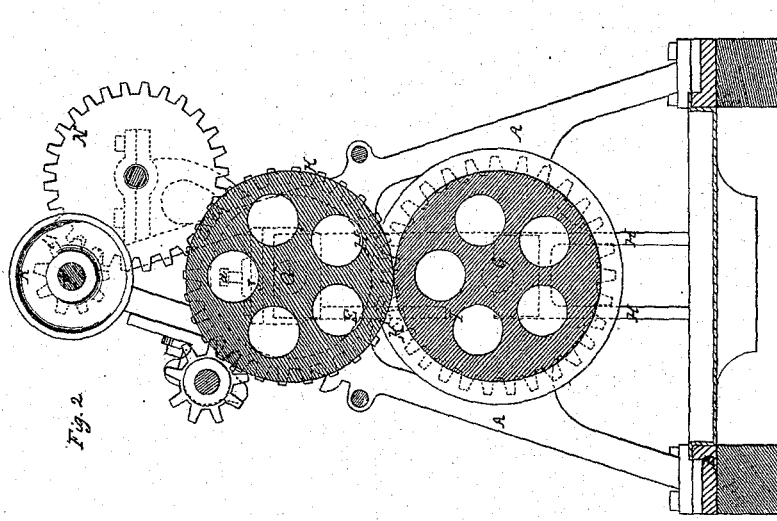
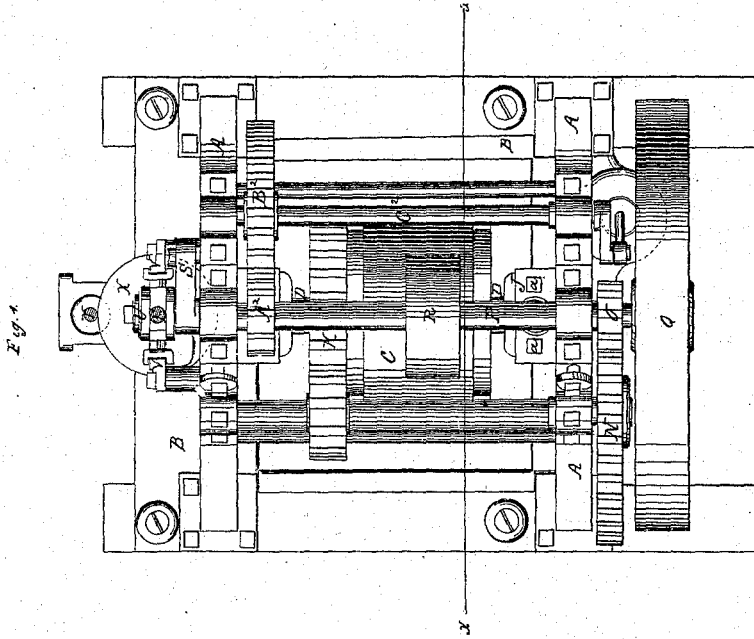


J. MOORE.

COMBINED CANE MILL AND STEAM ENGINE.

No. 74,574.

Patented Feb. 18, 1868.



