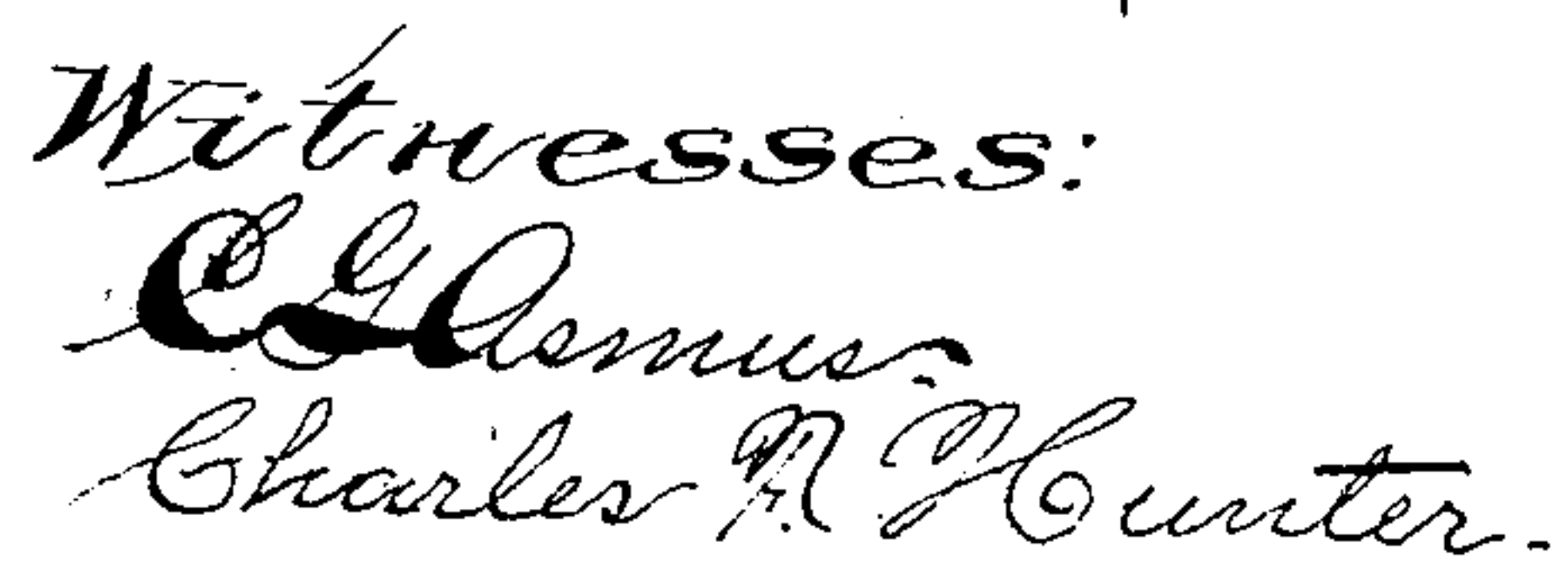


Patented Aug. 17, 1880.

