

J. F. & J. H. LOHSTROH.  
REGISTER FOR OIL DELIVERED.

Patented Aug. 6, 1895.

**FIG. 2.**

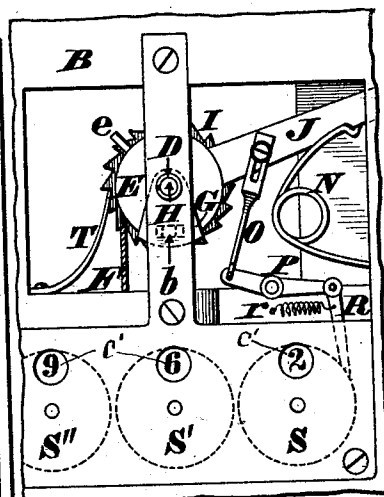
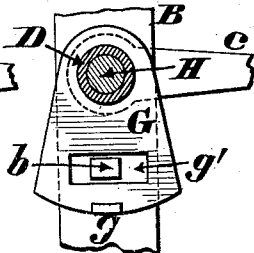


Fig. 1. Diagram of a mechanism. A lever is pivoted at point  $P$ . A force  $N$  acts horizontally at point  $J$ . A spring with stiffness  $k$  is attached to the lever at point  $j$  and fixed to a wall. The lever is at an angle  $\theta$  to the horizontal. A force  $T$  acts vertically upwards at point  $e$  on a vertical member. A force  $F$  acts horizontally to the right at the bottom of this member. A dashed line indicates the initial position of the lever.

Fig. 10 is a perspective view of a portion of the device, showing the arrangement of the first and second sets of teeth (S and S') and the third set of teeth (S'' and S'') on the upper and lower members.



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# UNITED STATES PATENT OFFICE.

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## REGISTER FOR OIL DELIVERED.

SPECIFICATION forming part of Letters Patent No. 543,941, dated August 6, 1895.

Application filed April 15, 1895. Serial No. 545,740. (No model.)

### *To all whom it may concern:*

Be it known that we, JOHN F. LOHSTROH, residing at Cincinnati, Hamilton county, Ohio, and JOHN H. LOHSTROH, residing at Newport, Campbell county, Kentucky, citizens of the United States, have invented certain new and useful Improvements in Registers; and we do hereby declare the following to be a full, clear, and exact description of the invention, reference being had to the annexed drawings, which form a part of this specification.

This invention comprises a register that has been designed more especially for enabling drivers of oil-delivery wagons to keep an accurate account of the oil furnished to grocers and other retail dealers; and our improvement includes a specific combination of devices that prevent any part of the register being injured in case an operating-lever of the same should be operated after a hand has made one complete rotation in front of a numbered dial, the details of said combination being hereinafter more fully described, and then pointed out in the claim.

In the annexed drawings, Figure 1 is a front elevation of our improved register, the glass of the inclosing-case being removed. Fig. 2 is an enlarged front elevation of a portion of the operating mechanism. Fig. 3 is a rear elevation of said mechanism, the registering-disks being omitted therefrom. Fig. 4 is an enlarged vertical section of a ratchet-wheel and its accessories, said section being taken in the plane of the main shaft of the register. Fig. 5 is an enlarged transverse section of a portion of a spool journaled on said shaft. Fig. 6 is an elevation of a stop-plate carried by said shaft, the latter being sectioned. Fig. 7 is a plan of the registering-disks.

The inclosing-case A has a glass front that protects the mechanism and contains a pair of plates B B' that carry the operative parts of our register, the front plate B being provided with a dial or face C. This dial may be graduated in any suitable manner; but in the present instance it has twenty equal divisions, numbered up to 100, for a purpose that will be described hereinafter. Adapted to travel around in front of this dial is an ordinary hand or pointer c applied to the outer end of a sleeve D, as more clearly shown

in Fig. 4, the sleeve being immovably secured to a spool or grooved drum E to which is fastened one end of a cord or light wire F, the other end thereof being carried down through the case and provided with a ring or other suitable pull f. Furthermore, this drum has a projecting pin e, adapted at the proper moment to contact with a lug g, extending laterally from the lower portion of a vibrating stop-plate G, hung upon the sleeve D, as more clearly seen in Fig. 6, a slot g' being arranged above this lug to receive a short stud b. This stud projects rearwardly from the front plate B and limits the swing of said plate G both to the right and left.

Sleeve D fits so snugly around a main shaft H, as to turn in unison therewith when the register is operated in a proper manner; but if the operating-cord k' is pulled after the pointer c has indicated 100 said sleeve will then rotate around said shaft without advancing said pointer another degree. Shaft H is turned by a ratchet-wheel I secured thereto, and the wheel is operated by a pawl j, pivoted to the rear side of a lever J, the hub of which j' is hung upon said shaft and is fitted between the opposing faces of said wheel and spool E, the exposed or free end of said lever having a rod K coupled to it. This rod has a tappet k for operating a bell-striker L, that gives one blow on a gong M every time said rod is pulled down. This act is accomplished by pulling on a handle secured to the lower end of a cord k', attached to said rod, it being understood that the register is to be secured at such an elevation as to render it inconvenient to reach the ring f.

