(No Model.) 3 Sheets—Sheet 1.

G. H. EARNEST.

HAY TEDDER.

No. 383,872. Patented June 5, 1888.

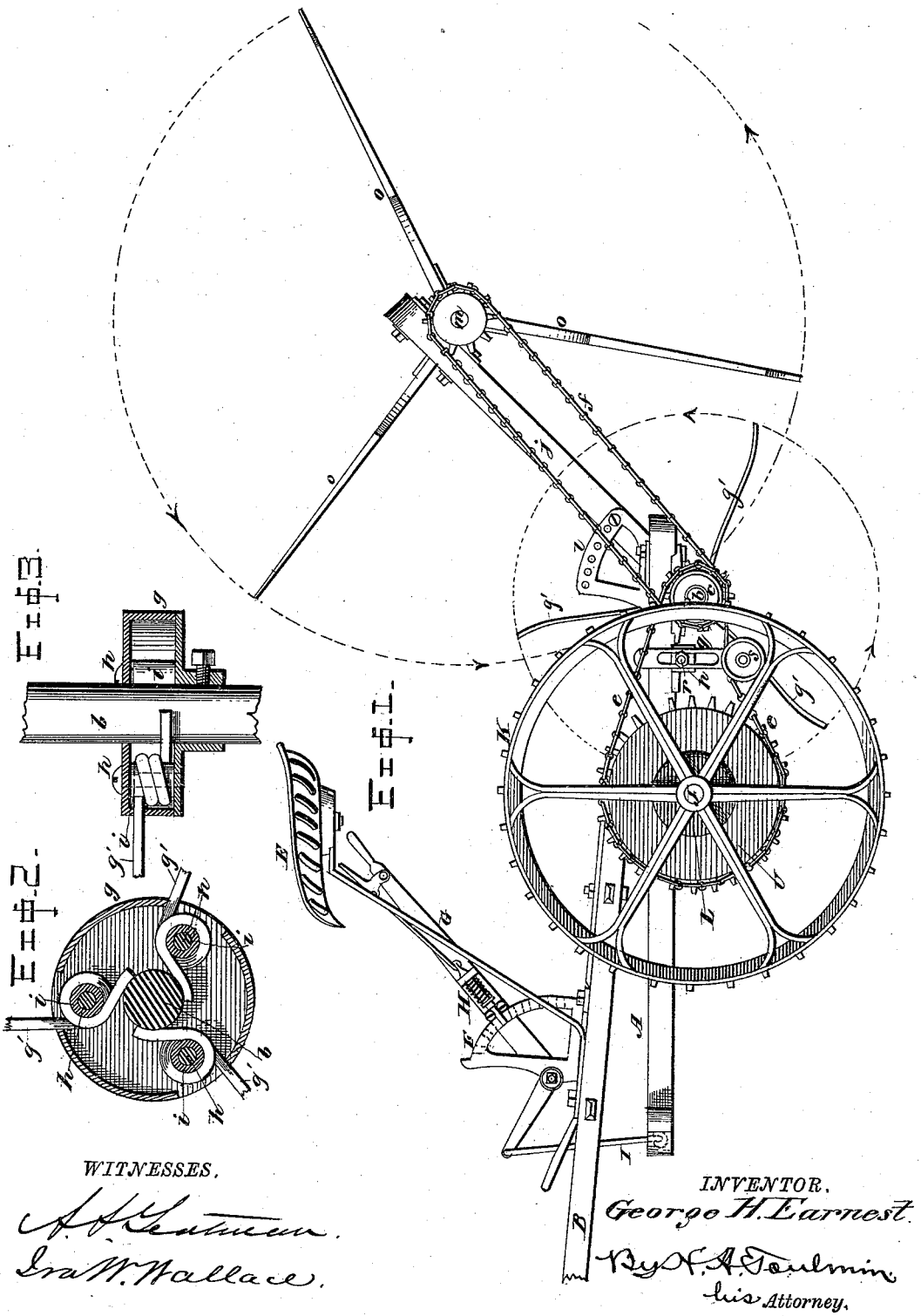

Fig. 1.

Fig. 2.

Fig. 3.

WITNESSES.

