March 2, 1948. A. L. HESS ET AL 2,436,888

PROCESS FOR MAKING UNIT STRIPS

Filed Dec. 29, 1945

Fig. 1.

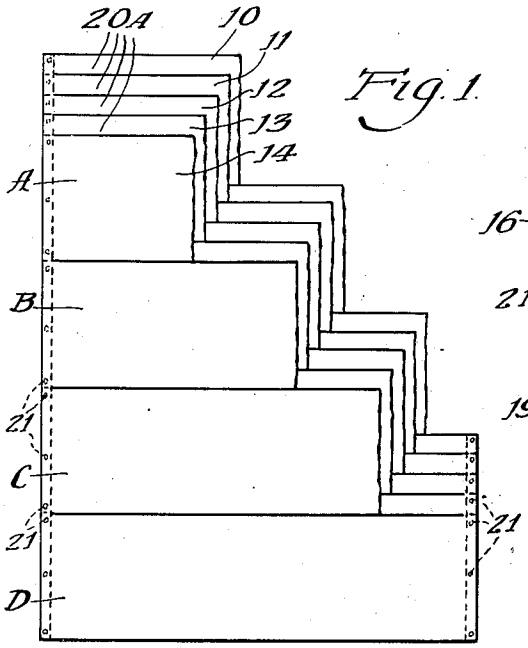


Fig. 3.

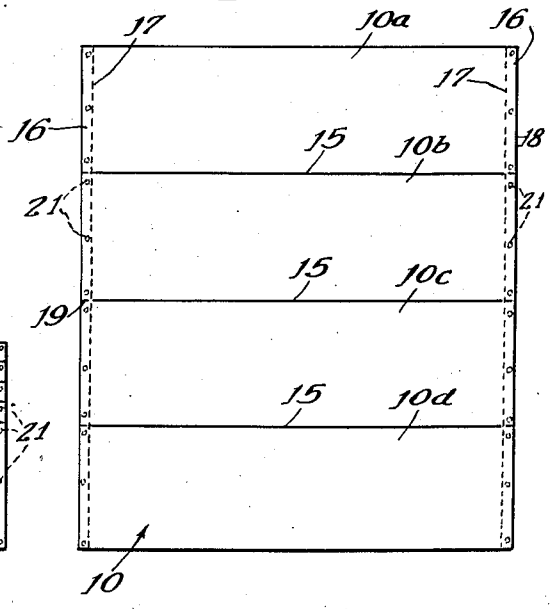


Fig. 2.

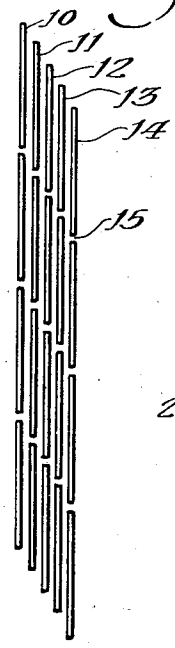


Fig. 4.

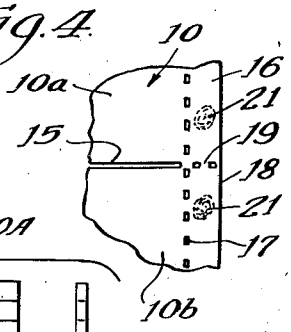
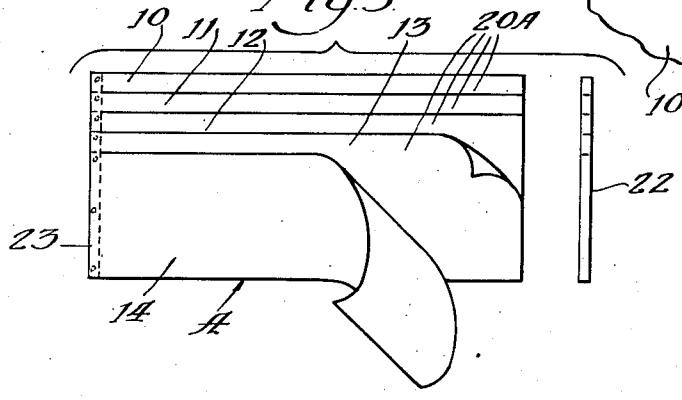


Fig. 5.



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Patented Mar. 2, 1948 2,436,888

UNITED STATES PATENT OFFICE

2,436,888

PROCESS FOR MAKING UNIT STRIPS

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Application December 29, 1945, Serial No. 638,171

7 Claims. (Cl. 281—16)

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This invention relates to an improved method for the manufacture of unit strip assemblies, and to a new article of manufacture, referred to herein as a sheet assembly, from which a plurality of unit strip assemblies may be formed.

By the term "unit strip assembly" is meant a plurality of sheets or strips arranged in overlapping relationship in one direction so that a top or bottom edge of each is exposed. The sheets or strips are secured to each along one or both of their aligned side edges.

