April 7, 1942. E. M. ORBECK 2,279,288

RECORDING APPARATUS

Filed June 12, 1940 2 Sheets-Sheet 1

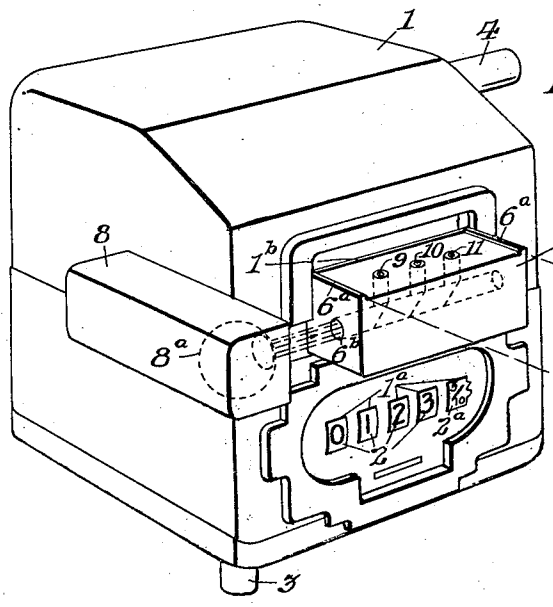


FIG. I.

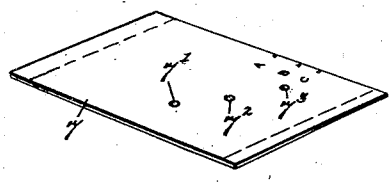


FIG. II.

FIG. IX.

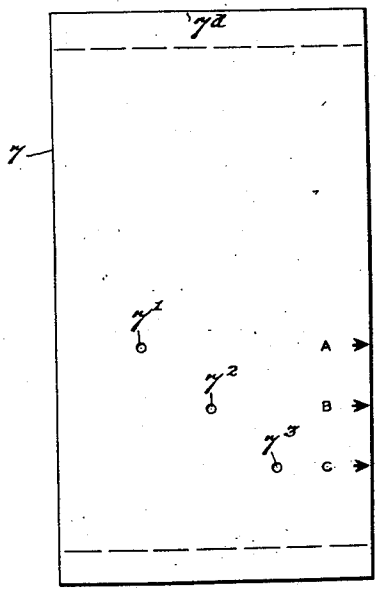


FIG. X.

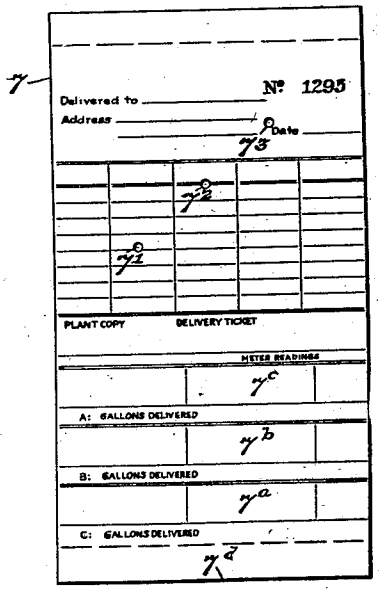
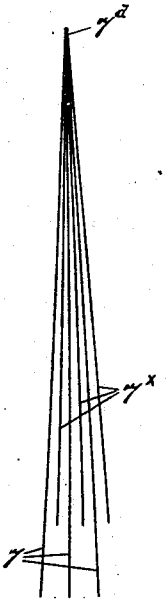


FIG. XI.



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RECORDING APPARATUS

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FIG. III.

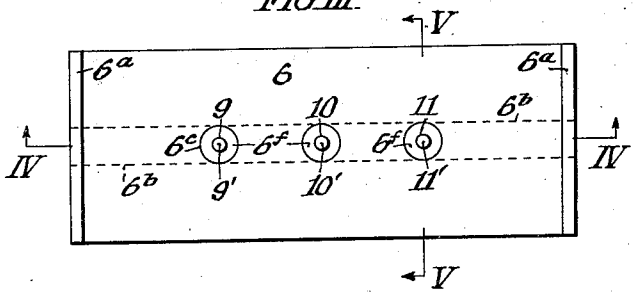


FIG. IV.

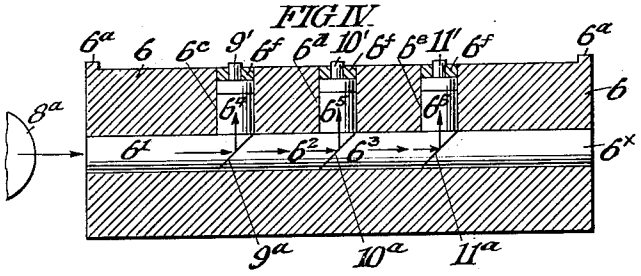


FIG. V.

