

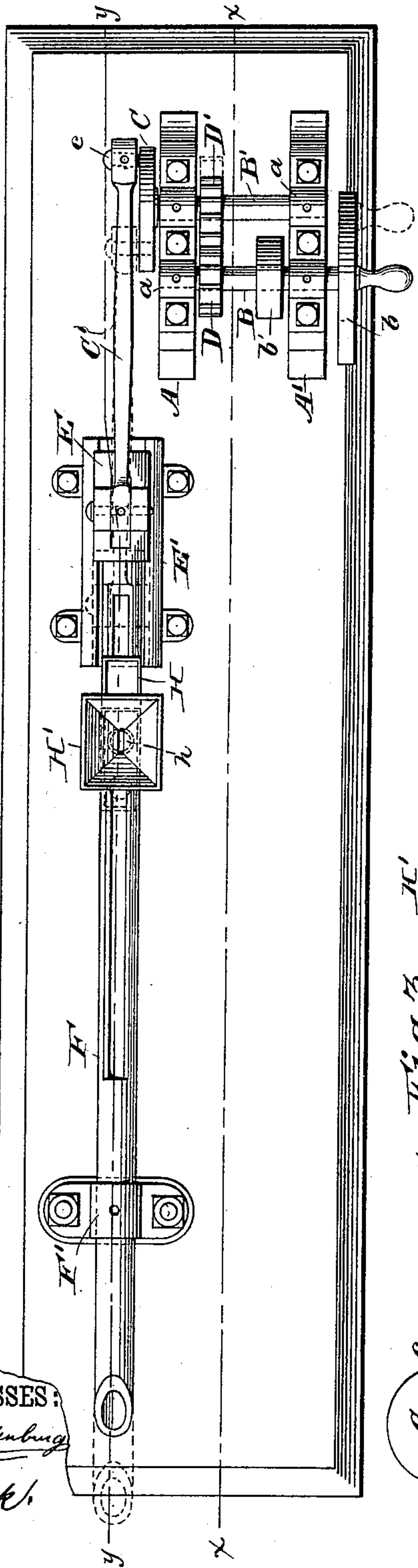
(No Model.)

H. C. KRAUSE & B. HARRIS.
CONVEYER.

No. 379,704.

Patented Mar. 20, 1888.

Fig. 1.

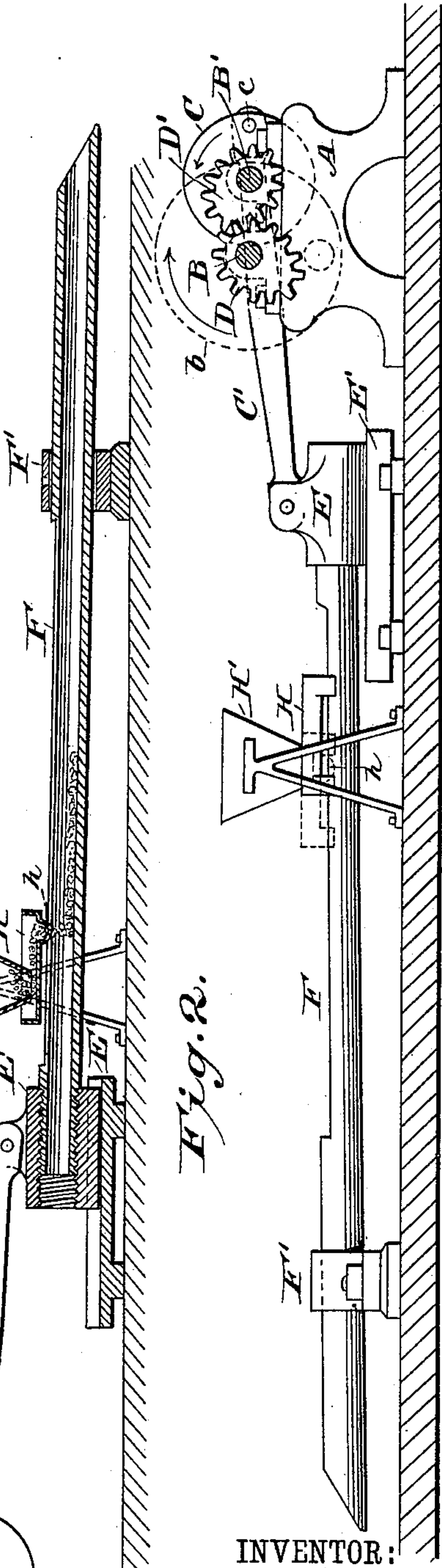


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Fig. 3.

Fig. 2.



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UNITED STATES PATENT OFFICE.

HENRY C. KRAUSE AND BENJAMIN HARRIS, OF LAKE LINDEN, MICHIGAN.

CONVEYER.

SPECIFICATION forming part of Letters Patent No. 379,704, dated March 20, 1888.