Such a unit strip assembly has been found to be of considerable utility in bookkeeping, accounting, or other business systems. The group of strips or sheets in any unit strip assembly can be handled as a unit, and the overlapping relationship provides an exposed portion of each sheet upon which matter may be duplicated. For example, each strip of the assembly may be provided with printed matter so that it will constitute a blank check; the payee's name and the amount to be paid would then be filled in at the exposed edge portion of the strip by a duplicating process. Thus a plurality of checks may be filled in by one duplicating operation from a master sheet which contains the names and amounts in tabular form.

The unit strips may be secured to each other by means of an adhesive which has been applied in sufficiently small quantities as to permit easy separation of the top strip from the assembly. In other forms, the adhesive may be of a more binding nature, and the sheet may be provided with a score line or perforated line parallel to its side edge which permits the separation of the sheet proper from the stub.

Various methods of making these unit strip assemblies have been proposed, some of which are premised upon the use of fairly costly machinery, and others of which are based on manual operations.

Reference is hereby made to the copending application of Howard G. Denyven, Arthur L. Hess and Edward R. Hess, Serial No. 508,422, filed October 30, 1943, which discloses a device for facilitating the manual assembly of unit strips.

The present invention relates to an improved method for manually assembling unit strips, which improved method is also considerably facilitated by the use of the device disclosed in the aforementioned application.

It is a primary object of this invention to provide a method whereby a single assembly operation will assemble a whole group of unit strip assemblies.

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This object is attained by the provision of a plurality of sheets, each one of which is scored or partially severed so as to form a plurality of strips. Thus, when these sheets are assembled in overlapping relationship, and then glued together at the side marginal portions, the result, in effect, will be a single assembly of sheets in which the sheets are considerably larger than separate strips of the usual unit strip assembly. However, due to the fact that each sheet is already partially severed into several strips, the sheet assembly as a whole may be broken up into a plurality of smaller unit strip assemblies.

For instance, when the sheet is provided with a plurality of slits which extend out to the side marginal portions, thus dividing each sheet into a plurality of strips which are connected to their adjacent strips of the same sheet at the side marginal portion, the separate unit strip assemblies are connected to each other only by the side marginal portions of each sheet. This connecting link may easily be broken to form a plurality of unit strip assemblies.

It is a further object of this invention to provide an improved article of manufacture comprising a sheet assembly which may be easily separated into a plurality of unit strip assemblies.

Other objects, features and advantages will become apparent as the description proceeds.

With reference now to the drawings, in which like reference numerals designate like parts—

Fig. 1 is an elevation of a preferred form of this invention, various portions of the overlying sheets being broken away in order to show in detail the construction thereof and to illustrate the improved method which forms the invention;

Fig. 2 is a side elevation of the sheet assembly shown in Fig. 1, the lateral dimension being considerably exaggerated in order to show more clearly the manner in which the sheet assembly may be broken upon into a plurality of unit strip assemblies.

Fig. 3 is an elevation of one of the sheets used in making up the unit sheet assembly shown in Fig. 1;

Fig. 4 is an enlarged detail showing certain structural features of the sheet shown in Fig. 3; and

Fig. 5 is a view of a unit strip assembly.

With reference now to Figs. 1 and 2, the reference numerals 10, 11, 12, 13 and 14 designate the separate overlapping sheets of the sheet assembly shown therein. As shown in Figs. 3 and 4, the sheet 10 is provided with a plurality of slits

15 which divide the sheet into strips 10*a*, 10*b*, 10*c* and 10*d*. The slits are formed transversely of the sheet and extend up to a marginal portion 16. In other words, they terminate about a quarter of an inch from the side edges of the sheet. The side marginal portions 16 may be separated from the remainder of the sheet by a series of perforations 17 which are parallel to the side edges 18 and spaced about a quarter of an inch therefrom. The marginal portions 16 may be weakened in the transverse direction by a series of perforations 19 which are aligned with the slits 15. Thus, the strip 10*a* may be separated from the remainder of the sheet 10 by a slight pulling. This causes the rupture of the marginal portions 16 along the perforations 19.

In the manufacture of a unit strip assembly, such as that shown in Fig. 5, which comprises five superimposed strips arranged in overlapping relationship, five sheets 10, 11, 12, 13 and 14, each of which is identical to sheet 10, are arranged in overlapping relationship, with their side edges 18 in alignment with each other. It will be noted in Fig. 1, that this arrangement provides exposed edge portions 20A at the top of each of the sheets. As these sheets are assembled, adhesive, indicated by the dotted lines and the reference numeral 21, in Fig. 4, may be applied to the marginal portions. The marginal portions are then pressed together and the adhesive allowed to set. The result is a sheet assembly such as that shown in Figs. 1 and 2.

