(No Model.)

G. L. WILLIAMS.

MILL PACKER REGISTER.

No. 258,836. Patented May 30, 1882.

Fig. 1.

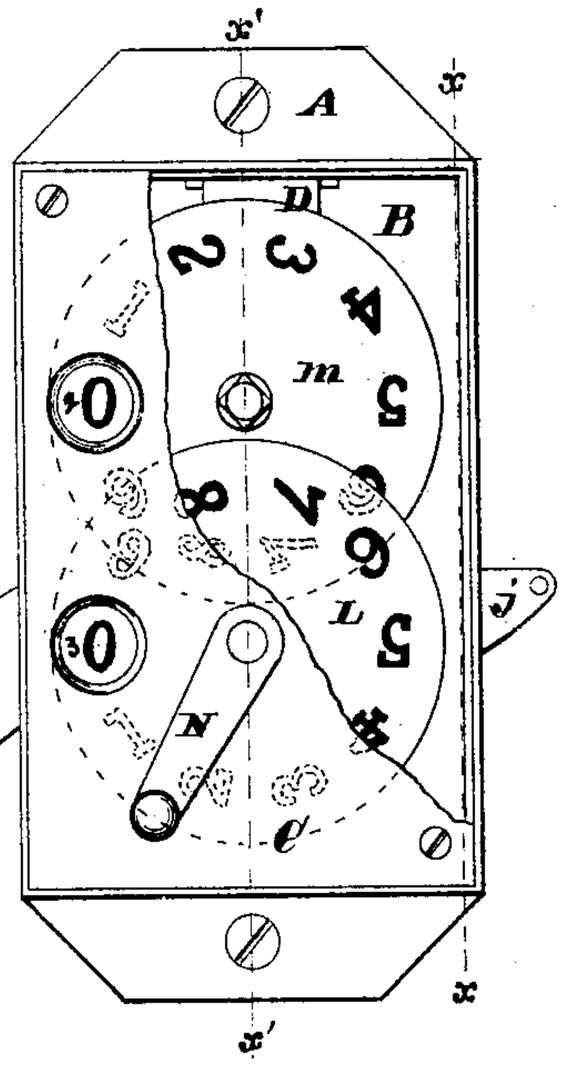


Fig. 2.

