(No Model.)

G. E. MORRISON & W. A. DYE, Jr.

DEVICE FOR CONVERTING MOTION.

No. 482,584. Patented Sept. 13, 1892.

Fig. 1.

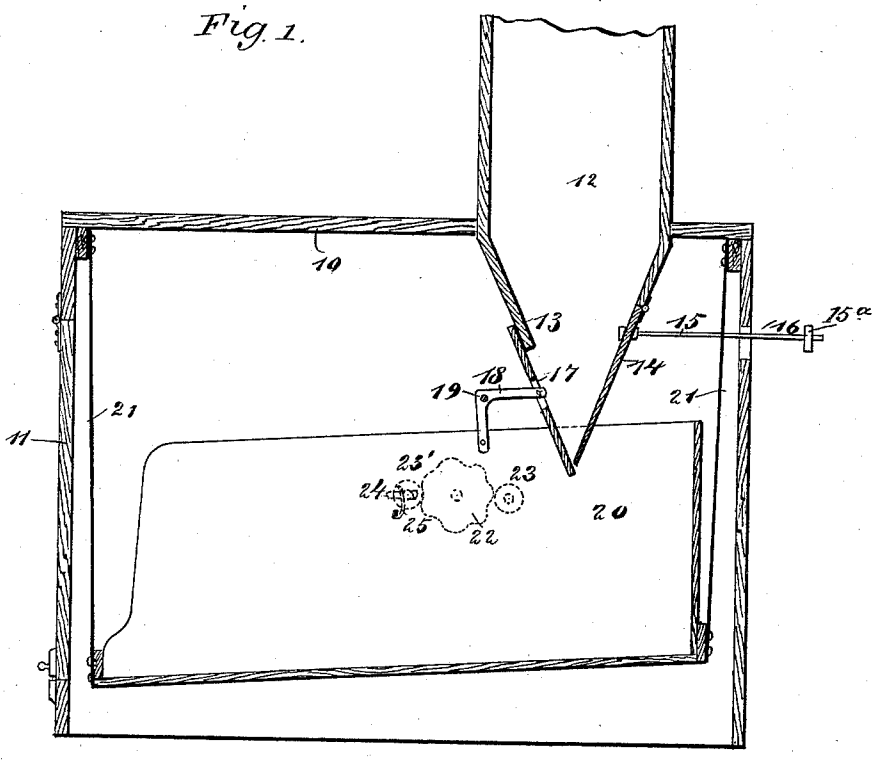


Fig 2.

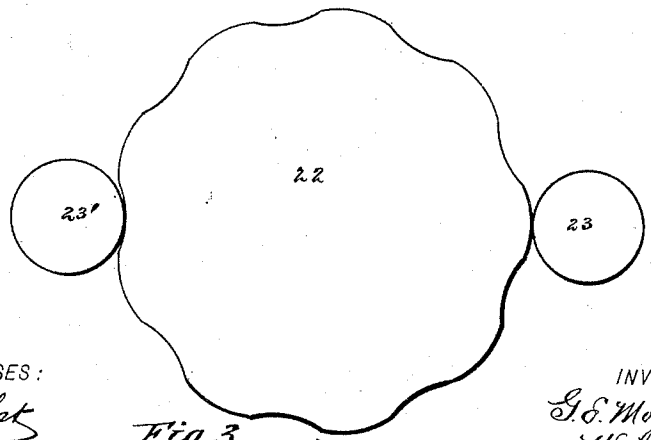
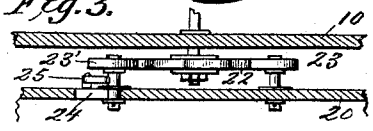


Fig. 3.



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UNITED STATES PATENT OFFICE.

GEORGE E. MORRISON AND WILLIAM A. DYE, JR., OF EDGERTON, KANSAS.

DEVICE FOR CONVERTING MOTION.