A. D. Seaman.

Ira W. Wallace.

INVENTOR.

George H. Earnest.

By F. A. Toulmin

his Attorney.

(No Model.) 3 Sheets—Sheet 2.

G. H. EARNEST.

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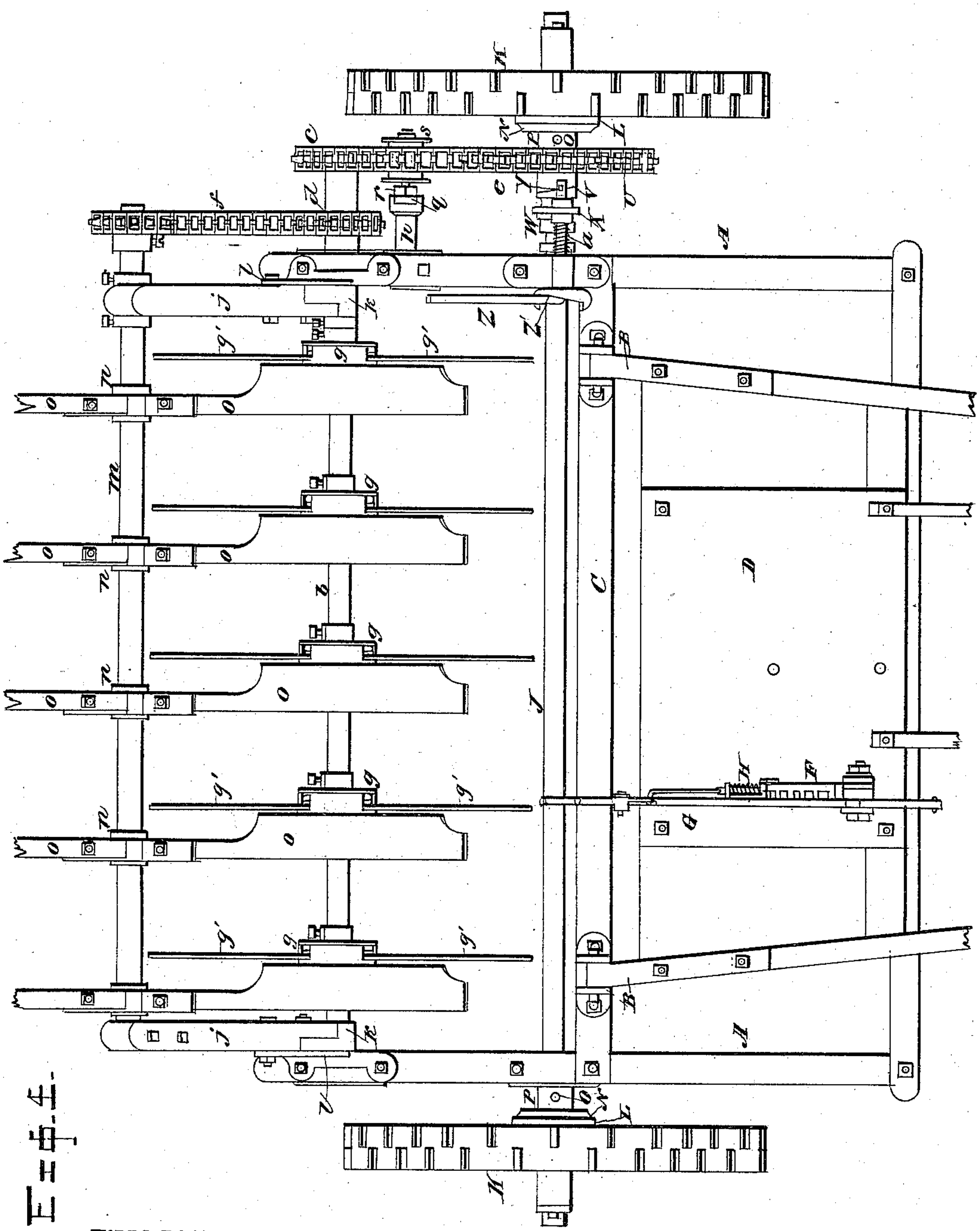

Fig. 4.

WITNESSES.