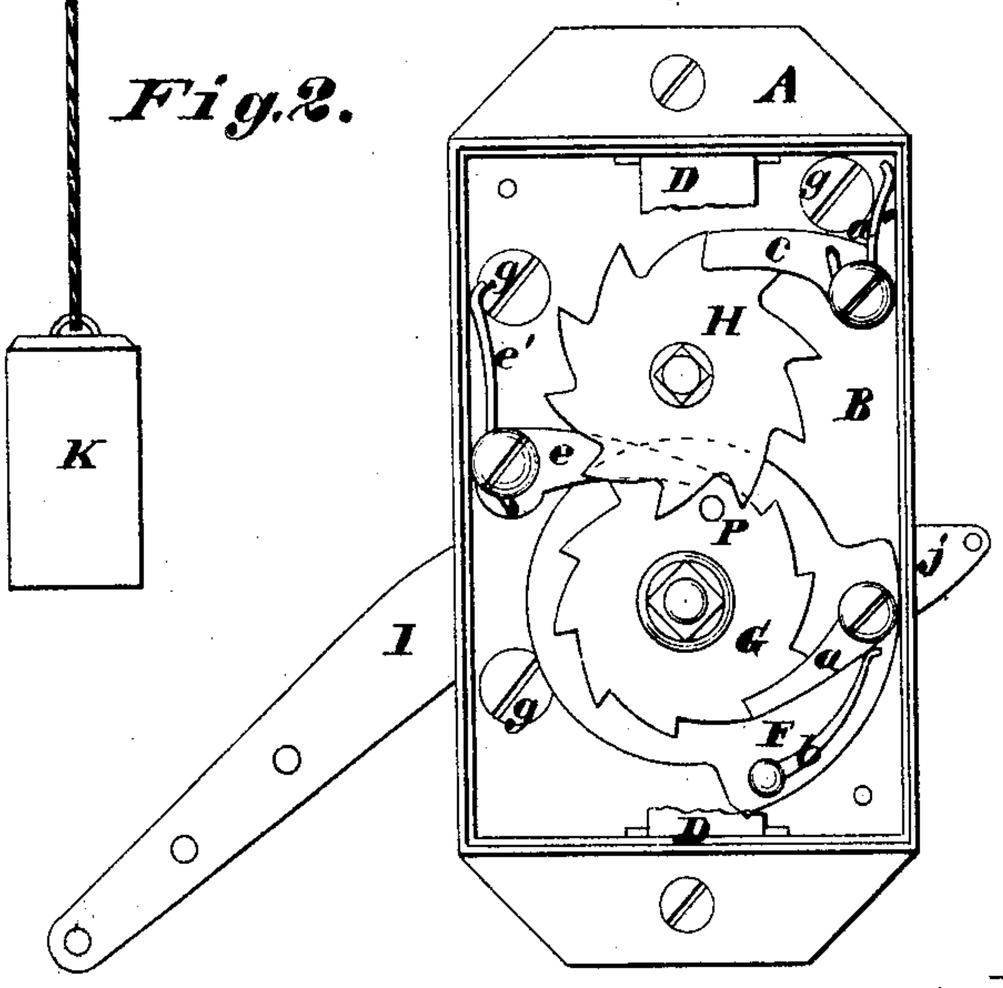


Fig. 3.

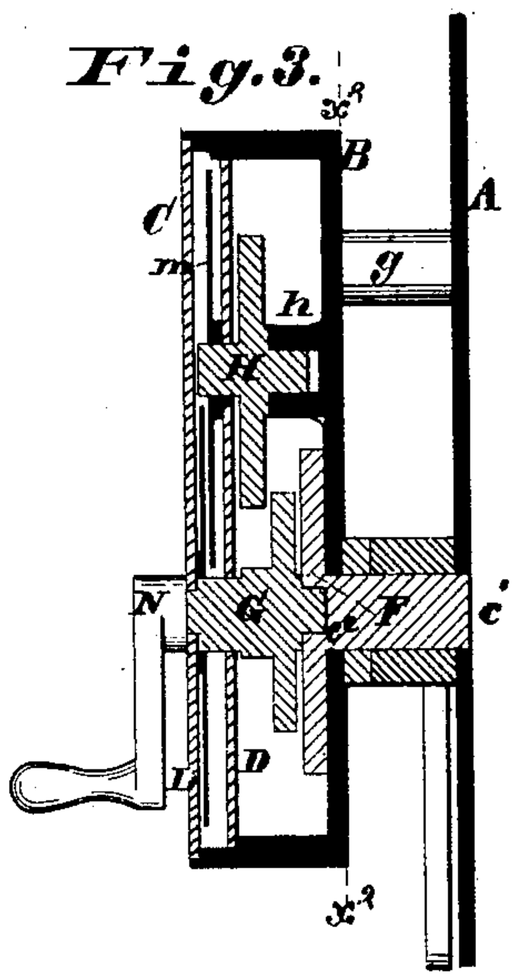


Fig. 4.

