

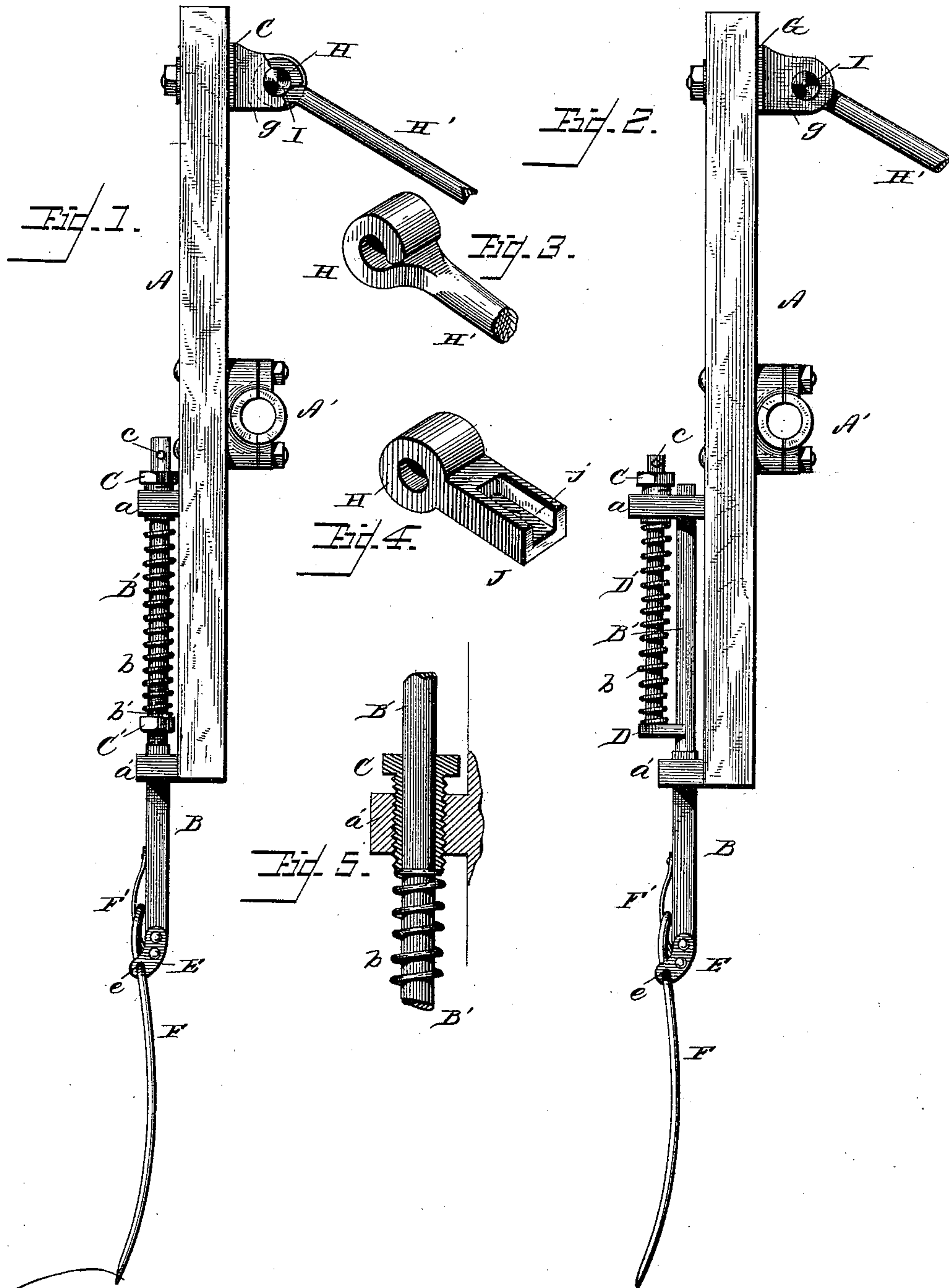
(No Model.)

J. H. THOMAS.

HAY TEDDER.

