

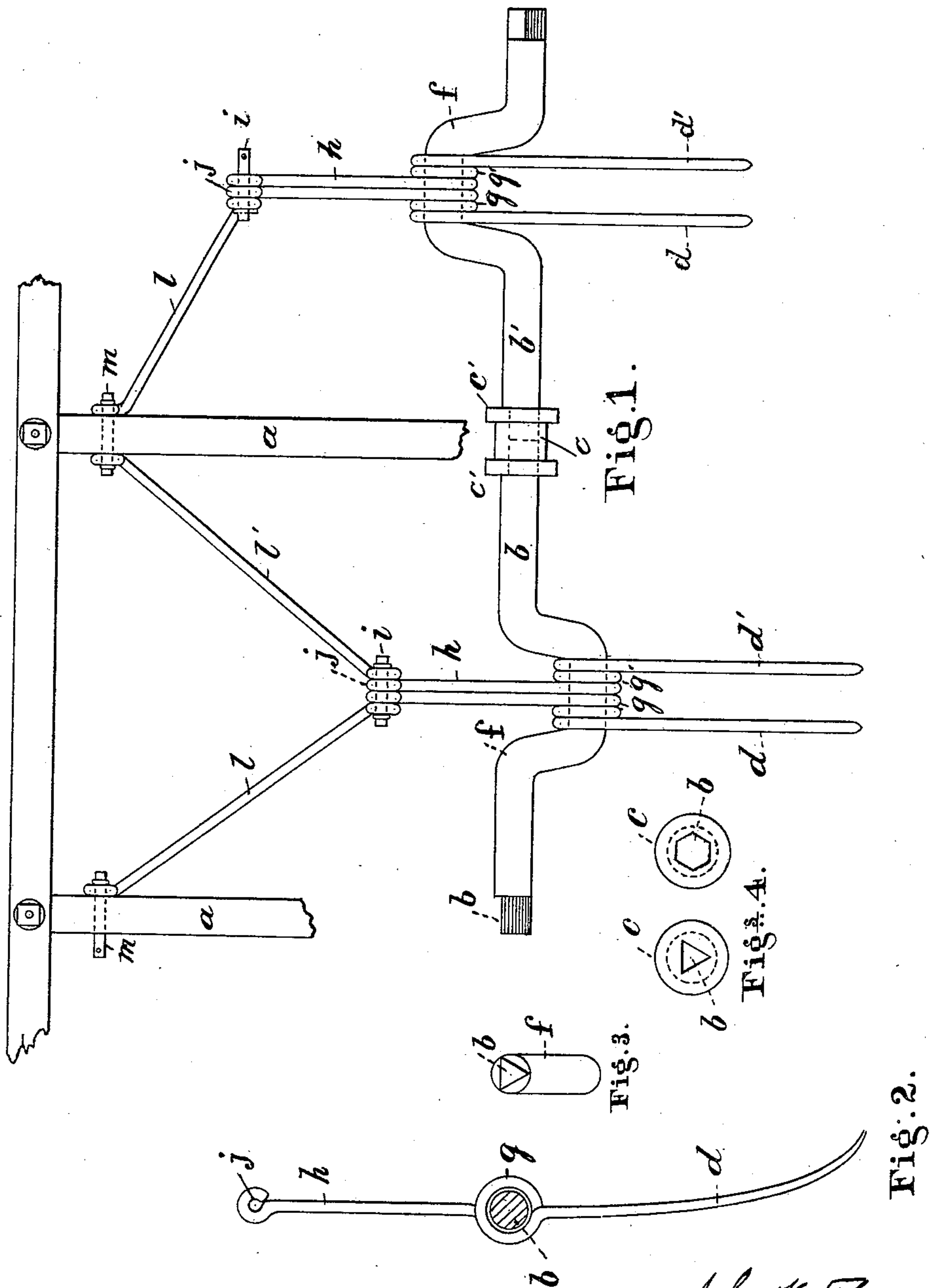
(No Model.)

J. H. THOMAS.

HAY TEDDER.

No. 329,976.

Patented Nov. 10, 1885.



Attest:
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UNITED STATES PATENT OFFICE.

JOHN H. THOMAS, OF SPRINGFIELD, OHIO.

HAY-TEDDER.

SPECIFICATION forming part of Letters Patent No. 329,976, dated November 10, 1885.

Application filed September 12, 1883. Serial No. 106,250. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. THOMAS, of Springfield, county of Clark, State of Ohio, have invented a new and useful Improvement in Hay-Tedders, of which the following is a specification.

