

PUBLISHED

MAY 25, 1943.

BY A. P. C.

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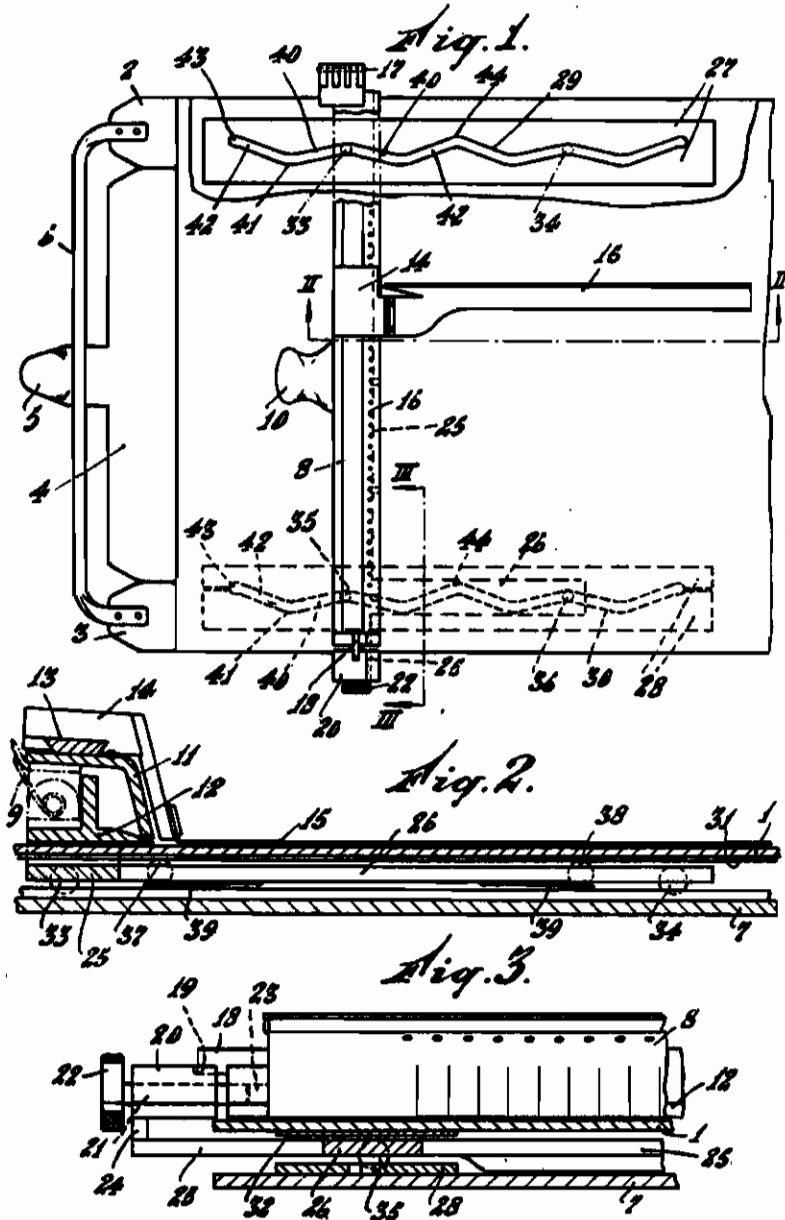
METHOD FOR PRODUCING A CONTROL SHEET, ETC

Filed Aug. 12, 1941

Serial No.