N is a spring that maintains the lever J in its normal or elevated position, the front of said lever having an adjustable coupler O pivoted to it, and the lower end of this coupler being engaged with a lever P, carrying a pawl R that is held in gear with a ratchet-disk S by a spring r. The face of this disk is numbered consecutively the same as all counters of a similar character, so as to indicate ten complete rotations of the pointer c, at which moment a pin s of said disk turns a second disk S' the distance of one tooth. This disk S' has a tooth s', that operates a third disk S'', these three disks being suffi-

cient to register 999 before requiring resetting. The combinations of numbers effected by these disks are exposed through suitable openings  $c'$  in the dial.

5 T is a spring-pawl that prevents retrograde turning of the ratchet-wheel I.

Our register has been designed more especially for compelling drivers of oil-wagons to keep an accurate account of the quantity  
10 of oil delivered to grocers and other retail dealers. The oil is generally drawn from these tank-wagons in five-gallon buckets, which latter are emptied into barrels or other limited receptacles in groceries, &c., and the driver is  
15 expected to charge each dealer with the exact quantity delivered to him; but disputes constantly occur between the retailer and the driver, and there is no means for determining which one of the two is right, because a  
20 record has not been preserved; but by adopting our register this difficulty is entirely obviated, as follows: The retailer secures the case A at a proper elevation and then notifies the driver that no oil will be paid for unless  
25 the bill tallies with the reading of the register, which is operated as follows: Every time a bucket is emptied into the retailer's tank the driver is required to pull down the connection  $k'$  as far as it will go and then release it suddenly, which simple act produces the  
30 following results: Assuming now that the pointer stands at 75, while the combination on the registering-disks indicates 962, as seen in Fig. 1, a single pull of the lever J will advance said pointer to 80 and so turn the first disk S  
35 as to expose the numeral 3. Consequently the reading on the dial will show that eighty gallons have been delivered since the register was last set, while the numbers exposed at  
40 the openings  $c'$  will indicate that nine hundred and sixty-three buckets full of oil have been delivered since the machine was introduced.

Every time the register is operated the grocer's attention is called to the fact by a single  
45 blow being struck on the gong M, due to the descending tappet  $k$  coming in contact with the striking devices I, which audible notice is another check against any dispute in regard to the quantity of oil received.

The pointer travels around the dial until said device  $c$  reaches 100 and gradually winds the cord F upon the spool E, and as soon as  
55 said pointer has thus completed one entire rotation a pull of said cords turns the pointer backward to the starting-point. When this point is reached, the pin  $e$  of the spool strikes against the lug  $g$  of plate G and swings it as

far as the slot  $g'$  and stud  $b$  will permit, thereby arresting the pointer at the proper place. 60  
The register has now been reset and ready to be again used, as above described, any possible travel of the pointer beyond the last number on the dial being prevented in the following manner: The instant the pointer 65 reaches the number 100 the pin  $e$  strikes one edge of lug  $g$  and throws the plate G over in an opposite way as far as the slot  $g'$  and stud  $b$  will allow, thus arresting said indicator  $c$ ; but if this position of the pointer should not 70 be noticed, and repeated pulls be made on the lever J, the main shaft H will simply rotate within the sleeve D, while the latter remains immovable. Therefore there is no danger of injuring our register by pulling on the cord 75  $k'$  after the pointer  $c$  has reached its limit; but, although no registry is now made on the dial, the registering-disks S S' S'' perform their regular duties and will continue to do so until their combinations are exhausted, 80 and then they will require resetting, which act is accomplished by temporarily disengaging the pawl R from the registering-disk S and then turning the three disks S S' S'' backward until they all stand at 0, and then 85 said pawl is re-engaged with said disk. Evidently a greater or less number of these disks may be employed; but three of them will indicate almost five thousand gallons delivered, and this is as much oil as most grocers dispose of in a year, and on this account a complete resetting of the entire register will be necessary only at long intervals of time. Finally, the object of the slot  $g'$  is to allow 90 the plate G to swing just so far as to arrest the pointer  $c$  when it is exactly at the limit of its forward and backward stroke.

We claim as our invention—

The combination, in a register, of a dial C; a pointer  $c$ , adapted to travel around said 100 dial; a sleeve D that carries said pointer; a spool E, to which said sleeve is attached; a shaft H around which said sleeve turns; a ratchet-wheel I fastened to said shaft; a lever J, for operating said ratchet-wheel; a stop-plate G  $g g'$  hung upon said sleeve; and a 105 fixed stop  $b$ , that occupies the slot  $g'$ , of said plate, for the purpose described.

In testimony whereof we affix our signatures in presence of two witnesses.

JOHN F. LOHSTROH.  
JOHN H. LOHSTROH.

Witnesses:

JAMES H. LAYMAN,  
EDWARD BARTON.