

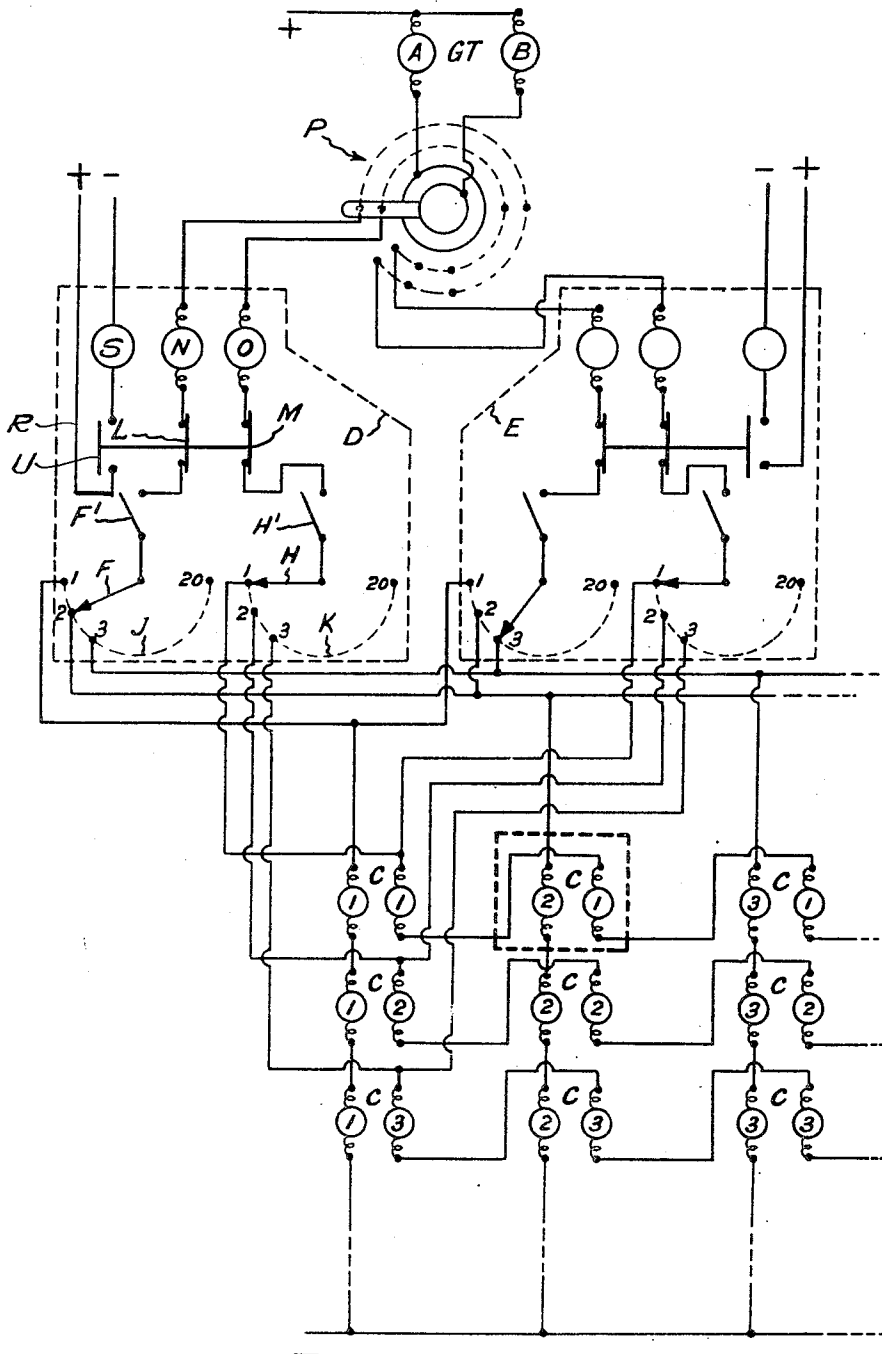
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TOTALIZATOR REGISTERING MEANS FOR "DOUBLES" TICKETS

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TOTALIZATOR REGISTERING MEANS FOR
"DOUBLES" TICKETS

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1

The object of this invention is to provide simple means, in a race totalisator, for recording tickets in respect of "doubles" transactions. A "doubles" transaction is one in which an investor makes a single bet in respect of two competitors in two different events.

