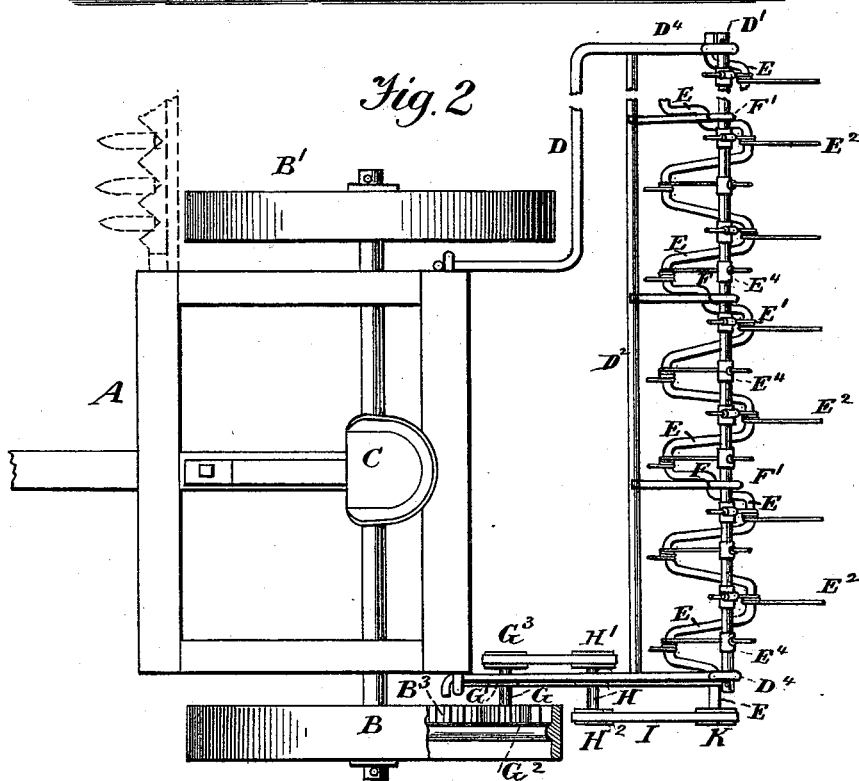
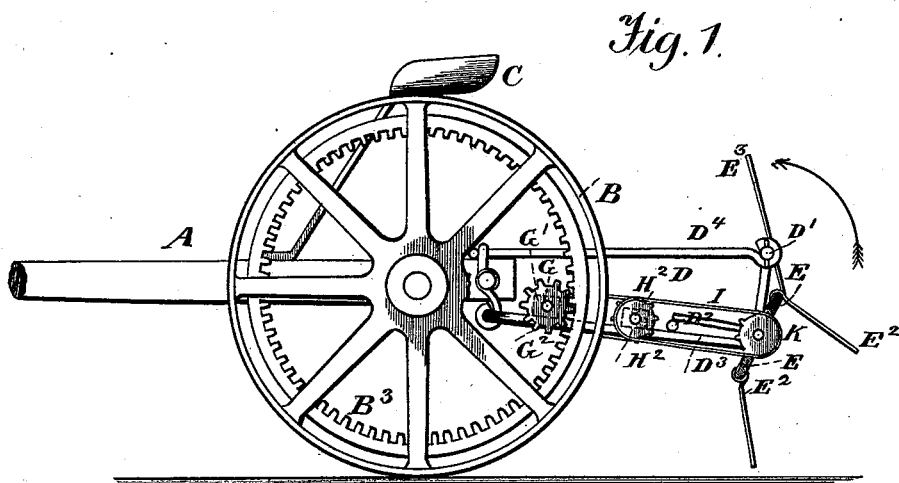


D. F. SAURER.
COMBINED MOWER AND HAY TEDDER.

No. 423,491.

Patented Mar. 18, 1890.



Witnesses.
A. Ruppert.
[Signature]

Inventor.
Daniel F. Sauer
by *Franklin H. Hong*
his atty.

