

Dec. 13, 1938.

A. M. MARTIN

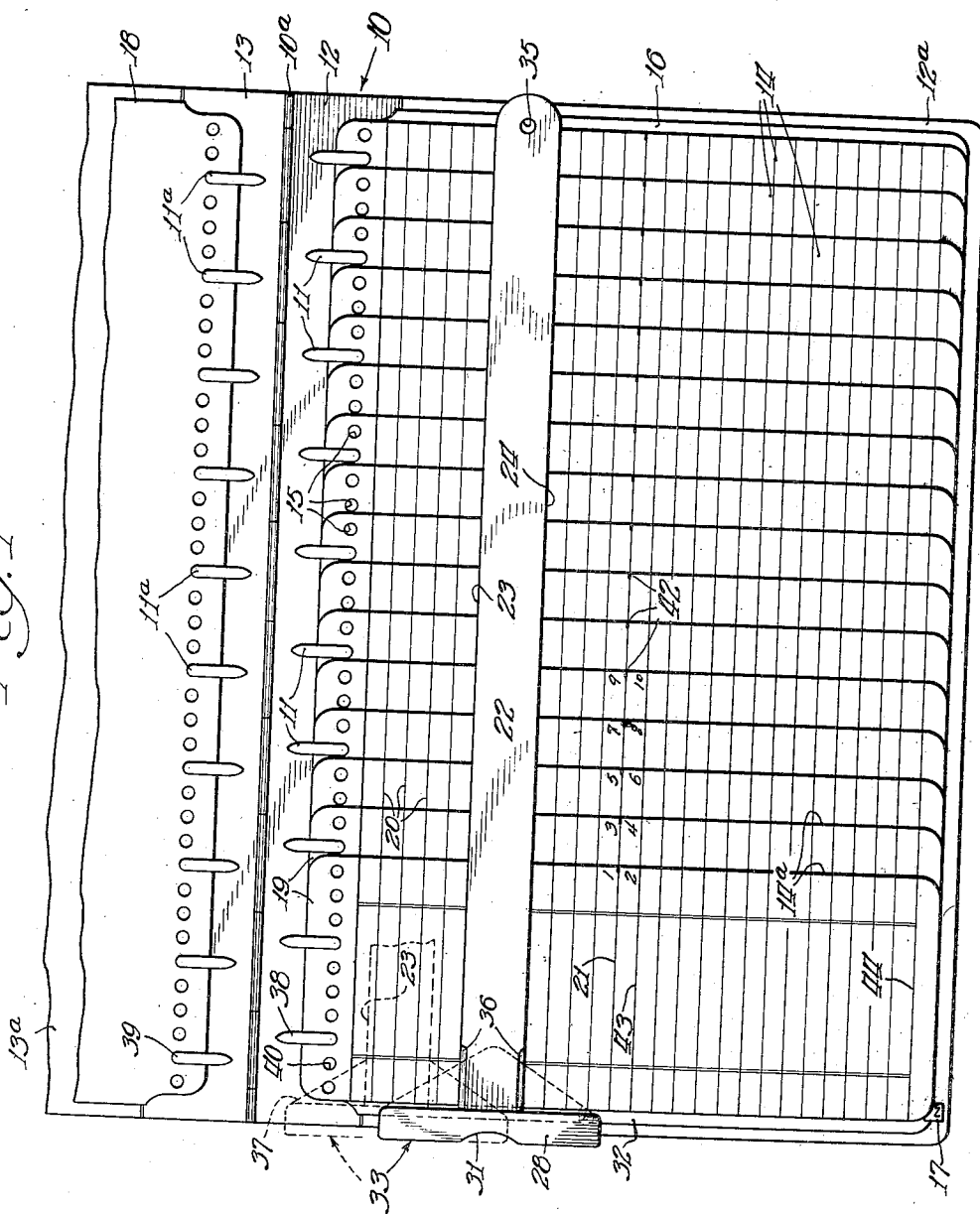
2,140,206

SLIP ACCOUNTING MEANS

Filed Oct. 5, 1936

2 Sheets-Sheet 1

Fig. 1



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2 Sheets-Sheet 2

Fig. 2

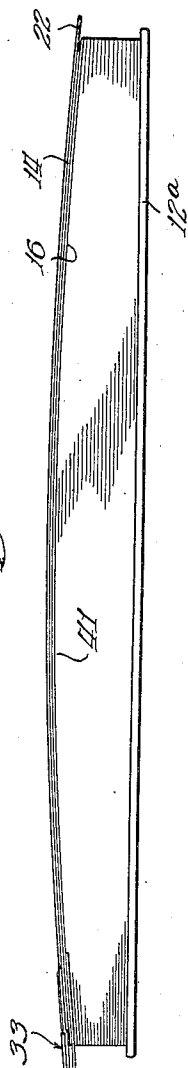


Fig. 3

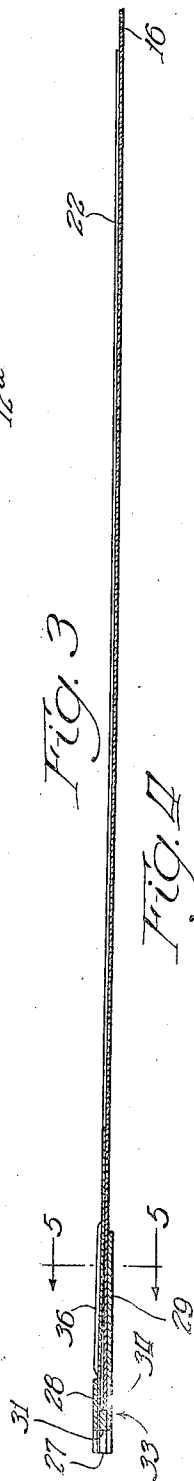


Fig. 4

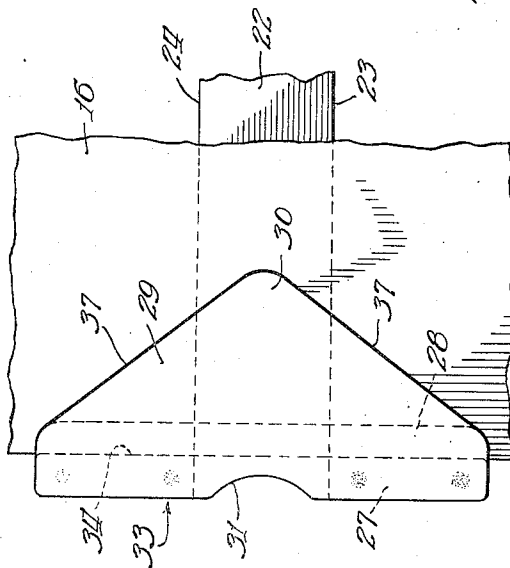


Fig. 5

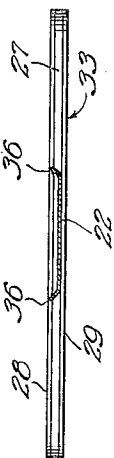


Fig. 6

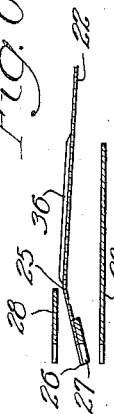
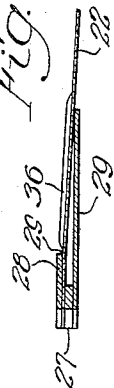


Fig. 7



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UNITED STATES PATENT OFFICE

2,140,206

SLIP ACCOUNTING MEANS

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Application October 5, 1936, Serial No. 103,985

1 Claim. (Cl. 120—33)

This invention relates to slip accounting means in which ruled paper slips serving as record sheets are removably arranged in side by side partially overlapping, or what is sometimes referred to as "shingled", relation, so that a portion of each sheet, usually at the right hand side of the sheet, is exposed for comparison with a similar portion of an adjacent sheet.

In order to facilitate the addition of comparable items carried by each of the slips crosswise or transversely, it is desirable to have a line-guide somewhat in the nature of a ruler or draftsman's T-square which can be superposed over all of the sheets and moved up and down perpendicularly to their longer edges. In order to use such a line guide it has been considered necessary heretofore to mount the slips on a flat, rigid backing support as shown, for example, in the patents to Van Horn No. 915,910, Rasmussen No. 1,751,494 and Newman et al. No. 1,817,640.

