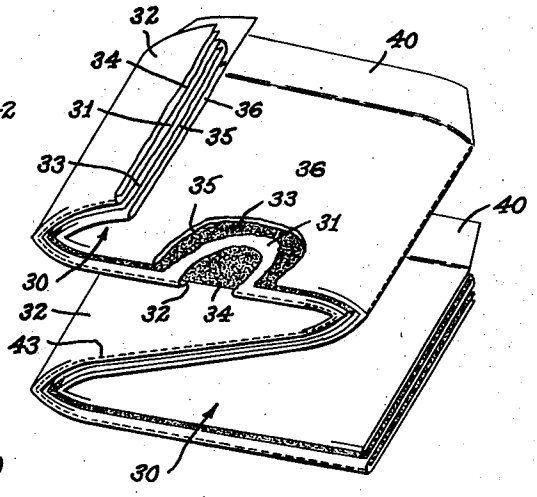


Fig. 6.

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Patented Nov. 28, 1939 2,181,212

UNITED STATES PATENT OFFICE

2,181,212

MANIFOLD ENVELOPE STRIP

Frederic B. Smith, Winthrop, Mass.

Application February 24, 1938, Serial No. 192,293

11 Claims. (Cl. 282—12)

This invention relates to a continuous manifold envelope strip and to a method of making the same.

The principal object of the invention is the provision of a manifold envelope strip for producing in one operation one or more copies of whatever is written on the envelope.

Another object is the provision of an envelope strip of the character described which is especially adapted for use in typewriting machines of various kinds.

A further object is the provision of a method for making a manifold envelope strip which is simple, efficient and of a low cost.

Other objects of the invention will be more specifically pointed out and described hereinafter.

My invention contemplates a continuous manifold envelope strip preferably made from a single continuous strip of suitable material such as paper, in which one longitudinal edge portion of the strip is folded over upon its main body portion to form a continuous series of connected envelopes, and the other longitudinal edge portion is folded over upon the envelopes, preferably the front faces thereof, and interleaved with transfer material to form a manifold strip. If more than one copy of the original is required, the width of the continuous strip may be increased to permit the latter longitudinal edge portion to be folded on the envelopes in a zigzag manner to give the number of copies desired.

The manifold strip, including the transfer sheets, may be provided with transverse weakened or perforated lines between the envelopes, thereby permitting the manifold strip to be folded zigzag on said lines to form a small, compact, flat pack and also to permit each envelope and its associated copy or copies as used to be torn off as a set along one of said lines.

In the accompanying drawings illustrating two forms of my invention, Figure 1 is a plan view of a portion of a continuous strip of suitable material, showing progressive steps in the formation of one form of manifold envelope strip therefrom;

Fig. 2 is a plan view of the completed strip, looking toward the bottom face thereof, with portions broken away at one end to show the interior construction of the strip;

Fig. 3 is a view in perspective of the strip folded zigzag to form a flat pack, certain portions being broken away to expose the inner layers;

Fig. 4 is a view similar to Fig. 1 of another form of manifold envelope st ip;

Fig. 5 is a view similar to Fig. 2 of said other form; and

Fig. 6 is a view similar to Fig. 3 of said other form.

Referring more particularly to the drawings, there are shown two embodiments of the invention differing from each other in the formation of the envelopes only. In the form of Figures 1 to 3, the envelopes have openings which run transversely of the manifold strip, and in the form of Figures 4 to 6, the envelope openings run longitudinally the strip. This difference results in a variation in the constructions of the envelopes and the methods of forming them, but the manifolding feature is the same in both.

In the first form of the invention, the manifold envelope strip, a portion of which is shown in Figure 2, comprises a continuous series of envelopes 10 having superposed, preferably on their front faces, two continuous layers or record strips 11 and 12 with interleaved transfer strips 13 and 14. All of the strips are preferably of the same width and the transfer strips are coated on one side with carbon or other transfer material for reproducing on the front of the envelopes and on strip 11 whatever is written on the outer strip 12.

Each of the envelopes is made up of a front part 15 and a back part 16, with an opening 17 transversely of the strip, and a flap 18. The front parts and flaps in alternate arrangement constitute one continuous strip portion of the manifold strip. The back part 16 at one end is integral with the front part of the envelope at the fold 19, and its bottom and other end are fastened to the front part of the envelope to form the body thereof by inwardly turned flanges 20 and 21 adhesively secured to the back face of the front part. The upper edge of the back part is left free and unattached to form the opening 17.

