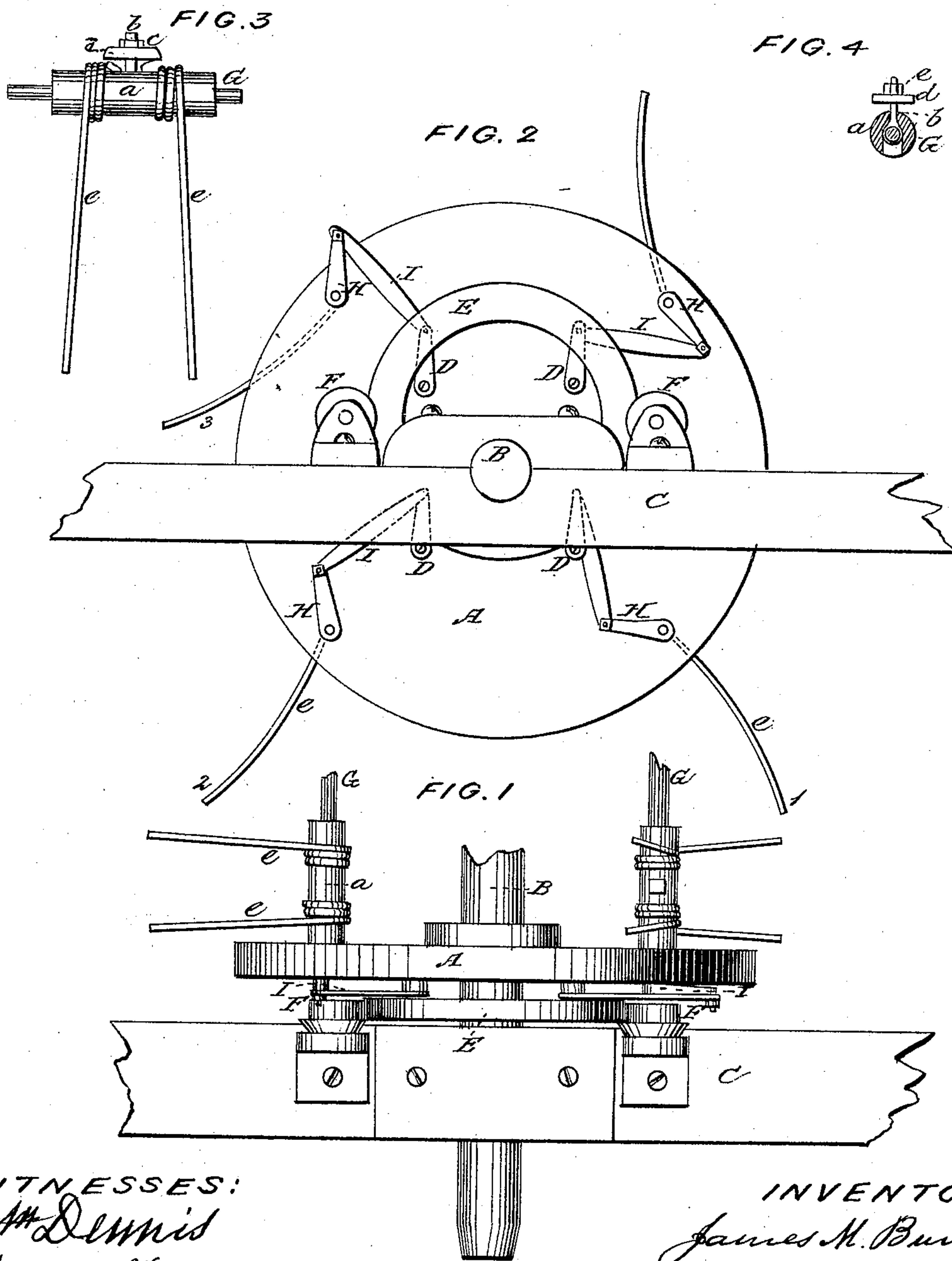


J. M. BURDICK.

Hay Tedder.

No. 100,972.

Patented March 22, 1870.



WITNESSES:  
*Wm. Dennis*  
*Daniel Reed*

INVENTOR:  
*James M. Burdick*  
By his Atty. *J. Dennis Jr*

# United States Patent Office.

JAMES M. BURDICK, OF ILION, NEW YORK.