Witnesses
J. Jackson
Thos. Cook

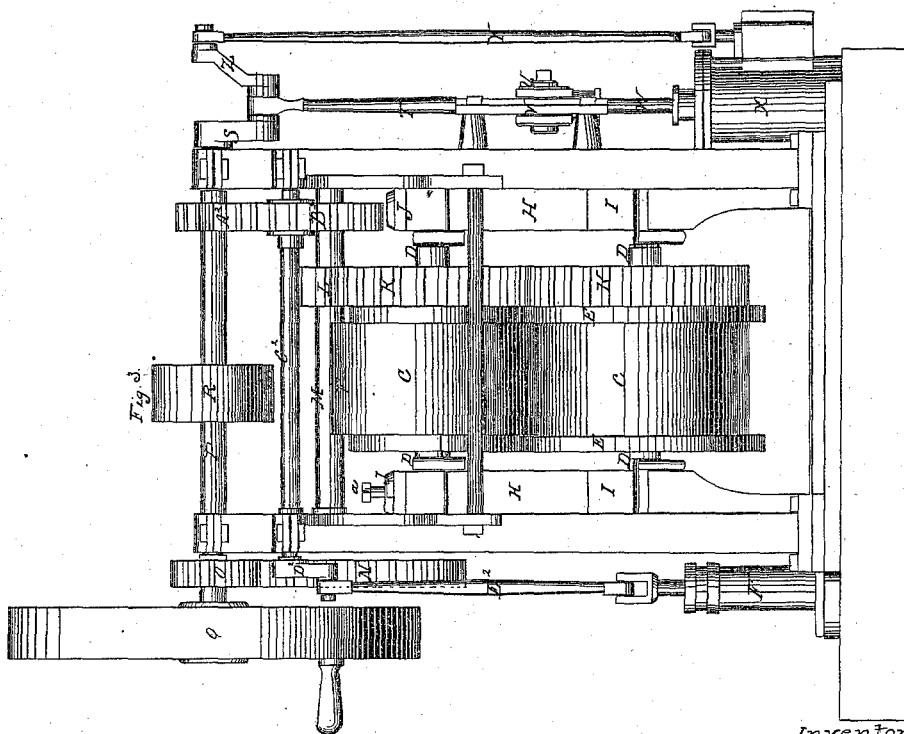
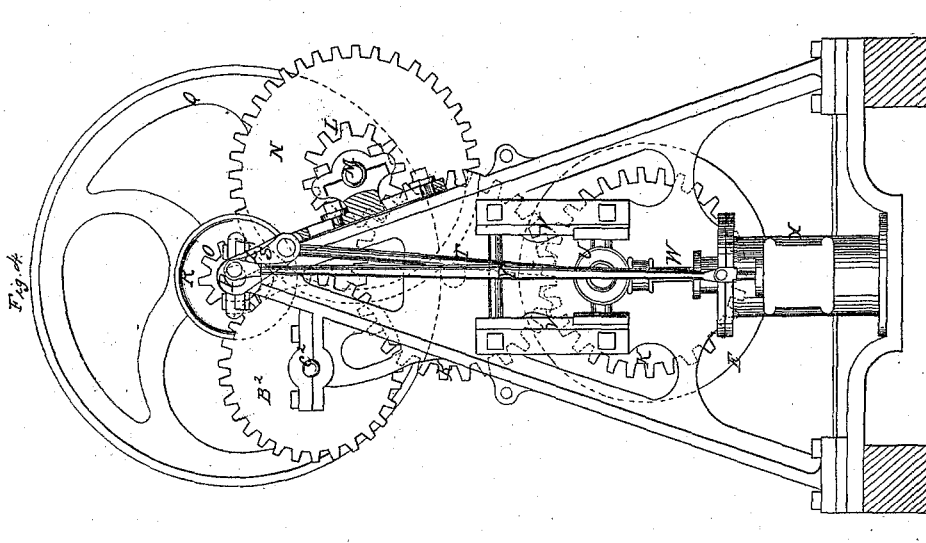
Inventor.
Jno. Moore
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J. MOORE.

COMBINED CANE MILL AND STEAM ENGINE.

No. 74,574.

Patented Feb. 18, 1868.



witnesses
J. A. Jackson
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Inventor
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United States Patent Office.

JOHN MOORE, OF MADISON, INDIANA

Letters Patent No. 74,574, dated February 18, 1868.

COMBINED CANE-MILL AND STEAM-ENGINE.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, JOHN MOORE, of Madison, in the county of Jefferson, and State of Indiana, have invented a new and improved Combined Steam-Engine and Cane-Mill; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1, plate 1, is a plan or top view of my improved combined steam-engine and cane-mill.

Figure 2, plate 1, a transverse vertical section, taken in the plane of the line $x x$, fig. 1.

Figure 3, plate 2, a front elevation, and

Figure 4, plate 2, an elevation of one end of the combined cane-mill and steam-engine.

Similar letters of reference indicate like parts.