406,566

3 Sheets-Sheet 1



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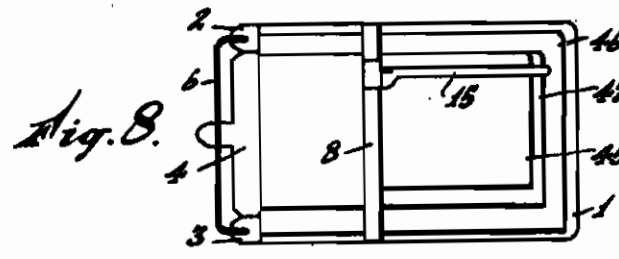
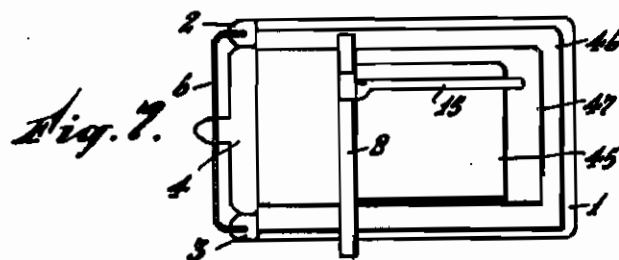
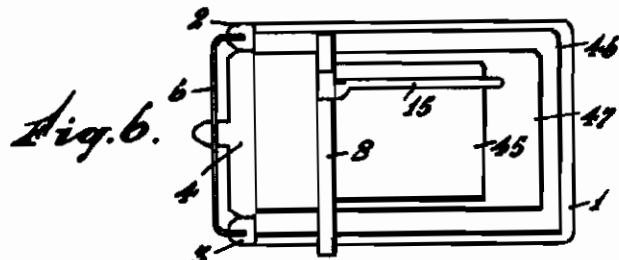
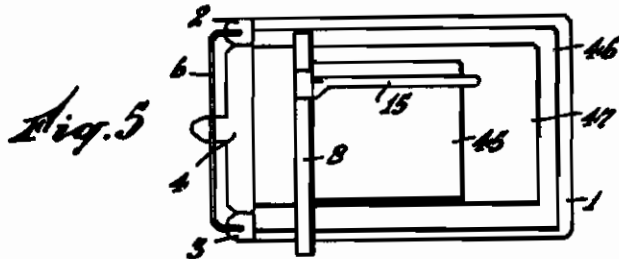
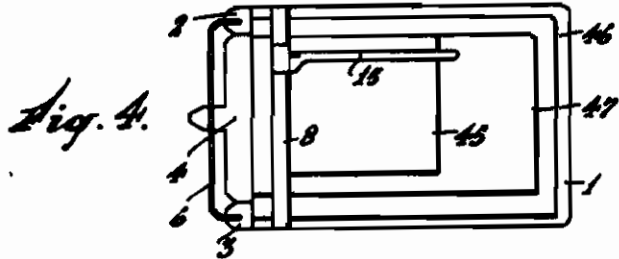
METHOD FOR PRODUCING A CONTROL SHEET, ETC

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Filed Aug. 12, 1941

3 Sheets-Sheet 2



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MAY 25, 1943.
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Serial No.
406,566
3 Sheets-Sheet 3

Fig. 9.

46

NT	OT	M
1938	1939	1940
1941	1942	1943
1944	1945	1946
1947	1948	1949
1950	1951	1952
1953	1954	1955
1956	1957	1958
1959	1960	1961
1962	1963	1964
1965	1966	1967
1968	1969	1970
1971	1972	1973
1974	1975	1976
1977	1978	1979
1980	1981	1982
1983	1984	1985
1986	1987	1988
1989	1990	1991
1992	1993	1994
1995	1996	1997
1998	1999	2000

Fig. 10

45

A

DATE	DESCRIPTION	AMOUNT	CHECK NO.
1938			
1939			
1940			
1941			
1942			
1943			
1944			
1945			
1946			
1947			
1948			
1949			
1950			
1951			
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1954			
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ALIEN PROPERTY CUSTODIAN

METHOD FOR PRODUCING A CONTROL SHEET, ETC.

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Application filed August 12, 1941

The invention relates to a method for producing a control sheet as a means for controlling entries made according to the Staffel-method, an apparatus and an entering sheet for use in carrying out said method.

It has for its object to obtain a control of entries made on charts or the like in accordance with the Staffel-method. The invention is based on the insight that by adequate combination of the Staffel-method with the so-called tabular method a control can be obtained which is very satisfactory for the bookkeeping practice. According to the Staffel-method underneath the last entered debit or credit amount (old count) always follows the mutation which said amount is to be subjected to, whereafter by addition of the amounts appearing in Staffel-form on the entering or account sheets the new count is determined. This addition may give rise to mistakes and the purpose of the invention is to enable one to detect those mistakes in a simple manner.

According to the invention the method consists in this that an entering sheet is filled up according to the Staffel-method and that simultaneously therewith on a control sheet lying under that entering sheet prior to or after relative displacement of both sheets the corresponding entries in tabular form are transferred by means of the copying method, in which the old count of the entering sheet is by tracing copied on the control sheet. On this control sheet therefore the amounts which on the account sheet appear in Staffel-form below each other as old count, mutation and sum of both (new count) appear in tabular form adjacent one another and not below one another. This appearing on the control sheet adjacent one another of old count, mutation and new count obtained by mutation produces for a number of account sheets and the entries made thereon columns on the control sheet located adjacent one another the similar amounts of which columns are added.

Consequently totals of new counts, old counts and mutations are obtained in which the total of the new counts should correspond to the sum of the totals of old counts and mutations. If this correspondence is lacking then in the carrying out of the Staffel-method on the entering or account sheets there must have been made somewhere an adding mistake. This mistake may be detected on the control sheet by perusing in which row of adjacent entries appearing thereon of a new count, old count and mutation the amount of the new count is not equal to the sum

of the amounts of old count and mutation, whereafter the entering sheet concerned may be detected and controlled.