The two record strips 11 and 12 are longitudinal portions of a lateral extension of the envelope and flap strip, which extension is folded zigzag on longitudinal weakened or perforated lines 22 and 23 to form the superposed strips.

The manifold strip, including the transfer strips, is provided with transverse weakened or perforated lines 25 between the envelopes, permitting the end envelope with its superposed record and transfer sheets to be separated from the strip as a set. The weakened lines 23 and 22 also permit the original and duplicate sheets in each set to be separated from the envelope, and for sealing the envelopes when separated, the flaps may be provided with adhesive 26. For

convenience in handling, the manifold strip may be broken along the transverse weakened or perforated lines 25 and folded zigzag into a flat pack, as shown in Figure 3 of the drawings.

In the second form of the invention, the manifold strip, a portion of which is shown in Figure 4, comprises a continuous series or strip of envelopes 30 having superposed, preferably on their front faces, two continuous layers or strips 31 and 32 with interleaved transfer strips 33 and 34. All of the strips are preferably of the same width as in the first form of the invention and the transfer strips are coated on one side only for reproducing on the front faces of the envelopes and on strip 31 whatever is written on the outer strip 32.

Each of the envelopes 30 is made up of a front part 35 and a back part 36 fastened together by adhesive on lines or bands 37 running transversely of the manifold strip, the two parts being integral along one longitudinal edge 38 of the envelope strip and unattached to each other along the other longitudinal edge to form openings 39. A flap 40 is formed for each envelope by extending the back part 36 at the opening.

The two record strips 31 and 32 are longitudinal portions of a lateral extension of that strip of material comprising the front parts of the envelopes, which extension is folded zigzag on the longitudinal weakened or perforated lines 42 and 43 to form those parts. For permitting each envelope with its superposed record and transfer sheets to be separated from the strip as a set, the strip is provided with transverse weakened or perforated lines 45 between the envelopes. When a set is separated from the strip, the weakened lines 42 and 43 permit the original and duplicate sheets to be separated from the envelope, and for sealing the envelope, the flap may be provided with adhesive 46. The transverse weakened or perforated lines 45 also permit the manifold strip to be broken along said lines and folded zigzag to form a flat pack, as shown in Figure 6 of the drawings, this conducing to convenience in handling and using the strip.

The method of making a manifold strip in accordance with my invention involves the provision of a continuous strip of paper or other suitable material of the required width and the formation of the manifold strip therefrom in a progressive manner. Generally, the method consists in progressively forming and folding one longitudinal side portion of said strip over upon its body portion and adhesively securing it to said body portion to form progressively a continuous series of envelopes; providing the strip with transverse weakened or perforated lines between the envelopes and the other side portion of the strip with longitudinal weakened or perforated lines, then folding said other side portion progresssively on said longitudinal lines in a zigzag manner over the front faces of the envelopes to form superposed record strips thereon; then, interleaving the parts of the manifold strip with continuous transfer strips having transverse perforations registering with the transverse perforations in said strip. The order of these steps and the details of this method may be varied somewhat, dependent upon whether or not the envelopes are to be provided with flaps and on the position of the flaps, and whether the openings in the envelopes are to extend transversely or longitudinally of the strip.

In making the manifold strip of the first form of the invention, as illustrated in Figure 1, a continuous strip 50 is provided which is of slightly greater width than the combined widths of the back and front parts of the envelopes and the two record strips 11 and 12. This is to provide for the inturned flange 21. The first step consists in forming the back parts 16 of the envelopes progressively by cutting the strip 50 inwardly from one side on equally spaced transverse lines 52, preferably slightly curved, and cutting out edge portions 54. The end and bottom portions of each back are then folded over to form the flanges 21 and 20 respectively. These may be coated with adhesive either before or after they are folded over, but preferably after the folding, and at the same time adhesive 26 may be applied to the flaps 18. The backs are then folded over on line 19 upon the main body portion of the strip 50 and adhesively fastened thereto, thus forming the strip of envelopes.

The strip 50 may be progressively provided with weakened or perforated transverse lines 25 and longitudinal lines 22 and 23 either before, after, or simultaneously with the progressive formation of the backs of the envelopes. The transverse lines 25 extend entirely across the strip 50 with the exception of that longitudinal portion from which the backs 16 are formed and each line is located between the bottom of an envelope and the flap of the next adjacent envelope.