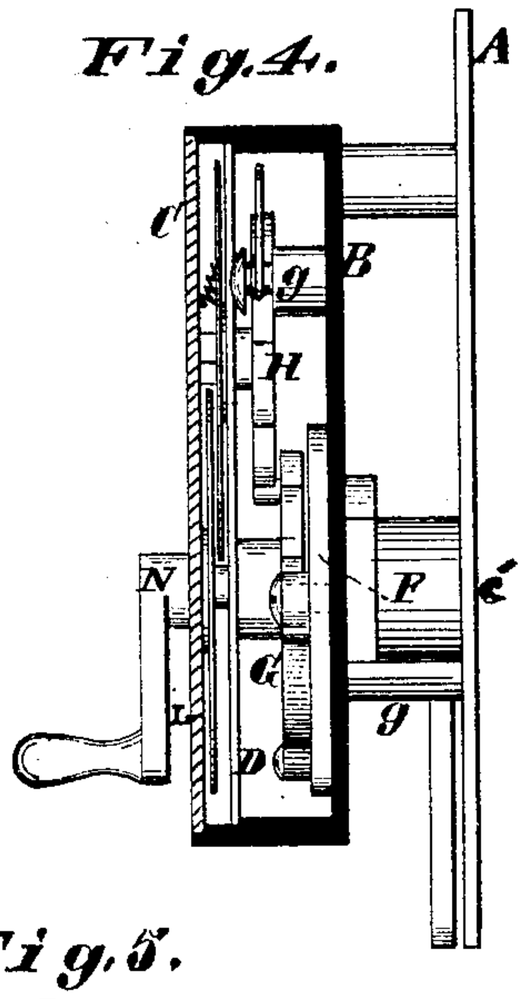
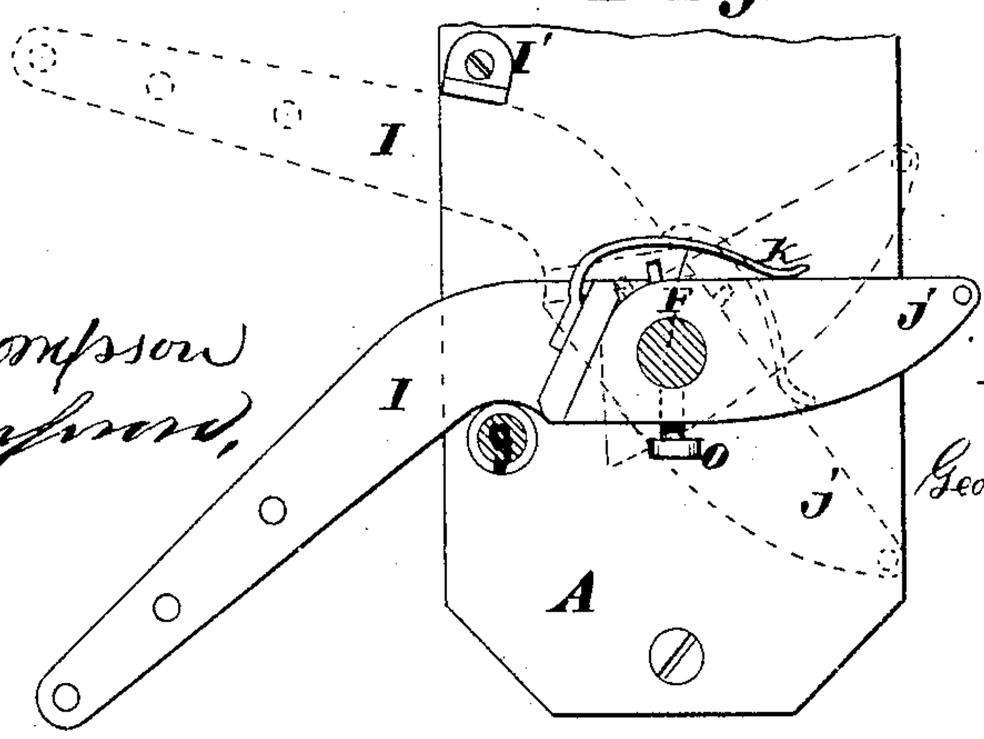


Fig. 5.



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MILL-PACKER REGISTER.

SPECIFICATION forming part of Letters Patent No. 258,836, dated May 30, 1882.

Application filed July 6, 1881. (No model.)

To all whom it may concern:

Be it known that I, GEORGE L. WILLIAMS, of Edwardsville, in Madison county, and State of Illinois, have invented certain new and useful Improvements in a Machine for Mill-Packer Indicators, of which the following is a full, clear, and detailed description, reference being had to the accompanying drawings, which are part of my specification.

My invention relates more particularly to mill-packer indicators. Its purpose is for registering and indicating the number of packages or barrels packed.

It consists of a combination of mechanical parts whereby the desired purpose is attained. I make use of dial-plates which are moved by the packer acting upon levers, combined with ratchet-gears, pawls and springs, and other parts, as will be hereinafter described and shown.

Similar figures and letters indicate in reference like parts of the machine.

Figure 1 is a front elevation of my device with a part of the face-plate broken away, exposing the position of the dial-plates and figures thereon. Fig. 2 is a front view of the device with the top plate removed, also showing a part of the supporting-plate D removed. Fig. 3 is a sectional view of Fig. 1 on the line $x' x'$. Fig. 4 is a sectional view of Fig. 1 on the line $x\,x$, with the side of the box removed. Fig. 5 is a front view of the knee-jointed lever, its stop and way of attaching it, and of its working movements.

In Fig. 3 the metallic plate A and box-shaped body B form the base and body of the machine, which is rectangular in form. The base plate A is firmly fastened to the body B by the studs and screws $g\,g\,g$, Fig. 2, and is held by them so as to leave a space of nearly one inch between them, in which the knee-jointed lever I j, Fig. 5, is placed and operated. The plate A and the bottom of the body B are perforated, at c' c^2, Figs. 3 and 4, for bearings for the stem of the non-circular plate-wheel F, which is placed inside the body B, with its spindle extending through and turning in both plates. The plate A has two or more screw-holes in it for fastening it to a support.

