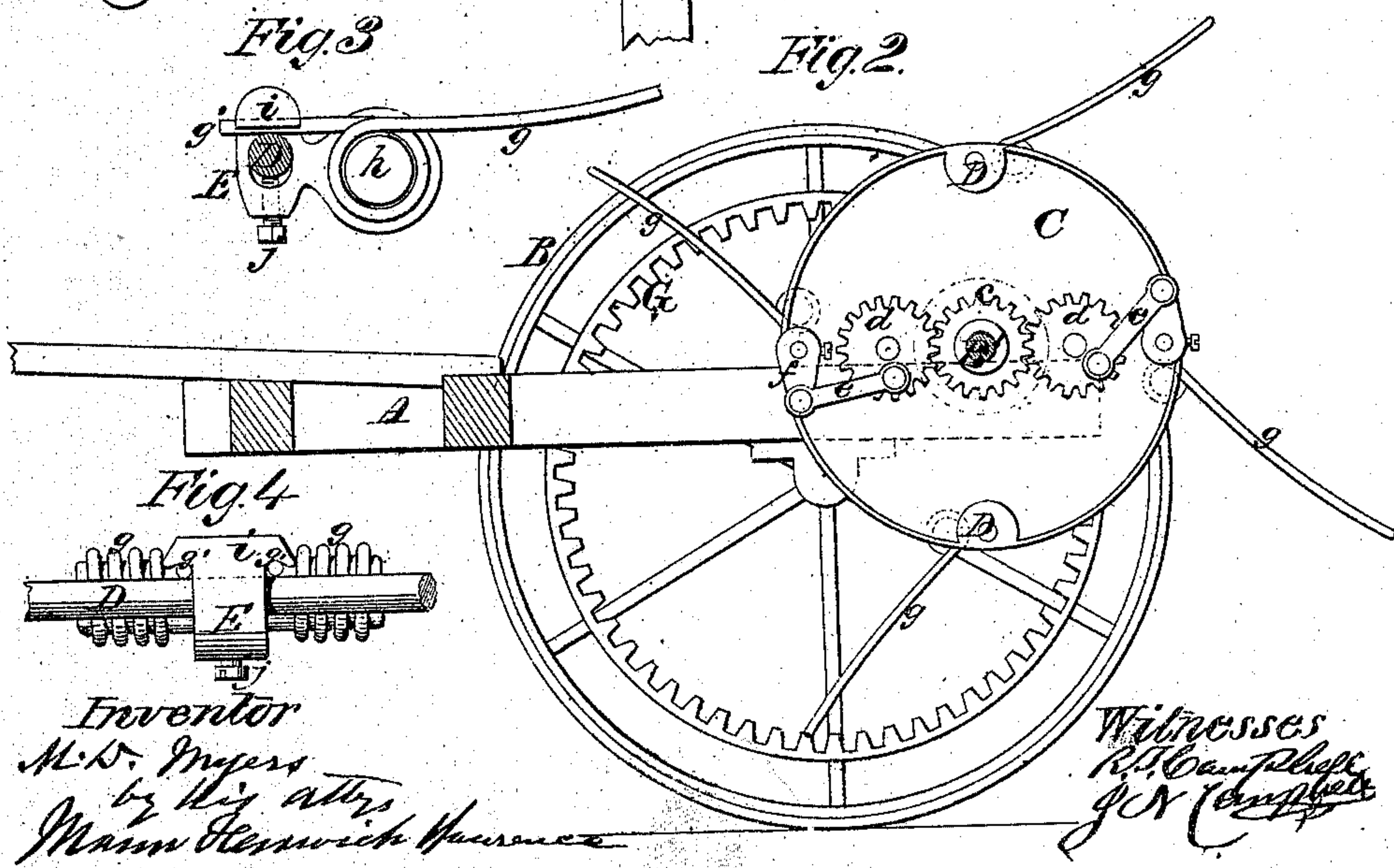
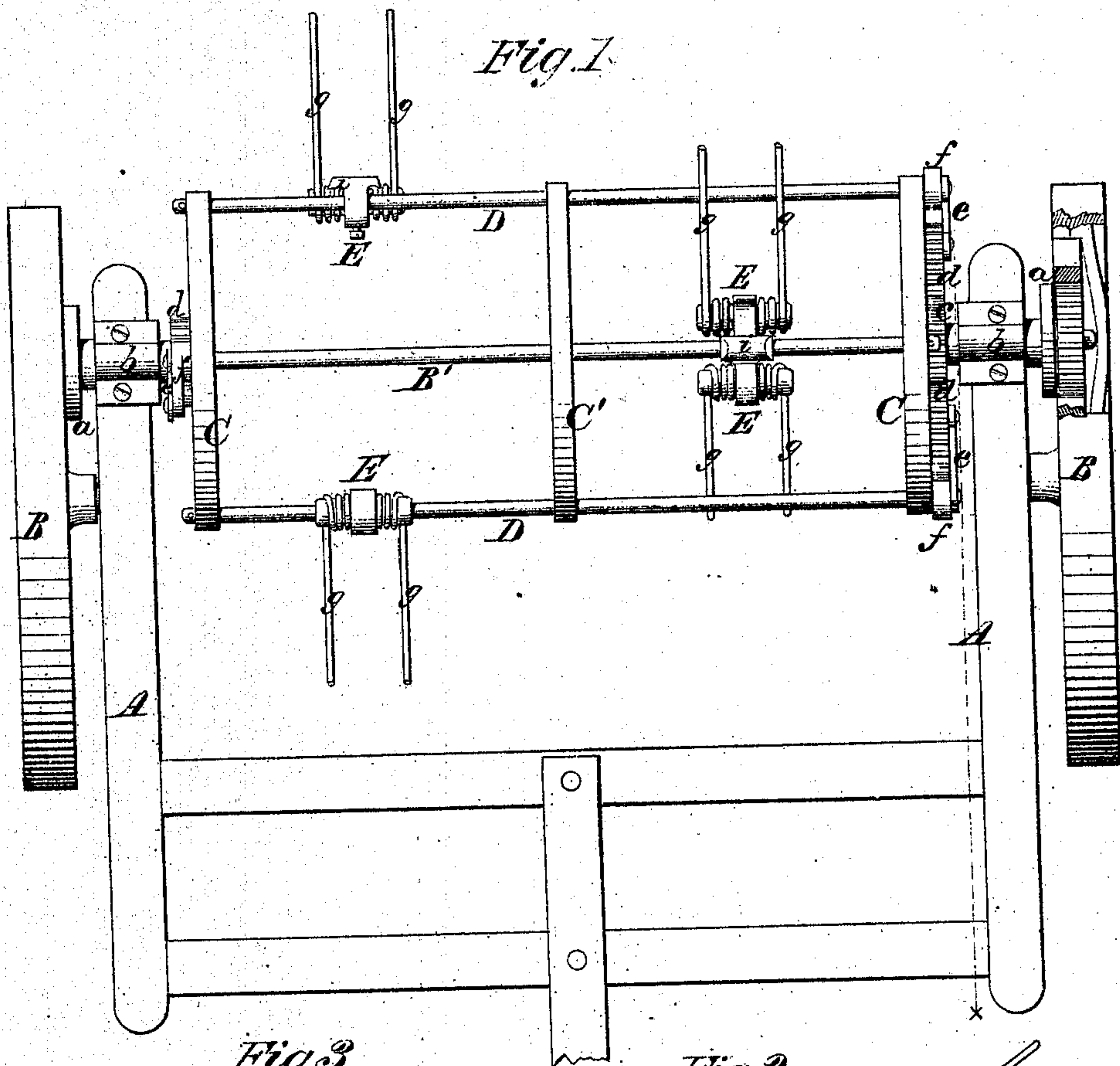


