

P. SCHUFF.
Malt-Driers.

No. 142,946.

Patented September 16, 1873.

Fig. 1.

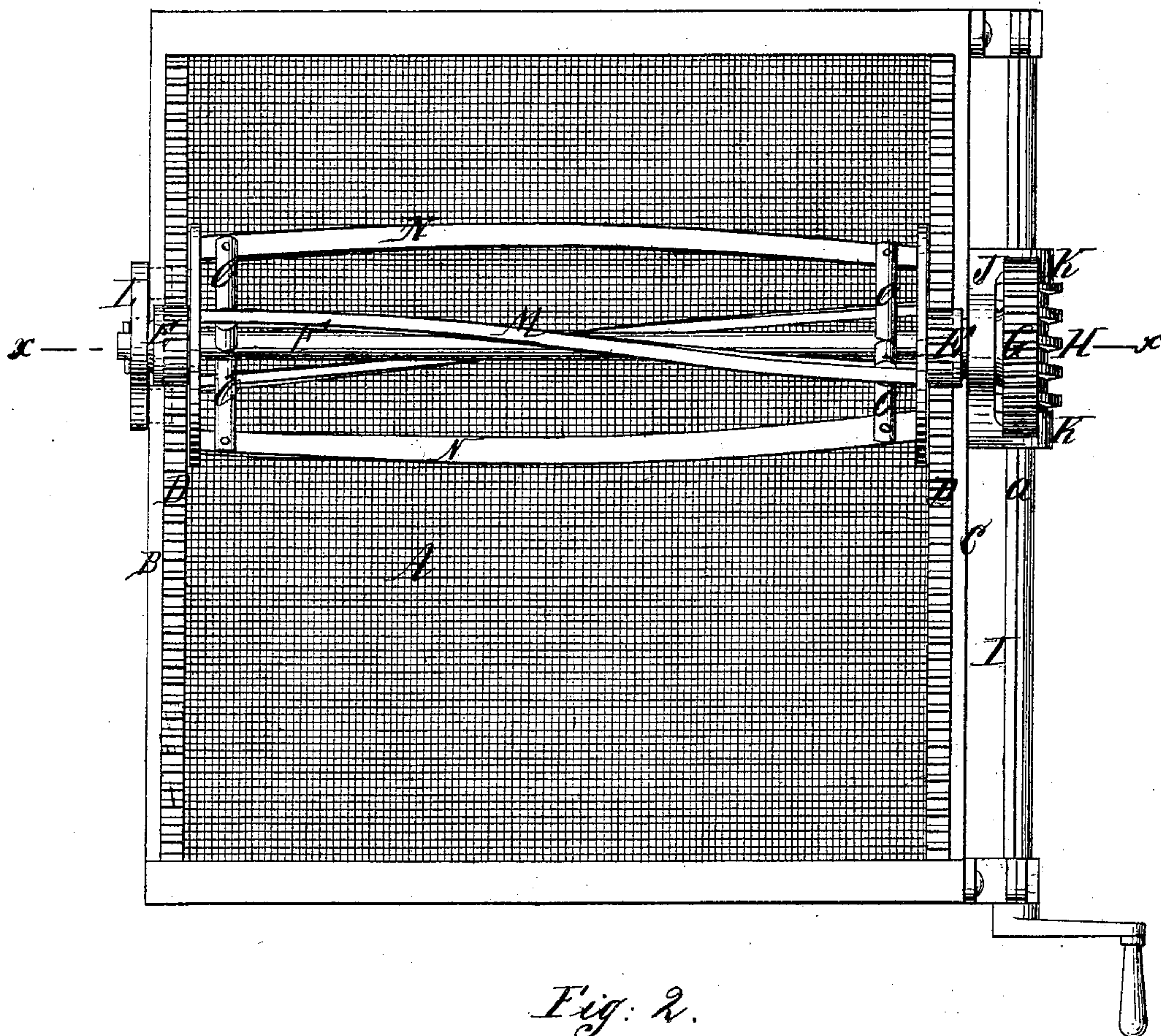


Fig. 2.