No. 329,977.

Patented Nov. 10, 1885.



WITNESSES

Wm. Speidauer,
Rev. W. Smith.

INVENTOR

John H. Thomas
by W. M. Smith

Attorney.

UNITED STATES PATENT OFFICE.

JOHN H. THOMAS, OF SPRINGFIELD, OHIO.

HAY-TEDDER.

SPECIFICATION forming part of Letters Patent No. 329,977, dated November 10, 1885.

Application filed September 22, 1884. Serial No. 143,634. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. THOMAS, of Springfield, county of Clark, and State of Ohio, have invented a new and useful Improvement in Hay-Tedders, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification.

My invention relates to an improvement in hay-tedders, or, more specifically, to the construction of the vibrating fork-arms and forks thereof, whereby said forks are adapted to yield in a vertical direction relatively to their supporting fork-arms.

My invention consists in the combination, with the tedder-fork arm, of a fork-stem or sliding bar or rod working in suitable guideways formed upon or secured to the fork-arm, and having the tedder-fork attached thereto at its lower end, said sliding fork-stem being provided with a suitable spring for adapting it to yield, and means for limiting its motion.

My invention consists, also, in certain details of construction and arrangement of parts, hereinafter fully and clearly set forth, and pointed out with reference to the accompanying drawings, in which—

Figure 1 represents a side elevation of one of my improved tedder-forks complete; Fig. 2, a similar view showing a modification in the arrangement of the spring actuating the fork-stem. Fig. 3 is a detail view in perspective of the "upset" end of one of the swinging links or radial rods, illustrating my manner of obtaining a greatly-increased width of wearing-surface for same at the point where it is attached to or connected with the fork-arm. Fig. 4 shows a metal casting which may be employed in lieu of the upset end of the swinging link; and Fig. 5 a view, partly in section, showing the manner of regulating and adjusting the tension of the spring surrounding the fork-stem or an arm thereof.

In the accompanying drawings, A represents one of the fork-arms of a hay-tedder, made of wood or any suitable material for the purpose for which it is intended, so as to secure the requisite amount of strength and durability. It is mounted upon one of the tedder-cranks in the customary manner—that is, by means of a crank-wrist bearing, A', secured to the fork-arm A at or near the center of its length,

and preferably upon the forward face thereof relatively to the movement of the machine. Said bearing is by preference adjustable to allow for its being taken up in case of wear of the parts. Motion is imparted to the fork-arms by means of the tedder-cranks, whose wrists have their bearing and rotate in these bearings A'. Upon one face of the fork-arm A, preferably the rear face thereof, two lugs or guideways, *a a'*, are formed or otherwise secured. These lugs are located at a suitable distance apart, and are of such dimensions that they will permit the passage through them of a fork-stem, B, the lugs *a* and *a'* serving as guideways for the same and steadying its vertical movements. Said fork-stem is by preference square in form or polygonal, and the lug *a'* is provided with a corresponding perforation, the object being to prevent the fork-stem from rotating or turning in the guides, though this end may be accomplished in other ways, such as providing the stem with a feather or flange working in a corresponding slot or groove in the perforated lug *a'*. The fork-stem may be made of the same form its entire length, and the upper lug, *a*, made to correspond therewith in the shape of its perforation; but I prefer to make the stem B above the lug *a'* round or cylindrical in form, as shown at B', for a purpose that will be set forth. Intermediately of the lugs *a* and *a'* is placed a spiral spring, *b*, surrounding the fork-stem B' and serving by its tension to hold the stem B down to its work.

C represents a threaded sleeve or tube provided on its outer face with a screw-thread corresponding with a thread in the perforated lug *a*, into and through which the sleeve or tube passes by turning the same. The perforation of said sleeve or tube is of a size adapted to receive the turned portion B' of stem B. The office of said threaded tube or sleeve is to provide for the adjustment of the tension of the spiral spring *b*. By screwing the sleeve C into the lug *a* the lower end of said sleeve adjacent to the spring against which it is forced will compress said spring *b* and increase the tension of the same for regulating the downward pressure of the fork-stem and the tedder-fork. If this adjustment is not sufficient, the turned portion B' of stem B may be provided with a thread at *b'*, and a nut, C',

working thereon, be employed, by the rotation of which the spring may be further compressed.