In a common type of existing totalisator, for issuing tickets for ordinary transactions in respect of a single event, there are three major components, namely: a grand total adding unit which records the number of all tickets sold on all competitors in the event, a plurality of competitor adding units which separately record the number of tickets sold on each competitor in the event, and a group of ticket issuing machines. It is to this type of totalisator installation that the present invention is referable.

In the existing installation referred to, the grand total and competitor adding units include electromagnets which on being energised actuate escapement devices which cause the grand total adding unit and the appropriate competitor adding unit to record the transaction responsible for the energisation. The installation may include only one ticket issuing machine, but usually there are a plurality of such machines, each having a selector switch which may be moved to contact one of a series of selector contacts. Each ticket issuer machine has its own series of selector contacts, and the number of these contacts is equal to the number of competitors in respect of which tickets may be issued. The No. 1 selector contacts in all of the issuers are connected to the No. 1 competitor adding unit magnet (such a magnet is herein called a "C" magnet), the No. 2 selector contacts are all connected to the No. 2 C magnet, and so on throughout the series (or several series) of selector contacts. The selector switch of each issuer is circuited with the grand total adding unit magnet (herein called a "GT" magnet). If there is more than one ticket issuer, they are circuited with the GT magnet by way of a rotary distributor switch which ensures that only one ticket issuing circuit may be "alive" at any one time so that the recording of transactions effected by the several issuers will not become confused.

When the selector switch of a ticket issuer is closed (for example on competitor No. 1) and the rotary distributor contacts for that issuer are eventually closed, an adding circuit is completed through three magnet coils; i. e., the GT magnet coil, a trip magnet coil in the issuer and the No. 1 C magnet coil. The consequent momentary energisation of these coils causes the escapements in the grand total and the competitor adding units to record the transaction in both those units, and

2

causes the mentioned trip magnet to open a pair of "adder" contacts, thus re-opening the adding circuit, and at the same time close a pair of "issuer" contacts. Closure of these issuer contacts causes the ticket issuer to carry out its normal working cycle of printing a ticket and making it available for presentation to the investor. When the ticket issuing cycle is complete, cam devices re-open the issuer contacts, re-close the adder contacts and unlock the selector switch in readiness for dealing with a next transaction.

To employ the above described known arrangement for the sale of doubles tickets would mean that each ticket issuer selector switch arm would require (to provide for twenty competitors in each of two events) four hundred positions and four hundred contacts in its series of selector contacts. This would also mean that there would have to be four hundred electrical connections from each ticket issuing machine back to the respective competitor adding units. This arrangement would be cumbersome. The arrangement subject of this invention reduces this number of selections and electrical connections in a practical and simple manner.

An example of the invention is illustrated diagrammatically in the single figure of the drawings herewith.

The GT magnet consists of two parts A and B. These two parts, when both energised, are able to operate a grand total adding unit escapement lever, in known manner, as if they constituted a single magnet as used heretofore; but they are arranged and the escapement lever loading spring associated therewith is of such strength that when either is energised by itself it is unable to influence actuation of the escapement lever. Each ticket issuer (two only are represented—by dotted enclosures D and E) has a first selector switch F and a second selector switch H. These switches may be turned to touch any of the selector contacts (1, 2, 3 . . . 20) in their respective series J and K. The switches F and H are respectively circuited with GT magnet parts A and B through trip switch parts L and M, trip magnet parts N and O and a common rotary distributor switch indicated at P.

The selector switches F and H are of the known kind operable by handpieces which on being depressed will close the usual handpiece switches F¹ and H¹ to close the circuits through the selected selector contacts, and on being swung towards the selected contacts turn type wheels into position for printing the competitor numbers corresponding to those contacts. The selector switches and the handpieces therefor are

similarly each provided in known manner with locking devices which, once a transaction recording has been initiated, prevent their re-operation until such time as that transaction has been recorded and a ticket therefor has actually been printed and issued. Although it is not absolutely essential, the two selector switches in each issuer may be provided with common interlock devices so that neither of the twin circuits will be complete unless both selector handpieces have been depressed and locked in position relative to the required selector contacts.