*M. D. Myers,*  
*Tedder.*

*No. 97,677.*

*Patented Dec. 7, 1869.*





# United States Patent Office.

M. D. MYERS, OF FRANKFORT, NEW YORK, ASSIGNOR OF ONE-FOURTH  
TO GEORGE W. GATES, OF SAME PLACE.

*Letters Patent No. 97,677, dated December 7, 1869.*

## IMPROVED HAY-TEDDER.

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, M. D. MYERS, of Frankfort, in the county of Herkimer, and State of New York, have invented a new and improved Hay-Tedder; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a top view of the machine complete.

Figure 2 is a sectional elevation of the machine, as seen by making a section through it in the vertical plane indicated by dotted line *x* in fig. 1.

Figures 3 and 4 show the manner of securing the forks to their heads.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to certain novel improvements on that class of hay-tedders which revolves around a common centre, and which is also caused to oscillate independently, so that the forks assume such positions, after the act of throwing the grass, as will not allow the grass to collect upon or be carried around with them.

The nature of my invention consists—

First in applying fast upon one end of each fork-carrying rod a crank-arm, and in connecting this arm to a wrist-pin which is applied eccentrically to the face of a spur-wheel, which wheel has its bearing upon one side of a reel-disk, and is caused to rotate, when the reel is revolved, by engaging with the teeth of a stationary pinion, through which the reel-shaft passes, as will be hereinafter explained.

Secondly, in an eye-bearing for holding the fork-teeth, which is so constructed that the teeth can be separately removed from or applied to this bearing, without removing it from its rod, as will be hereinafter explained.

Thirdly, in so constructing an eye-bearing for holding the fork-teeth, that the same screw which rigidly secures the bearing in place upon its rod, will also rigidly confine the teeth in place, as will be hereinafter explained.

To enable others skilled in the art to understand my invention, I will describe its construction and operation.