(No Model.)

2 Sheets—Sheet 2.

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Fig. 3.

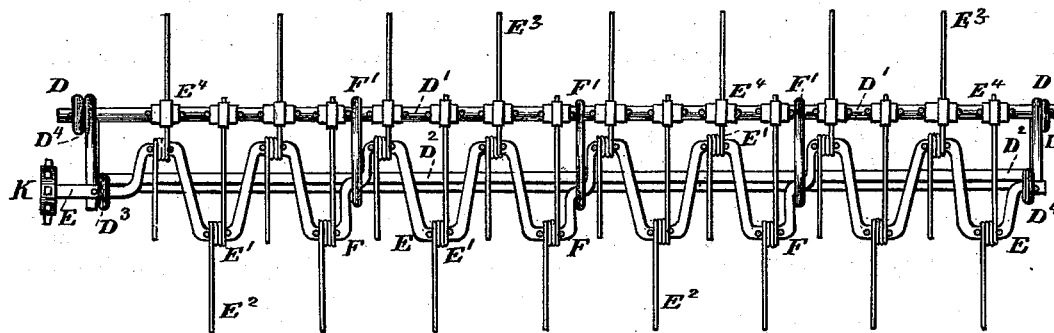


Fig. 4.

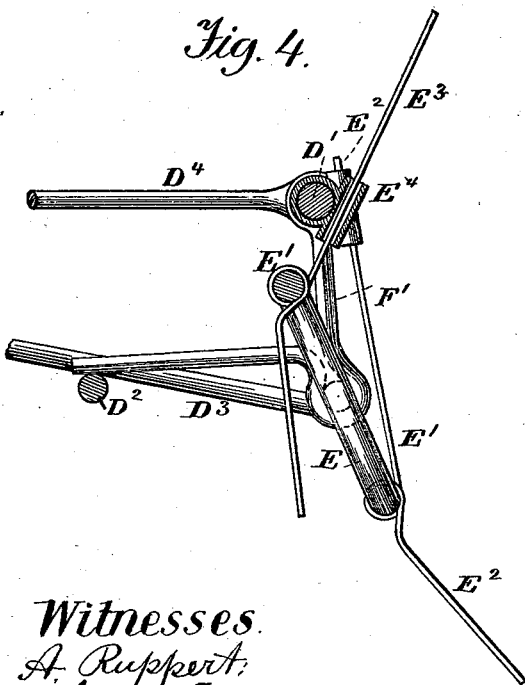
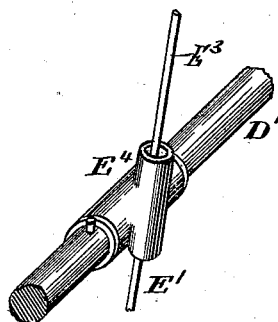


Fig. 5.



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Daniel F. Saurer
by *Franklin H. Hong*
his atty

UNITED STATES PATENT OFFICE.

DANIEL F. SAURER, OF LAUD, INDIANA.

COMBINED MOWER AND HAY-TEDDER.

SPECIFICATION forming part of Letters Patent No. 423,491, dated March 18, 1890.

Application filed December 6, 1889. Serial No. 332,751. (No model.)

To all whom it may concern:

Be it known that I, DANIEL F. SAURER, a citizen of the United States, residing at Laud, in the county of Whitley and State of Indiana, have invented certain new and useful Improvements in Combined Mowers and Hay-Tedders; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to certain new and useful improvements in combined mowing-machines and hay-tedders; and it has for its object to generally improve upon the construction and render more efficient and serviceable in operation this class of machines.

To these ends, and to such others as the invention may pertain, the same consists in the peculiar construction and in the novel combination, arrangement, and adaptation of parts, all as more fully hereinafter described, shown in the accompanying drawings, and then specifically defined in the appended claim.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, like letters of reference indicating like parts throughout the several views, and in which drawings—

Figure 1 is a side view of the machine. Fig. 2 is a plan view of the same with parts broken away. Fig. 3 is an enlarged rear elevation of the crank-shaft and its connected parts. Figs. 4 and 5 are enlarged details.