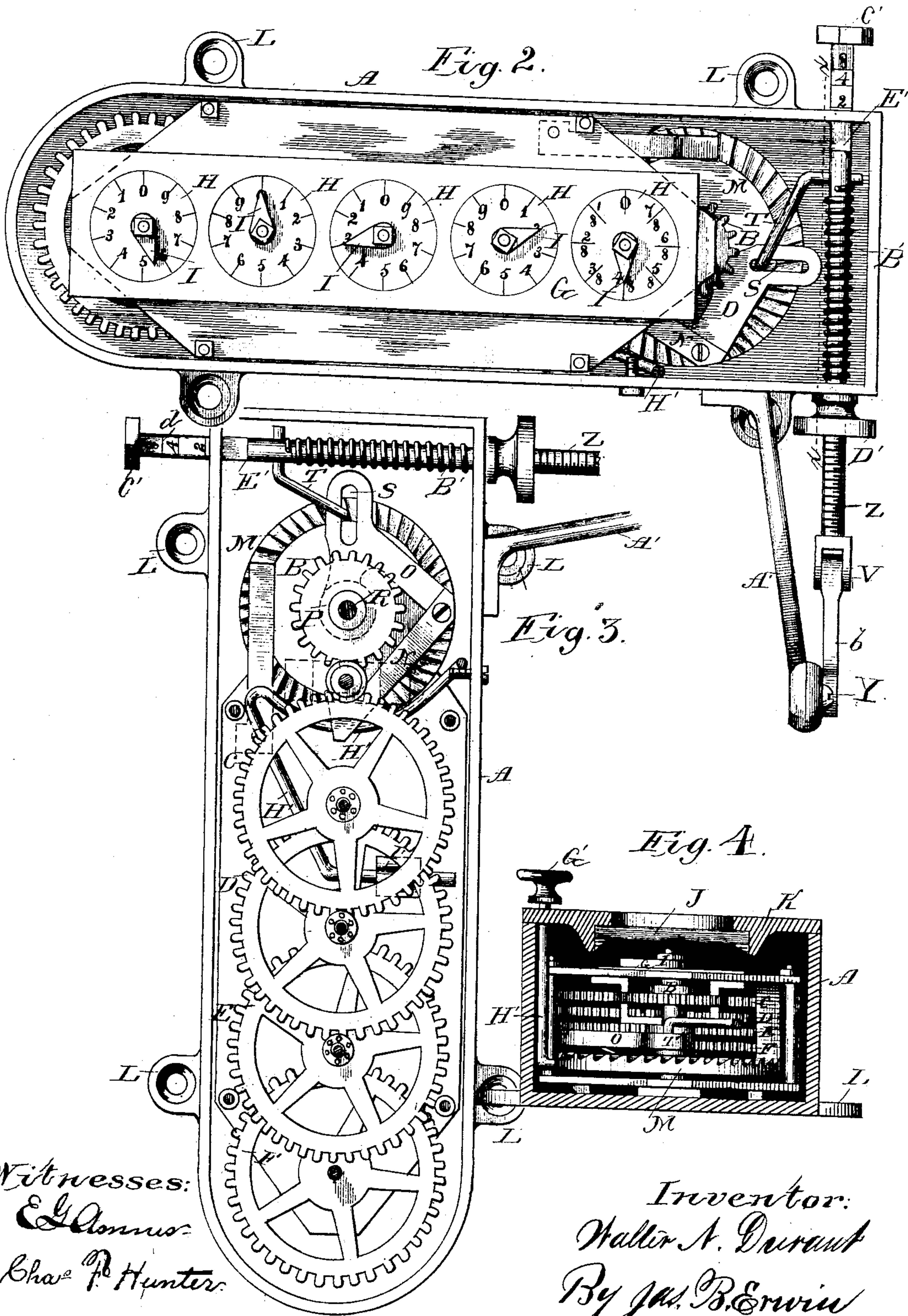


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Registering Machines.

No. 231,158.

Patented Aug. 17, 1880.



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UNITED STATES PATENT OFFICE.

WALTER N. DURANT, OF MILWAUKEE, WISCONSIN.

REGISTERING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 231,158, dated August 17, 1880.

Application filed January 28, 1880.

To all whom it may concern:

Be it known that I, WALTER N. DURANT, a citizen of the United States, residing at the city of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Tallies or Counters; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

The object of my invention is to provide a counting-machine or tally to be used in connection with a flour-packer, which will tally whole barrels or sacks which contain half, quarter, eighth, or any fractional part of a barrel, and which is readily adjusted to correspond with and tally the different sizes of sacks or other packages packed, which machine has a dial and pointer showing the fractions of a barrel and other dials showing the sum of the fractions in whole numbers, from units to thousands, &c. Thus the aggregate sum of barrels and fractions of barrels may be ascertained any moment without computation, and without regard to whether the aggregate sum is made up of whole barrels or of fractional parts of barrels. My machine may also be used in connection with printing-presses and other machines where it is desirable to keep a record of the work performed by the machine.

My invention relates more particularly to the peculiar mechanism shown for operating the chain of gears or toothed wheels which transmit motion to the several pointers.

The dials, pointers, and chain of toothed wheels have previously been used.

My invention is further explained by reference to the accompanying drawings, in which Figure 1 represents a perspective elevation. Fig. 2 is a front view with the glass and front plate of the case removed. Fig. 3 is a front view of the chain of gears and device for operating them, the front plate, glass, dial-plate, and pointers being removed. Fig. 4 is an end view with end of the case removed. Fig. 5 is a detailed view.

Like parts are indicated by the same reference-letters throughout the several views.

A is the case. B C D E F represent a chain of ordinary toothed gears. G is the dial-plate. H are dials. I are pointers. J is the glass plate. K is the front plate of the case. L are lugs provided with screw-holes, by which the tally is secured to a stationary object. M is a ratchet-wheel, the teeth of which project from its side. Wheel M and wheel B are both rigidly attached to the same axle and revolve together. Wheel M is revolved by spring-pawl N, which has a circular reciprocating motion, carrying forward the ratchet-wheel with each forward movement, and leaving the ratchet-wheel at rest with each backward motion.

