J. T. QUIGLEY.

COSTMETER EQUIPMENT.

APPLICATION FILED DEC. 29, 1915.

1,254,537.

Patented Jan. 22, 1918.

3 SHEETS—SHEET 1.

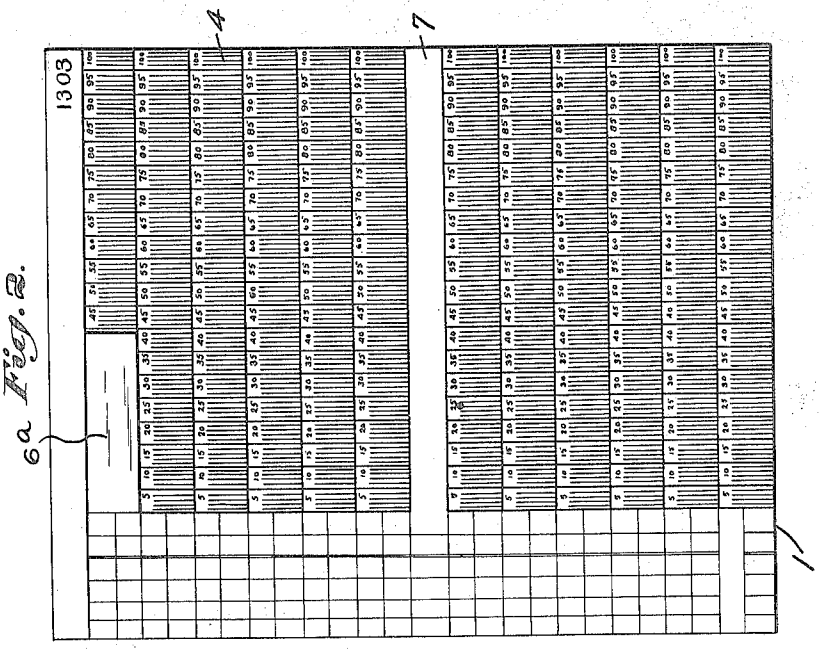


Fig. 2.

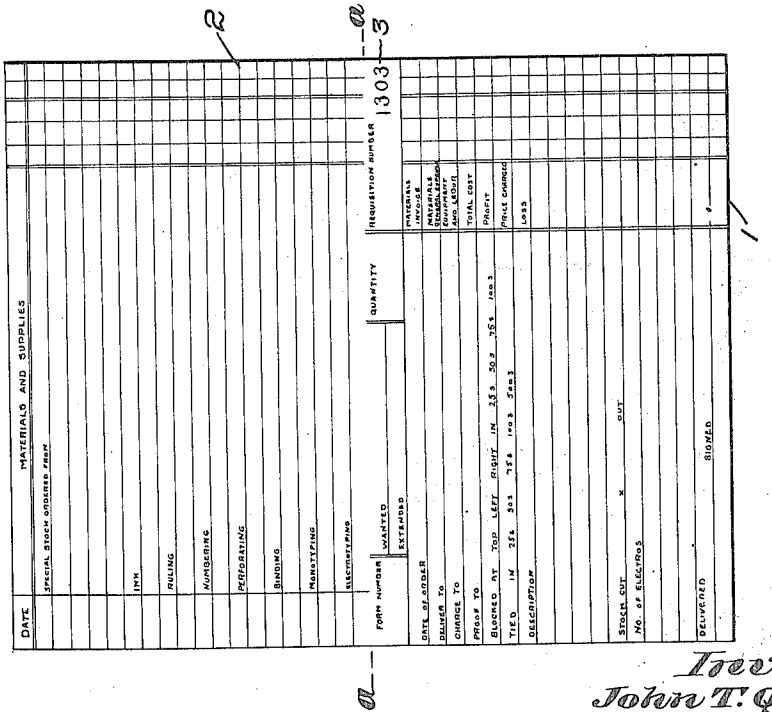


Fig. 1.

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3 SHEETS—SHEET 2.

Fig. 3.