SPECIFICATION forming part of Letters Patent No. 482,584, dated September 13, 1892.

Application filed November 5, 1891. Serial No. 410,974. (No model.)

To all whom it may concern:

Be it known that we, GEORGE E. MORRISON and WILLIAM A. DYE, Jr., of Edgerton, in the county of Johnson and State of Kansas, have invented a new and Improved Device for Converting Motion, of which the following is a full, clear, and exact description.

Our invention relates to improvements in devices for converting a continuous rotary into a reciprocating motion; and the object of our invention is to produce a device of the character described which is especially adapted for vibrating or reciprocating parts which are not intended to move rapidly and which is well adapted for use in connection with vibrating sieves and shake-feeds of roller-mills, and also for use in connection with the shakers of wheat-separators, middlings-purifiers, sieve-scalpers, thrashing-machines, fanning-mills, and analogous machines.

To this end our invention consists in certain features of construction and combinations of parts which will be hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in both views.

Figure 1 is a side elevation of the device as applied to the shaking-apron of a roller-mill, and Fig. 2 is an enlarged detail side elevation of the device itself.

In the drawings we have shown the device applied to the shaking-apron of a roller-mill to illustrate its use, and we also claim some features of the shaking mechanism in connection with a device for converting motion, which features will be pointed out below.

In the drawings, 10 represents the main case of a roller-mill, which has the usual door 11 and the feed-spout 12 with a contracted lower end 13, and pivoted on one side of the spout, at its lower end, is a swinging gate 14, by means of which the feed may be regulated. This gate 14 has a rod or beam 15 secured to it, which extends outward through a slot 16 in the case and carries a counterpoise 15^a, by adjusting which the position of the gates may be regulated.

Opposite the swinging gate 14 is a sliding valve 17, which is pivoted to the upper arm of a bell-crank 18, which crank is pivoted at its elbow to the case, as shown at 19, and is pivoted at its lower end to the shaking-apron 20. This apron is of the usual construction, and is suspended in the case by means of hangers 21, so that it may have the necessary vibrating or reciprocating motion.

The main wheel 22 for converting motion is secured to a shaft, by means of which it is revolved and is held at one side of the shaking-apron 20. This wheel 22 has a series of convolutions on its periphery, which are made so as to produce a series of cams of a uniform size and of an odd number. Opposite the cam-wheel 22 and on one side thereof is a roller 23, which is adapted to follow the convolutions of the face of the wheel 22 and which is pivoted on and secured to the shaking-apron 20. On the opposite side of the cam-wheel is a similar roller 23′, which is also adapted to press against the face of the cam-wheel and the axle of which is held to slide in a slot 24 and is pressed by a stiff spring 25, so as to hold the roller against the cam-wheel. This spring thus takes up all lost motion and permits the rollers 23 and 23′ to spread sufficiently to permit the revolution of the cam-wheel 22. The rollers 23 and 23′ are mounted on the apron 20, so that the reciprocating motion of the rollers will be imparted to the apron. The rollers 23 and 23′ are placed in relation to the cam-wheel 22, so that when one roller bears against the highest point on a cam the opposite roller will be in a depression between the cams, and consequently as the cam-wheels revolve the rollers will each be alternately pushed backward and forward and a reciprocating movement will be imparted to the shaking-apron 20. This movement of the apron will also tilt the bell-crank 18, so as to raise and lower the sliding valve 17, and thus supply the apron with the necessary amount of grain.

It will be understood that the cam-pulley and cam-rollers arranged, as described, to produce a vibrating motion may be attached to any object to be reciprocated and that by revolving the cam-wheel the rollers will move easily and convert the rotary movement of the cam-wheel into the required reciprocating motion.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

A device for converting motion, comprising a revoluble cam-wheel and rollers journaled on a movable body and arranged on opposite sides of the cam-wheel so as to press against the same, one of the rollers having a sliding bearing, and means, as the spring 25, for holding it against the cam-wheel, substantially as described.

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