In order to limit the movement of the fork-stem, a pin, *c*, or other suitable device, may be employed, thus preventing the escape of the said fork-stem from the guides *a* and *a'*.

In lieu of the arrangement just described, and as a modification of the same, the turned portion of the fork-stem may be provided with a projection or lug, *D*, and a secondary or supplemental rod, *D'*, be employed, as shown in Fig. 2, extending upwardly from lug *D*. In this case the upper lug, *a*, is made larger to receive both the turned portion *B'* of the fork-stem and the threaded sleeve *C*, before described, for adjusting the tension of spring *b*, which surrounds the supplemental rod *D'* in the same manner as before described.

E represents a metal bracket secured to the lower extremity of the fork-stem *B* and provided with projections *e e*, through which the tedder-fork *F* passes, and by means of which said fork is pivoted. Above the pivotal point *e* the fork *F* is of loop form or inverted-U shape, and passing over said loop portion, upon the outside thereof, is a flat spring, *F'*, bolted or otherwise secured to the fork-stem, serving to maintain the fork *F* in the position shown in the drawings, at the same time allowing the fork to yield in a forward direction relatively to the movement of the machine, or backward relatively to the working movement of the fork-arm and fork. To the fork-arm, at or near its upper extremity, is bolted or otherwise secured a metal bracket, *G*, (shown in Figs. 1 and 2,) provided with two parallel flanges or wings, *g g*, located at such a distance apart as to permit the introduction between them of a very broad eye, *H*, formed upon the swinging end of the links *H'*, connecting the upper ends of the fork-arms with one of the frame-bars of the machine. In order to secure this extra broad eye, I prefer to upset the end of the link, as shown in detail in Fig. 3—that is, to flatten the end of the rod or link *H'* and crowd the metal back upon itself, then to turn the flattened and thickened end over upon itself, thus forming an eye or bearing of greatly increased width and thickness. This eye *H*, when finished, is of just sufficient size or width to fit snugly between the flanges *g g* of

bracket *G*, so that there will be no looseness and unnecessary wearing of the parts. A pin, *I*, passes through the eye *H*, and by preference is fixed or secured within the perforated lugs or ears *g g*, so that it cannot rotate therein, and the eye *H* will be obliged to revolve or turn upon it, this construction effecting the least wear of parts, though, if preferred, the pin *I* may be fixed within the eye *H* and adapted to turn within the perforations in the flanges *g g* of bracket *G*.

The exact form of flanged metal bracket illustrated in the drawings need not necessarily be employed, and I do not wish to be restricted to the same only.

In lieu of upsetting the end of the connecting rod or link *H'*, a metal casting or tip, *J*, may be employed, provided with a socket, *j*, for the reception of the end of the swinging link *H'*, by means of which the casting or tip may be secured upon the end of the link.

Having now described my invention, I claim as new—

1. The fork-stem working in guides on the swinging fork-arm and the spring for adapting said stem to yield, in combination with means, substantially as described, for adjusting the tension of said spring.

2. The combination, with the fork-arm, of the fork-stem held loosely in and sliding through two or more perforated guides on said arm, a spiral spring, means, substantially as described, for adjusting the tension of said spring for adapting said fork-stem to yield, and the independently-acting tedder-forks pivoted to the lower end of the fork-stem in pendent brackets and held in working position by a flat spring, as described.

3. The fork-arm provided with the perforated guide-pieces, in combination with the sliding fork-stem provided with the supplemental arm or rod surrounded by the spiral spring, and the independently-acting tedder-forks, substantially as specified.

In testimony whereof I have hereunto set my hand this 19th day of September, A. D. 1884.

JOHN H. THOMAS.

Witnesses:

A. P. LINN COCHRAN,
ROBT. C. RODGERS.