Letters Patent No. 100,972, dated March 22, 1870.

## IMPROVEMENT IN HAY-TEDDERS.

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, JAMES M. BURDICK, of Ilion, Herkimer county, in the State of New York, have invented certain new and useful Improvements in Hay-Tedders; and I hereby declare the following to be a full and exact description thereof, reference being had to the accompanying drawings forming part of this specification.

The nature or essence of my invention consists of two parts.

The first part of my improvements consists in vibrating the forks upon the tedder-reel by means of cranks on the fork-rods, which cranks are connected by pitmen or connecting-rods to a ring eccentrically arranged around the shaft of the reel, and kept in position by cranks pivoted upon it and upon the head or disk of the reel, and by guides or friction-rollers fixed upon the supporting-frame.

The second part of my improvements is a device for securing the forks adjustably upon the fork-rods, the details of which are fully described below.

In the drawings hereinbefore mentioned—

Figure 1 is a top view of one end of a tedder-reel, with a portion of the frame supporting its shaft.

Figure 2 is an elevation of the same.

Figure 3 shows a fork secured upon the fork-rod; and

Figure 4 is a cross-section of the same.

The disk A forms one end or head of the tedder-reel, of which B is the shaft, turning in boxes upon the frame C, and connected to the ground-wheels to give it motion, by any of the methods in common use.

The cranks D are pivoted upon the disk A at points equidistant from its center, and also upon the ring E, and all these cranks being directed upward the center of the ring is raised above the center of the shaft within it, a distance equal to that between the centers of the two pivots in each crank.

As the ring is prevented from moving horizontally by the friction-roller guides F, the cranks D maintain substantially the same vertical position, while the disk, and the ring with it, revolve each around its own center.

On the ends of the fork-rods G are fastened the cranks H, which are connected to the ring E by the rods or straps I, pivoted upon the ring by the pins of the cranks D, as shown, or otherwise, as may be preferred.

The position of the ring being eccentric relatively to the shaft of the reel, as they revolve together the connecting-rods I will be alternately drawn in toward the shaft and pushed out from it, and they will thus

vibrate the forks upon the fork-rods by means of the cranks H, the extent of these vibrations being governed (other parts remaining the same) by the length of these cranks.

The different positions that each fork assumes as it revolves is shown on the drawing by the positions of the different forks, each taking the same position on its arrival at any given point in the revolution. Thus, from 1 to 2 the fork is in a position to take the grass and throw it out in the rear, but between 2 and 3 the points are dropped so as to allow the grass to escape and leave the forks clear.

In figs. 3 and 4, *a* is a cylinder, preferably of cast iron, through which the fork-rod G passes.

It passes, at the same time, through the loop-bolt *b*, admitted into the cylinder by an opening provided for it, and projecting from the cylinder on the opposite side, where it is provided with the nut *c*, beneath which, upon the bolt, is the clamp *d*.

The tines *e e* of the fork being coiled around the cylinder as shown, their ends, or the loop that connects them, (as the case may be,) are placed under the clamp *d*, and the nut being then screwed down, the tines are pressed upon the cylinder, and the fork-rod at the same time drawn forcibly against its inner surface by the loop of the bolt through which it passes, and thus the fork is secured upon the cylinder and the cylinder upon the rod by the same operation, and that too upon any point of the rod where it may be desirable to fasten it.

I am aware that an eccentric ring has been employed for operating cranks upon the fork-rods in a manner similar to mine, said ring being kept in position by a fixed guide; but by supporting my ring entirely upon cranks, and using rollers merely to prevent horizontal motion, the friction is reduced to about a minimum, and thus a great practical advantage is gained.

The foregoing being a description of my improvements in hay-tedders,

What I claim as my invention, and desire to secure by Letters Patent, is as follows:

1. The combination of the cranks D, pivoted upon the disk A, and ring E, with the guides F, substantially as and for the purpose set forth.
2. In combination with the cylinder *a* the loop-bolt *b* and clamp *d*, when arranged substantially as herein described.

JAMES M. BURDICK.

Witnesses:

HIRAM BURDICK,  
T. V. LE ROY.