Inasmuch as the different strips of each sheet are connected with each other only through the marginal portions 16, it will be seen that strips 10*a*, 11*a*, 12*a*, 13*a* and 14*a* may be readily separated from the remainder of the sheet assembly merely by a slight pull. These sheets, collectively designated by the reference numeral A, constitute a unit strip assembly, since they are arranged in the required overlapping relationship and are connected together at their marginal portions. Similarly, unit strip assembly B may be separated from the remainder of the sheet assembly, and then unit strip assembly C may be separated from unit strip assembly D. The spaces between the lines designating the various strips in Fig. 2 indicate the line of cleavage between the various unit strip assemblies.

After the unit strip assembly A has been separated, if it is desired for convenience in handling, that the separate sheets of the unit strip assembly be secured to each other only at one side marginal portion, the opposite marginal portions 16, which are in the form of a stub 22, may be separated from the unit strip assembly A along the series of perforations 17. The stub 23 serves to hold the separate sheets of the unit strip assembly together, and each sheet may be individually separated from the stub 23 as the occasion arises.

It is obvious that, instead of dividing each sheet into separate strip portions by the combination of slits 15 and the series of perforations 19, that a continuous series of perforations alone may be provided. Furthermore, other well known forms of weakening or partially severing paper may be employed.

In certain instances, it may be desirable to omit the series of perforations 17, in which event the top strip of any unit strip assembly may be removed merely by breaking the bond provided by the adhesive spots 21.

In the manufacture of unit strip assemblies, the costliest operation, from the standpoint of

time consumption, is that of arranging separate strips in overlapping relationship. By the method described herein, a group of four, six or eight, or any desired number, of unit strip assemblies may be arranged in overlapping relationship by one operation. Thus the assembly cost is reduced to a fourth, a sixth, or an eighth, respectively, of the cost of assembling them singly. The final step in the process is that of separating the sheet assembly into a plurality of unit strip assemblies, and this may be done very quickly and at a very low cost.

In some instances, it may be desirable from a viewpoint of ease of handling, to sell the unit strip assemblies in groups. That is, the sheet assembly itself is of considerable commercial value, and the purchaser may then remove separate unit strip assemblies as the occasion demands.

Although only a preferred embodiment of this invention has been shown and described herein, it will be understood that various modifications and changes may be made therein without departing from the spirit of the invention as defined by the appended claims.

We claim:

1. The method of manufacturing unit strip assemblies from a plurality of sheets provided with correspondingly spaced transverse score lines or the like comprising the steps of arranging said sheets in overlapping relationship so that the transverse edges of said sheets extend beyond the corresponding edge of an adjacent sheet, and so that the longitudinally extending edges of said sheets are aligned with each other, securing the marginal portions of said sheets to each other along said longitudinally extending edges, to form a sheet assembly, and separating said sheet assembly into a plurality of unit strip assemblies by severing each sheet along said transverse score lines which are so spaced from each other that the transverse edges of said unit strip assemblies bear the same overlapping relationship to each other as do the transverse edges of said sheet assembly.

2. The method of manufacturing unit strip assemblies from a plurality of sheets provided with equally spaced transverse score lines or the like, comprising the steps of arranging said sheets in overlapping relationship so that those edges which are parallel to said transverse score lines extend beyond the corresponding edge of an adjacent sheet, and so that those edges which are perpendicular to said transverse score lines are aligned with each other, securing the marginal portions of said sheets to each other along said aligned edges to form a sheet assembly, and separating said sheet assembly into a plurality of unit strip assemblies by tearing along said score lines.

3. The method of manufacturing unit strip assemblies from a plurality of sheets comprising the steps of slitting the central portion of each sheet along correspondingly spaced transverse lines to provide a plurality of strips which are connected to each other at their side marginal portions, arranging said sheets with their transverse edges in overlapping relationship and with their longitudinally extending edges aligned with each other, securing said marginal portions of said sheets to each other to form a sheet assembly, and separating said sheet assembly into a plurality of unit strip assemblies by tearing said marginal portions at points opposite the slits.

4. A sheet assembly comprising a plurality of sheets, each having correspondingly spaced trans-

verse score lines or the like, said sheets being arranged in overlapping relationship so that the transverse edges of said sheets extend beyond the corresponding edge of an adjacent sheet, and so that the longitudinally extending edges of said sheets are aligned with each other, and means for securing the marginal portions of said sheets to each other along one of said aligned edges.

5. A sheet assembly comprising a plurality of sheets, the central portions of which are slitted along correspondingly spaced transverse lines to provide a plurality of strips which are connected to each other at their side marginal portions, said strips being arranged with their transverse edges in overlapping relationship, and with their longitudinally extending edges aligned with each other, and means for securing said sheets to each other along at least one of said marginal portions.

6. A sheet assembly as claimed in claim 5, in which said marginal portions are separated from said central portions by a line of perforations.

7. A sheet assembly as claimed in claim 5, in which said marginal portions are weakened by a series of perforations which are aligned with said slits to facilitate the separation of said sheet assembly into a plurality of unit strip assemblies.

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REFERENCES CITED

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

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