

(No Model.)

J. L. CLOUDSLEY.

VALUE AND QUANTITY REGISTER FOR GAS METERS.

No. 451,756.

Patented May 5, 1891.

FIG. 3.

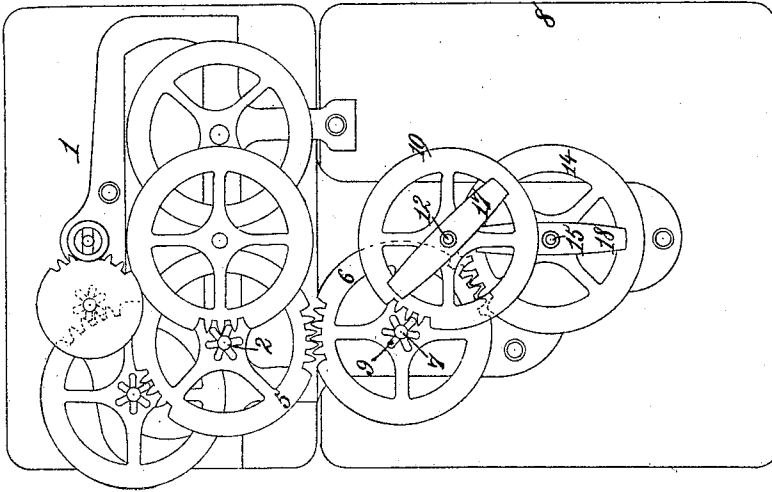


FIG. 2.

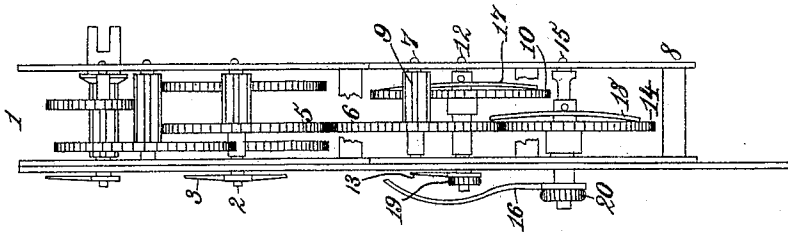
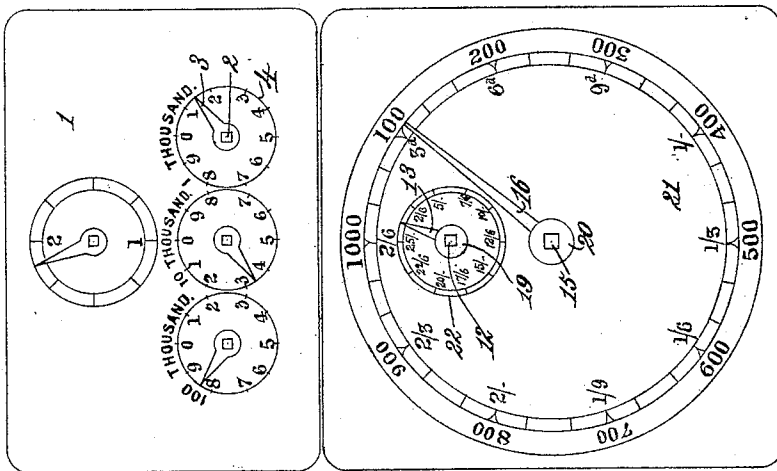


FIG. 1.



WITNESSES.

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Witness

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UNITED STATES PATENT OFFICE.

JOHN LESLIE CLOUDSLEY, OF WESTMINSTER, ENGLAND.

VALUE AND QUANTITY REGISTER FOR GAS-METERS.

SPECIFICATION forming part of Letters Patent No. 451,756, dated May 5, 1891.

Application filed August 5, 1890. Serial No. 361,046. (No model.)

To all whom it may concern:

Be it known that I, JOHN LESLIE CLOUDSLEY, a subject of the Queen of Great Britain, residing at Smith Square Works, Westminster, England, have invented certain new and useful Improvements in Value and Quantity Registers for Gas-Meters, of which the following is a full, clear, and exact specification.

This invention relates to gas-meters, and has for its object to provide novel mechanism for indicating or registering the quantity and value of gas flowing through the meter, and to render such mechanism susceptible of fulfilling the conditions required if changes occur in the value of gas, the construction being such that if a change in the value of gas occurs it is only essential to remove a value and quantity dial card and substitute therefor another card bearing the required characters to suit the change in value, whereby I entirely avoid disturbing the internal construction, arrangement, or mode of operation of the gear mechanism by which the index hands of the registering mechanism are operated.

The object of my invention is accomplished by the features of construction and the combination or arrangement of devices herein-after described and claimed, reference being made to the accompanying drawings, in which—

Figure 1 is a front elevation showing my improved value and quantity indicator or register arranged beneath the ordinary registering mechanism of a gas-meter. Fig. 2 is a side elevation of the same, and Fig. 3 is a rear elevation of the same.

I do not deem it essential to illustrate an entire gas-meter, as such is not essential for the proper understanding of my invention by those skilled in the art.