The trip magnet parts N and O are similar to the GT magnet in that the two parts (N and O) are combinedly effective (in their ability) to open the trip switch LM and thereby close the issuer circuit to start the ticket production cycle) but are individually ineffective.

The C magnets (marked C in the drawings) each consist of first and second parts which in similarity to the GT magnet are combinedly effective and individually ineffective in regard to operation of the escapements for the competitor adding units. There is a competitor adding unit for each C magnet, and the number of these magnets is equal to the product of the numbers of competitors in the two events for which doubles transactions may be effected. In the illustrated arrangement only nine C magnets are shown, but if the numbers of competitors provided for by the installation were (for example) twenty in each of two events, the number of C magnets would, of course, be four hundred.

It will be seen from the drawing that the selector contact No. 1 in series J is connected to the first part of each of the C magnets marked 1 and 1, 1 and 2, 1 and 3, and so on. The selector contact J2 is similarly connected to the first part of each of the C magnets marked 2 and 1, 2 and 2, 2 and 3, and so on. Contact J3 is, in like manner, connected to the first part of C magnets 3 and 1, 3 and 2, 3 and 3 and so on.

The selector contact No. 1 in series K is connected to the second parts of C magnets 1 and 1, 2 and 1, 3 and 1 etc., contact K2 to the second parts of C magnets 1 and 2, 2 and 2, 3 and 2, etc. This connection order is maintained for the full range of series J and K in respect of the corresponding full number of C magnets.

The above described operating and circuiting arrangements are applicable to an installation having only one ticket issuer (such as D) or to an installation having any required greater number of issuers. In the illustrated embodiment two issuers are shown. The circuiting arrangements for a plurality of issuers will be apparent from inspection of the drawing. Where only one ticket issuer is employed a distributor switch such as P is not required. Where more than one issuer is employed the distributor is necessary so that only one issuer may be effective at any one time.

In totalisator installations of the kind to which the present invention is directed the use of a trip switch (such as L, M) and a trip magnet (such as N, O) is desirable to ensure completion of the adding circuit, and hence recording of a transaction, as an inescapable pre-requisite to initiation of the ticket production cycle in respect of that transaction. It will be appreciated, however, that the invention would possess utility as a transaction recorded in the absence of the trip devices, and that in that case ticket production could be arranged for manually or by other means not necessarily dependent on energisation

of an adding circuit. In such case the selector switches (such as F and H) would, of course, be connected directly to the distributor switch, or to the GT magnet parts A and B as will be well understood.

When a doubles transaction is to be recorded, the first selector switch (F) is registered with the appropriate selector contact (2 in series J, for example) for the competitor selected for the first event. The second selector switch (H) is similarly registered with the appropriate selector contact (1 in series K, for example) for the competitor selected for the second event. Adopting the above example (a doubles transaction in respect of competitor No. 2 in the first event and competitor No. 1 in the second event) for convenience of description, it will be seen that when this double selection has been completed, there will be two parallel circuits which will be completed when the distributor switch arm rotates to its contacts corresponding to that particular ticket issuing machine. The first of these circuits will serially incorporate GT magnet part A, trip magnet part N and all of the C magnet first parts numbered 2 in the drawing.

The second circuit will serially incorporate GT magnet part B, trip magnet part O and all of the C magnet second parts numbered 1 in the drawing.

Only one of the C magnets (that numbered 2 and 1) will have both its parts energised.

As mentioned above, the two parts of each magnet are effective only combinedly. Therefore, only the C magnet on combination 2—1 will operate, and the transaction will therefore be recorded only on the competitor adding unit for C magnet 2 and 1. Completion of both circuits, in addition to energising C magnet 2 and 1, will energise GT magnet AB to add the transaction to the grand total of transactions, and will also energise trip magnet NO, thus to reopen the adding circuits and close the issuer circuit for performance of a ticket production cycle.

