

L. J. J. VAN DER HOORN & S. WOUDA.

BARGAIN INDICATOR.

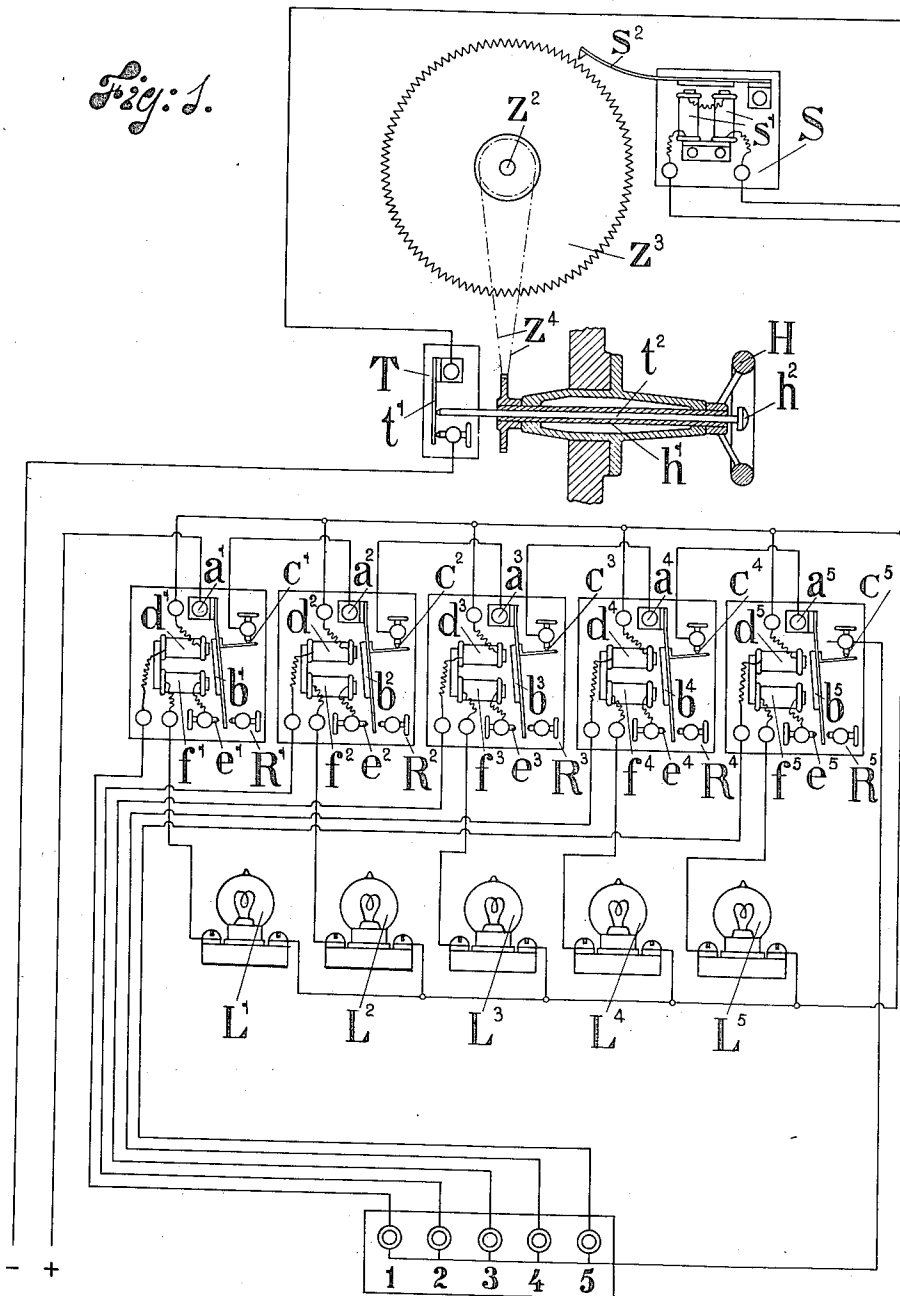
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1,153,737.

Patented Sept. 14, 1915.

2 SHEETS—SHEET 1.

Fig. 1.