A serious objection to the devices of these prior patents is that the sheets or slips must be transposed from the places where they are usually kept, then specially arranged on the backing support, and then removed therefrom to be returned to their original repositories. I have found that such slips may be advantageously housed in the usual loose-leaf binders now common in accounting practice, the slips being housed therein already arranged in their so-called shingled relationship for immediate comparison or addition of comparable items thereof. To use such binders efficiently, it is necessary that the division or index sheets between groups of accounting slips be flexible and of relatively light weight. The contents of such binders, however, will not lie flat when the binder is anywhere near full but will be at least slightly curved from top to bottom of the binder, that is, transversely of the slips, owing to the fact that there are more of the slips overlapping at the middle of the binder than at the top and bottom. This has made it impracticable to use the conventional rigid or substantially rigid line-guide while the slips are still in the binder; and it has made it necessary, as taught by the prior art, to transpose the strips temporarily to a flat support as already referred to. I have found that this difficulty may be overcome by using a line-guide of such light strong material that it will flex of its own weight within short lengths of itself to adapt itself to the curvature of the contents of the binder and thus will substantially assume said curvature so as to contact each of the sheets or at least lie so close thereto that a line transversely of the sheets may

be unmistakably followed by the eye of the operator by the aid of an edge of the line-guide.

A further difficulty which arose in adapting my present idea for use was that because of the absence of rigidity in the parts, when the line-guide approached the bottom of the slips, it might be inadequately supported so that the same straight edge of the line-guide could be used to guide the eye all the way down the slips. To overcome this difficulty, I found that the slips may advantageously carry a permanent indicating mark coincident with one of the ruled lines of the slips, these marks being aligned transversely of the slips. Thus when the line-guide is moved downwardly of the slips and the upper edge of the line-guide discloses the said indicating marks, the line-guide may then be moved back up so that the lower straight-edge of the line-guide is coincident with the said indicating marks. From then on downwardly of the slips the lower edge of the line-guide may be used to guide the eye so that the line-guide need not be moved off of the slips at their bottoms. At the same time the operator is unmistakably informed of the point where he left off scanning the slips along the upper edge of the line-guide and, where he began scanning them along the lower edge thereof, or vice versa if he should be working upwardly of the slips.

Again a still further difficulty arose, which was that the part which corresponds to the T-head of the line-guide when used in accordance with my concept, without an extraneous support, would contact the usual prongs which binders, of the type referred to, carry to engage the slips. This condition of course would occur only when the line-guide is moved to a position approaching the ruled line of the slips adjacent the perforation along the upper or narrow ends of the slips by which they are mounted in the binder. To overcome this difficulty, I have found that the head of the line-guide may be advantageously cut away laterally thereof in a direction toward the slips so as to permit it to be moved as far as necessary upwardly of the slips while still avoiding contact with the binder prongs.

Again because of the absence of an extraneous support for the line-guide, I have found that the head of the guide may be made in the form of a clip which may have releasable clipping engagement with an edge of the flexible division or index sheet above referred to, thus assisting in supporting the line-guide while at the same time maintaining it in a given position until moved therefrom by the operator.

My invention will be understood and other objects and advantages perceived by the following detailed description of the illustrative embodiment thereof shown in the accompanying drawings in which—

Figure 1 is a partial plan view of means embodying my invention;

Figure 2 is a side elevational view of the structure of Fig. 1 looking from the right-hand side;

Figure 3 is a longitudinal section taken through the line-guide and a division sheet associated therewith, separated from the binder, and on a somewhat larger scale;

Figure 4 is a partial bottom plan view of the parts shown in Fig. 3;

Figure 5 is a cross-section taken on the line 5—5 of Fig. 3;

Figure 6 shows a step in the production of the line-guide; and

Figure 7 shows a still further step.

Referring in detail to the figures of the drawings, the loose-leaf binder 10 may be of the type shown in many of my prior patents, for example No. 1,722,812, in which the prongs 11, 11a are respectively fixedly mounted on relatively angularly movable sections 12 and 13 hinged together at 10a and comprising a binder bank, having cover members 12a and 13a rigid therewith. These prongs are shown in fully separated relation in Figure 1, thus depicting an open position of the binder in which the slips 14 may be impaled on or removed from the prongs by means of the perforations 15 along one margin of the slips. As shown in the figure the slips are engaged by the prongs 11. It will be understood that the binder backs 12, 13 may be brought together to cause the prongs 11a to also engage perforations in the slips 14, the sets of prongs 11, 11a being then in overlapping relation in a closed position of the binder and preventing the slips 14 from being accidentally displaced therefrom.