The spring-pawl N is rigidly attached to the lower arm of the V-shaped lever O. The upper arm, P, is attached to axle R, around which it performs a partial revolution with each reciprocating motion.

The lever O is provided with a slot, S, for the reception of arm T, which is loosely fitted therein, and moves from one end to the other as the machine is operated.

The packer is provided with a projecting arm, which, when in operation, has a vertical reciprocating motion. The tally is arranged in such relation to the packer that the projecting arm strikes against the jointed lever U. When the arm of the packer moves upward the jointed lever simply turns or bends at the joint V, and is inclined upward without operating the machine until said arm passes above the end of the lever, when, with the downward motion of the packer-arm, it strikes against the end of the lever U and presses it downward.

The joint V is so formed that the lever U may be inclined upward, but not downward. When brought on a line with its shortest arm W the joint becomes locked and the entire lever is drawn downward, turning upon pivot Y. As the lever is thus inclined downward it carries with it the vertical rod Z, which rod is connected therewith by the bar b, and extends through the case and projects above its upper side.

A' is an inflexible arm. It is rigidly secured to the side of the case, and serves to support end of the jointed lever U.

B' is a spiral spring, which surrounds the rod Z. Its lower end rests against the case and its upper end rests against arm T, between which it is compressed by the downward movement of the lever U. When lever U is released the spring throws rod Z upward to its original position. Rod Z is moved downward by lever U until nut C' strikes against the upper wall of the case, and is thrown upward by spring B' until the hand-nut D' strikes against the lower wall of the case. Thus the length of the stroke of rod Z is limited by the hand-nut D'.

The upper end of rod Z is provided with a scale, showing its proper place of adjustment for the several-sized packages, the lower end is provided with a screw-thread in which nut D' operates. By turning the nut D' upward upon the rod it presses against the case and draws the rod downward. By turning the nut D downward the rod is allowed to move upward. Thus, when whole barrels are being packed, nut D' is turned downward until the shoulder E' is even with the upper surface of the case, by which adjustment the spring-pawl is allowed to move over eight ratchet-teeth with each upward movement of bar Z, and with each forward movement of bar Z wheel M is moved forward a distance corresponding to the space over which the pawl passes in its backward movement. When the rod is thus adjusted for whole barrels the first pointer to the right performs a complete revolution with each downward movement of the rod Z. The rod Z is in like manner adjusted to tally $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$, as the case may be, by turning the nut D' until the respective marks of the scale on rod Z indicated by numbers 2 4 8 are brought on a line with the upper surface of the case, mark 2 indicating the proper adjustment for half-barrels, mark 4 indicating the adjustment for one-fourth of a barrel, &c.

The first dial to the right indicates the fractions of a number tallied. The second indicates the units of whole numbers tallied. The third indicates the tens, the fourth hundreds, and the fifth thousands of the number tallied. When changing the tally from tallying a less denomination to a greater, it is done by simply turning the nut D downward; but when changing it from tallying numbers of a greater denomination to a less it becomes necessary

to raise the spring-pawl out of the ratchet, so that as it is caused to move forward by the upward movement of the screw D' it will escape the ratchet-teeth and pass freely over them without moving the wheels or pointers. This end is accomplished by drawing the knob G' outward, whereby arm H', to which the knob is attached, is drawn forward against the projecting end of pawl N, and thus lifts the pawl from the ratchet-teeth, when the pawl performs its circular movement forward over the ratchet-teeth, without moving the wheels or pointers, to the proper place of adjustment, when knob G' is released and the pawl drops back into the ratchet. Arm H' is attached to the back wall of the case by box I', in which it performs a partial revolution as it is drawn forward when adjusting the pawl.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The improvement in tallies or counting-machines herein described, consisting in the combination of arm A', as rigidly secured to case A, jointed lever U, as secured thereto by bolt Y, and having joint or hinge V, provided with lug or arm X, joint link or bar b, and rod Z, provided with hand-nut D', scale d, and nut C, all substantially as shown and described.

2. The improvements in tallies herein described for transmitting the reciprocating motion of rod Z to the chain of gears B, C, D, E, and F, consisting in the combination of arm T, as secured in rod Z, V-shaped lever O, provided with slot S for the reception of arm T, axle R, spring-pawl N, and ratchet-wheel M, having its teeth projecting from its side, all substantially as and for the purpose specified.

3. In tallies or counters, the adjustable rod Z, having its upper end provided with a scale indicating the proper places of adjustment and its lower end provided with an adjusting-screw, in combination with lever O and case A, substantially as and for the purpose specified.

In testimony whereof I affix my signature in presence of two witnesses.

WALTER N. DURANT.

Witnesses:

JAS. B. ERWIN,
E. G. ASMUS.