In the drawings, the numeral 1 indicates the ordinary registering mechanism of a gas-meter, comprising the usual dials and index-hands for reading the meter in the usual manner. The shaft 2, carrying the index-hand 3 of the hundreds-dial 4, is provided with a gear-wheel 5, engaging a gear-wheel 6, mounted on a shaft 7, suitably journaled in a frame 8, and provided with a pinion 9, which engages a slip gear-wheel 10, carried by a shaft 12, which projects through the front of the frame

8, and is there provided with an index-hand 13. The gear-wheel 6 meshes into a slip gear-wheel 14, mounted on a shaft 15, which projects through the front of the frame 8 and carries an index-hand 16.

The shafts 12 and 15 are rotated by the gear-wheels 10 and 14, through the medium of leaf-springs 17 and 18, which are attached to the said shafts and have frictional contact with the gear-wheels, in such manner that during the operation of the register the shafts 12 and 15 will be turned forward by the frictional contact of the springs with the gear-wheels 10 and 14; but the shafts can be turned backward for the purpose of placing the index-hands 13 and 16 at zero, without disturbing the gear mechanism.

The outer extremities of the index-hand shafts 12 and 15 are provided with milled nuts 19 and 20, for the purpose of permitting the prompt and convenient removal of the index-hands 13 and 16 from the shafts 12 and 15, whereby the value and quantity dial-card 21 can be removed and a fresh card placed in position, as occasion may demand, when the value of gas is changed.

The dial-card 21 is struck with two concentric scales, the outer one being provided with numerals for indicating quantity from one hundred to one thousand, while the inner scale is provided with figures, characters, or other signs to indicate the value of gas. The value-indicating characters or signs are respectively arranged in juxtaposition to the numerals which indicate the quantity of gas. For example, the signs 3d. 6d. 9d., &c., are arranged, respectively, opposite the numerals indicating one hundred, two hundred, three hundred, &c.

The dial-card is provided with a supplemental dial 22, through the center of which projects the shaft 12, which carries the index-hand 13 for indicating or registering larger quantities and values than the concentric scales on the dial-card 21.

The slip gear-wheel 10 is by its gear mechanism with the registering mechanism 1 caused to make one complete revolution for each complete revolution of the shaft 2, which carries the index-hand 3 of the hundreds-dial 4, in consequence of which the index-hand 16 will indicate or register in harmony with the

index-hand 3 of the hundreds-dial 4. In other words, if one hundred feet of gas is registered by the hundreds-dial 4 and its index-hand 3, a hundred feet will be indicated or registered by the dial-card 21 and index-hand 16.

The shaft 12 carrying the index-hand 13 for the supplemental dial 22 is caused to make one complete revolution for every ten revolutions of the shaft 2, which carries the index-hand 3 of the hundreds-dial 4—that is to say, the shaft 12 makes one complete revolution for each ten thousand feet of gas registered by the ordinary registering mechanism 1.

The dial-card is made of paper, card-board, or some suitable material which is sufficiently thin to fulfill the conditions required, and in practice a series of dial-cards will be provided, so that if the value of gas is changed a dial-card can be quickly and conveniently removed and the appropriate dial-card placed in position.

The dial-card 21 is provided with and carries the supplemental dial 22, and by reason of the milled or thumb nuts 19 and 20, the dial-card can be placed in and removed from position whenever occasion requires. This is an important feature of my invention in that it renders the value and quantity register susceptible of meeting the contingency of changes in the value of gas without disturbing the internal construction, arrangement, or mode of operation of the gear mechanism by which the index-hands are operated.

In practice it is intended to place an adhesive seal or stamp upon the value and quantity register in some proper manner to prevent consumers from tampering with the register; but as this constitutes no part of my invention, I do not deem it essential to illustrate the same.

Having thus described my invention, what I claim is—

1. In a gas-meter, the combination, with the ordinary registering mechanism, of the gear-wheel 6, actuated by said registering mechanism, the shafts 12 and 15, carrying the index-hands 13 and 16 and provided, respectively, with slip gear-wheels 10 and 14, and the value and quantity dial-card carrying a supplemental dial 22, substantially as and for the purpose described.

2. In a gas-meter, the combination, with the ordinary registering mechanism 1, of a shaft 15, carrying an index-hand 16 and provided with a slip-gear 14, which is rotated by gear connection with said ordinary registering mechanism, and a value and quantity dial-card detachably secured in rear of the index-hand for the purpose of permitting the exchange of dial-cards to meet the conditions required when the value of gas is changed, substantially as described.

3. In a gas-meter, the combination, with the ordinary registering mechanism 1, of a value and quantity indicator or register consisting of a gear-wheel 6, rotated by the said ordinary registering mechanism, a pair of shafts 12 and 15, carrying index-hands 13 and 16 and provided, respectively, with slip-gears 10 and 14, milled or thumb nuts 19 and 20, which detachably secure the index-hands to the said shafts, and a value and quantity dial-card 21, carrying a supplemental dial 22 and detachably secured upon the said shafts in rear of the index-hands, substantially as and for the purpose described.

In testimony whereof I have hereunto signed my name, in the presence of two subscribing witnesses, this 18th day of July, 1890.

JOHN LESLIE CLOUDSLEY.

Witnesses:

W. W. BENNETT,
WM. B. LAMPARD.