

B. F. HALEY.
REGISTER FOR GRAIN MEASURES.

No. 503,719.

Patented Aug. 22, 1893.

Fig. 1.

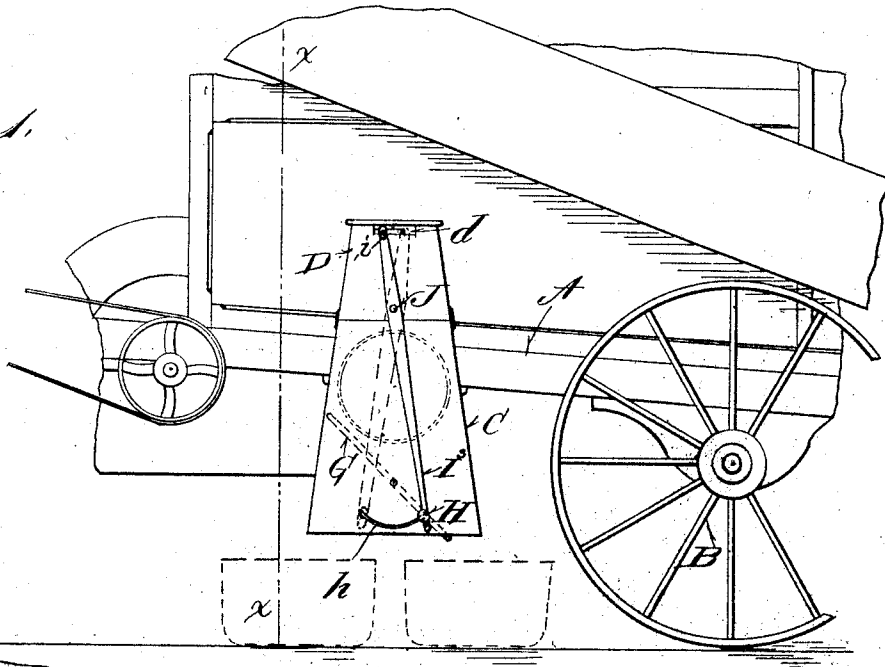


Fig. 2.

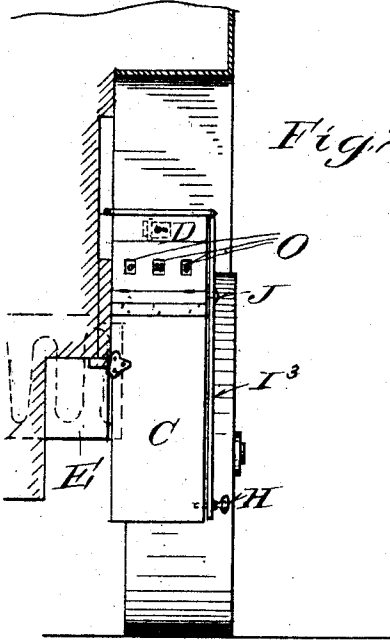
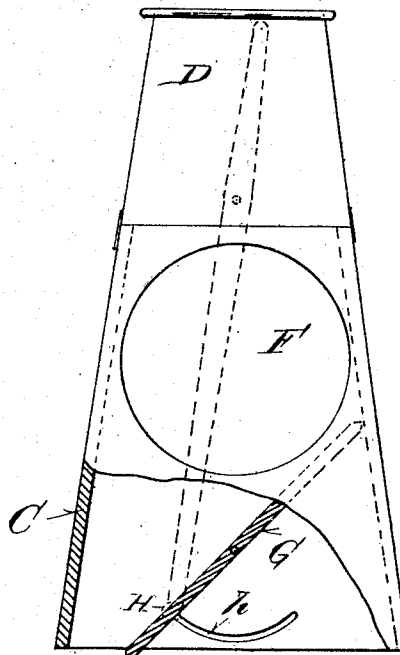


Fig. 3.



WITNESSES:

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INVENTOR

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His ATTORNEY -

(No Model.)