In the accompanying drawings—

A represents the frame of the machine, upon which the driver rides, and

B B represent two wheels, which serve both as transporting-wheels and as driving-wheels, and which are applied to short axles that do not extend across the frame.

In rear of the axle, and supported by journal-boxes *b b*, upon the side beams of frame A, is the reel-shaft B', carrying, on both ends, pinion spur-wheels *p*, one

of which is shown in fig. 1. Each wheel, *p*, is applied loosely on the shaft B', and caused to engage with it, when the machine is moved forward, by means of a spring-pawl, or clutch, applied in the box *a*, and each wheel, *p*, engages with the inside gear C on the driving-wheel nearest to it. By this arrangement it will be seen that the reel-shaft B will not rotate when the machine is backed.

The reel consists of three circular plates, C, C, and C', which are secured fast to the reel-shaft B', and four fork-carrying rods, D D D D, which are passed loosely through said plates, and arranged, at regular distances apart, around the reel-shaft.

In the drawings I have represented each rod or fork-head D with one fork applied to it; but, in practice, more than one fork may be applied to each rod.

On one end of each rod, a short crank-arm, *f*, is keyed, which is connected to a wrist-pin fixed eccentrically to the face of a spur-wheel, *d*, by means of a rod, *e*, as clearly shown in fig. 2. The spur-wheel *d* is applied to a stud on the outer side of one of the plates C, so as to revolve freely about its own axis, and also about the axis of the reel-shaft B'. This spur-wheel *d* engages with the teeth of a spur-wheel, *c*, which is secured fast to the inner end of the bearing *b*, and through the centre of which the reel-shaft B' passes.

It will be seen, from the above description, that each rake-bar D will receive an oscillatory motion about its own axis during its revolution about the axis of the reel, the extent of which oscillation will depend on the amount of throw given to the crank-arm *f* of such bar.

If desirable, the wrist-pin of each spur-wheel *d* may be made adjustable, for giving a greater or less amount of throw to said fork-rod, or the same result might be effected by having the pin on each one of the crank-arms *f* adjustable.

In the drawings I have represented two of the fork-rods arranged to receive oscillation from wheels *d d*, on one plate C, and the other two rods arranged to receive motion from similar wheels, *d d*, on the opposite plate C. This arrangement will equalize the strain upon the reel.

Having provided for giving oscillating motion to the fork-bars D, it is only necessary to adjust the forks upon these rods, so that, as the forks are successively brought into position for picking up the grass, they will assume the proper angle of inclination to the ground, which will cause them to pick up and scatter the grass to the best advantage. As the forks successively pass around, and while scattering the grass, the free ends of their tines will fall back, so that as the forks rise to the highest points in their revolution, they will free themselves of the grass.

I am aware that machines of this class, having forks



which received oscillating motion while being revolved around a common centre, have been used prior to my invention, and I do not claim this broad idea; but I am not aware that such movements of forks have ever been effected by the contrivances herein specified, one of the advantages of which is that I obtain a smooth, positive motion, which is not attended with the friction produced by the use of cams.

Each fork has two tines, *g g*, constructed with spring-coils upon them, and also with short arms, *g' g'*. The coils are slipped upon a short bar, *h*, which is passed through and secured in one eye of a bearing, *E*, as shown in fig. 3.

The short arms *g' g'*, of the teeth *g*, are introduced beneath offsets, *i i*, of the eye-bearing *E*, and between these offsets and the fork-rod *D*, which passes through the bearing, as shown in figs. 3 and 4.

By means of a set-screw, *j*, the bearing *E* is clamped rigidly to the rod *D*, and the short arms or ends *g' g'*, of the teeth *g*, are rigidly confined in their places.

To remove a tooth, *g*, it is only necessary to loosen the screw *j*, and slip the coil of the tooth off its bar, *h*.

I am aware that hay-tedders have hitherto been constructed with revolving tines, so arranged that during their revolution they were caused to present different angles, and that eccentrics were em-

ployed for this purpose; but owing to the great amount of friction thus caused, this plan is objectionable, and not claimed by me.

I am also aware that it is not new to employ, on a rake-bar, a device for receiving and holding the short ends of spring-coil rake-teeth, and enclosing such ends, and I do not claim such a device broadly as my invention.

Having described my invention,

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

1. The oscillating fork-heads applied to revolving reel-disks when operated by means of crank-arms *f*, connecting-rods *e*, and spur-wheels *d* and *c*, substantially as described.
2. The construction of an eye-bearing, *E*, with two eyes, one to receive a bar, *h*, and the other to receive the fork-bar *D*, in combination with the lateral hooked offsets *i i*, to receive and gripe the ends *g'* of the teeth, and allow the removal of the teeth by lateral movement, when screw *j* is loosened, substantially as described.

M. D. MYERS.

Witnesses:

AUGUSTUS H. WALSH,

GEO. C. LEE.