It will be noted that the slips 14 are relatively narrow and that, as here shown, there are sixteen of these slips arranged in partially overlapping or shingled relation, with the right-hand longitudinal margins of each slip visible when the binder is open as in Fig. 1. As will be clearly understood from Fig. 1, the slips have each a plurality of perforations along their upper narrow margins 19 so that each slip is engaged by a plurality, in this instance at least two, of the prongs 11 or 11a so that the slips are held against any substantial displacement with respect to each other or to the prongs. It will be understood also that the perforated margins of the slips are in this instance the upper margins thereof, the slips being intended to be read with the binder turned sidewise. The slips for this purpose have ruled lines such as 20 equally spaced apart vertically on the slips from adjacent the perforated margin of the slips (which we will thus call the top margin) to adjacent the lower margin thereof, these lines, when the slips are arranged as shown, being in register on all of the slips so that a series of numbers for example 1, 3, 5, 7, 9, etc., on line 21 may be added crosswise of the sheets to give the total thereof.

Beneath the slips which are thus visible there is desirably disposed a division sheet 16 of somewhat heavier material than the slips but also preferably flexible. The division sheet 16 may also serve as an index plate as by having a tab-like projection 17 thereon carrying a symbol, in this instance being illustrated as the letter "Z" of the alphabet. It will be understood that the

entire binder may be made up of similar groups of slips 14 separated by division sheets 16 superposed one upon the other as shown in elevation in Fig. 2, another such division sheet being shown at 18, Fig. 1.

I will now describe my improved line-guide for facilitating the addition of a series of numbers crosswise of the sheets, such for example as the numbers 1, 3, 5, 7, 9, etc. Such line-guide is here represented by the device including the elongated ruler-like member 22 desirably made of a strip of Swedish steel so as to be somewhat like a steel tape and thus light, strong and highly flexible while having the straight edges 23 and 24.

As shown in Fig. 6, in assembling the line-guide a permanent bend 25 is made adjacent one end, in this instance the left-hand end 26, of the strip 22. Spot-welded to the under side of the end 26 of the strip is a steel spacer 27 which is elongated transversely of the strip to form somewhat in the nature of a T-head. Over the same end of the strip is superposed a steel finger-piece 28 which is elongated similarly to the spacer 27, and below the spacer 27 is disposed a clip member 29 which is not only elongated similarly to the members 27, 28 but which is further extended laterally in the direction of the strip 22, as shown at 30, in the form of a triangular piece having its apex directly under the strip 22. Then, as shown in Fig. 7, the parts 26, 27, 28 and 29 are riveted or spot-welded together forcing the strip 22 and the clip piece 30 tightly but resiliently together to form a clip. The finger-piece 28 may have a thumb groove 31 centrally thereof for facilitating manual adjustment of the clip.

As so constructed, a margin 32 of the division sheet 16 may be gripped by the clip just described, which I have designated as a whole by the numeral 33, the resilience of the steel strip 22 permitting this part and the part 30 of the clip to be separated sufficiently to admit the margin 32 of the division sheet 16 therebetween, whereupon the parts by their inherent resilience will grip the sheet 16 and hold the clip in given position upon the sheet 16 until the resilience of the parts is overcome by manual operation to move the clip 33, and with it the steel strip 22, upwards or downwards of the slips 14. The division sheet 16 thus serves as a support or backing for the line guide and the slips.

As clearly shown in the drawings, the inner edge 34 of the spacer 27 is at right angles to the straight-edges 23 and 24, and since the clip is intended to be disposed with the edge of the division sheet 16 abutting the edge 34 of the clip spacer, the straight-edges 23 and 24 are maintained, during their movement, perpendicular to the edge of the sheet 16 and thus also perpendicular to the longitudinal edges 14a of the slips 14. The steel strip 22 may conveniently have a hole 35 at its end opposite the clip 33 by which the entire line-guide device may be hung on a nail or the like, when removed from the binder. Also to guard against the edges of the steel strip 22 cutting into the division sheet 16, the edges of the strip adjacent the clip end thereof may be upturned slightly as at 36.