Since in the method according to the invention the old count of the entering sheet is transferred to the control sheet by tracing, i. e. not by writing it down separately, a source for eventual mistakes is thereby eliminated, for tracing practically excludes the producing of a faulty numeral.

Thus there is obtained a controlled Staffel-method based on an efficacious combination of the Staffel and the tabular method carried out simultaneously on entering and control sheet.

Since in the entering method according to the invention items appearing below one another on the entering sheet must appear adjacent one another on the control sheet and since as stated above a relative displacement of entering sheet and control sheet is necessary to this end, and since this relative displacement is always essentially the same for each series of entering operations accruing from a mutation in a count it is to be preferred to make use of an apparatus in which according to the invention the displacements are positively guided so that any feeling and seeking after the correct adjustment of the entering sheet to be displaced with respect to the control sheet is avoided.

To this end over an underlayer for a control sheet and eventually a carbon sheet, which sheets may be secured thereto by clamps, a carriage may be shiftable, said carriage being adapted to clamp thereto an entering sheet and being provided with a line-indicator shiftable with respect to the entering sheet. According to the invention the carriage when being shifted may be compelled to follow a path such that when entering in accordance with the method referred to above the entries at the places on the entering sheet determined by the line-indicator the amounts appearing on the entering sheet below one another in accordance with the Staffel-method will appear in tabular form adjacent one another on the control sheet. This implies that the carriage, during its shifting necessary for the relative displacement of entering sheet and control sheet in accordance with the novel method, is positively guided.

With a view to the different levels on which in the Staffel-method the entries are made on the entering sheet and with the even level on which the entries are made in tabular form on the control sheet the positive guiding according to the invention may take place along a zigzag-shaped line or path so that the carriage, when

normally used, is arrested at least in the turning points of said line or path. A zigzag line constitutes the shortest connection between a higher and a next lower entering place and between a lower and a next higher entering place respectively.

The beginning and the end point of the line elements constituting the zigzag path constitute arresting points for the carriage in such a manner that a predetermined preferably small resistance against shifting is to be overcome in order to remove the carriage from such an arresting point and move it to a following point.

The original position of the carriage may be maintained during shifting e. g. by the use of a pair of mutually parallel guide paths in which two corresponding guide members or groups of guide members with which the carriage is provided are movable.

When using a zigzag path for the carriage then in the hand writing entering method when starting from a neutral or central position for the carriage and displacing the carriage from this position for entries in the debit to the left and in the credit to the right the zigzag path at the left and at the right of said neutral position may consist of a downwardly inclined portion followed by an upwardly inclined portion for the reason that the mutation will be entered on the entering sheet underneath the old count. Therefore, if the mutation has been entered on the entering sheet a downwardly inclined displacement of the ruler will follow, whereupon the old count appearing on the entering sheet is traced and will appear on the same line of the control sheet adjacent the mutation.

The making of mistakes during this tracing is practically excluded. Further, since on the entering sheet the total of old count and mutation appears as a new count underneath the mutation a correspondingly upwardly increased inclined displacement of the carriage is necessary in order to get the new count adjacent the old count on the control sheet. The zigzag path of the carriage has then been run through.

The carriage may be a vertical ruler and the line-indicator may be a horizontal ruler slidable along the vertical ruler in vertical direction. This horizontal ruler may have such a length that when the vertical ruler occupies the neutral position the horizontal ruler spans or overlaps also the credit side of the entering and the control sheet.

The invention will be more fully understood with reference to the accompanying drawings illustrating it by way of examples.

Fig. 1 is a plan view, partially broken away, of an apparatus according to the invention for carrying out the method according to the invention when the manual writing method is applied.

Fig. 2 is on a larger scale a section on the line II—II in Fig. 1.

Fig. 3 is on the same scale as Fig. 2 a section on the line III—III in Fig. 1.

Figs. 4-8 are plan views of the apparatus in which the carriage with line-indicator and an entering sheet clamped to the carriage are shown in different positions with respect to the control sheet; Fig. 6 shows the carriage in a neutral or central position whereas Figs. 5 and 4 show successive positions located at the left of the neutral position and occurring when entering in the debit, and Figs. 7 and 8 successive positions located at the right of the neutral position and occurring when entering in the credit.

Fig. 9 is a plan view of a partially broken away control sheet with entries made thereon according to the tabular method by means of the apparatus according to Figures 1-3.