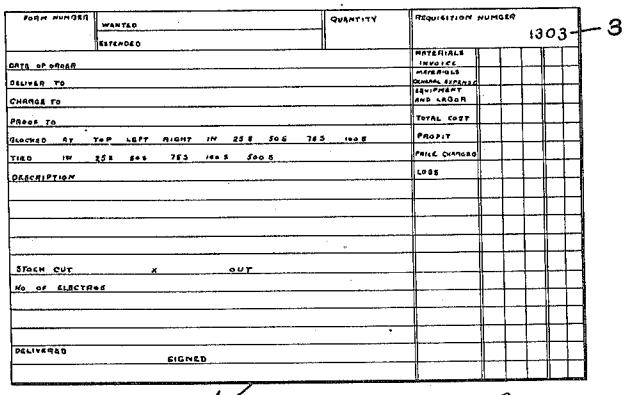


Fig. 4

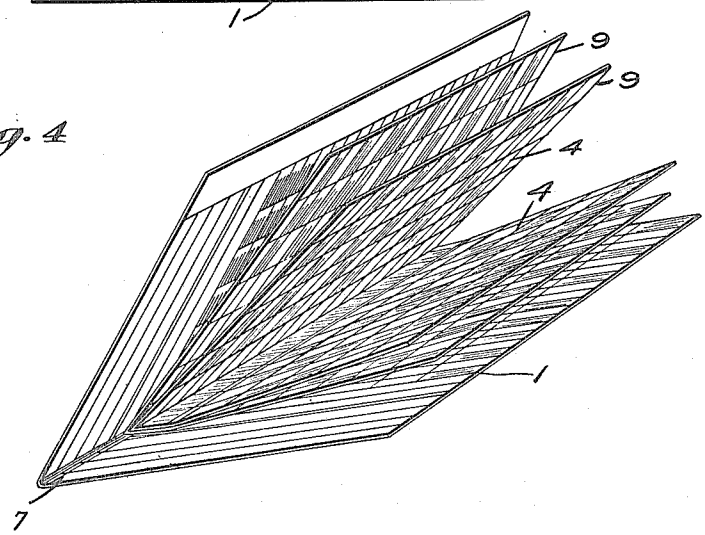
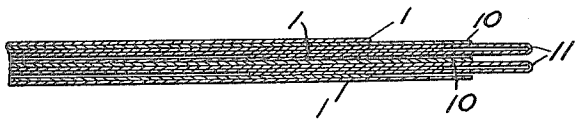


Fig. 2.



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3 SHEETS—SHEET 3.

Fig. 5.

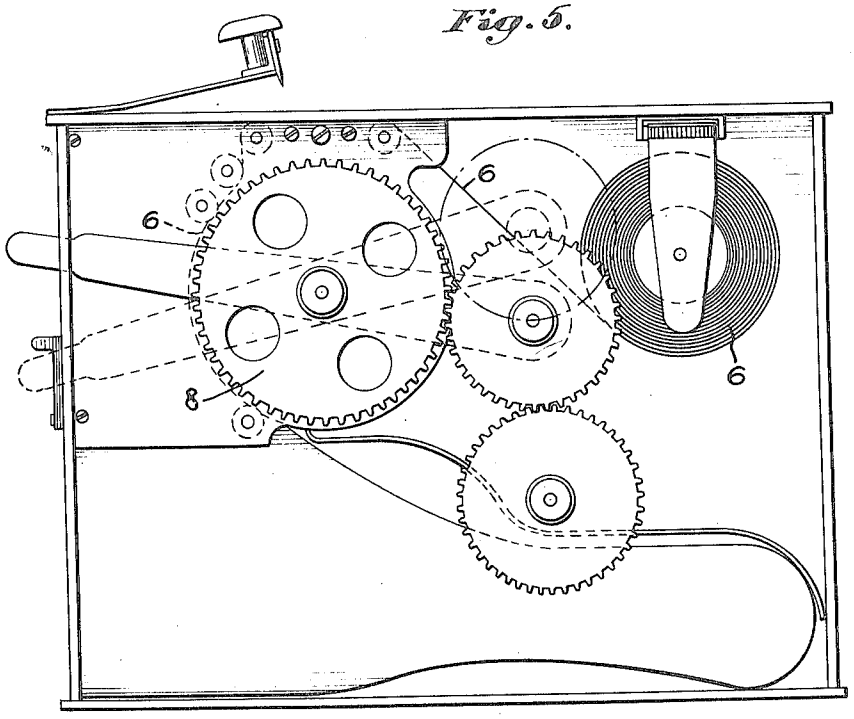
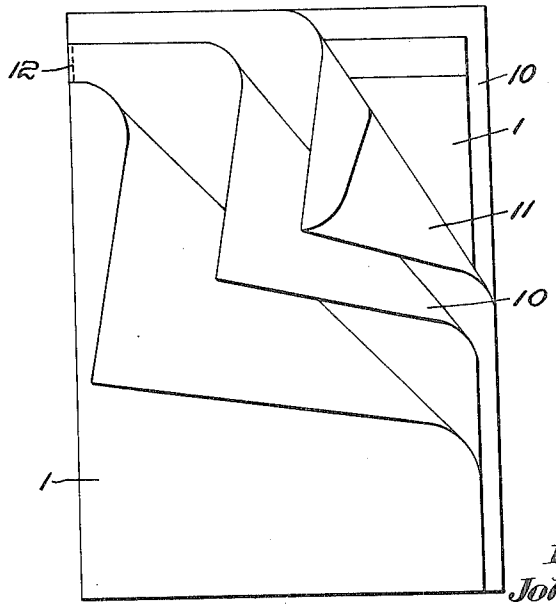