After the envelopes have been formed, the remaining portion of the strip 50 is folded zigzag on longitudinal lines 22 and 23 upon the front faces of the envelopes, and the transfer sheets 13 and 14, provided with transverse perforations, are then interleaved between the envelope strip and the record strip 11 and the record strips 11 and 12 respectively, with their weakened lines in register with the lines 25. As the manifold strip is progressively formed, it may be folded on the transverse weakened or perforated lines into flat pack form, as shown in Figure 3, ready for shipment and use.

In making the manifold strip of the second form of the invention, as illustrated in Figure 4, a continuous strip 60 is provided, which is of slightly greater width than the combined widths of the back and front parts of the envelopes and the two record strips 31 and 32, in order to provide for the envelope flaps 40. The first step consists in cutting out along one longitudinal edge of the strip equally spaced V-shaped portions to form notches 62 between the flaps 40 of the envelopes, and, at the same time, if desired, the strip may be provided with the weakened or perforated lines 45 and longitudinal lines 42 and 43. The lines 45 extend entirely across the strip and register with the points of the notches 62. The adhesive coatings 37 and 46 are then applied to the back faces of the fronts of the envelopes and to the flaps respectively, and the backs are then progressively folded over on the line 64 and adhesively secured to the front parts of the envelopes by the adhesive 37.

After the completion of the envelopes, the remaining portion of the method pursued is the same as that used in the first form of the invention; that is, the remaining portion of the strip 60 is folded zigzag on lines 42 and 43 over upon the front faces of the envelopes, and the transfer sheets 33 and 34, having transverse weakened or perforated lines, are interleaved between the parts of the strip with said lines in registration with the lines 45, and the manifold strip thus

prepared is then folded zigzag on said lines 45 to form a flat pack, as shown in Figure 6.

In use, one end of the manifold strip is inserted around the platen of any suitable typewriting machine, with the back faces of the envelopes in engagement with the platen, and the typing is then done from the outer face of the topmost record strip and reproduced through the transfer material on the inner record strip and the front face of the envelope. After the typing has been completed on one set, the strip is then fed forward to bring the next envelope and record strips in place, and the first envelope and its associated record strips are torn off along a transverse weakened or perforated line. The separated set may be kept together as a unit, or the record strips may be torn off from the envelope along the longitudinal perforated lines. This process is continued indefinitely, or until the end of the continuous strip has been reached. After it has been properly arranged in the machine, nothing further is required on the part of the operator except to feed it forward from one envelope to another, as the work proceeds, tearing off the completed units from time to time. This eliminates the arranging and positioning of each separate envelope and its record strips in a typewriting machine and accomplishes a considerable saving of time and effort on the part of the operator.

The manifold strip of my invention is especially adapted for use as pay envelopes. Employers, at the present time, are required by the Social Security laws now in effect, to make certain deductions from the wages of their employees and to furnish each employee with a statement of the deductions and to retain a copy thereof. Because of these requirements, the preparation of payrolls and pay envelopes has become a complicated routine with many business concerns. The use of my manifold strip for this purpose permits the account to be produced on the front of the envelope which may then be used as a pay envelope, and, at the same time, produces the necessary copies of the account for the employer and for auditing purposes, all in one operation.

Although my invention has been shown and described as embodied in a manifold envelope strip, made up of a strip of envelopes having two record strips superposed thereon, it is not to be limited thereto, because the number of record strips may be increased or decreased to suit the requirements of any particular use, and this may be done merely by increasing or diminishing the width of the original strip from which the manifold strip is made and by increasing or decreasing the number of folding operations.

It is also to be understood that other means, such as staples, eyelets, or stitching, or similar devices may be used in place of the adhesive for fastening together the two folds of the continuous strip for forming the envelopes.

In the foregoing, I have described the preferred form of my invention as being embodied in a manifold envelope strip made of a single continuous strip of paper with interleaved transfer strips, yet it may be made in a single continuous strip for the envelopes and separate strips for the record strips superposed on the front face of the envelope strip. Also the interleaved transfer strips may be omitted when the manifold strip is intended for use on typewriting machines provided with devices for holding transfer sheets between the strips of the manifold strip as it is fed through the machine. Various devices are in use at the present time for this purpose, some of which are adapted for fanfolded strips, such as the preferred form of my invention.

It is further to be understood that my invention may be embodied in other forms than those herein shown and described, and that the methods of making it may also be varied in certain details, without departing in either case from my invention, and it is to be construed broadly except where limited in the following claims.

What I claim is:

1. A manifold envelope strip comprising a continuous series of envelopes and a plurality of continuous record strips superposed on the front face of said envelope series, all of said parts being made from a single continuous strip of paper folded on longitudinal lines, and transfer strips interleaved with said parts for reproducing on the front parts of said envelopes and the intermediate record strip or strips whatever is written upon the outer record strip.