Figure 10 is a plan view of an entering sheet with entries made thereon according to the Staffel-method simultaneously with the entries referred to above.

The apparatus according to Figures 1-3 will first be described and then it will be described with reference to Figures 4-10 in what manner the apparatus is used.

In Figs. 1-3 *t* is an underlayer or table upon which a control sheet may be laid. To this table at the left in Fig. 1 a clamping device for the control sheet is pivotally secured, said device comprising an upper clamp 2 and a lower clamp 3; for a carbon sheet or the like to be laid on the control sheet the clamping device is provided with a clamp 4 located between the clamps 2 and 3. By means of a handle 5 the clamp 4 may be opened from the clamping position in which it is held by a spring (not shown), whereas by means of a manually operable shackle 6 the upper and lower clamps 2 and 3 may be turned up against spring action; the construction is further such that the shackle 6 bears upon the handle 5 and that by pressing down the shackle the handle may also be pressed down; the control sheet with carbon sheet may thus be clamped or loosened together or separately.

The table *t* is held by means of non-shown supporting elements at some distance above a lower plate 7. Between this lower plate and the table are located guide means (to be described hereinafter) for the carriage which is movable over the table and is constructed as a vertical ruler 8.

This ruler is adapted to clamp an entering sheet between an upper piece 11 adapted to be tilted by means of a handle 10 (Figure 1) against the influence of a spring 9 (Figure 2) and a lower piece 12. The upper piece 11 carries a dovetail shaped longitudinal ridge 13 serving as a guide for a slide or sliding piece provided with a corresponding dovetail shaped groove. To the sliding piece a horizontal ruler 15 is secured serving as a line-indicator. The line space is marked by means of recesses 16 in the ruler 8 with which the sliding piece can co-operate. The vertical ruler and its accessories is at 17 (Figure 1) hingedly secured to a carrier 25. At its lower end (Figure 1) it carries a projection 18 which is received in a recess 19 of an end-piece 20 and is adapted to be locked thereto by means of a pin 21 with operating knob, said pin passing through the end piece and extending into an opening 23 of the projection 18. The end-piece 20 is secured to the carrier 25 by a connecting piece 24, said carrier extending underneath the table in the direction of the ruler 8 and being connected at its upper end to the lower half of the hinge 17. The carrier 25 is provided at its upper and lower side with a lateral or horizontal arm 26 for a purpose to be described hereinafter.

To the lower plate 7 at the top and at the bottom a strip 27 and 28 respectively is secured, wherein a zigzag-shaped guiding groove 29 and 30 respectively is formed. A larger number of grooves might be used so as to obtain a greater stability. Above said guiding grooves the lateral or horizontal arms 26 are located. In the guiding groove 29 and 30 pairs of balls 33, 34 and 35, 36 are running, said pairs being spaced apart

a distance determined by the zigzag groove and being equal for each pair mutually.

Further there are pairs of balls of which one set 37, 38 is shown in Figure 2. These balls are located in openings of the arms 26 referred to above and are each pressed upwardly against a strip 31 and 32 resp. by a leaf spring 39. Consequently the balls 33, 34 are held down in the guide grooves 29, 30. The balls are located pairwise in vertical planes in the direction of the ruler 8. The pair of balls 33, 35 is located in corresponding turning points of the mutually equal zigzag-shaped grooves 29, 30. The same applies to the balls 34, 36. As appears from Figure 1, the zigzag-shaped configuration of the guide grooves 29, 30 is of a peculiar nature correlated with the entering method according to the invention. Assuming that the position of the ruler 8 in Figure 1 be the neutral or central position then it appears that from the points 33/35 and 34/36, where the balls in question are located, towards the left and the right equal but oppositely and downwardly inclined groove portions 40 extend merging at 41 into upwardly inclined groove portions 42. The points 41 are located a line space lower than and a fixed distance to the left from the point 33/35 and the end points 43 of the groove portions 42 are located two line spaces higher than the points 33/35 and again a fixed distance to the left from 41. The groove portions 42 are oppositely upwardly inclined considered from the neutral position of the ruler. The portion of the zigzag-shaped guide grooves 29, 30 located in Figure 1 at the right of the endpoint 44 of the upwardly inclined groove portions 42, situated at the right of the neutral ruler position, is fully equal to the portion 42, 43, 40, 42 of said guide grooves and serves for the guiding of the balls 34, 36.

If the ruler 8 is laterally shifted to the left or to the right from the neutral position in Figure 1 the ruler is by means of the balls 33, 35 and 34, 36 compelled to follow the zigzag-shaped path; the remaining balls will then function as rolling elements running against the strips 31, 32 and serving only to keep the other balls 33, 35 and 34, 36 respectively in their grooves.