Fig. 6.



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UNITED STATES PATENT OFFICE.

JOHN T. QUIGLEY, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO COSTMETER COMPANY, OF BOSTON, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

COSTMETER EQUIPMENT.

1,254,537. Specification of Letters Patent. Patented Jan. 22, 1918.

Application filed December 29, 1915. Serial No. 69,281.

To all whom it may concern:

Be it known that I, JOHN T. QUIGLEY, a citizen of the United States, and a resident of Boston, in the county of Suffolk and State of Massachusetts, have invented an Improvement in Costmeter Equipments, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

This invention relates to recording and filing equipment for business purposes.

The invention will be best understood by reference to the accompanying description taken in connection with the drawings, wherein—

Figure 1 is a view of the front or obverse of the record or filing sheet;

Fig. 2 is a view of the back or reverse thereof;

Fig. 3 is a view of the sheet folded, illustrating its use as a filing card;

Fig. 4 is a perspective view showing the sheet folded and other sheets attached thereto;

Fig. 5 is a section of a costmeter or recording machine for use with which my invention is especially adapted;

Fig. 6 is a view of a pad showing the form in which my record devices are preferably supplied; and

Fig. 7 is a section of a slight thickness of said pad.

In accordance with my invention, I provide a record or filing blank 1, such as is shown in Figs. 1 and 2. This blank is in the form of a piece of paper of substantal quality, and while the printed matter or letter press thereon may be of any suitable character for the purpose intended, I have here shown printing particularly adapted for use in a printing establishment. As shown by way of example, blanks are provided on the upper part of the sheet for the notation of facts concerning the materials and supplies used in filling an order, and at the bottom of the sheet for facts regarding the nature of the order itself. At one side of the sheet is shown a table, which is provided for the recording of data regarding cost. It will be understood that this arrangement is given merely by way of example, and can be varied to meet the exigencies of different lines of business.

The arrangement of this printed matter, however, is such that it is disposed at either side of a central folding line, indicated on Fig. 1 by the dotted line *a*—*a*. This enables the sheet to be folded without impairing the records thereon and forms therefrom a smooth-edged filing unit as shown in Fig. 3 which takes the place of a card, the upper edge, formed as it is by the fold, being strong and easily picked up by the finger to turn the unit. A filing number shown at 3 is provided on the face of the sheet near the folding line mentioned, preferably with the tops of the numerals next to said line, so that the number will be in its proper position when the folded blank is filed away.