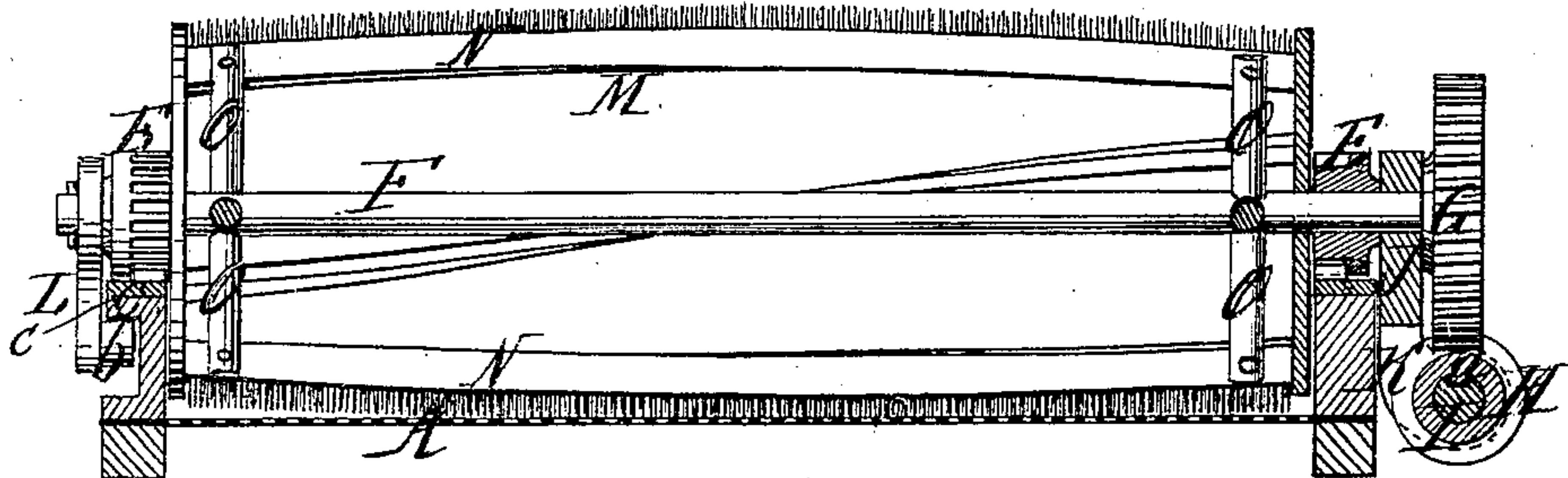
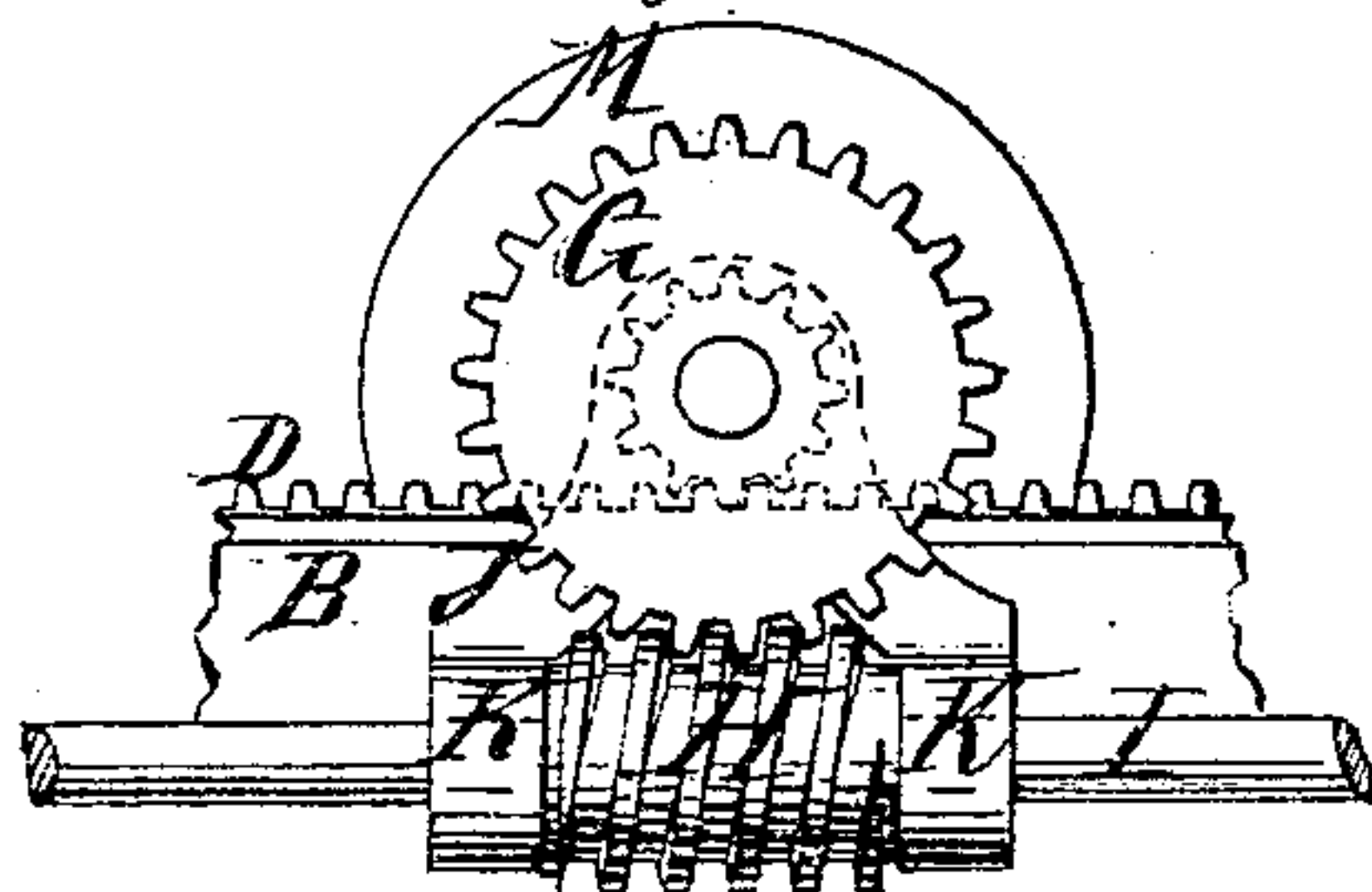