On account of the change of direction of a groove portion of a certain incline when merging into a groove portion of another incline there are formed arresting places for the balls e. g. in rounded corners of the broken line forming the zigzag path which arresting places have a light breaking effect on the shifting movement of the ruler and make it possible to effectuate a required displacement with certainty in the right manner and stepwise.

Now, the entering method according to the invention will be explained with reference to Figures 4-10.

In Fig. 6 the ruler 8 with the entering sheet 45 clamped thereto is located in the neutral position also shown in Fig. 1. On the table 1 a control sheet 46 and thereon a carbon sheet 47 have been laid, which sheets are clamped in the clamps 2, 3 and the clamp 4 resp. and therefore have a fixed position. The control sheet and the entering sheet, after some entries have been made thereon by carrying out the method according to the invention, are shown in Figures 9 and 10 resp. It appears therefrom that on the entering sheet 45 according to the Staffelmethode and on the control sheet according to the tabular method the entries have been made

under the headings NT (new count), OT (old count) and M (mutation).

For the sake of simplicity only some entries in the debit will be described. Entering in the credit has therewith the only difference that the ruler is shifted from the neutral position to the right instead of to the left.

Assuming that on the entering sheet 45 (marked A) in the debit appears an old count 1500 and that this count is subjected to a mutation of 500, the horizontal ruler 15 is adjusted at $1\frac{1}{2}$ line space below the line of the old count in order to make it possible to write well on the entering line of the entering sheet. First the mutation 500 is written on the entering sheet and by means of the carbon sheet is simultaneously produced on the control sheet. The ruler 8 is now shifted to the left from the neutral position in fig. 6 and is thereby brought in the position of fig. 5. The downwardly inclined groove portions 40 of fig. 1 are thereby followed and the displacement vertically is one line space and horizontally a given distance. Now the old count 1500 appearing on the entering sheet which moved along with the ruler 8 is traced dry, e. g. by means of a blunt upstanding point with which the pen holder is specially provided to this end. The carbon sheet 47 again takes care of the transmission to the control sheet. Thereupon the ruler 8 with entering sheet is shifted to the left and brought in the position according to figure 4. The groove portions 42 in fig. 1 are thereby followed and the displacement vertically is a double line space and horizontally again a given distance. Now, on the entering sheet the new count is entered by addition of the old count and the mutation and is simultaneously produced on the control sheet. On the entering sheet the amounts 1500, 500, 2000 now appear below one another and these amounts appear in tabular form, i. e. adjacent one another on the control sheet.

The positions of the ruler 8 with entering sheet and horizontal ruler 15 shown in figures 7 and 8 correspond with corresponding entries in the credit, of which, after what has been said in the foregoing, no example will be needed.

According to figures 9 and 10 some entries according to the novel method have been made on the entering sheet A and the control sheet, and on the control sheet the new counts, old counts and mutations have been added. Now, it appears that in this case the sum of the new counts is 100 in excess of the total of the sums of old counts and mutation. It follows that somewhere on the entering sheet a mistake must have been made. This mistake is now detected and appears to have been made in the last entry. The entering in tabular form on the control sheet thus constitutes a control of the entering according to the Staffelmethode on the entering sheet.

In the manual writing method explained above use may be made of a fountain pen or other writing utensil, which according to the invention is provided with a separate tracing element, which in a fountain pen may consist of a pinlike writing pen having an upturned point located at some distance above the writing pen and therefore being left without ink.

If the entries are not made by hand writing but by machine writing then in the latter case a carriage of an apparatus for carrying out the method according to the invention connected to the carriage (underlayer for the control sheet) of the type writer moves along with the type-

writer-carriage to the left. In connection here-
with the apparatus-carriage, at any time after
the type-writer-carriage has come to rest and an
entry has been made, will have to be displaced
by hand to the right over the required path por-
tion of a positive guide means also used in this
case, in order to have in the following entering
operation by machine writing said entry appear
in tabular form on the control sheet clamped in
the type writer.

This implies that the entering sheet will have
to be provided with a blank column between
debit and credit side in order to prevent column
amounts on the control sheet from overlapping

one another. It is not possible as in the hand
writing method to start from a neutral position
of the apparatus-carriage for debit and credit
side since the type-writer-carriage during writ-
ing is always moving to the left and the ap-
paratus-carriage is exclusively shifted to the right
so as to obtain a positive relative movement of
entering sheet and control sheet. Essentially,
however, the method remains the same. It will
be clear that the apparatus will have to be adapt-
ed structurally to its arrangement on the type
writer.

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