2 Sheets—Sheet 2.

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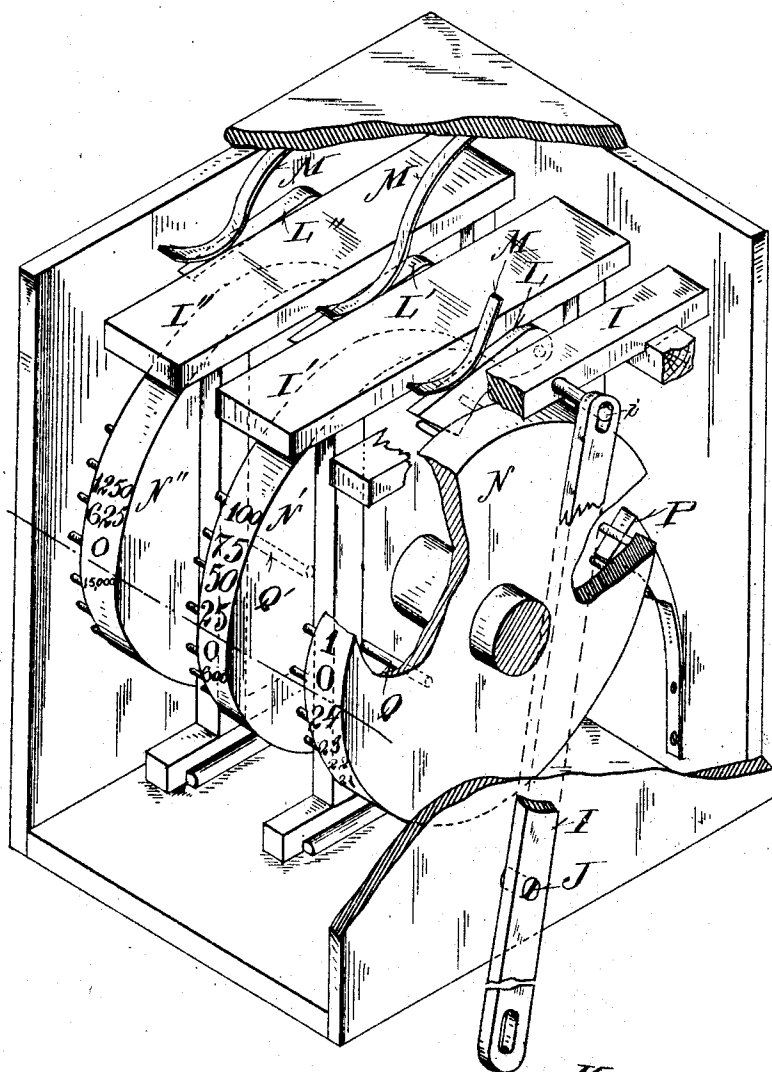


Fig. 4.

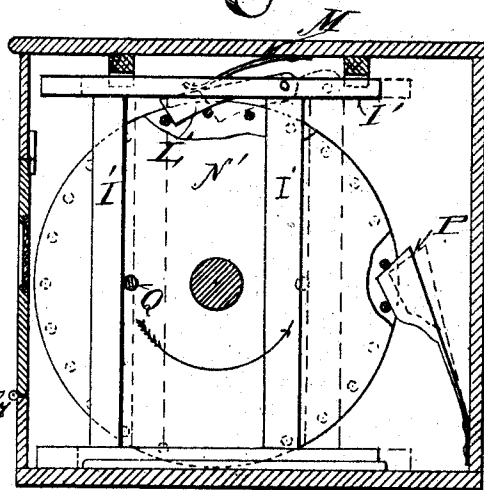


Fig. 5.

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UNITED STATES PATENT OFFICE.

BENJAMINE F. HALEY, OF BEATTY, OHIO.

REGISTER FOR GRAIN-MEASURES.

SPECIFICATION forming part of Letters Patent No. 503,719, dated August 22, 1893.

Application filed September 21, 1892. Serial No. 446,444. (No model.)

To all whom it may concern:

Be it known that I, BENJAMINE F. HALEY, a citizen of the United States, residing at Beatty, in the county of Clark and State of Ohio, have invented certain new and useful Improvements in Grain-Registers, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to certain new and useful improvements in grain registers, and has special reference to the registering mechanism, operated automatically by the manipulation of the spout box partition as predetermined quantities of grain pass therethrough, whereby the sum of such quantities is automatically registered the peculiarities of which will be hereinafter fully described and claimed.

In the accompanying drawings on which like reference letters indicate corresponding parts: Figure 1, represents a side view of a portion of a thrashing machine with my improvements applied thereto; Fig. 2, a partial section on the line *x, x*, of Fig. 1, looking to the right showing an edge view of my device; Fig. 3, an enlarged rear view of the register case with a portion broken away to show a part of the vibrating partition; Fig. 4, a perspective view of the register with portions broken away to show the construction; and Fig. 5, a side view of one of the slides mounted in place and the register wheel engaged by the pawl thereon.

In the operation of thrashing grain, the number of bushels of grain thrashed is the basis on which the operators receive their pay. The output of the thrashing machine is therefore measured by keeping tally of the number of bushels of grain thrashed as it is delivered from the machine. This tally is sometimes effected by an attachment secured to the conveyer of the thrasher and extending outward from the side thereof, and which is removed when the thrasher is traveling from place to place. Difficulty is also experienced in placing such an attachment in position on the thrasher on account of its size and the limited space between the stacks in which the thrasher operates. My invention, however, aims to secure a compact spout box which may be readily attached to the thrasher on either end of the conveyer, and will pass

wherever the machine can travel, as its compactness enables it to be located under and behind the frame work and wheel of the thrasher, as shown by the accompanying drawings; furthermore, the operation by hand of the spout box partition as succeeding quantities are delivered and measured from the machine, will automatically register such quantities without any other tallying being required.