Reference now being had to the details of the drawings by letter, A represents the main frame, B B' the wheels, and C the seat, of a mowing-machine, which may be of any of the common and well-known forms of construction, excepting that the drive-wheel B is provided upon its inner face with an annular extension or collar, the inner periphery of which is provided with a series of cogs B³.

D represents the frame of the tedder, which consists of the transverse rods or bars D' and D², which are held securely in place by the short arms or rods D³ and D⁴, which connect the outer ends of the rods D' and D² with the

frame of the mowing-machine. It will of course be understood that it may at times be found necessary to vary the length of these connecting-arms and also to change their relative positions in order to accommodate the several styles of mowing-machines, and such changes as might be necessary in this connection I fully contemplate as a part of the present invention.

Suitably journaled within the outer ends of the arms D³ are the outer ends of the crank-shaft E, having cranks extending in opposite directions, each of the curves or cranks upon said shaft being provided with a steel rod E', which is at its center coiled around the crank-shaft to form a bearing and one of its ends extended to form the teeth or prongs E² of the tedder. One end of each of the rods, as will be observed, is extended downwardly and rearwardly from the tedder-frame, while the opposite end E³ of the rod is passed loosely through an oscillating guide or thimble E⁴, which is sleeved upon the rod D'. Thus it will be seen that the rod D' is provided at uniform distances apart with a series of these guide-thimbles E⁴, the number and position of the said thimbles depending upon the number and relative positions of the prongs upon the crank-shaft. These thimbles serve to direct the motion of the forks as they enter the hay.

F' are rods connected at their centers to the cranks F of the crank-shaft and at their upper ends sleeved on the rod D and at their other ends resting on the rod D². (See Fig. 4.)

The rod D³, upon the end of the tedder-frame which is adjacent to the geared collar upon the drive-wheel of the mowing-machine, is provided with a short transverse shaft G, the said shaft being suitably journaled within a journal-bearing G' upon the upper face of the rod. This shaft has secured to its outer ends a gear-wheel G², adapted to mesh with the geared collar upon the drive-wheel B of the mowing-machine, and upon the opposite end of the shaft G is provided a sprocket-wheel G³.

H is a short transverse shaft, which is also provided with bearings upon the rod D³. This shaft is provided upon one of its ends with a sprocket-wheel H', adapted to carry a chain connecting with the sprocket-wheel G³ upon

the shaft G, and upon its outer end the shaft H carries a sprocket-wheel H².

I is a sprocket-chain, which is passed over the sprocket-wheels H², and also over a sprocket-wheel K upon the extended end of the crank-shaft E.

The operation of the machine will be readily understood in connection with the foregoing description. Motion having been imparted to the machine, power will be communicated to the crank-shaft of the tedder through the gearing and sprocket-chain connections between the drive-wheel of the mowing-machine and the outer end of the crank-shaft, and in its rotation the free prongs or teeth E², connected with the shaft, will serve to stir up the hay, while an oscillating reciprocating motion will be imparted to the opposite set of prongs which pass through the guides E⁴ upon the rod D', and thus this set of prongs will serve to effectually prevent the hay from becoming tangled or wound around

the crank-shaft, which frequently occurs in other forms of hay-tedders.

Having thus described my invention, what I claim to be new, and desire to secure by Letters Patent, is—

In a hay-tedder, the combination, with the main frame, the rods D' and D² at the rear of the frame parallel with each other, and the crank-shaft carrying teeth or prongs and journaled at its ends within suitable bearings upon the frame, of the arms F', sleeved upon the crank-shaft near their center, with their upper ends connected to the rod D' and their forward ends resting on the rod D² and forming supports for the shaft at points intermediate of its ends, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

DANIEL F. SAURER.

Witnesses:

ISAAC R. CROWN,
JOSEPH MADDOX.