The ticket issuer circuit is shown at R. The circuit is a well known arrangement and includes an electric motor S which, upon being started by the closure of the ticket issuer switch U, provides the power for the mechanical printing and production of an appropriate ticket and also for the operation of cam devices (not shown) for returning the ticket issuer switch U and the trip switch L—M to the positions shown in the drawing. It will be appreciated that the trip switch L—M is a conventional device and operated in a well known manner. The two parts L and M of the trip switch are normally closed and, although electrically effective only in their respective circuits, are concertedly operable mechanically as a single entity. When only one of the trip magnet parts N or O is energized the trip switch L—M is not affected, but when both parts N and O are energized (simultaneously with one of the grand total magnets GT and one of the competitor adding unit magnets C) the trip magnet parts N and O together move to open circuit position and by that action close the ticket issuer switch U.

I claim:

1. In a race totalizator of the kind described comprising a grand total adding unit, at least one, ticket issuing unit, and a plurality of electro-magnetically operable competitor adding units, first and second selector switches in said ticket issuing units, each of said selector switches including a series of contacts, the operating elec-

5

tro-magnets for said grand total adding unit and each of said competitor adding units consisting of first and second parts which are effective when jointly operated but ineffective individually, a circuit for said selector switches and said operating electro-magnets comprising a first conductor connecting the first and second parts of the operating electro-magnets respectively to the first and second selector switches, a second conductor connecting the competitor electro-magnet first parts in series in first groups and respectively to the contacts of the first selector switch, and a third conductor connecting the second parts of the competitor electro-magnets in series in second groups, said second groups of parts of the competitor electro-magnets being each respectively associated with one said competitor electro-magnet first part in each of said first groups so that upon the circuit being closed through both of said selector switches said grand total electro-magnets and only one of said competitor electro-magnets have both parts thereof energized.

2. In a race totalizator of the kind described comprising a grand total adding unit, at least one ticket issuing unit and a plurality of electromagnetically operated competitor adding units, first and second selector switches in said ticket issuing unit, each of said selector switches including a series of contacts, the operating electro-magnets for said grand total adding unit and each of said competitors adding units consisting of first and second parts which are effective when jointly operated but ineffective individually, a trip electro-magnet having parts corresponding to each of said selector switches, said parts being effective when jointly operated but ineffective individually, a trip switch having parts corresponding to each of said selector switches and respectively operated by the parts of the trip electro-magnet only when jointly energized, said respective parts of the trip electro-magnet and trip switch being in series with the respective selector switches, a circuit for said selector switches and said operating electro-magnets comprising a first conductor connecting the first and second parts of the operating electro-magnets respectively to the first and second selector switches, a second conductor connecting the competitor electro-magnet first parts in series in first groups and respectively to the contacts of the first selector switch, and a third conductor

6

connecting the second parts of the competitor electro-magnets in series in second groups, said second groups of parts of the competitor electro-magnets being each respectively associated with one of said competitor electro-magnets first parts in each of said first groups so that upon the circuit being closed through both of said selector switches said grand total magnet and only one of said competitor electro-magnets have both parts thereof energized.

3. In a race totalizator of the kind described comprising a grand total adding unit, a plurality of ticket issuing units, and a plurality of electromagnetically operable competitor adding units, a distributor switch connected in circuit arrangement with the ticket issuing units whereby only one of the latter may be energized at a time, first and second selector switches in each of said ticket issuing units, each of said selector switches including a series of contacts, the operating electro-magnets for said grand total adding unit and each of said competitor adding units consisting of first and second parts which are effective when jointly operated but ineffective individually, a circuit for said selector switches and said operating electro-magnets comprising a first conductor connecting the first and second parts of the operating electro-magnets to the first and second selector switches, a second conductor connecting the competitor electro-magnet first parts in series in first groups and respectively to the contacts of the first selector switch, and a third conductor connecting the second parts of the competitor electro-magnets in series in second groups, said second groups of parts of the competitor electro-magnets being each respectively associated with one competitor electro-magnet first part in each of said first groups so that upon the circuit being closed through both of said selector switches said grand total electro-magnets and only one of said competitor electro-magnets have both parts thereof energized.

AWDRY FRANCIS JULIUS.

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

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