Any desirable printed matter could be applied to the back or reverse side of the sheet. In the present instance I have shown by way of example a set of linear scales or measuring devices 4, which are particularly adapted for use with a costmeter or recording instrument, such as is shown in Fig. 5. For a detailed description of such an instrument, I will refer to my Patent No. 1,080,165 dated Dec. 2, 1913. In this connection, it will be sufficient to say that this machine is adapted to feed along paper tape 6 at a speed proportional both to time and to the cost per unit of time of an operation. The length of tape so fed, therefore, is in itself a symbol and measure of the cost and when applied to a scale, such as that shown in Fig. 2, enables one to readily read off the cost in terms of money, and, if the tapes are fastened to the scale, forms a permanent record thereof. In Fig. 2 a length of tape, 6^a, is shown secured to the scale.

In Fig. 2, it will be seen that two sets of these scales are provided and that they are spaced from each other near the center of the sheet to permit the folding thereof and also to provide a space 7 for a purpose which will be presently described. These scales or any other printed matter which may be used are preferably arranged upside down relatively to the matter on the front or obverse of the sheet, so that when the folded record sheet is taken from the file and opened in a natural way, the matter on the reverse will be presented in the right direction for reading.

While the scales on the reverse of the sheet as used may be of any required size, I preferably form them of such size that a

unit of money value, such as a dollar, is represented in terms of the unit of length, such as an inch, by a simple multiple of the constant pi. In practice, the length for a dollar is 6.283 inches, which is twice pi. The purpose of this will be now explained. By reference to Fig. 6, it will be seen that the tape is fed off and measured by the revolution of a driving wheel 8. Now by choosing a proper length for the unit of money, a single revolution of the driving wheel will deliver a length of tape symbolic of a single unit of money. The most convenient measurement for the diameter of a wheel of this kind being a simple multiple of a length unit, the length which it will feed in one revolution is that multiple times the constant pi. The length 6.283 inches will, for example, be fed off by one revolution of a two inch wheel. It is also of advantage to have the length of the scale determined in this manner for the reason that the speed of the feeding wheel is varied according to the cost per unit of time of the operation which the machine is measuring by a proper selection of change gears for driving the feeding wheel. By having one revolution of the wheel correspond to a unit of money, the change gears are easily constructed to give a proper feeding rate to the driving wheel. Thus, if a wheel of fifty teeth corresponded to a rate wage of fifty cents an hour, a wheel of forty teeth would correspond to a rate wage of forty cents an hour, and so on.

It will be remembered that in describing the scales on the reverse of the sheet, it was stated that they were arranged so as to leave a considerable space 7, between them near the middle of the sheet. This space is preferably disposed at one side of the line of fold on the sheet and is designed to afford a place for the attachment of further record sheets shown at 9 in Fig. 4 which may bear scales 4 of the same character as those shown on the reverse of the sheet (Fig. 2). As will be apparent from an inspection of Fig. 4, when the sheet is folded to form a filing unit, these additional sheets are neatly housed between the sides of the main sheet and are filed away as a unit therewith. Thus the blank together with such record sheets as may be attached to the reverse thereof, or what becomes the interior thereof when the blank is folded, is adapted for the recording of a considerable body of data, as, for instance, a large amount of cost data, indicated by cost measuring tapes fastened to the linear scales.

It will, of course, be apparent that the record sheet, such as is shown in Figs. 1 and 2 is useful of itself alone and could advantageously be so used, but I prefer to use it in the form shown in Fig. 6, in which it is bound up in a novel form of pad adapted for the simultaneous recording of a number of copies. The pad could be made to give any desired number of copies, but I have here shown it as a triplicate form. The outer sheet is the record and filing sheet 1 shown in Figs. 1 and 2. The second sheet 10 is a duplicate of the face of that sheet, advantageously formed on very light paper stock, and is preferably perforated as shown at 12, and forms a copy of the data concerning a transaction which may be filed in a record book. The third element of the triplicate form is an envelop 11, which on its outer face bears the same letter press as the obverse or front face of the record and filing sheet, and it is adapted to receive the same written memoranda. It will be understood that carbon paper is used between the elements to provide for the simultaneous recording.