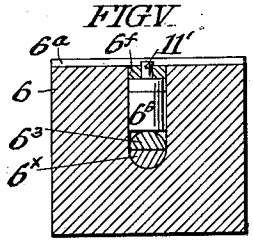


FIG. VI.

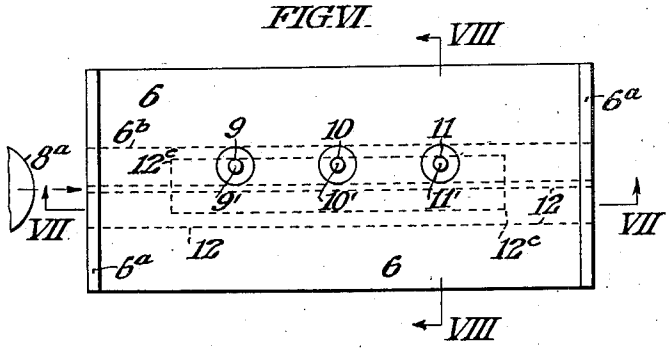


FIG. XII.

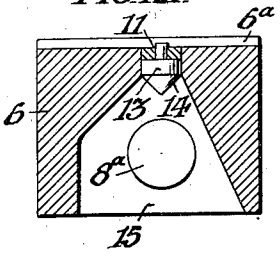


FIG. VII.

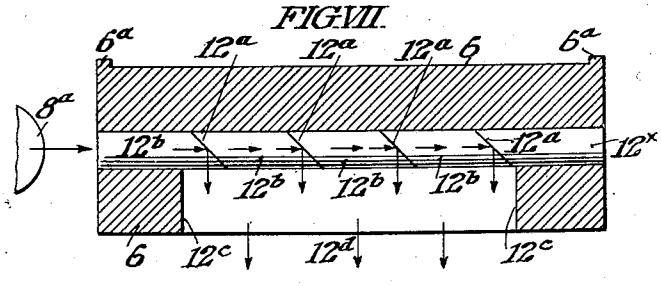
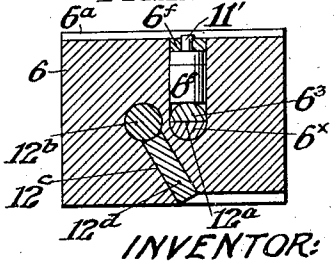


FIG. VIII.



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Patented Apr. 7, 1942 2,279,288

UNITED STATES PATENT OFFICE

2,279,288

RECORDING APPARATUS

Einar M. Orbeck, West Hartford, Conn., assignor, by mesne assignments, to Veeder-Root Incorporated, Hartford, Conn., a corporation of Connecticut

Application June 12, 1940, Serial No. 340,018

1 Claim. (Cl. 101—407)

This invention is particularly applicable to apparatus including a meter through which gasoline or other fluid is forced, by a pump or other suitable means, to and through a flexible dispensing hose. Said meter is operatively connected with registering mechanism indicating the volume of fluid dispensed. In gasoline dispensing apparatus such indication is conveniently in gallons and fractions of a gallon, but in gas apparatus is preferably in cubic feet.

The invention may be embodied in apparatus of the general character described in Letters Patent of the United States 2,086,363 granted July 6, 1937, to C. L. McMullen. That apparatus prints what is known in the trade as a "ticket" but which is in fact an opaque packet of several connected sheets with carbon transfer papers interposed between them, with a serial sales number and with a number of gallons registered at the start and with a number of gallons registered at the finish of a dispensing operation. That patented apparatus is adapted for dispensing but one kind or quality of gasoline. The object and effect of the present invention is to make a proper record of the dispensation of several, for instance, three, kinds of gasoline by selective placement of such an opaque ticket with respect to the printing mechanism which is manually operated by turning a crank handle after the ticket is properly positioned.

