(No Model.) 2 Sheets—Sheet 1.

A. DE B. LOVETT & E. S. GOFF.

HAY TEDDER.

No. 367,007. Patented July 19, 1887.

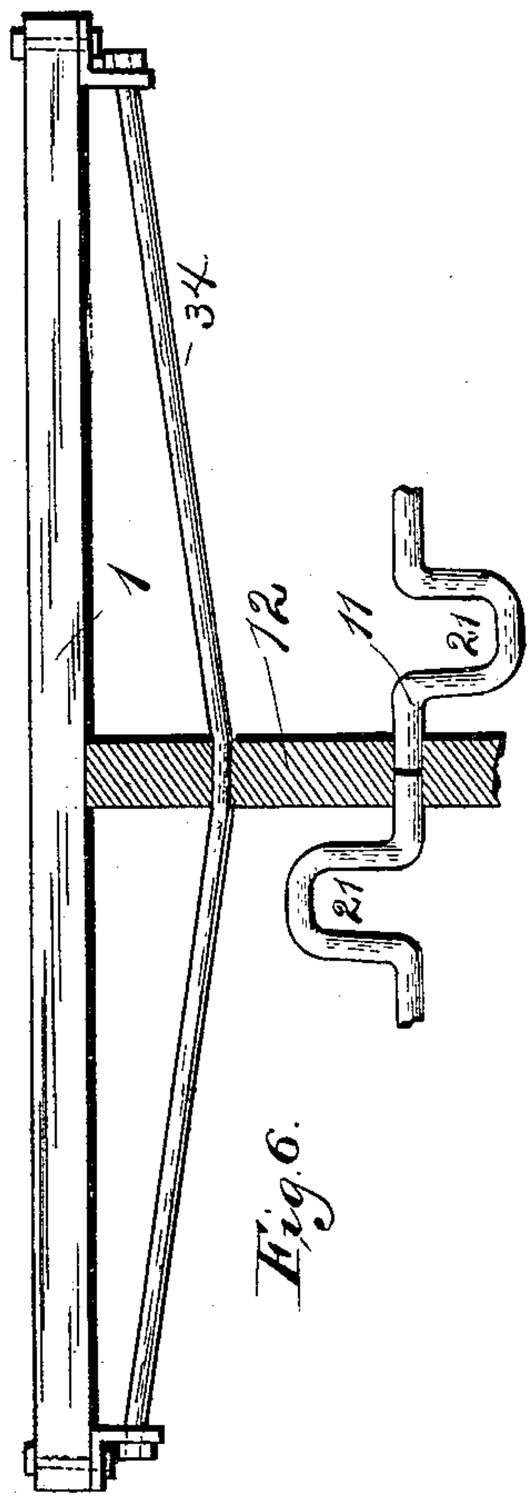

Fig. 6.