The advantage of this construction will be apparent. The outer or top sheet 7 which bears on its face the original description of the transaction to which it relates (Fig. 1) and on its reverse side a costmeter scale (Fig. 2) forms a permanent and accessible record like a card index record when folded along a center line. The tapes from the costmeters, recording the cost involved in the transaction, may be permanently mounted upon the scale and made readable in their money value by their extension thereon. These cost records together with additional records placed on separate sheets 9, as has been explained, are safely kept in the interior of the folded sheet which may be conveniently assembled in a filing receptacle with others of like nature with the identifying data and filing number readily visible on the outside, (Fig. 3) so that any desired sheet may be quickly found and withdrawn.

The second sheet, 10, or copy is a check sheet, such as is usually kept by business men. This sheet does not require the costmeter scale, and preferably bears only such printing as is shown in Fig. 1. The third member or envelop 11, is a working memorandum, bearing on the front side preferably a duplicate of the data or instructions shown on the front faces of sheets 7 and 10. Thus, in a manufacturing business, it is sent to the shop and is used as an instruction sheet for the workman. Because it is in envelop form, any temporary directions, plans, blueprints, manuscript "copy" or memoranda may be readily stored inside the envelop. It may also be used to preserve an example of the work done on that particular job and be filed away after the transaction is completed. Thus, for instance, in a printing business, it is customary to keep a copy of the printed matter which is executed, and the envelop provides a space in which this example can be kept and also the "copy" or manuscript from which it was set up. It

will be understood, of course, that although I have thus mentioned the utility of the envelop as one member of the triplicate form in connection with a printing business, it is not useful exclusively in that trade. The three members of my novel triplicate form all bear the same file number, so that a cross reference from one to the other may conveniently be made.

I have described in some detail and by the use of specific words a particular combination of novel devices and particular forms of those devices, but it will be understood that I do not consider that the devices or their equivalents need necessarily be so combined although advantageously so used or that the exact forms of those devices which are here described are essential.

What I do claim is:—

1. A record and filing blank having printed matter thereon spaced from a folding line, a filing number adjacent said line, the tops of the numerals being next thereto, whereby said blank may be folded to provide a smooth edged unit for vertical filing.

2. A record and filing blank having printed matter on the obverse thereof and on the reverse a scale adapted to measure and record symbolic representations of the cost of an operation or operations, the printed matter and scale being arranged in spaced relation to a folding line, whereby said blank may be folded to provide a smooth edged unit for vertical filing.

3. A record and filing blank having printed matter on the obverse thereof and on the reverse a scale adapted to measure and record symbolic representations of the cost of an operation or operations, the printed matter and scale being arranged in spaced relation to a folding line, a filing number adjacent said line, the tops of the numerals being next thereto, whereby said blank may be folded to provide a smooth edged unit for vertical filing.

4. A record and filing blank having printed matter on the obverse thereof and on the reverse a scale adapted to measure and record symbolic representations of the cost of an operation or operations, the printed matter and scale being arranged in spaced relation to a folding line, whereby said blank may be folded to provide a smooth edged unit for vertical filing and the blank space thereby left being of such size as to permit the attachment of other sheets thereto.

5. A record and filing blank having printed matter on the obverse thereof and on the reverse a scale adapted to measure and record symbolic representations of the cost of an operation or operations, the printed matter and scale being arranged in spaced relation to a folding line whereby said blank may be folded to provide a smooth edged unit for vertical filing, the blank space thereby left on the reverse being of such size as to permit the attachment of other sheets thereto.

6. A record and filing blank having printed matter on the obverse thereof and on the reverse a scale adapted to measure and record symbolic representations of the cost of an operation or operations, the printed matter and scale being arranged in spaced relation to a folding line, a filing number adjacent said line, the tops of the numerals being next thereto, whereby said blank may be folded to provide a smooth edged unit for vertical filing, and the blank space thereby left being of such size as to permit the attachment of other sheets thereto.

7. A record and filing blank having printed matter on the obverse thereof and on the reverse a scale adapted to measure and record symbolic representations of the cost of an operation or operations, the printed matter and scale being arranged in spaced relation to a folding line, a filing number adjacent said line, the tops of the numerals being next thereto, whereby said blank may be folded to provide a smooth edged unit for vertical filing, the blank space thereby left on the reverse being of such size as to permit the attachment of other sheets thereto.