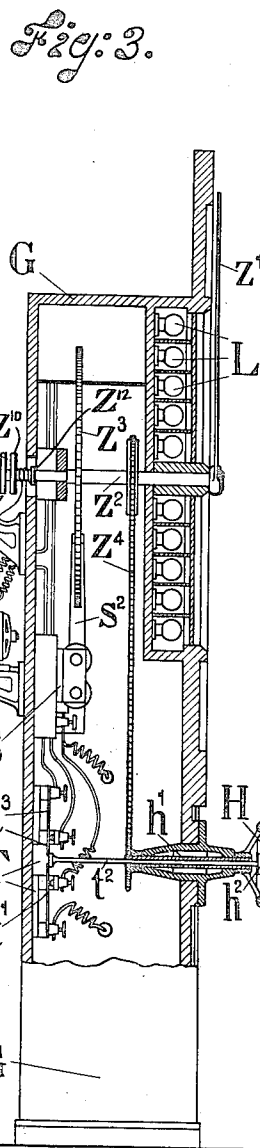
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

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BARGAIN-INDICATOR.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, LODOVICUS JOHANNIS JOSEPH VAN DER HOORN and SJOERD WOUDA, subjects of the Queen of the Netherlands, residing at Utrecht, Kingdom of the Netherlands, have invented certain new and useful Improvements in Bargain-Indicators, of which the following is a specification.

This invention has for its object to provide an apparatus for use in the sale of vegetables, butter, fish, fruit, eggs, and, generally, of perishable goods which have to be sold as quickly as possible and in such a manner as to remove any doubts as to the price to be paid and the rightful purchaser of the goods sold.

The apparatus can be used in all those cases in which the goods are put up at a high price which is gradually reduced until a purchaser is found.

According to this invention, the function of salesman or auctioneer is taken over by a portion of the apparatus, referred to as the price indicator, comprising a dial and an index movable thereover and provided with means for arresting and locking the index at any position as it passes in front of gradually decreasing prices marked along the edge of the dial. With the price indicator is combined a second apparatus termed a bidding device which comprises various relays operated by the purchasers for the purpose of locking the index driving gear and switching out the driving motor for the same as well as means for indicating a number which identifies the purchaser who has operated the locking gear. The spindle carrying the index is driven by electric motor, and provided with a brake disk having as many teeth as there are figures on the edge of the index plate. The driving device is not secured directly to the spindle but is connected thereto by means of a resilient or friction coupling. In the center of the dial is provided a square recess in which are arranged a number of figures for identifying the purchasers. Each of these figures is adapted to be illuminated by an electric lamp as soon as the corresponding purchaser operates his relay, that is to say, has made a bid, or accepted a price. In the present ar-

range these lamps are placed behind the numbers, which are arranged on white or frosted glass disks. The various relays may be connected in such a manner that two purchasers' numbers cannot be simultaneously illuminated, in order to avoid uncertainty as to the genuine purchaser, or first bidder. To this end the circuit is arranged in such a manner that when a purchaser makes a bid by depressing a knob assigned to him and thereby energizing his locking relay and lighting the lamp, all the other relays are rendered inoperative, so that depression of a second press knob is inoperative as regards stopping of the index or illuminating the plate with the other purchasers' numbers. A setting device is provided for restoring the index of the price indicating device after a sale has been effected, this device acting in a simple manner to break the circuit of the locking magnet, and enable the index to be adjusted at will by means of a hand wheel to the amount at which the bidding for the next article is to be started.

A constructional form of the apparatus will be now described with reference to the accompanying drawings, in which,

Figure 1 illustrates a diagram of connections for the whole apparatus, Fig. 2 is a front elevation of the price indicator, with the dial partly broken away, and Fig. 3 is a section on line I—II of Fig. 2.

The circuit is divided into two portions, one part containing the press knobs in the purchasers' seats and the other part the lamps and the locking magnet. The working circuit for the press knobs starts from the positive pole of the source of current, goes through a terminal a' of the first relay R' , and its armature b' to a contact c' . Thence the current passes in a similar manner through all the other relays, of which a suitable number one for each purchaser is provided; in the present case five, $R^1, R^2, \dots R^5$, and from the terminal c^5 passes to the press knobs 1—5 at the seats, arranged in parallel in the circuit. The press knobs are electrically connected to one terminal of the upper magnet coils $d^1, d^2, \dots d^5$, which with their second terminal are connected to the