[illegible]

Ira W. Wallace.

INVENTOR.

George H. Earnest.

By H. A. Toulmin

his Attorney.

N. PETERS, Photo-Lithographer, Washington, D. C.

(No Model.) 3 Sheets—Sheet 3.

G. H. EARNEST.

HAY TEDDER.

No. 383,872. Patented June 5, 1888.

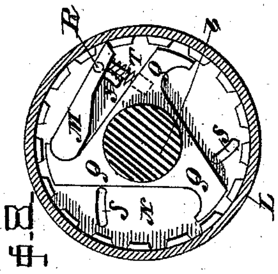

Fig. 8.

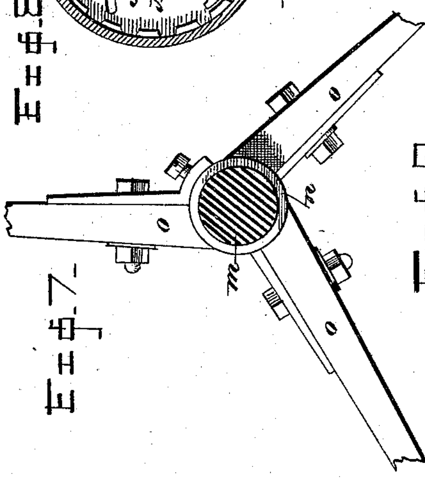

Fig. 7.

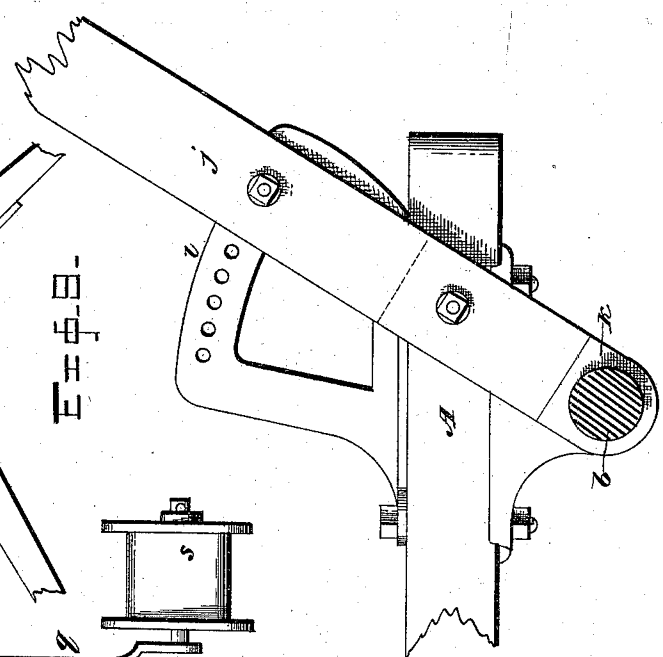

Fig. 9.

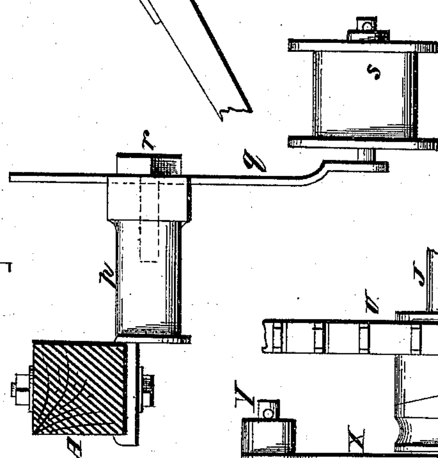

Fig. 6.