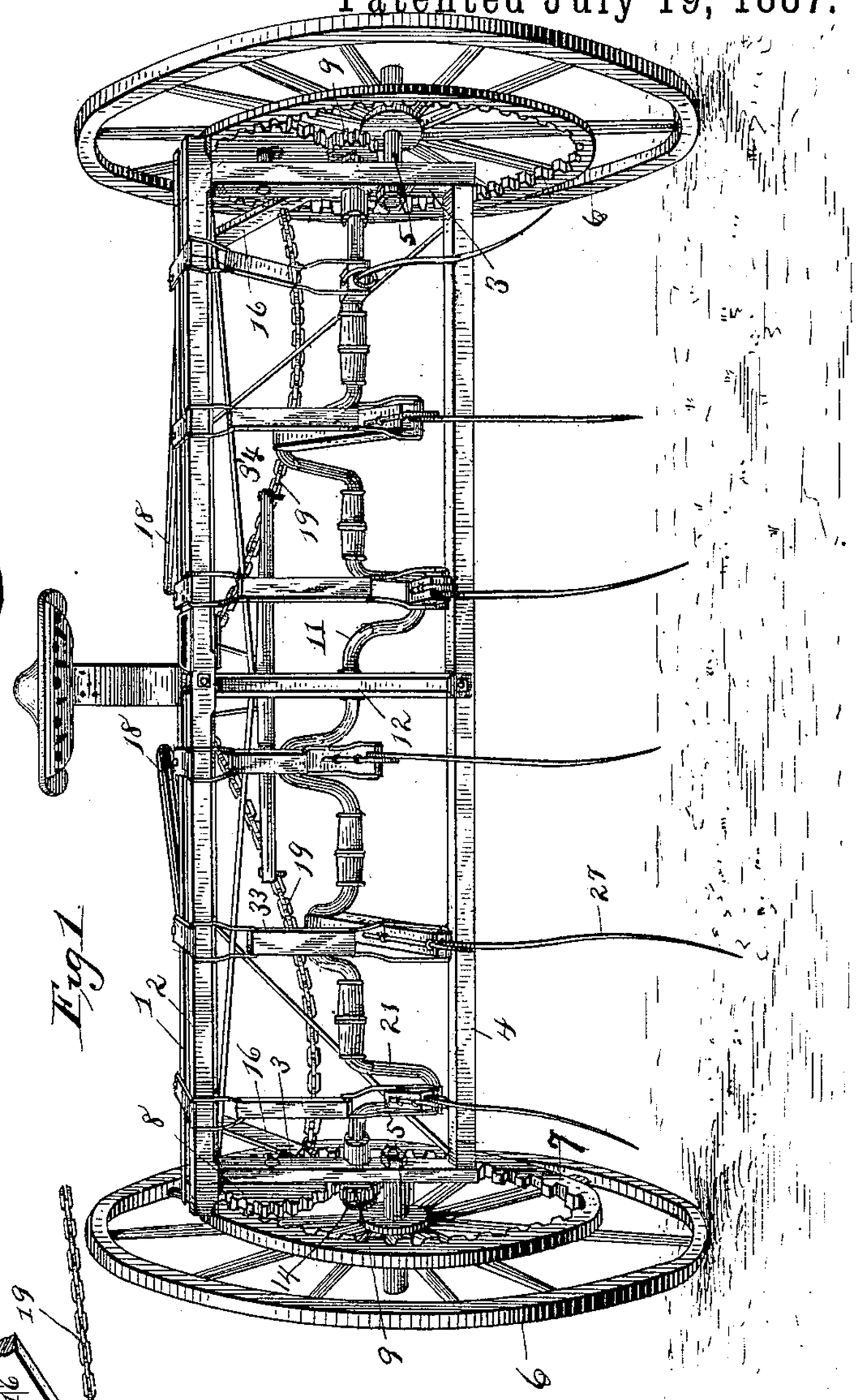

Fig. 1.

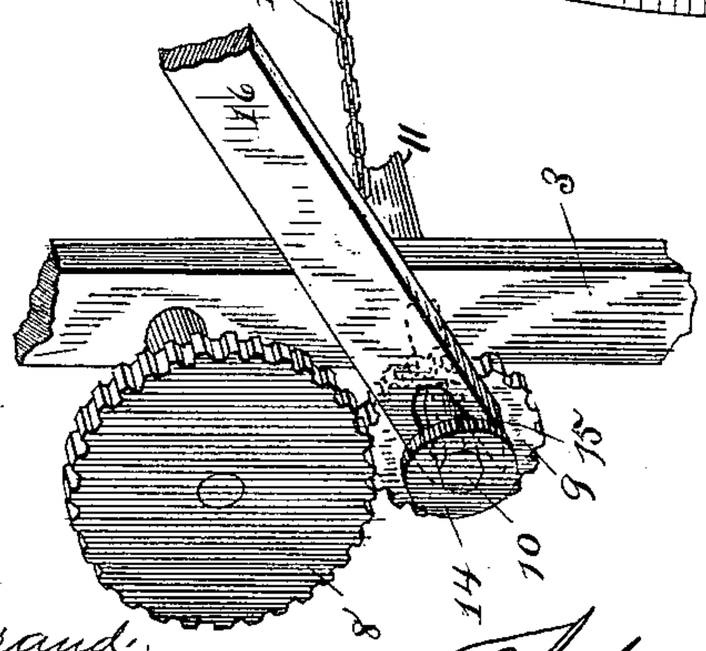

Fig. 4.

Witnesses
F. L. Ourand
W. E. Dawson.

Inventors
Thlorne de B. Lovett and
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By their Attorney
Louis Bagger & Co.

(No Model.) 2 Sheets—Sheet 2.

A. DE B. LOVETT & E. S. GOFF.

HAY TEDDER.

No. 367,007. Patented July 19, 1887.