The form of my invention chosen for illustration includes the combination with manually operative printing mechanism; of means for supporting, in position to be printed by said mechanism, a removable record sheet or such a packet of sheets as above contemplated; means for illuminating a plurality of spots in spaced relation on the record supporting means; the removable opaque record sheet or packet having window openings therethrough in spaced relation; whereby said sheet may be positioned on the supporting means with a selected opening therethrough registering with a selected illuminated spot, to predetermine the position of an imprint to be made by said mechanism, on a selected region of said sheet; so a record of different transactions may be thus recorded, and the nature of each transaction manifested by the position of the respective imprint on said sheet. In that form of my invention, each of the illuminated spots is formed by a translucent element which is illuminated by projection of light to it from a source remote from it, and such spots are spaced transversely with respect to the path of introduction of the removable record sheet to the recording apparatus, and the openings through the opaque record sheet are spaced both longitudinally and transversely with respect to that path, and the openings through the sheet have respectively different indicia, for instance, a printed word indicating the kind or quality of gasoline to be dispensed when that opening is selected for registration with a selected illuminated spot.

In the form of my invention chosen for illustration all of said spots are illuminated from a single source of light, viz., an electric light bulb located at one side of the support for the record sheet; the light being projected from said bulb horizontally through a passageway in the support and reflected vertically at each of the spots by respective mirrors. Moreover, the number of gallons above contemplated is registered on a series of wheels connected by tens transfer gearing, and each having at its circumference the numbers "1" to "9" inclusive and "0" in a circular series; said wheels being presented at respective openings in the front of a casing enclosing the printing mechanism and upholding the support aforesaid. In that form of my invention I find it convenient to utilize light from the same source that illuminates the spots aforesaid, to also illuminate the numbers of registering mechanism exposed at the openings in the casing, and by reflecting light downwardly from said support.

My invention includes the various novel features of construction, arrangement and method of operation hereinafter more definitely specified.

In said drawings: Fig. I is a perspective view of the casing which encloses the printing mechanism and upholds the support and electric lamp.

Fig. II is a perspective view of a placket record sheet having three openings therethrough for selective registration of the sheet respectively with the three spots shown in Fig. I.

Fig. III is a plan view of the record sheet support shown in Fig. I.

Fig. IV is a vertical sectional view of the support shown in Fig. III taken on the line IV—IV in the direction of the arrows on said line.

Fig. V is a vertical sectional view of said support taken on the line V—V in Fig. III.

Fig. VI is a plan view of a modified form of record sheet support adapted for illuminating the three spots thereon as in Fig. III, and also adapted for projecting light from the same source downwardly to illuminate the registering mechanism.

Fig. VII is a vertical sectional view taken on the line VII—VII in Fig. VI in the direction of the arrows on said line.

Fig. VIII is a vertical sectional view taken on the line VIII—VIII in Fig. VI in the direction of the arrows on said line.

Fig. IX is an elevation of the rear face of a typical opaque record sheet, shown turned up in Fig. II; which is the position in which it is thrust into the apparatus shown in Fig. I.

Fig. X is an elevation of the record face of said sheet; the lower edge shown in Fig. X being the forward edge in Fig. II.

Fig. XI is an edge view of a packet of record sheets, with carbon transfer papers between them, to simultaneously make several separable records from a single printing impression on the packet. Of course, even one such carbon paper renders the entire area of the packet opaque, except where the window openings are made through it.

Fig. XII is a vertical sectional view of a modified form of the support and its appurtenances shown in Fig. VIII.

Referring to Fig. I; the casing 1 encloses the registering mechanism above contemplated including four numbered wheels 2 each with a circumferential series of numbers "1" to "9" and "0", representing gallons, and the single wheel 2^a representing tenths of a gallon. Wheel 2^a has a circular series of fractional numbers representing from one-tenth to ten-tenths of a gallon. Those five wheels are connected by tens transfer gearing and driven by the shaft 3 connected with the meter of liquid dispensing mechanism so that the quantity of liquid passing through the meter is manifested by the numbers displayed at the series of five openings 1^a in the front of said casing 1. Associated with those indicating wheels within the casing 1 are other wheels with series of numeral type faces, and the numeral type faces corresponding with the indicating numerals at the front of the casing are, simultaneously therewith, presented in a horizontal plane within said casing at the top of the wheels to make a printing impression when the crank 4 is manipulated by the operator, to permit a spring pressed platen to descend upon the type wheels. Said casing 1 also encloses another series of type wheels connected by tens transfer gearing which advance one digit following each printing impression effected by manipulation of the crank handle 4; so that each printed impression includes an individual serial number.

The block 6 which is rigidly secured to the casing 1, constitutes means for supporting, in position to be printed by said mechanism, a removable record sheet or such a packet of sheets as above contemplated. Said block 6 has upwardly extending guide flanges 6^a at opposite sides thereof, so spaced as to guide the record sheet 7 straight through the slot 1^b in the casing 1, and between the type wheels and the platen above them, when said record sheet is pushed over said block by the operator.