As shown in the alternative position of the clip 33, indicated by broken lines in Fig. 1, even when the clip is at its uppermost position with respect to the ruled lines on the slips 14, that is, with the straight-edge 23 on or even slightly above the uppermost lines 20 of the strips on which numerals to be added might occur, the clip being laterally cut away as indicated at 37, 75

to form the triangular piece 30, is still free of contact with either the binder prong 38 or the binder prong 39, assuming, for example, that under certain conditions of the binder, the binder prong 39 might be overlapped with the binder prong 38 and received in the perforation 40 of one of the slips 14.

As so constructed and arranged, the strip 22 is rigid in the direction of its width maintaining the edges 23 and 24 straight in the sense of perpendicular to the margins of the slips 14. At the same time, the strip 22 being of sufficient length to extend across all of the slips 14 and being highly flexible in the direction of its length even within short lengths of itself, as already described, will adapt itself to a natural curvature of the slips 14 as indicated at 41 (Fig. 2) caused by more of these slips overlapping at the middle of the binder than at the ends. This results in the line-guide contacting all of the slips or at least being so close thereto that the straight-edge 23, for example, provides a highly efficient line-guide assisting the eye of the operator in following a series of numbers carried jointly by the slips cross-wise thereof on a given line, for example such as the line 21. The line-guide by thus contacting each and all of the slips and resting thereon, assists in maintaining the slips in proper relation for the purpose.

In practice, the line-guide will first be moved upwardly so that the straight-edge 23 coincides with the uppermost ruled line of the slips, such as the line 20, and while the line-guide is in this position the numerals on each sheet crosswise of the sheets on this line may be added up to ascertain the total thereof. Then the line-guide will be moved downwardly to the next ruled line of the slips, etc. It will be noted that the slips each carry an indicating mark 42, in this instance substantially coinciding with the ruled lines 21 of the slips, these marks being desirably of red or other noticeable color contrasting with say the white background of the slips 14 and blue lines 20, 21, etc., thereon. The purpose of these indicating marks 42 is that when the line-guide has been moved downwardly so that the straight-edge 23 coincides with the ruled blue line 21 of the slips, the red marks 42, also coinciding with the line 21 will next be brought to view above the edge 23 of the line-guide. This serves as an indication to the operator to then move the line-guide upwardly until the indicating marks 42 come to view just below the straight-edge 24 of the line-guide, the line-guide at this time con-

cealing the numerals 1, 3, 5, 7, 9, etc., and showing the next series of numbers on the line 43 of the slips such as 2, 4, 6, 8, 10, etc. From there on downwardly the lines may be read below the line-guide by the aid of the straight-edge 24 so that when the line-guide comes to the last line 44 of the slips, the greater part of the clip 33 will still be in engagement with the spacer sheet 16 as already described and preventing the clip from being disengaged by its own weight. At the same time, the operator is informed of the point at which scanning of the lines above the line-guide was left off, and where scanning below the line-guide was begun, and so guarding against skipping a line.

Manifestly the invention is not limited to the specific embodiment thereof shown in the drawings. Furthermore, it is not necessary that all features of the invention be used conjointly, as various combination and sub-combinations may be advantageously employed. Such changes may be made as fall within the scope of the claim without departing from the invention.

Having described my invention, I claim:

Slip accounting means of the character described for use with rigid mounting means including a series of prongs arranged longitudinally thereon adapted to hold a series of relatively narrow paper slips arranged side by side in partially overlapping relation and having registering perforations in the ends of the slips through which the prongs are passed, the slips having lines thereon parallel to the row of perforations, comprising in combination a flexible backing sheet of material heavier than the slips also having perforations in one margin for receiving said prongs, said sheet being adapted to have the series of slips superimposed thereon while both backing sheet and slips are engaged by said prongs, a clip slidably engaging one margin of said backing sheet perpendicular to the said perforated margin thereof, and a narrow strip of material highly flexible transversely of its own plane perpendicularly and rigidly attached to said clip and adapted to overlie said backing sheet and said series of slips, said strip serving as a line guide accommodating itself to the curvature of said series of slips and said backing sheet in a plane parallel to said perforated margin, an edge of said strip being adapted to coincide successively with the lines on said slips by movement of the clip and strip on said backing sheet toward and away from said perforated margin.

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