coils s' of the locking magnet S which in turn is connected to a spring-controlled contact T at the negative pole of the source of current. Each press knob can therefore establish a connection between the two poles of the source of current, the current passing then over the upper magnet coil d' of the relay R. If for instance the press button 2 is depressed, the armature b^2 will be attracted by the upper magnet d^2 , so that the circuit will be broken at c^2 . At the same time, a new circuit is closed at b^2 in which the current passes from the positive pole over a^1 , b^1 , c^1 , a^2 , b^2 , c^2 , the coil f^2 and the lamp L^2 to the negative pole. The armature b^2 remains attracted even when d^2 is switched out, as f^2 is excited, and the number 2 remains illuminated. The depression of any other knob will not then effect the operation of a relay, as the circuit for the supply of current to the press knobs is broken at c^2 . As will be seen for instance from Fig. 3, the motor circuit is broken simultaneously with the energizing of the locking relay. The return from the lamps to the negative pole also passes through the windings of the locking magnet S, so that at the instant a purchaser depresses his knob the index is stopped and indicates the purchase price while the purchaser's number is lighted up.

In order to reset the apparatus for a fresh sale the last purchaser's number must disappear, and the index be set for the new purchase. According to this invention, these two conditions are fulfilled by a single manipulation with the aid of the following means: The spindle z^2 of the index z^1 on which is mounted a brake disk z^3 can also be turned by hand, being connected by means of a belt or chain z^4 to a spindle h' provided with a hand wheel H, in such a manner that, on the hand wheel being moved, the index can be set as desired. To that end, however, the current must be cut off from the locking magnet S, in order that it should release the brake disk z^3 , to effect which in the return lead to the negative pole is arranged a spring-controlled contact T, the spring t' of which can be opened by means of a rod t^2 which in the construction illustrated is arranged axially in the hand wheel spindle h' and provided with a button h^2 . In this way, the circuit containing the relay f^2 and the locking magnet S, is broken, so that both of them release their armatures. The initial position is therefore reestablished, the index can be set for a new sale, and new price accepted in the manner described.

The price indicator Z is illustrated in Figs. 2 and 3. The index z' travels in front of prices indicated on the edge of the dial z^5 and can make a complete revolution, that is to say, in order to get from 100 to 1, it

need not be put back, but can be simply turned on, which results in an economy of time. A pawl s^2 of the locking magnet S, when the coils s' are excited, engages with teeth on a disk z^3 secured to the index spindle z^2 . The movement of the driving motor z^8 is transmitted by a gear z^7 to a friction coupling z^6 and by the latter, to the index spindle z^2 and the index z^1 . The friction coupling z^6 has for its object to take up shocks that may be exercised by the driving motor on the indicating mechanism when the latter is suddenly locked by the locking magnet, the motor with its gear, owing to their momentum, not stopping at once, although the motor is switched out immediately the relay S is operated, by the opening of the contact s^3 in the circuit of the relay S.

The friction coupling 6 may be constructed as follows:—One flange of the coupling, say the left one z^9 is fixed on the shaft of the gear wheel; the other (right) flange z^{10} of the coupling is mounted on the shaft z^2 of the index, so as to be slidable thereon in an axial direction. This flange z^{10} is pressed onto the left flange z^9 by means of a spiral spring z^{11} mounted on the shaft z^2 and the right end of which rests upon a collar z^{12} or the like fixed to said shaft. Any movement of the gear z^7 is, by means of the flange z^9 , imparted to the flange z^{10} and the shaft z^2 , in consequence of the friction between z^9 and z^{10} . On the other hand the coupling is sufficiently yielding to prevent the mechanism being damaged by sudden stopping the shaft z^2 (by means of the locking magnet S) when the motor is still running (although it may be switched off) and the similar causes. In practice the contact t^3 in the supply circuit of the motor z^8 may be wholly omitted, as the friction coupling z^6 allows for setting the index by hand, though the motor is running.

In order that during the movement of the index, at the beginning of which the contact t' is opened (by pressure on the button h^2) and the current exciting the locking magnet S thereby interrupted, the motor should not get any current through the then closed contact s^3 which would cause the motor to start and interfere with the movement of the index, the supply circuit of the driving motor z^8 is provided with a contact t^3 which is opened and closed simultaneously with the contact t' and therefore breaks the motor circuit while the index is being set by hand. In the center of the dial, in a square frame K, are arranged the purchasers' numbers which, in the construction illustrated, are arranged on ground or white glass disks and can be lighted from behind by the lamps L.

The whole mechanism is arranged in a casing G of such construction that the va-

rious parts are easily accessible for the purpose of examination and cleaning.

