J. B. BENTON.
Liquor-Register.

No. 213,492. Patented Mar. 25, 1879.

Fig. 1.

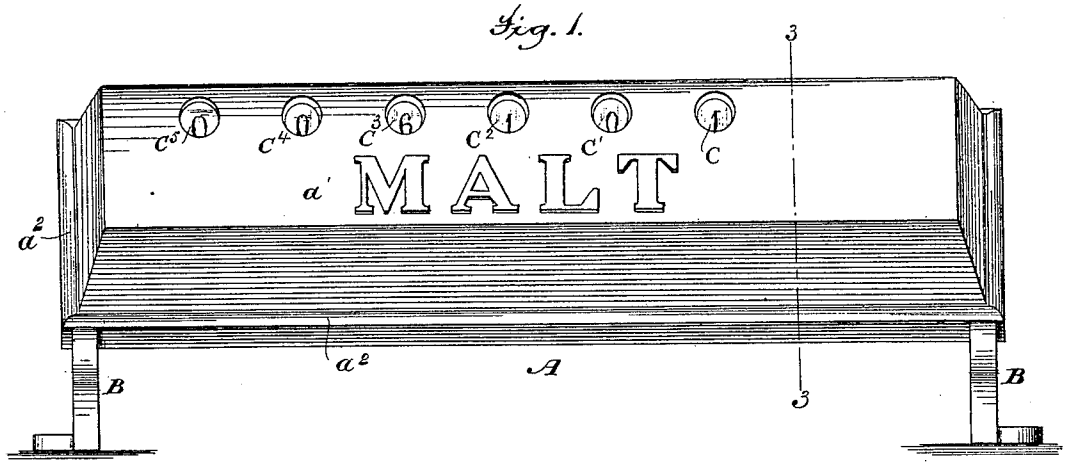


Fig. 3

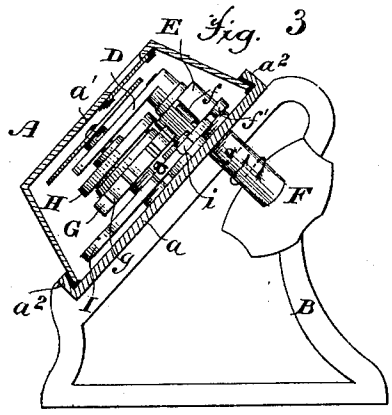


Fig. 4

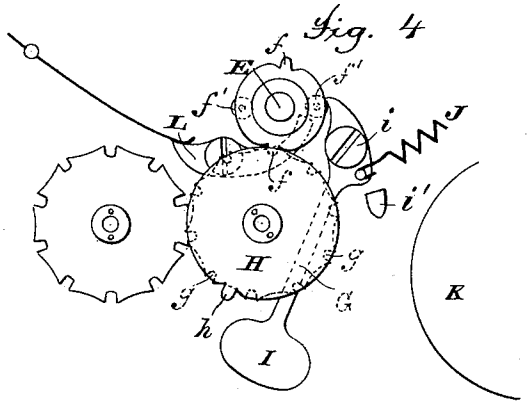
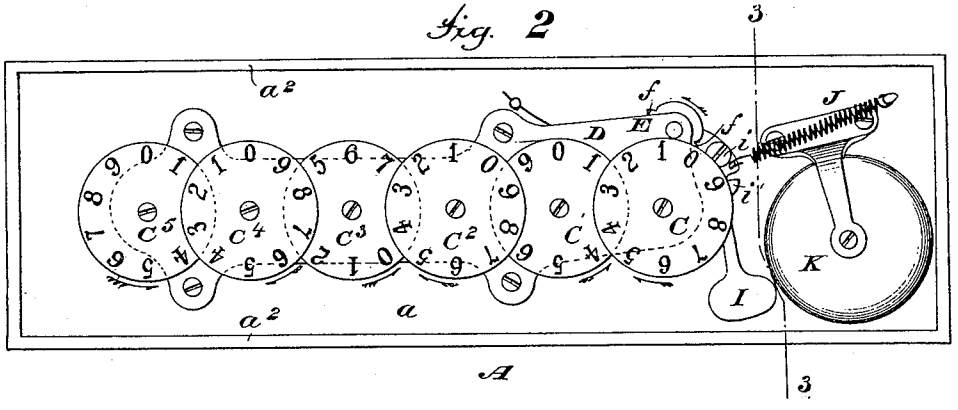


Fig. 2



Witnesses,
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UNITED STATES PATENT OFFICE.

JOHN B. BENTON, OF NEW YORK, N. Y.

IMPROVEMENT IN LIQUOR-REGISTERS.

Specification forming part of Letters Patent No. **213,492**, dated March 25, 1879; application filed February 5, 1879.