Application filed July 28, 1887. Serial No. 245,521. (No model.)

To all whom it may concern:

Be it known that we, HENRY C. KRAUSE and BENJAMIN HARRIS, of Lake Linden, in the county of Houghton and State of Michigan, have invented a new and Improved Conveyer, of which the following is a full, clear, and exact description.

Our invention relates to an improvement in conveyers, and has for its object to provide a simple and inexpensive device capable of conveying all kinds of grain, corn, chips, or mineral, in a wet or dry condition, expeditiously to any desired point.

The invention consists in the construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

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

Figure 1 is a plan view of the device, and Fig. 2 is a section on line *x x* of Fig. 1. Fig. 3 is a central vertical section on line *y y* of Fig. 1.

In carrying out the invention two standards, A and A', are provided, which may be of any suitable shape or material, and upon said standards two parallel shafts, B B', are journaled in proper bearings, *a*, a distance one from each other, the shaft B being the driving-shaft and B' the driven shaft.

The driving-shaft B may be rotated by hand. In that event a hand-wheel, *b*, is secured thereto, and if driven by other power a pulley, *b'*, is keyed thereon.

Upon each shaft B and B' eccentric gears D and D' are fastened in such manner as that the part having the least eccentricity in one gear will mesh with the part having the most eccentricity in the other.

At one outer end of the driven shaft B' a crank-disk, C, is secured, and to said disk a pitman, C', is pivoted by a crank, *c*, the other end of the pitman being pivotally connected with a block, E, adapted to slide in a grooved bed-plate, E', resting upon a firm foundation.

In the outer end of the block E a pipe or launder, F, is secured, supported by one or more bracket-bearings, F', according to the distance the said pipe is made to extend.

Upon the upper side of the pipe F, at a suitable point, a pan, H, or other receptacle, provided with inclosed ends and sides and an open top, is attached, to move with the said pipe, the said pan, which, for convenience, I denominate a "feed-pan," being provided at one end with an apertured depression, *h*, adapted to project downward into the said pipe F, as shown in Fig. 3.

Above and over the feed-pan H a chute, H', is supported, provided upon its bottom side with a slot, through which the substance to be conveyed is fed into the pan H, and thence through the aperture in the depression *h* into the pipe F. As the pan reciprocates beneath the chute or hopper, the above arrangement will not allow the substance to be fed to the pipe too fast, which would cause the said pipe to choke, the substance being fed into the pipe only as fast as it is conveyed from the slot in the chute along the pan and into the apertured depression *h*.

The chute or hopper H' may be of sufficient size to hold any quantity of material, and may be supported above the pan, independent thereof, by legs attached to the floor, as shown, or to a grain-bin or any place where material can be supplied in the chute as fast as taken away by the conveyer.

Where a launder is used the pan is not used, but the feed-box sets into the launder just as it does in the pan which is attached to the pipe.

In operation rocks and ores of all kinds, grain, corn, sawdust, sand, rubbish, chips, blocks, nails, minerals, and all substances of the kind, in a wet or dry condition, may be fed into the hopper H', from which they are fed as aforesaid into the pipe or launder.

The gears D and D' are so timed that just before the completion of the forward stroke the pipe is given an accelerated forward motion, which is continued partly upon the rearward stroke, the balance of the rearward and the beginning of the forward stroke being made at slow speed, which throws the substance to be conveyed ahead and the pipe reverse from it.

We do not confine ourselves to the shape of the pipe or launder shown, as the same may be semicircular or V-shaped. Any number of

supports of any known character may be provided therefor, and an eccentric may be substituted for the pitman-connection.

The gearing may be placed above upon another floor, if desired, and power transmitted by a suitable rod to the pipe or launder; or, where the conveyer is used one or more stories high in a building, the power may be transmitted from below.

10 The conveyer may be driven by an extra rock-shaft, or a shaft with arms, where necessary for use in inconvenient places—that is, where space is limited.

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

20 1. The combination of the reciprocating pipe or launder, having a feed-pan secured to it, with the relatively-stationary hopper leading into the reciprocating pan, substantially as set forth.

2. In a conveyer, the combination, with a drive-shaft and a driven shaft and meshing

eccentric gear upon said shafts, of a reciprocating pipe or launder and a pitman or eccentric connection between said pipe and driven shaft, substantially as shown and described, whereby the said pipe is given an accelerated movement at a portion of its travel, as herein set forth. 25

3. In a conveyer, the combination, with a drive-shaft and a driven shaft and eccentric gears secured to said shafts, so that the portion of one gear having the least eccentricity will mesh with that portion of the opposing gear having the most eccentricity, of a reciprocating pipe or launder, a pitman or eccentric connection between said pipe and driven shaft, and an apertured pan secured upon said pipe and a stationary hopper above said pan, substantially as shown and described. 30 35 40

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Witnesses:

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