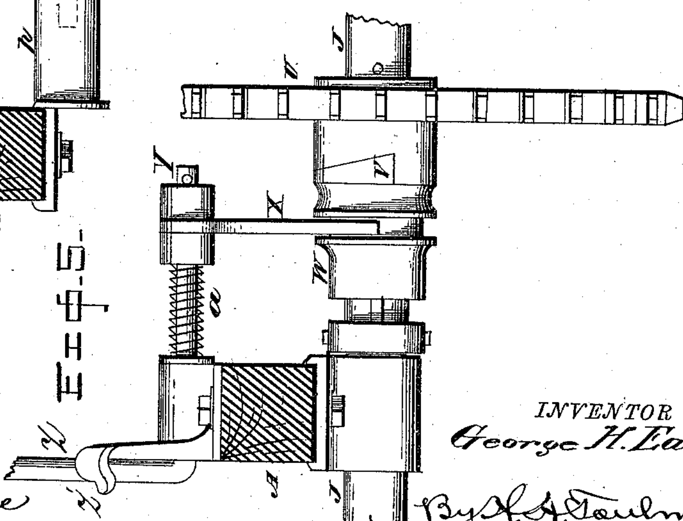

Fig. 5.

WITNESSES

Ira W. Wallace

INVENTOR

George H. Earnest

By H. A. Toulmin

his Attorney.

N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

GEORGE H. EARNEST, OF SPRINGFIELD, OHIO, ASSIGNOR OF ONE-HALF TO THE ROGERS FENCE COMPANY, OF SAME PLACE.

HAY-TEDDER.

SPECIFICATION forming part of Letters Patent No. 383,872, dated June 5, 1888.

Application filed May 31, 1887. Serial No. 239,737. (No m del.)

To all whom it may concern:

Be it known that I, GEORGE H. EARNEST, a citizen of the United States, residing at Springfield, in the county of Clark and State of Ohio, have invented certain new and useful Improvements in Hay-Tedders, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to improvements in hay-tedders, and has special reference to what are known as "revolving tedders."

The invention consists of a tedder-shaft proper and a series of forks carried by the shaft, and of a clearer-shaft having a series of clearing-arms and adjustable concentrically round the tedder-shaft, and gearing connecting said shafts together, the object in adjusting the clearer-shaft round the tedder-shaft being to change the point in the circle of rotation of the forks at which the arms dislodge the hay from the fork, as the exegencies of the case, occasioned by the condition of the hay or other cause, may require.

The invention yet further consists in the tedder-shaft, a casing secured thereon and having studs, and the forks coiled about the studs engaging the shaft at their inner ends and projecting outwardly through the casing and in substantially a radial line, the casing being slotted to allow the forks to move back and forth as they coil more or less round the studs under the resistance of the material with which they labor in the field.

In the accompanying drawings, forming a part of this specification, and on which like reference-letters indicate corresponding parts, Figure 1 represents a side elevation of my improved hay-tedder; Fig. 2, a vertical sectional view of the tedder-shaft proper and the casing and studs and an elevation of portions of the forks; Fig. 3, a horizontal sectional view of the casing and a plan of the tedder-shaft proper and one of the forks; Fig. 4, a plan view of the machine; Fig. 5, an elevation of the clutch mechanism and a portion of the axle; Fig. 6, an elevation of the operating-chain tightener; Fig. 7, a sectional view of the clearer-shaft and a side view of the clearing-arms; Fig. 8, a vertical sectional view of the hub of one of the supporting-wheels and of the axle, showing the clutch mechanism; Fig. 9, a detail view of a portion of the main frame and clearer-supporting beam, showing the means for holding that beam in different positions.

The letter A designates the tedder-frame of the machine, constructed in any approved way and provided with thills B, hinged to a cross-beam, C, of the frame, and having a platform, D, upon which is mounted a seat, E, and its standard, and also a locking-segment, F, and an adjusting-lever, G, supplied with the usual detent, H. The foot of the lever is connected to the forward end of the tedder-frame by a rod, I, whereby the same may be adjusted with respect to the ground.

The tedder-frame is mounted upon an axle, J, which in turn is mounted in supporting and driving wheels K, the hubs L whereof are recessed on the inner faces and provided with teeth which serve to engage pawls M when revolved in the direction due to an advance movement of the machine, and to skip past the pawl when revolved in the opposite direction, as when the machine is backed. On the axle are disks N, having pins O fitted through their sleeves P to secure them, and having on their faces adjacent to the hubs bosses provided with three curved shoulders, Q, with which the pawls M engage, one pawl only being shown. This pawl has a pin, R, which extends into a slot, S, in the disk N, and another pin, T, which extends into a hole in one of the shoulder-pieces, a spiral spring being placed round the pin T to keep that end of the pawl out to the hub. This is one form of clutch mechanism; but others may be used. Loosely mounted on the axle is a driving sprocket-wheel, U, having one end of its hub fashioned to form one member of a clutch, V, the other being formed by a sliding collar, W, grooved to receive the bifurcated bar X, extending from a slidingly-mounted shaft, Y, having a bearing in a block secured to the tedder-frame, and a lever, Z, which engages the oblique or cam-shaped edge of a flange, Z', extending from the block, whereby upon moving the lever back and forth the clutch-collar is made to engage and disengage the clutch end of the hub, so as to lock and unlock the sprocket-wheel to and from the axle, the