To all whom it may concern:

Be it known that I, JOHN B. BENTON, of the city, county, and State of New York, have invented certain new and useful Improvements in Registering-Machines, of which the following is a specification:

My invention relates to registering apparatus, more particularly designed for counting, tallying, or recording the number of drinks sold in restaurants or other places where the public resort for the purpose of procuring stimulating refreshments, and for such other similar purposes where it is desirable to take and preserve a record—as, for instance, of the number of pints, quarts, or other measure of stimulating liquors sold by dealers or traders in such articles—whereby a tax or duty levied upon the sale of liquor or other matter may be collected without diminution or subtraction by reason of false returns, the register showing at all times the number of drinks or the amount of liquor sold, inasmuch as a record is required to be made of such number or amount; or, if not so shown by the register, the public or detectives are enabled to perceive, discover, or detect the fraud and secure the proper punishment of the delinquent or cheat.

The objects of my invention are to provide a register possessing the qualities of great durability and extreme simplicity, and one having a large counting capacity, with the capability of successfully resisting fraudulent tampering operations, and, furthermore, to provide such a register so constructed and organized as to permit of easy and convenient manipulation in the process of tallying, while affording ready inspection or view of the count or tally to the public, or to detectives employed for the purpose of compelling correct operations of the register.

The subject-matter claimed hereinafter specifically will be designated.

In the accompanying drawings, which show all my improvements as embodied in one machine in the best way now known to me, Figure 1 is a front elevation of the apparatus; Fig. 2, a plan view of the internal mechanism thereof, the top of the casing having been removed; Fig. 3, a transverse section through the device on the line 11 of Figs. 1 and 2, and Fig. 4 a view of some of the internal parts detached.

The casing A, which incloses the operating parts of the register, is preferably of an oblong rectangular shape, as clearly shown in Fig. 1 of the drawings. This casing is mounted upon or forms part of suitable brackets or supports B B (preferably one bracket at each end) in such manner that the casing is supported in an inclined position above the counter or surface upon which the brackets rest or are secured. These brackets are shown as provided with ears or lugs cast thereon, through holes in which screws may be passed to secure the apparatus firmly in place; but other means may be employed for the purpose in lieu thereof.

By thus mounting the casing upon brackets in an inclined position the register may be secured to the counter of the restaurant or store without interfering with the free operation of the actuator, which works the register from behind, while the face of the casing, through an opening or openings in which the register is read, is thrown into a position to permit of the most ready inspection or view by persons in front.

By raising the casing above the counter a person in front is also enabled to see the motion of the hand of the operator behind the machine. The said casing is preferably composed of a metallic back plate, *a*, and a cap or cover, a^1. In order to secure the two together in a permanent manner, so as to inclose the operative parts of the register and protect them from successful tampering efforts, I cast the back plate, *a*, with an inclined flange, a^2, upon its upper surface, and fit therein the edges of the sloping sides and ends of the cap-plate or cover a^1, and then run therein cement or melted metal to firmly lock the two plates together, as clearly shown in Fig. 3. After this sealing process is finished it is impossible to obtain access to the interior of the casing without removing the metal or cement or shattering the casing, while it is also impracticable to insert into the casing sand, grit, or other injurious matter which persons of evil or mischievous inclination might be tempted to do

with the hope of rapidly wearing out the apparatus or destroying its usefulness as an accurate register.

I may here remark that I am aware it has long been common to permanently secure the casings of gas-meter registering apparatus, as well as other forms of register-casings; but, so far as I am aware, it has never been done in the specific manner described by me, which is a method at once simple, cheap, and secure.

The apertures or openings in the front plate of the casing, through which to read the register, are covered upon the inside by a glass strip or pieces cemented to the casing, and thus is prevented insertion of injurious matter in this direction, as well as preventing any tampering with the inclosed mechanism.

I will now proceed to describe the operative parts of the mechanism, (inclosed by the sealed casing,) by which the counting, recording, or tallying is done.

The registering-train consists of a series of multiplying-wheels, constructed and operating on the principle of the "Geneva stop," a well-known form of mechanism in registering apparatus, the advantages of which are obvious to those skilled in the art. The train is composed, in this instance, of a series of six counting wheels or disks, C C^1 C^2 C^3 C^4 C^5, provided on their front faces with the usual figures or numerals 0 to 9, inclusive, one number at a time on each disk only showing through its respective opening or glass-covered window in the front plate of the casing.

The first wheel, which is the one actuated by the operator once for each drink or measure, (when measuring liquor,) registers units, the next wheel tens, the next hundreds, and so on, whereby it is obvious the six wheels of the register are capable of recording or tallying an immense number.

The registering-train is preferably mounted in a suitable plate, D, which affords a bearing for the front ends of the shafts, axles, or arbors of the wheels, while the opposite ends of the said shafts have their bearings in the back plate of the casing.