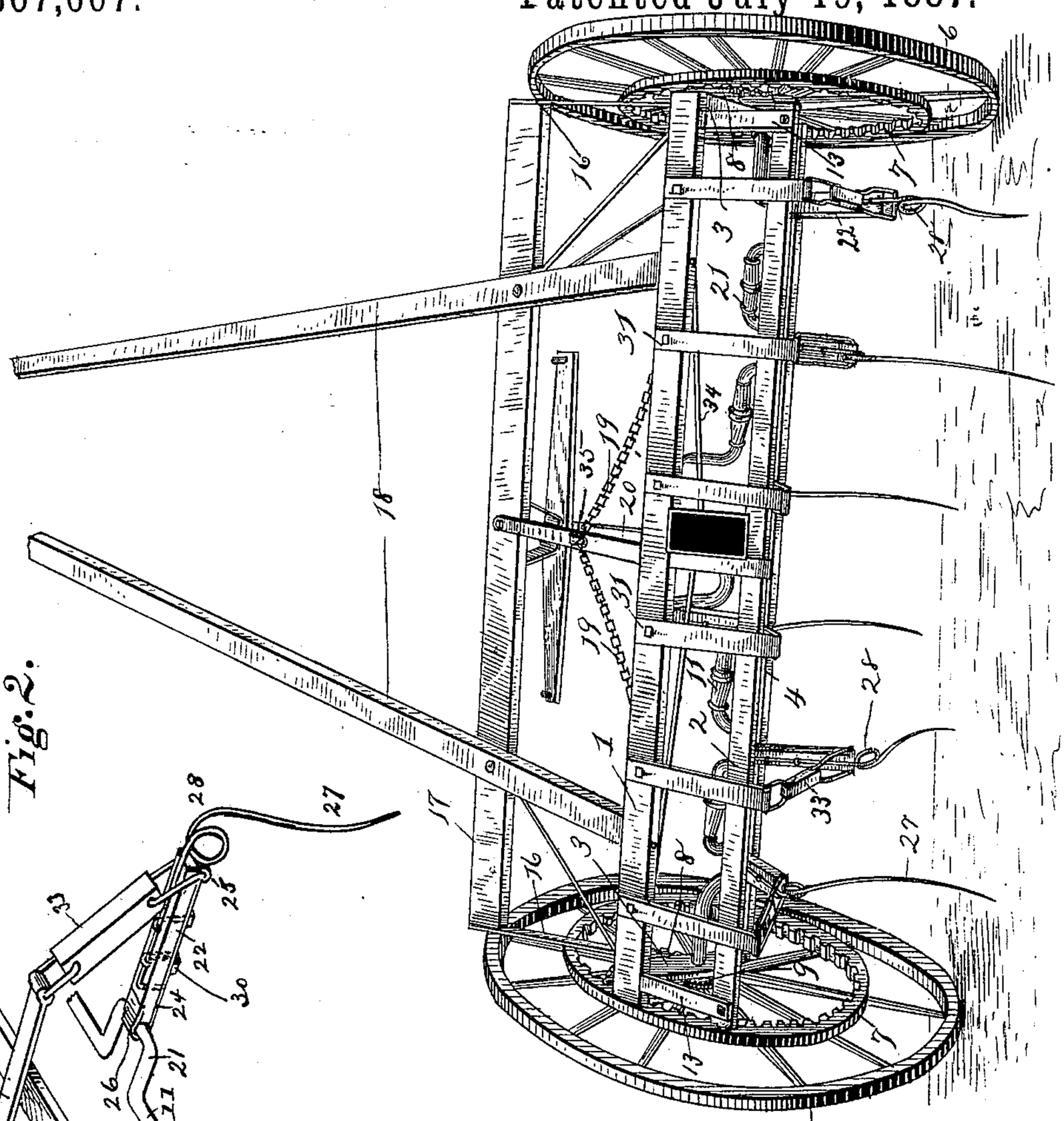

Fig. 2.

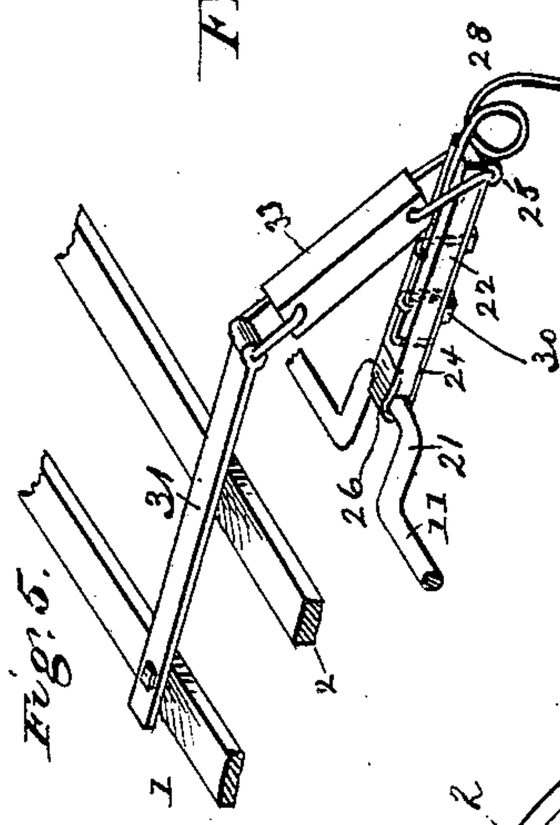

Fig. 5.