Referring to the drawings the letter A designates the frame work of the thrashing machine, the letter B one of its wheels, and the letter C a spout box proper, having a register casing D permanently or otherwise mounted thereon. The conveyer E, from which the grain is delivered from the thrasher, delivers the grain through an opening F, Fig. 3, in the spout box proper, and it is deflected to one side or the other by a vibratory partition G, operated from the outside by a handle or projection H, through a slot, *h*, in the front. A basket or measure is placed at one side and the grain delivered thereto till filled; the outgoing grain is then deflected into another measure by throwing the partition over to the other side by means of the handle H; and so on. To the handle H is secured a lever I³, slotted to give play to the said handle and pivoted at J, and engaged at the other end with a slide I of the register through an opening, *d*, in the face of the register case, as in Fig. 1. The vibration of the partition G back and forth, will thus oscillate the lever I³ and operate the register as will now be described.

Referring to Fig. 4 the slide I is seen to carry a pawl L, maintained by a spring M, in engagement with a tooth of a register disk of the wheel N, on the periphery of which are a series of numbers increasing by units, or any other regular order. The disk is independent and provided with pinion teeth with which the pawl L engages, and as the slide I is thrown, the disk is rotated one tooth or number, which latter is shown at the sight slots, O, Fig. 2. The detent P, Fig. 4, maintains the disk in position, while the lever-operated slide I and its pawl L are thrown backward on the reverse movement of the partition G. The forward movement of the slide will occur therefore with every alternate vibration of the partition G. If half bushels are measured from the machine, each forward and

back motion of the partition, and therefore of the slide I, will register one bushel on the disk N at the sight slot O. No attention to the register is required on the part of the operator as it registers automatically and corresponding with the movement of the spout box partition. The first disk is numbered from 0 to 24 inclusive, and thereby registers twenty-four bushels. To carry the record higher, I provide a pin Q projecting from the first disk N (see Fig. 4). As this disk rotates the projection Q moves in a circle, as shown in Fig. 5 and suggested by the arrow, whereby the pin presses against the uprights of the slide I', first pressing against one of the uprights and moving the frame in one direction and then pressing against the other upright and moving the frame back again in the other direction, as indicated in the dotted lines shown in Fig. 5. This gives movement to the pawl L' carried by said slide I' and causes said pawl to actuate the next disk, namely disk N'. A pin Q' carried by the disk N' and clearly shown in dotted lines in Fig. 4, engages with first one and then the other of the uprights of the slide I''. By this actuation of the slide I'' its pawl L'' is operated so as to engage with the disk N'' and operate the latter. This pin, slide, and pawl mechanism between the first and second disks is simply duplicated between the second and third disks; and may be repeated as many times as desired and according to the number of disks employed. The first disk has twenty-five teeth numbered 0 to 24 respectively. The next disk has twenty-five teeth numbered 25, 50, 75, 100, and so on, the numbers increasing by twenty-five up to six hundred. The third disk has numbers increasing by six hundred and twenty-five, as 0, 625, 1250, shown in Fig. 4, the total capacity for the register, in this exemplification, being fifteen thousand. Before the thrasher begins to operate, the disks are all set at zero by causing the zero marks on the registering wheels to register with the sight slots O in the casing D. Referring again to the sliding frames I' and I'', it will be seen that they are quadrilateral frames, there being an upper horizontal and a lower horizontal piece and two upright pieces as particularly seen in Figs. 4 and 5. They are mounted in any convenient manner so as to smoothly slide back and forth in the operations above described. Thus it will be seen that the register is operated automatically and corresponding with the number of bush-

els delivered from the machine, the manipulation of the vibratory partition effecting the movement of the register without any attention on the part of the operator. It will also be noted that while I have shown and described this register in combination with a spout box and employed it to register grain, yet it is adapted to be used with other machines and attached to any vibrating or reciprocating part, corresponding with the partition G in this exemplification of the device.

I therefore lay claim to the device broadly and do not limit myself to the special construction and use hereinbefore shown and described. For instance, the connection of the register with the needle of a binder so as to register the number of bundles tied, has proved of great practical utility.

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

1. In a registering spout box, the combination with a movable partition mounted in the box and operated according to predetermined quantities of grain passing through the box, of a lever connected to said partition at one side of the pivot, a registering mechanism consisting essentially of a casing, a series of registering wheels, motion transmitting mechanism between a disk of lower order and one of next higher order to intermittently rotate the latter by the rotation of the former, actuating devices for the first of said disks, and a connection between said latter devices and the said lever at the other side of its pivot, substantially as described.

2. In a grain register, the combination with a casing and series of register disks mounted therein, each disk carrying a pin, a sliding frame between each disk of lower order and the next of higher order, the frames having uprights, one of which is operated upon by the pin of the disk of next lower order at one time and the other of which at another time, pins or teeth carried by each disk, and a pawl by each sliding frame engaging with said pins or teeth, a slide having a pawl for the first disk in the series, and a lever one end of which is pivotally connected with said last named slide.

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

BENJAMINE F. HALEY.

Witnesses:

OLIVER H. MILLER,
WARREN M. MCNAIR.