The actuator of the unit disk or wheel consists of a turning-shaft, E, having a bearing in front in the plate D, and in rear in the back plate of the casing, to which rear end is attached or secured a suitable thumb-piece, handle, or key, F, by which to work the actuator. This shaft, on its enlarged circumference inside the casing, and between its two end bearings, is provided with two teeth or projections, *f f*, which engage with the notches *g*, (ten in number,) formed in the Geneva stop-wheel G, secured upon and turning with the shaft of the unit-wheel in operating the register. The shaft of the unit-wheel also carries a plate, H, having a projecting tooth, *h*, thereon, by which to turn at every complete revolution of that wheel the next or tens wheel one point, or one-tenth of a revolution; and as the remaining wheels are similarly constructed, and operate in the same manner in succession, it will be unnecessary to specifically describe them.

The principal object in providing the actuator-shaft with two projections is to make one handling of the thumb-piece sufficient to produce a registration, a full revolution of the shaft requiring the said thumb-piece to be grasped twice by the hand or operated with great inconvenience, as is obvious, and would also cause a useless wear of the parts. The movement of the thumb-piece and shaft, however, it will be obvious, is not limited to exactly a half-rotation to operate the register, as in some cases perhaps one-tenth of a revolution is sufficient to do the work. An exact limit to the actuating movement is thus avoided, and the unit-disk remains undisturbed by the actuator-shaft till one of its teeth engages the notched actuating-wheel of said disk.

The shaft F is also provided, between the rear wall of its enlarged portion and the back plate of the casing, with two small friction-rollers, *f' f'*, opposite each other, intermediate of the actuating projections upon the shaft, which rollers are for the purpose of tripping, as the shaft is turned, the bell-hammer I, pivoted at *i*, which hammer is acted upon by a spring, J, and strikes, when tripped, the bell K in the usual manner.

A pivoted catch or latch, L, prevents back movement of the actuating-shaft after the bell-hammer has been raised by slipping behind the friction tripping-roller, which movement of the latch is compelled by a suitable spring acting thereon, thereby preventing a fraudulent sounding of the alarm without operating the register. (See Fig. 4.) The stroke of the hammer is limited by a suitable stud or projection, *i'*, which also holds the hammer normally slightly out of contact with the bell.

It will be observed that, as the casing is closed in all directions to exclude injurious matter, no openings are left for the escape of the sound produced by the vibrations of the alarm; but any disadvantage that might arise from this cause in other registering and alarm apparatus is more than compensated for by the capacity given, in my construction, to the metallic back plate, which, as constructed and mounted, acts as a sounding-board, the vibrations of the alarm apparatus being taken up, re-enforced, and given out by the said plate.

The operation of the apparatus is as follows, supposing it to be started at zero: When a drink or measure of liquor is sold, the attendant, in the presence of the person or purchaser, operates or turns the thumb-piece or actuator, bringing one of the actuating-teeth of the turning shaft into engagement with the notched actuating-wheel of the unit-disk, turning said disk one point or one-tenth of a revolution, and carrying the numeral 1 beneath the window of said disk. The same movement also brings one of the friction-rollers under the short arm of the bell-hammer lever, tripping said hammer and sounding an alarm. Upon the tenth actuation of the unit-disk,

which completes its revolution and brings its zero-mark under the window, the next or tens disk is turned one point, or one-tenth of a revolution, and at a complete revolution of the tens-disk the next or hundreds disk is turned one point, and so on, each actuation of the register being accompanied by the sounding of an alarm.

If it is desired to keep a record of the various kinds of liquor sold—such, for instance, as malt and alcoholic—independently, two or more of my improved registers may be employed with the names "malt," "alcohol," stamped, in large letters, upon some conspicuous portion of the casing—as, for example, in the manner shown in Fig. 1.

I have described my apparatus as especially designed for recording the number of drinks or measures of stimulating liquor sold; but it is obvious that it may be employed for other purposes if desired.

I claim as of my own invention—

1. The combination, substantially as hereinbefore set forth, of the registering mechanism, the inclosing casing, the actuator of the register at the back of the casing, and the supports or brackets upon which the casing is mounted in an inclined position, whereby the said casing may be supported above the surface upon which the brackets rest, a space formed between the brackets to permit free actuation of the register, and the face of the casing thrown into a position affording ready inspection or view of the count or tally.

2. The combination, substantially as hereinbefore set forth, of the sealed register-casing, its metallic back plate, the supports or brackets upon which the said back plate is mounted to support the casing above the surface on which the brackets rest, and the alarm apparatus inclosed within the casing, whereby the vibrations produced by the alarm are taken up and re-enforced by said back plate, thereby increasing the efficiency of the alarm.

3. The combination, substantially as hereinbefore set forth, of the turning-shaft actuator provided with two actuating teeth or projections, the notched wheel of the unit-disk actuated thereby, the friction-rollers, and the bell-hammer actuated or tripped by the friction-rollers.

4. The combination, substantially as hereinbefore set forth, of the turning-shaft actuator, its teeth or projections, the notched wheel of the unit-disk operated thereby, the friction-rollers, the bell-hammer tripped or operated by said rollers, the bell, and the latch, which prevents back movement of the actuator.

In testimony whereof I have hereunto subscribed my name.

JOHN B. BENTON.

Witnesses:

JACOB DUBOIS,

WM. B. HICKS.