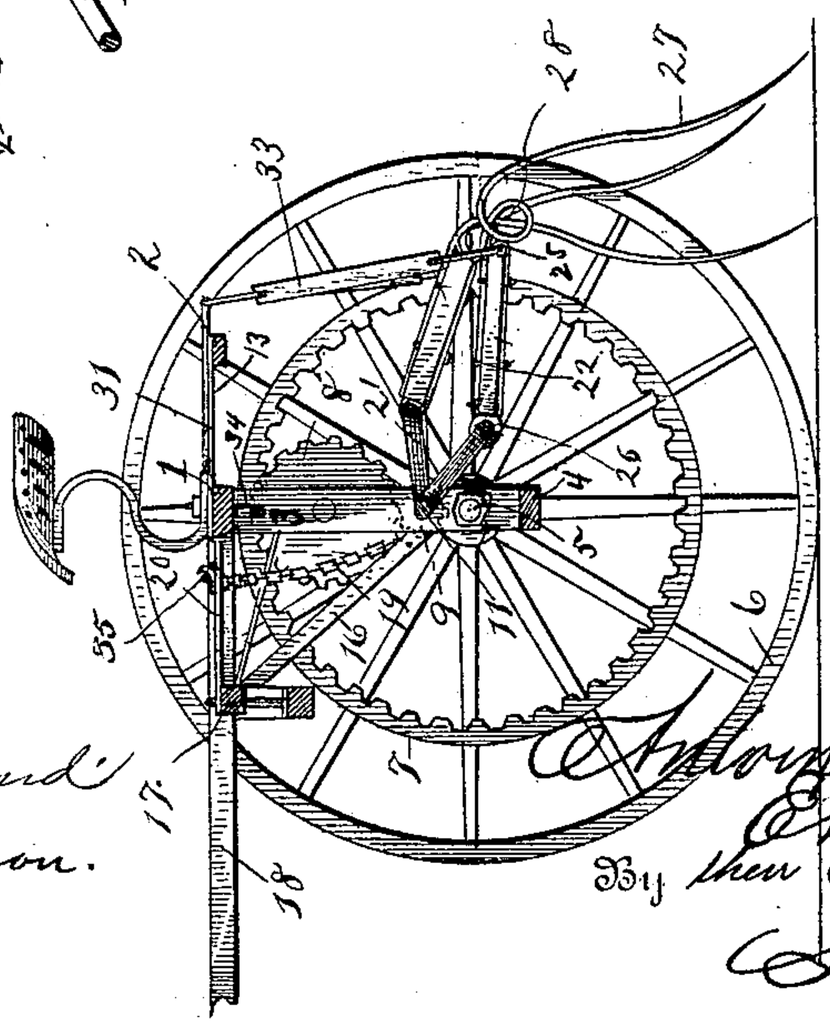

Fig. 3.

Witnesses
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UNITED STATES PATENT OFFICE.

ANTOINE DE B. LOVETT AND EMMETT S. GOFF, OF GENEVA, NEW YORK.

HAY-TEDDER.

SPECIFICATION forming part of Letters Patent No. 367,007, dated July 19, 1887.

Application filed November 17, 1886. Serial No. 219,159. (No model.)

To all whom it may concern:

Be it known that we, ANTOINE DE B. LOVETT and EMMETT S. GOFF, both residents of Geneva, in the county of Ontario and State of New York, have invented certain new and useful Improvements in Hay-Tedders; and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective rear view of our improved hay-tedder. Fig. 2 is a similar view from above the tedder. Fig. 3 is a longitudinal vertical sectional view. Fig. 4 is a perspective detail view of the clutch mechanism at one end of the machine. Fig. 5 is an enlarged detail view of one of the tedder-forks and its connections, and Fig. 6 is a detail view showing the divided shafts 34 and the manner of trussing the frame of the rake.

Similar numerals of reference indicate corresponding parts in all the figures.

Our invention has relation to that class of hay-tedders in which the forks or tedders are operated by means of a crank-shaft; and it consists in the improved construction and combination of parts of such a tedder, as hereinafter more fully described and claimed.