2. A manifold envelope strip comprising a continuous series of envelopes having openings transversely of said strip and a plurality of continuous record strips superposed on the front face of said envelope series, all of said parts being made from a single continuous strip of paper folded on longitudinal lines, and transfer strips interleaved with said parts for reproducing on the front parts of said envelopes and the intermediate record strip or strips whatever is written upon the outer record strip.

3. A manifold envelope strip comprising a continuous series of envelopes having openings longitudinally of said strip and a plurality of continuous record strips superposed on the front face of said envelope series, all of said parts being made from a single continuous strip of paper folded on longitudinal lines, and transfer strips interleaved with said parts for reproducing on the front parts of said envelopes and the intermediate record strip or strips whatever is written upon the outer record strip.

4. A manifold envelope strip comprising a continuous series of envelopes and a plurality of continuous record strips superposed on the front face of said envelope series, all of said parts being made from a single continuous strip of paper folded on longitudinal lines, and transfer strips interleaved with said parts for reproducing on the front parts of said envelopes and the intermediate record strip or strips whatever is written upon the outer record strip, all of said parts including the transfer strips being provided with registering transverse weakened or perforated lines between the envelopes and said manifold strip being folded zigzag on said transverse lines to form a flat pack.

5. A manifold envelope strip comprising a continuous series of envelopes having openings transversely of said strip and flaps for closing said openings, the front parts and flaps of said envelopes in alternate arrangement constituting a continuous strip in said manifold strip, and a plurality of continuous record strips superposed on the front face of said envelope series, all of said parts being made from a single continuous strip of paper folded on longitudinal lines, said manifold strip being provided with registering transverse weakened or perforated lines.

6. A manifold envelope strip comprising a continuous series of envelopes and a continuous record strip superposed on the front face of said envelope series, all of said parts being made from a single continuous strip of paper folded on lon-

gitudinal lines, and a transfer strip interleaved between said envelope series and said record strip for reproducing on the front parts of said envelopes whatever is written upon the said record strip, said envelope series and said record strip being provided with registering transverse weakened or perforated lines between the envelopes, and said manifold strip being folded zigzag on said transverse lines into a flat pack.

7. A manifold envelope strip comprising a single continuous strip of paper having one side portion folded upon a line longitudinally of said strip and fastened to an inner portion of said strip to form a continuous series of envelopes and having its other side portion folded zigzag on longitudinal weakened or perforated lines over the front face of said series to form a plurality of superposed record strips and transfer strips interleaved with said parts for reproducing on the fronts of said envelopes and the intermediate record strip or strips whatever is written upon the outer record strip.

8. A manifold envelope strip comprising a single continuous strip of paper having one side portion folded upon a line longitudinally of said strip and fastened to an inner portion of said strip to form a continuous series of envelopes and having its other side portion folded zigzag on longitudinal weakened or perforated lines over the front face of said series to form a plurality of superposed record strips and transfer strips interleaved with said parts for reproducing on the fronts of said envelopes and the intermediate record strip or strips whatever is written upon the outer record strip, all of said parts including the transfer strips being provided with registering transverse weakened or perforated lines between the envelopes and said manifold strip being folded zigzag on said transverse lines to form a flat pack.

9. A manifold envelope strip comprising a single continuous strip of paper having one side portion folded upon a line longitudinally of said strip and fastened to an inner portion of said strip to form a continuous series of envelopes and having its other side portion folded zigzag on longitudinal weakened or perforated lines over the front face of said series to form a plurality of superposed record strips, all of said parts being provided with registering transverse weakened or perforated lines between the envelopes and said manifold strip being folded zigzag on said transverse lines to form a flat pack.

10. A manifold envelope strip comprising a single continuous strip of paper folded upon itself and fastened together on a longitudinal line to form a continuous series of envelopes, and a plurality of continuous strips superposed upon the front face of said envelope strip, all of said parts being of equal width and provided with registering transverse weakened or perforated lines positioned between the envelopes, and said strip being folded zigzag on said transverse lines to form a flat pack.

11. A manifold envelope strip comprising a single continuous strip of paper having one side portion folded upon a line longitudinally of said strip and fastened to an inner portion of said strip to form a continuous series of envelopes and having its other side portion folded zigzag on longitudinal weakened or perforated lines over the front face of said series to form a plurality of superposed record strips, all of said parts being provided with registering transverse weakened or perforated lines between the envelopes.

FREDERIC B. SMITH.