J. KRAMER & B. BOKE.

SIDE-GEAR FOR THRASHING-MACHINES.

No. 193,819. Patented Aug. 7, 1877.

Fig. 1.

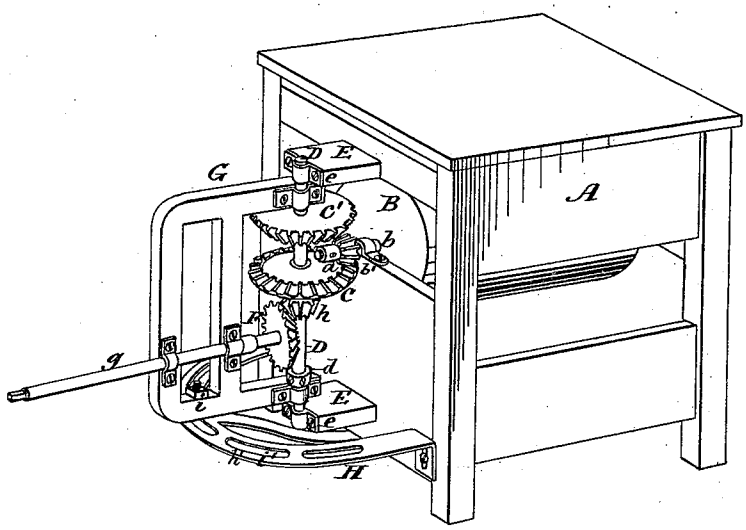
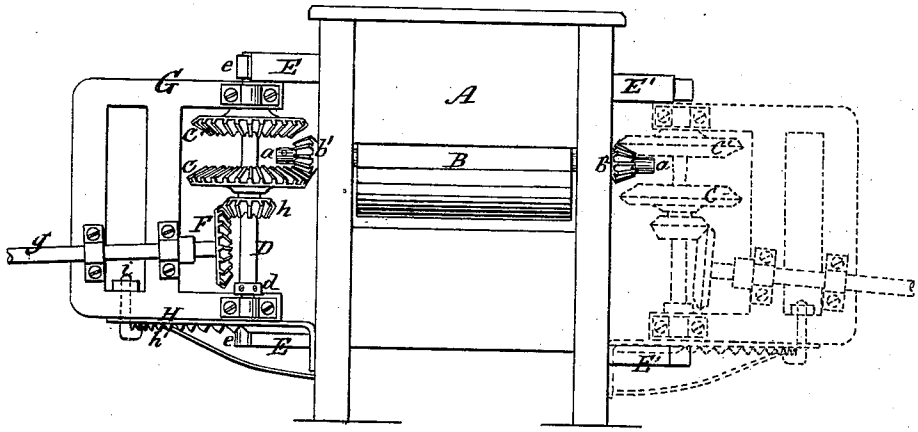


Fig. 2.



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IMPROVEMENT IN SIDE GEARS FOR THRASHING-MACHINES.

Specification forming part of Letters Patent No. **193,819**, dated August 7, 1877; application filed July 2, 1877.

To all whom it may concern:

Be it known that we, JOHN KRAMER and BERNARD BOKE, both of Maria Stein, in the county of Mercer and State of Ohio, have invented certain new and useful Improvements in Pivot-Gearing for Thrashing-Machines; and that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents a perspective view of the pivoted jack and gearing attached to a portion of a thrashing-machine. Fig. 2 represents a side view of the same.

Our invention relates to gearing pivoted to the side of thrashing and other machines, to increase the number of revolutions of the operating-cylinder, transmitted to it by the tumbling-rod of a horse-power, and to render the line of connection between the horse-power and thrashing-machine as straight as possible to reduce friction.

The object of our invention is to construct the pivot-gearing so that it can be easily transposed from one side of the thrashing-machine to the other, and transmit the same forward motion to the machinery on either side, with the same forward revolutions of the horse-power.

Our invention consists in the combination of two gear-wheels, mounted upon the same vertical shaft, the cogs of one facing the other, at such distance apart that the pinion of the thrashing-cylinder will engage only with one at a time, in combination with an adjustable pivoted jack-frame, carrying a tumbling-rod and gear, as will be described hereinafter.

In the drawings, A represents the frame of a thrashing-machine; B, the thrashing-cylinder, upon the shaft *b* of which is mounted the bevel-pinion b^1, that gears with the crown-wheel C, attached to the vertical shaft D, and the pulley *a*, to give motion to the separator and other parts.

The shaft D is placed in the boxes *e* of the brackets E, fastened to the sides of the thrashing-machine frame, and supported by a collar, *d*, attached to it by one or two screws, and resting upon the frame of the jack. Upon the same shaft is also attached the bevel-gear wheel C′, of the same size as the gear C, but in inverted position, so that the teeth of the gear C′ will face those of gear C, and at such distance apart that the pinion b^1 will engage only with one of them at a time. To the vertical shaft D is pivoted the swinging jack-frame G, that carries in suitable boxes the tumbling-shaft *g*, upon one end of which is mounted the bevel-cog wheel F. The latter, meshing with the pinion *h*, attached to the vertical shaft D, revolves it, and also all the other gears. The frame of the jack G is made of cast or wrought iron, and is kept in position upon the shaft D by the brackets E, placed above and under it. It is, moreover, supported at its outer end, and kept from swinging by a half-circular frame, H, to which it is secured in any desired position by a bolt, *i*, passing through it and through elongated openings *i′* in the frame H, the angular head of the bolt *i* engaging with the teeth of a circular rack, *h′*, formed on the under side of the frame H. When it is desired to shift the jack and gearing from one side of the machine to the other, the bolt *i* and the caps of the boxes *e* are removed, and it is transposed and fastened to the brackets E′, so that the horizontal gear C′ meshes with the bevel-pinion b^2. The circular frame H can also be easily removed, or a similar one be permanently attached to the other side of the machine, and when the bolt *i* is again in its place to secure the jack in position, the machine can be as well operated from that side as from the other. The pinion b^1 and pulley *a* could also be transposed from one side of the machine to the other, as they are fastened by screws to the shaft *b*.

Having now fully described our invention, we claim—

In combination with an adjustable pivoted jack-frame and gearing, adapted for attachment at either side of a thrashing-machine, the two gear-wheels C and C′, mounted upon the same adjustable vertical shaft, with the cogs of one facing the other, at such distance apart that the pinion upon either end of the thrashing-cylinder shaft will engage with one at a time, substantially as described.

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