In the accompanying drawings, the numerals 1 and 4 represent the top and bottom bars of the tedder-frame; 3, the end pieces; 12, a central brace or support, and 34 an ordinary truss-rod, secured at its ends to the under side of the top bar. A pair of shafts, 18, is secured to the top bar by means of bolts at their rear ends, and also by suitable side braces. A cross-piece, 17, is secured to the shafts and also to the outer end of a bar, 20, the rear end of which is secured to the top bar, 1. Each of the end pieces, 3, is provided with two stubs or journals, on one of which, 5, the driving-wheels 6 are secured, and on the other the cog-wheels 8. An interior gear-wheel, 7, is secured to each of the drive-wheels in such a manner that they will mesh with the wheels 8, and through them communicate motion to the pinions 9 upon the ends of the crank-shaft 11, for operating the tedders. This shaft is provided with a number of double cranks and can be made of one piece and be operated by only one set of gear-wheels at one end; but we prefer to make it in two sections, the interior ends of which are journaled in bearings in the brace-piece 12 and the outer ends in the end pieces, 3 3. The outer ends of these shafts are made polygonal, as shown at 10; or they may be provided with the ordinary fin, by means of which the pinions 9 are secured to them to cause their rotation. Secured at their forward ends to the cranks 21 of the crank-shaft by means of ordinary strap-loop 26 are the tedder-arms 22. The rear ends of these arms, to which the forks 27 are secured, are suspended by means of the links 33 from springs 31, which are secured at one end to the top bar of the frame. These links can be hinged directly to the arms, and springs or loops, as shown, may be interposed, and the forks 27 may also be provided with a coil, 28, and be secured to the arms by means of eyebolts or staples 30, or in any other well-known manner. Each of these arms can also be made of wood and provided upon its under side with a flat strap, 24, formed into eyes 25 at the rear end and into a hooked strap or loop, 26, at its forward end, although we do not limit ourselves to any particular construction of any of these parts or the frame. As the tedder-forks are drawn forward the springs 31 will yield sufficiently to permit the fork to pass over the hay or any obstruction; but after they have caught in the hay and started backward the springs are kept from bending downward too far by means of the supporting-bar 2, which is rigidly secured to and parallel with the top bar, 1, by means of the short end pieces, 13. By means of this construction we attach the ends of the arms to the crank-shaft, thus securing a direct application of power, which will also permit of free lateral motion of the outer ends of the arms as the fork is passing an obstruction; and, as each arm is suspended from a separate spring, each fork can move independently of all the other forks and the point of support of the arm has but little vertical motion.

When it is desired to throw either or both sections of the crank-shaft out of operation, the driver places his feet upon the chains 19 and pushes them down. The inner end of each of

these chains is attached to the bar 20 and its outer end to the rear end of the spring-bar 16, which is secured at its forward end to the outer end of the cross-piece 17 and at its forked or slotted rear end 15 to the pinion 9, the pinion being provided with a grooved collar, 14, with which the forked end of the spring 16 engages. This causes the pinion to be drawn inward upon the end of the crank-shaft and out of engagement with the cog-wheel 8. As soon as the chains are released, the springs force the pinions 9 back into engagement and put the crank-shaft again in operation. In this manner a small obstruction can be passed without stopping the shaft its entire length. When it is desired to pass from one field to another, the chains can be drawn in and secured upon a hook, 35, thus holding the pinions at each end out of engagement.

Having thus described our invention, we claim and desire to secure by Letters Patent of the United States—

1. In a hay-tedder, the combination of a frame, a fork-operating shaft journaled therein, a movable pinion upon each end of said shaft, springs secured at their front ends to said frame and engaging by their rear ends with and holding said pinions in or out of engagement with the operating mechanism, and chains secured to the said springs and frame.

2. In a hay-tedder, the combination of a frame, a fork-operating shaft journaled therein, a bar, 20, the rear end of which is secured to the top bar of the frame, a hook upon said bar 20, springs secured at their front ends to the sides of said frame and holding the operating mechanism in or out of engagement with their rear ends, and chains secured to said first-mentioned bar and to said springs, the intermediate portions of said chains being adapted to be secured upon said hook.

3. In a hay-tedder, the combination of a frame, a fork-operating shaft journaled therein, and means, substantially as described, for operating it, a supporting-bar secured to and parallel with the top bar of the frame, a series of springs secured at their forward end to said top bar and extending rearward over and resting loosely upon said supporting-bar, tedder-arms secured to the operating-shaft, and links for securing said arms to said springs.

In testimony that we claim the foregoing as our own we have hereunto affixed our signatures in presence of two witnesses.

ANTOINE DE B. LOVETT.
EMMETT S. GOFF.

Witnesses to the signature of A. de B. Lovett:

LOUIS BAGGER,
GEO. FRICH.

Witnesses to the signature of E. S. Goff:

CHAS. P. MELLEN,
W. F. HANLON.