The invention relates to a novel construction of the crank-shaft by means of which the tedder-forks are actuated, said shaft being made in sections, which are coupled loosely, to allow the sections a limited movement or play relative to each other, permitting them to be deflected from a right line, and at the same time in such manner as to cause the sections to rotate together, one section serving to drive, or being driven by, another.

It further relates to the construction of the tedder-teeth and to the manner of combining the same with the actuating-cranks.

Figure 1 is a plan view of a portion of a hay-tedder illustrating my invention; Fig. 2, a side elevation of one of the tedder-teeth, showing a cross-section of a crank-shaft; Fig. 3, an end view of one of the sections of the crank-shaft; and Fig. 4, end views of the same and the coupling-collar, showing different forms of the connecting ends of the crank-shaft sections.

Referring to the drawings, it will be seen that the crank-shaft is composed of sections bb' , which are united by couplings c , that rotate in boxes (not shown) secured to the framing a of the machine. The coupling-sleeves c are provided at their ends with annular flanges c' , which prevent lateral displacement of the sleeves and cranks in the bearings.

The tedder-teeth $d d'$ are constructed of spring metal, and they are coiled around the cranks f at $g g'$, in a suitable manner to form bearings for themselves and at the same time possess suitable yielding qualities to prevent breakage when they are opposed by unusual obstructions.

The ends of the various sections of the aforesaid crank-shaft are preferably formed in some such shapes as those represented in Fig. 4, and the openings of the couplings c are made to correspond therewith. The form of the ends of the sections and of the sockets or openings in the couplings for the reception of said ends should be such as to permit the cranks to be set at the proper angle in relation to each

other, and also to adapt one section to actuate or be actuated by the adjoining section, and there should be sufficient freedom of movement of the end or tenon in the socket to permit slight end play or movement of the sections and to prevent binding or cramping of the shaft in its bearings on the frame in case the bearings or any of the sections should from any cause become slightly deflected from a right line.

The tedder-teeth are coiled for the purposes specified, and have extended shanks h , each one of which is bent around in the form of a loop, j , to surround a pin, i , that connects it with the radius-rods $l l'$. These radius-rods oscillate on stationary pins m , secured to the framing a .

I arrange the teeth $d d'$ in couples, so as to cover as much space as desirable at each crank, and the coils $g g'$, being arranged to face each other, give as much spread as I desire, as I can increase the spread by the addition of coils around the crank. The coils between each pair of tedder-teeth in addition to forming distance-pieces, also serve as journal-boxes, in which the cranked portions of the shaft revolve. The ends j of the shanks of the teeth $d d'$ may be spread or widened where they form the loop j , so as to present a wide bearing-surface on the pins i .

By constructing the crank-shaft in sections, as specified, I am enabled to attach the teeth $d d'$ to the crank of the same by slipping them over one end of said section, and I am enabled to exchange teeth at a damaged point without disturbing the whole system of tedder-teeth. I am also enabled to repair the crank-shaft at any point along its length without disturbing its driving mechanism.

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

1. In a hay-tedder, the crank-shaft for operating the teeth, made in sections, in combination with coupling-sleeves loosely uniting said sections and adapting one section to be driven by another, substantially as described.

2. In a hay-tedder, the crank-shaft made in sections, each having its ends made in polygonal or other suitable form, in combination with couplings having sockets or perforations conforming in shape to the ends of the crank-

sections, for loosely uniting said sections and adapting one section to be operated through the coupling by the adjoining section, substantially as described.

5 3. In a hay-tedder, the tedder-teeth formed each in a single piece, with the coil forming a bearing for its actuating-crank, and with the eye for attaching it to the swinging link or radius-rod supporting its heel end, substantially as described.

10 4. The combination, in a hay-tedder, of a crank-shaft constructed of sections, couplings for uniting the contiguous ends of said sections, and tedder-teeth coiled one or more
15 times around the cranks of said crank-shaft and united at their upper ends to radius-rods, substantially as and for the purpose specified.

20 5. In a hay-tedder, a crank-shaft constructed of sections *b b'*, joined together loosely by couplings *c*, that also form journals for said crank-

shaft, in combination with a system of suitable tedder-teeth, substantially as and for the purpose specified.

6. The combination, in a hay-tedder, of a frame, a revolving shaft having cranks between its ends for vibrating the tedder-teeth, and tedder-teeth arranged in pairs, each pair provided with coils between the teeth, arranged directly on the revolving cranks, and having shanks supported at their upper ends by radius-rods connected to the main frame, said coils forming distance-pieces, and also journal-boxes in which the teeth-operating cranks revolve, substantially as described.

In testimony whereof I have hereunto set my hand this 6th day of September, 1883.

JOHN H. THOMAS.

Witnesses:

HENRY MILLWARD,
CHASE STEWART.