Fig. 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

PHILIPP SCHUFF, OF NEW YORK, N. Y.

IMPROVEMENT IN MALT-DRIERS.

Specification forming part of Letters Patent No. **142,946**, dated September 16, 1873; application filed August 7, 1873.

To all whom it may concern:

Be it known that I, PHILIPP SCHUFF, of the city, county, and State of New York, have invented a new and useful Improvement in Malt-Kilns; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification, in which drawing—

Figure 1 represents a plan or top view of this invention. Fig. 2 is a transverse vertical section of the same in the line *x x*, Fig. 1. Fig. 3 is a front view of a detached portion of the same.

Similar letters indicate corresponding parts.

Heretofore the stirring-wheels for spreading and agitating the malt on the floor of the kiln have had a reciprocating and rotating motion imparted to them by means of a pulley arranged at each end of the shaft, supporting the wheel inside of pinions which mesh with side racks, a rope being connected with each pulley, and with a driving-shaft, in such a manner that by turning the said shaft the rope is alternately wound and unwound upon the pulleys and shaft, thus causing the wheel to traverse the malt-floor.

To improve upon such complex mechanism, and dispense with the ropes and pulleys, is the object of my invention.

My invention consists in arranging, parallel with the side racks which support the pinions of the stirring-wheel, a driving-shaft, upon which is arranged a reciprocating worm-wheel, suspended from and carried by a bracket or hanger connected with the axis of the stirring-wheel, said worm-wheel meshing with a spur-wheel on the stirring-wheel in such a manner that by turning the driving-shaft in opposite directions the stirring-wheel is made to traverse back and forth over the malting-floor; and if malt be placed thereon the same will be slightly turned up, and a rapid drying of the same is insured.

In the drawing, the letter A designates the floor of a kiln for drying malt, which is se-

cured in the kiln in the usual manner; and on opposite sides of such floor are rails B C, which support toothed racks D D, in which travel pinions E E, that are mounted on a shaft, F, on which is also mounted a rotary spreader, M. The shaft F is placed transversely to the rails B C, and extends across and beyond the same; and on one end thereof is secured a cog-wheel, G, which gears into a worm or spiral, H, that is attached to a crank-shaft, I, by means of a feather-key, *a*, so that such worm revolves with the crank-shaft, and is free to be moved back and forth on the same. The traveling shaft F carries also a loose bracket, J, which is situated in the rear of the cog-wheel G on the side of the rail C, and such bracket supports two hangers or collars, K, which embrace the worm H, and serve to move the same along on the crank-shaft as the bracket is propelled back and forth by said traveling shaft F, when the same is actuated by the worm through the cog-wheel G. Said bracket J also serves to prevent the pinion on the rail C from becoming displaced on its guide-rack D; and the pinion on the opposite rail B is kept in position by means of a hanger, L, which is mounted on that end of the shaft F, and is provided with friction-rollers *b*, that catch under a flange, *c*, formed on the side of said rail B.

The rotary malt-spreader M is composed of bristles, which are clamped between curved blades N, that connect with the shaft F by means of radial arms O.

By revolving the crank-shaft I the motion is transmitted to the traveling shaft F, and thereby the malt-spreader M is rotated, and, at the same time, the pinions E step forward or backward, according to the direction of the motion, in the guide-racks D D, and thereby the rotary spreader is swept over the floor A, and the malt contained on such floor is displaced or agitated and spread in an even layer, whereby the operation of drying such malt is accelerated.

What I claim as new, and desire to secure by Letters Patent, is—

1. The reciprocating worm-wheel H, arranged upon the driving-shaft I parallel with the side racks D, in combination with the spur-wheel G, carrier-bracket J, pinions E, and shaft F of the stirring-wheel, substantially as described.

2. The guiding-hanger L, carrying friction-rollers, in combination with the side rail B, rack D, pinion E, shaft F, and stirring-wheel

M, substantially as described, for the purpose specified.

This specification signed by me this 5th day of August, 1873.

PHILIPP SCHUFF.

Witnesses:

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