The present invention relates to a cane-mill, the frame of which is so constructed as to be susceptible of receiving such parts of a steam-engine as would be necessary to drive the rollers of the mill; and also in so constructing the said frame that the rollers of the mill can be readily removed therefrom, or placed therein, to enable the steam-engine, which is arranged in connection with such cane-mill, to be used for threshing wheat, driving a circular or a drag-saw, a shingle or a lathe-machine, a straw or hay-cutter, a grinding-mill for corn, and for many other purposes.

By placing the cylinder of a steam-engine and the rollers of a cane-mill upon one frame, I am enabled to construct a much more portable mill, at much less expense, than the ordinary machinery employed for crushing cane.

A A, in the drawings, represent two parallel frames, secured in vertical positions to and upon a common bed-plate or platform, B, to which the lower ends of the frames are bolted in any suitable manner. C C the two rollers of the mill, placed one above another, and each hung by its centre shaft or pin, D, at each end, in suitable bearings of the upright frames A, extending across from one to the other. The lower roller of the two rollers C has a raised lip or flange, E, around it at each of its ends, between which the raised central portion F of the upper roller runs. The lower roller is hung in sliding journal-boxes G, arranged in and between the parallel guide-strips or cleats H, attached to the inside face of the upright frames A, which cleats, H, upon the front side of the cane-mill, are cut away at I, sufficiently to allow the lower roller to be removed from the bearings, when the upper roller has been first raised therefrom. The upper ends of the cleats H are capped by plates J, which are secured thereto through bolts a , that, when the upper roller is to be raised sufficiently to allow the lower roller to be removed, as above stated, are unscrewed to detach the cap-plates, and thus allow the journal-boxes, in which the upper roller is hung, to be raised within the cleats H. To one and the same end of each of the rollers C a similar gear-wheel, K, is secured, which gear-wheels mesh into each other. L is a pinion-wheel, secured to a shaft, M, arranged to turn in bearings of the upright frames A, across from one to the other of which it extends in a horizontal plane. N is a gear-wheel, secured to one end of the transverse horizontal shaft M, heretofore referred to, with which gear-wheel meshes a small pinion-wheel, O, secured to one end of a transverse horizontal shaft, P, arranged to turn in bearings of the upper ends of the frames A. This shaft P is provided with a balance-wheel, Q, at one end, and a pulley, R, at or near its centre, and at its end opposite to the balance-wheel Q is provided with a crank-arm, S, to which is hung the upper end of a pitman or connecting-rod, T, pivoted at its lower end in and to a block or head, U, arranged to slide upon parallel vertical guide-ways or bars V, fixed upon the outside of one of the frames A. To this sliding-head or block U the rod W of the piston of a steam-cylinder, X, is secured, the arrangement of which piston is the same as in ordinary steam-engines. Y, the valve-stem, hung at its upper end to the arm Z of the crank S.

From the above-described arrangement and connection of parts between the steam-cylinder X and the roller C, it is plain to be understood that, by the movement of the piston within the said steam-cylinder, both rollers C will be made to revolve with an equal velocity, and thus enabling them to be used the same as the ordinary cane-mills.

With the small pinion-wheel A² of the balance-wheel shaft P, a gear-wheel, B², engages of a transverse horizontal shaft, C², hung in bearings upon one side of the upright frame A. This shaft C², at one end, is provided with a crank-arm, D², to which is hung the connecting-rod E² of a piston-pump, F².

Thus, from the above detail description, it is plain to be seen, that, with a cane-mill, a vortical steam-engine is combined in such a manner that, while the same frames or supports will serve for both, the rollers of the cane-mill can be removed, and thus leave the engine free to be used for driving a threshing-mill, a circular or drag-saw, or a shingle or lathe-machine, &c., &c., as is obvious without any further explanation.

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

The arrangement of the cylinder of a steam-engine and the rollers of a cane-mill upon the same frame, substantially as herein shown and described for the purpose specified.

JOHN MOORE.

Witnesses:

SAMUEL CRAWFORD,

JAMES H. GIBSON.