8. A record and filing blank having printed matter on the reverse thereof spaced from a folding line whereby the blank may be folded to provide a smooth edged unit for vertical filing the blank space left being of such size as to permit attachment of other sheets thereto which are disposed interiorly of the folded blank.

9. A record and filing blank having printed matter on the reverse thereof spaced from a folding line whereby the blank may be folded to provide a smooth edged unit for vertical filing the blank space left being of such size as to permit attachment of other sheets thereto which are disposed interiorly of the folded blank, there being a filing number on the obverse adjacent said folding line.

10. A record and filing blank having on the reverse thereof, scales adapted to measure and record symbolic representations of the cost of an operation or operations, the scales being arranged in spaced relation to a folding line whereby the blank may be folded to provide a smooth edged unit for vertical filing, the blank space left being of such size as to permit attachment of other sheets thereto which are disposed interiorly of the folded blank.

11. A record and filing blank having on the reverse thereof, scales adapted to measure and record symbolic representations of the cost of an operation or operations, the scales being arranged in spaced relation to a folding line whereby the blank may be folded to provide a smooth edged unit for vertical filing the blank space left being of

such size as to permit attachment of other sheets thereto which are disposed interiorly of the folded blank, there being a filing number on the obverse adjacent said folding line.

12. A record and filing blank having on the reverse thereof, scales adapted to measure and record symbolic representations of the cost of an operation or operations, the scales being arranged in spaced relation to a folding line whereby the blank may be folded to provide a smooth edged unit for vertical filing, sheets with similar scales thereon being attached to the blank space left by the spacing and disposed interiorly of the first sheet.

13. A record and filing blank having on the reverse thereof, scales adapted to to measure and record symbolic representations of the cost of an operation or operations, the scales being arranged in spaced relation to a folding line whereby the blank may be folded to provide a smooth edged unit for vertical filing, sheets with similar scales thereon being attached to the blank space left by the spacing and disposed interiorly of the sheet, there being a filing number on the obverse of the blank adjacent said folding line.

14. A record and filing blank having printed matter on the obverse thereof and on the reverse a scale adapted to measure and record symbolic representations of the cost of an operation or operations, the printed matter and scale being arranged in spaced relation to a folding line, whereby said blank may be folded to provide a smooth edged unit for vertical filing, sheets with similar scales thereon being attached to the blank space left by the spacing and disposed interiorly of the folded blank.

15. A record and filing blank having printed matter on the obverse thereof and on the reverse a scale adapted to measure and record symbolic representations of the cost of an operation or operations, the printed matter and scale being arranged in spaced relation to a folding line, whereby said blank may be folded to provide a smooth edged unit for vertical filing, sheets with similar scales thereon being attached to the blank space left by the spacing and disposed interiorly of the folded blank, there being a filing number on the reverse adjacent said folding line.

16. A record filing sheet having a linear scale representing money value depicted thereon, the money unit expressed in terms of the length unit being the constant pi times an integral factor, said sheet being adapted to have attached thereto a record strip dimensionally representative of time cost in such relation to the scale that its money value may be determined therefrom.

17. A record filing sheet having a linear scale representing money value depicted thereon, the money unit expressed in terms of the length unit being the constant pi times a simple factor, said sheet being adapted to have attached thereto a record strip dimensionally representative of time cost in such relation to the scale that its money value may be determined therefrom.

18. A record and filing blank having on the reverse thereof a linear scale representing money value and adapted to measure and record symbolic representation of the money cost of an operation, the money unit expressed in terms of the length unit being the constant pi times a simple factor the scale being arranged in spaced relation to a folding line, whereby said blank may be folded to provide a smooth edged unit for filing.

19. A record and filing blank having on the reverse thereof a linear scale representing money value and adapted to measure and record symbolic representations of the money cost of an operation, the money unit expressed in terms of the length unit being the constant pi times a simple factor the scale being arranged in spaced relation to a folding line, there being a filing number on the obverse adjacent said line, whereby said blank may be folded to provide a smooth edged unit for filing.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

JOHN T. QUIGLEY.

Witnesses:

ROBERT H. KAMMLER,

THOMAS B. BOOTH.