spiral spring *a* acting to keep the lever Z normally against the cam-shaped edge, already referred to.

Mounted in suitable bearings carried by the rear end of the tedder-frame is a revolving tedder-shaft proper, *b*, secured on which are two sprocket-pinions, *c* and *d*, *c* receiving motion from the driving sprocket-wheel on the axle through the sprocket-chain *e* and imparting that motion to the tedder-shaft, and *d* transmitting rotary motion to the clearer-shaft through the sprocket-chain *f*. On the tedder-shaft is a series of casings, *g*, held rigidly thereon by a set-screw or otherwise, and having their parts held together by screws or bolts *h*, which, together with the hollow lugs *i*, extending from one of the parts of the casing, serve as studs on which the tedder-forks *g'* are coiled, one end of each fork being fitted against the tedder-shaft as a stop and the other end projected through a slot in the casing, whereby it is allowed ample freedom of vibration in yielding under the weight of the hay and to obstructions and in returning to normal position. The direction of rotation of the forks is indicated by the arrow-heads in Fig. 1 in the smaller dotted circle. Beams *j* are mounted on the tedder-shaft as a center by blocks *k*, and are secured in any set position by means of sectors *l*, having a series of holes to receive fastening screws or bolts, and the beams, of which there are preferably two, extend rearwardly and upwardly, and carry suitable blocks on which the clearer-shaft *m* has bearings. This shaft receives rotary motion in the manner already spoken of, and for this purpose has a sprocket-pinion which receives the sprocket-chain *f*, and which, by preference, is of the same diameter as the pinion *d*, so as to give the clearer-shaft practically the same speed of rotation as the tedder-shaft. On the clearer-shaft *m* is secured a series of sleeves, *n*, each having a proper number—say three—of short spokes, to which are fastened the clearer-arms *o*, these consisting, by preference, of strips of wood of a form substantially as shown. These arms are also so placed that they will sweep along just to one side of the forks, (one corner being cut out to clear the fork-casings,) and not only this, they are particularly rotated in such relation to the forks as to sweep by them and substantially follow their length, as distinguished from crossing them at much of an angle, as this latter would tend to bind and press the hay down upon the forks, rather than to sweep the same freely and rapidly off of them.

From these remarks it will be understood that the direction of rotation of the clearer-arms is that indicated by the arrow-heads in the larger dot-circle in Fig. 1. I have shown one way of operating the tedder and clearer shafts, and this I consider the preferred way; yet I wish to be distinctly understood as not confining myself to this particular way, as other ways are obviously and clearly within the invention I have here described.

A bracket, *p*, is secured to the tedder-frame, and a depending bar, *q*, is adjustably secured thereto by a bolt, *r*, passing through a slot in it, and mounted on a pintle extending from the bar is a roller, *s*, used to press against the chain *e* and take up any slack therein.

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

1. In a tedder, the combination, with the tedder-shaft, of the clearer-shaft adjustable concentrically round the tedder-shaft, gearing connecting the said shafts together, and means to hold the clearer-shaft in any adjusted position.

2. In a tedder, the combination, with the tedder-frame, a sector thereon, and the tedder-shaft, of beams pivoted on the said shaft and adjustably connected with the sector, and a clearer-shaft journaled in the upper ends of the beams.

3. In a tedder, the combination, with the tedder-shaft, of casings secured thereto, and forks coiled round studs in the casings, having a bearing at one end against the said shaft and extending out from the casing at the other end.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE H. EARNEST.

Witnesses:
WILBER COLVIN,
A. A. YEATMAN.