The box 8 mounted on said casing 1, encloses an electric lamp bulb 8^a in position to project light therefrom into the horizontal cylindrical passageway 6^b in the block 6. As shown in Figs. III and IV; said passageway 6^b has three vertical branches 6^c, 6^d and 6^e, the upper ends of which are closed by respective annular metal retaining rings 6^f. The circular spots in the centers of said rings 6^f respectively marked 9, 10 and 11 are illuminated by light projected from the electric lamp 8^a through the passageway 6^b, and reflected upwardly by the inclined mirror surfaces 9^a, 10^a and 11^a shown in Fig. IV. I find it convenient to project the light in said passageway 6^b through clear translucent plastic pieces 6^1, 6^2 and 6^3, the inclined ends of which afford the reflecting surfaces aforesaid, respectively beneath the branches 6^c, 6^d and 6^e. for instance, that material may be Lucite. I also prefer to put clear translucent plastic pieces 6^4, 6^5 and 6^6 in the respective branches 6^c, 6^d and 6^e, and to provide each spot 9, 10 and 11 with a clear or colored translucent plastic piece respectively 9', 10' and 11'. As shown in Fig. IV; said pieces 9', 10' and 11' afford projections extending upwardly at each of the spots 9, 10 and 11 so that the operator may locate those spots not only by sight but touch. The filler piece 6^x in 6^b may be opaque.

As shown in Figs. II and IX; the opaque record sheet 7 has window openings 7^1, 7^2 and 7^3, spaced laterally therein so that they may be respectively registered with the spots 9, 10 and 11, in accordance with the extent to which the record sheet is thrust into the slot 1^b; to predetermine the position upon the record sheet in which the imprint made by operation of the crank handle 4 shall be received.

The opaque record sheet 7 shown in Figs. IX and X, has the three openings 7^1, 7^2 and 7^3 respectively designated by the indicia letters A, B and C. Registration of the window opening 7^1 with the spot 9 positions the record sheet 7 so that the imprinted impression is made in the space 7^a shown at the bottom of the record sheet in Fig. X, and includes the numerical imprint indicating the number of "A: gallons delivered." Registration of the window opening 7^2 of the record sheet 7 with the spot 10 positions the record sheet so that the imprinted impression is made in the space 7^b, shown in Fig. X identified with "B: gallons delivered." Registration of the window opening 7^3 of the record sheet 7 with the spot 11 positions the record sheet so that the imprinted impression is made in the space 7^c, shown in Fig. X identified with "C: gallons delivered."

In the opaque packet shown in Fig. XI; there are three similar record sheets 7 and three carbon transfer paper sheets 7^x all fastened together at the end 7^d which is the forward end of the record sheet shown in Fig. II in its movement into the casing 1. However, it is to be understood the record sheet may be otherwise constructed or arranged.

In the form of my invention shown in Figs. VI, VII and VIII; the block 6 has in addition to the cylindrical horizontal passageway for light to luminate the spots 9, 10 and 11, another cylindrical horizontal passageway 12 parallel with said passageway 6^b and including four inclined reflecting surfaces 12^a, which may be conveniently formed by four clear translucent plastic pieces 12^b which reflect the light from the same source 8^a downwardly through the inclined slot 12^c, and the translucent piece 12^d therein, upon the exposed indicating numbers at the five openings 1^a in front of the casing 1 so that they may be readily seen by the operator and customer. The filler piece 12^x in 12 may be opaque.

In the form of my invention shown in Fig. XII; the block 6 has the source of light 8^a mounted within it, instead of remote therefrom as above described, and the spots 9, 10 and 11 are illumi-

nated by respective translucent elements 13 each having at its lower end a conical reflecting surface 14. The light from said source 8a is also directed downwardly through the opening 15 upon said exposed indicating numbers in the front of the casing 1.

However, as above indicated, even if the source of light 8a fails or is omitted; the operator may locate the record sheet 7 in selected position with respect to the spots 9, 10 and 11, by touch to effect registration of any selected window opening in the record sheet with the projecting element at the selected spot.

Therefore, I do not desire to limit myself to the specific construction, arrangement or method of operation herein set forth as it is obvious that various modifications may be made therein without departing from the essential features of my invention, as defined in the appended claim.

I claim:

In recording apparatus; the combination with printing mechanism; of a platen for supporting a record receiving element; Lucite platen spot indicating means, including a protuberance projecting upwardly from the support, for receiving an opaque record element having preformed openings therethrough adapted to be registered with said spot indicating means; and illuminating means for said Lucite platen spot indicating means; whereby record positioning on said platen may be effected tactually and manually.

EINAR M. ORBECK.