The operation of the device is as follows:—The salesman or auctioneer sets the index by means of the hand wheel H (at the same time opening the motor supply circuit at contact t^3 by means of the rod t^2) on a price number of the dial z^5 , which indicates a price higher than the maximum price which is likely that will be paid. The index being set and the motor supply circuit being closed at t^3 , the index will start its rotations and pass the decreasing numbers on the dial. When it reaches a price, one of the purchasers want to pay, it is stopped by said purchaser depressing his press knob, which causes in the manner described the locking magnet S to be energized and the lamp L, by corresponding to the knob depressed, *i. e.* by the purchaser in question, to light. The auctioneer sees by the number on which the index is stopped the price and by the number being lighted up which purchaser wants to make the bargain for the price indicated. As, when one press knob is depressed, pressing the other knobs is useless, as already set forth, it is not possible that a second purchaser by pressing his knob after the first knob has been depressed may make his lamp light up as well, thus any doubt about the rightful purchaser is avoided, which is not the case when the bargains are made in the ordinary manner, *e. g.* by calling to the auctioneer when the latter calls the price one is willing to give for the article on sale. Price and purchaser being noted, the auction may proceed and to this end the knob h^2 in the center of the hand-wheel is depressed, so that the circuit of the locking magnet is opened at the contact t^4 and the index may be set by hand on the starting price for the next article to be sold.

What we claim as our invention and desire to secure by Letters Patent is:—

1. In an electric sale apparatus, means for successively indicating a series of prices, means for arresting the indication at any price of the series, a plurality of means operable by the purchasers for actuating the arresting means, and means for signaling an identification of the first of the actuating means to be operated.

2. In an electric sale apparatus, a dial bearing a scale of prices, an index, means for moving the index over the scale, an electromagnet for arresting the index, a plurality of relays each operable by a purchaser for causing energizing of the electromagnet, a visual identification sign associated with each relay, and means for displaying the identification sign of the first relay to be operated.

3. In an electric sale apparatus, a dial

bearing a scale of prices, an index, a motor for moving the index over the scale to indicate a gradually diminishing price, an electromagnet for arresting the index, a plurality of relays each operable by a purchaser for causing energizing of the electromagnet, a visual identification sign associated with each relay, lamps adapted to illuminate the signs, a source of current for the lamps, and means for connecting the source to the lamp associated with the first relay to be operated.

4. In an electric sale apparatus, a dial bearing a scale of prices, an index, means for moving the index over the scale, an electromagnet for arresting the index, a plurality of relays each operable by a purchaser for causing energizing of the electromagnet, a visual identification sign associated with each relay, means for displaying the identification sign of the first relay to be operated, and means for rendering the remaining relays inoperative immediately said first relay is operated.

5. In an electric sale apparatus, a dial bearing a scale of prices, an index, a motor for moving the index over the scale to indicate a gradually diminishing price, an electromagnet for arresting the index, a plurality of relays each operable by a purchaser for causing energizing of the electromagnet, a visual identification sign associated with each relay, lamps adapted to illuminate the signs, a source of current for the lamps, means for connecting the source to the lamp associated with the first relay to be operated, and means for rendering the remaining relays inoperative immediately said first relay is operated.

6. In an electric sale apparatus, a dial bearing a scale of prices, an index, means for moving the index over the scale, an electromagnet for arresting the index, a plurality of relays each operable by a purchaser for causing energizing of the electromagnet, a visual identification sign associated with each relay, means for displaying the identification sign of the first relay to be operated, means for rendering the remaining relays inoperative immediately said first relay is operated, means for manually resetting the index after a completed sale, and means for disconnecting the drive from the index while the same is being reset.

7. In an electric sale apparatus, a dial bearing a scale of prices, an index, a motor for moving the index over the scale to indicate a gradually diminishing price, an electromagnet for arresting the index, a plurality of relays each operable by a purchaser for causing energizing of the electromagnet, a visual identification sign associated with each relay, lamps adapted to illuminate the signs, a source of current for the lamps, means for connecting the source to

the lamp associated with the first relay to be operated, means for rendering the remaining relays inoperative immediately said first relay is operated, means for manually resetting the index after a completed sale, and
5 means for disconnecting the drive from the index while the same is being reset.

In testimony whereof we have hereunto

set our hands in presence of two subscribing witnesses.

LODOVICUS J. J. VAN DER HOORN.
SJOERD WOUDA.

Witnesses:

THOMAS H. VERHAVE,
P. HILDERING.