The ratchet-wheel G, Fig. 3, with ten teeth upon its periphery, has a stem or gudgeon socketed in a hole bored in the face-plate of the wheel F. Its other stem extends up through the bearing-plate D and cover C of the body, with bearings in either or both of them. A screw is cut upon its outer end, on which the crank N is screwed detachably, its use being for turning the ratchet-gears G H rapidly to set the dials L m, Fig. 1, quickly, when required.

The pawl e, Fig. 2, with its spring e', acts as a stop for the ratchet-gear G by locking into its teeth and preventing it from turning backward when acted upon by the friction of the pawl a and its spring b during the reversed motion of the non-circular plate-wheel F, to which the latter is attached, and locks into the ratchet-gear G opposite to the pawl e. A second ratchet-gear wheel, H, Fig. 3, with ten teeth upon its periphery, which teeth stand pointed in the opposite direction to the teeth upon the wheel G, is placed, with one of its stems socketed in the stud h, upon the inside of the body B. Its other stem end runs in a perforation made in the plate D, or one made in the body-cover C, as may be preferred. The pawl c, operated upon by its spring a', locks into the teeth of the ratchet-gear H, Fig. 2, and holds it from turning backward when it is acted upon in any manner by the pin P, which is in shape elliptical, and inserted firmly in the face of the ratchet-gear G, by which the wheel H is carried forward one cog to every entire revolution of the gear G, thus moving the wheel H with the dial m, Fig. 1, upon it, only one-tenth as fast as the gear G and its dial L are moved, the ratio of movement and indication upon the dial being as one of m to ten of L, or one hundred of L to ten of m. The dial-plate L, Fig. 1, has the numerals from 1 to 10, or 0, which stands for ten, upon its face. Beginning at 0, counted downward from left to right, these figures run from 1 to 0 on the dial L, and they are exactly the reverse in all respects upon the dial m. Each of these dials is punctured square at its center, and is fastened upon the stems of the gears H and G, which are also squared for that purpose, Figs. 2 and 1, by which they are revolved from the motion imparted to the parts described by working the knee-jointed lever I j and spring K,

Fig. 5. These levers are fulcrumed upon the stem of the non-circular plate-wheel F, the short arm *j* movably so, but the long arm I is attached rigidly thereto by the set-screw *o*, Fig. 5, and they are worked in the space left between the base-plate A and body B of the machine. The movement of the long arm I of the lever is limited to the space between the studs *g* I′, and the movement of both parts I *j* is shown in the dotted skeleton lines. For noticing the figures upon the dial L *m* the openings O^2 O^3, Fig. 1, are made in the cover-plate C, which openings are covered with mica or glass. The figures 0 show in each of these openings when the dials are properly set for working.

The machine is fastened to a post close beside the mill-packer, so that a projection upon the side of the packer will strike the short arm *j* of the lever and carry it downward till it slips past its end, in doing which it carries the long arm I of the lever upward, thus turning the ratchet-gear G and dial L forward one tooth each time it is carried down by the packer in filling a package. The packer, on passing upward, strikes against the lower side of the short arm *j* of the lever, and, as it is loose upon its fulcrum, raises the end of it up till it is past, when the spring K carries it back to its proper position, and the long arm I of this lever drops back to its proper position from the action of a spring or weight, K, attached to it.

I am aware that it is not new to attach registering mechanism to machines—such as flour-packers arranged to be automatically operated by the motion of the packer and to record by means of a system of gearing and dials the number of packages or quantities delivered—hence I make no claims to such device broadly, but confine myself to my peculiar mechanism.

I claim—

1. In a mill-packer register, the combination of the base-plate A, body B, studs *g*, non-circular wheel F, ratchet-wheels G H, dial-plates L *m*, and crank N, substantially as shown and described.

2. The plate A, box or case B, non-circular wheel F, and ratchet-gear wheels G H, having studs and pawls, as shown, in combination with the knee-jointed lever I *j*, spring K, and the reciprocating arm of a mill-packer, substantially as shown and described.

3. The combination, with the actuating-arm of a mill-packer indicator, of the frame or case A B, ratchet-wheels G H, dial-plates L *m*, non-circular plate-wheel F, jointed lever I *j*, having the part I rigid and the part *j* loose upon the shaft of the wheel F, and spring or weight K, substantially as shown and described.

GEORGE L. WILLIAMS.

Witnesses:
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