

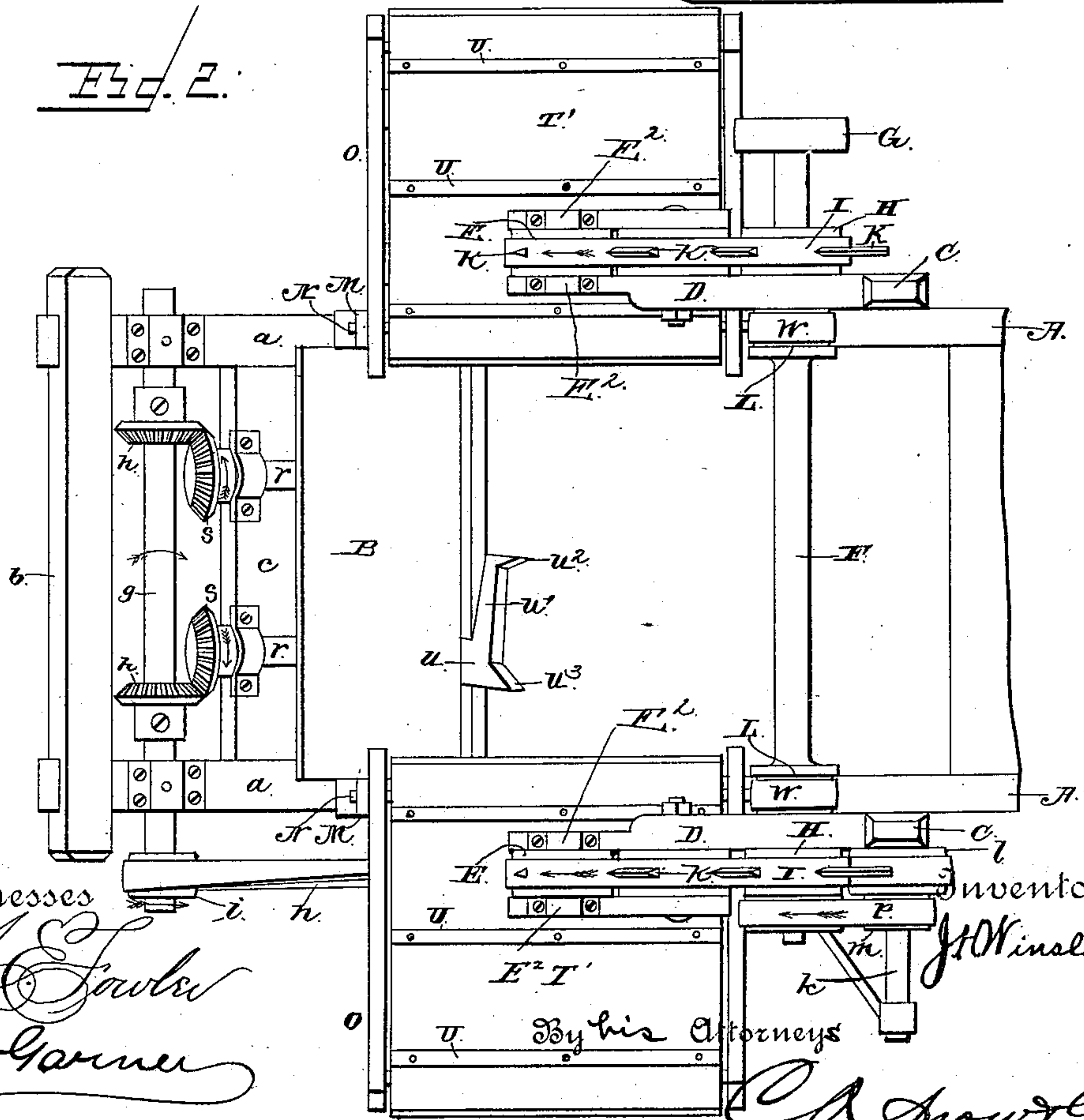
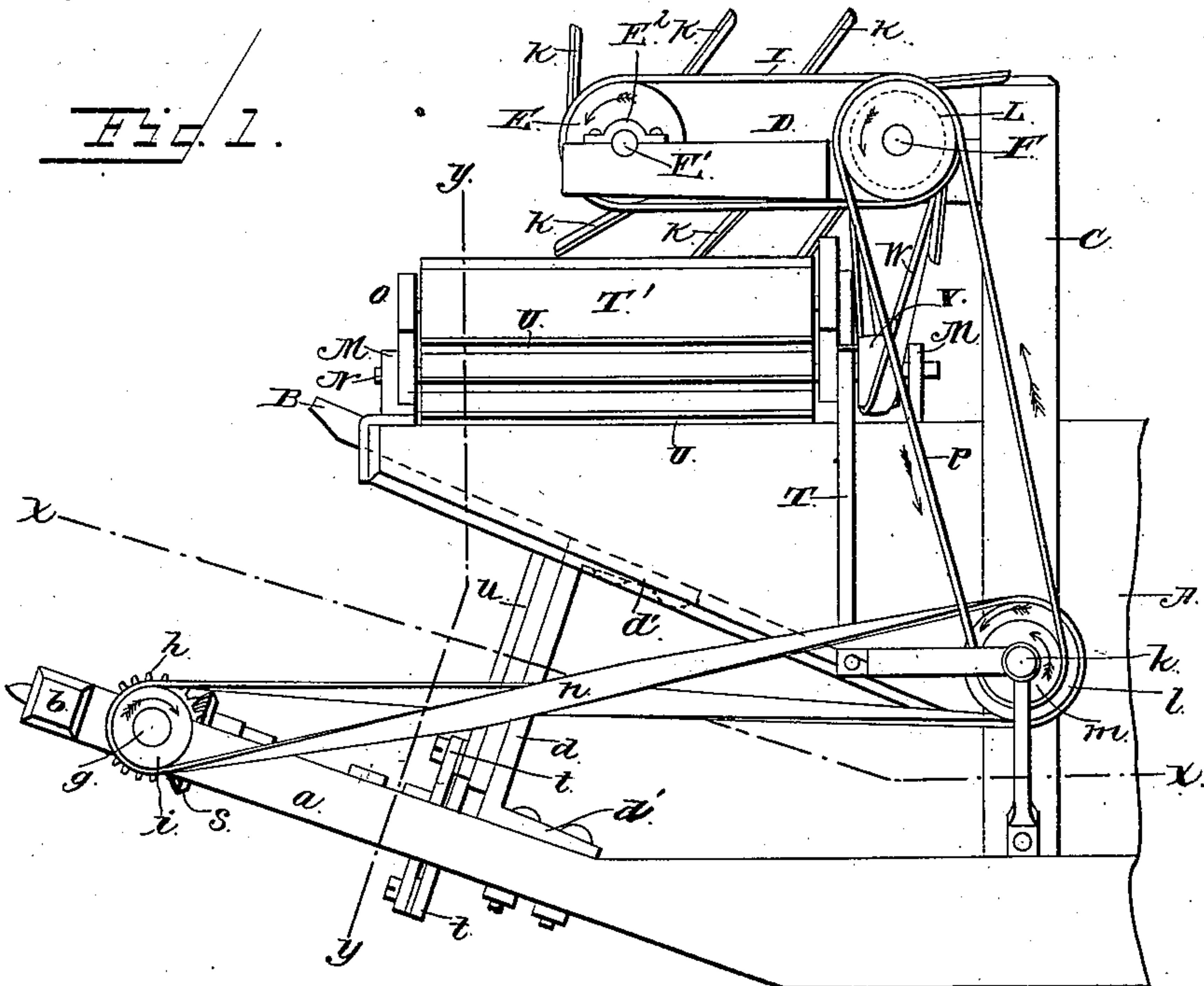
(No Model.)

3 Sheets—Sheet 1.

J. H. WINSLOW.  
BAND CUTTER AND FEEDER.

No. 374,513.

Patented Dec. 6, 1887.



Witnesses

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(No Model.)

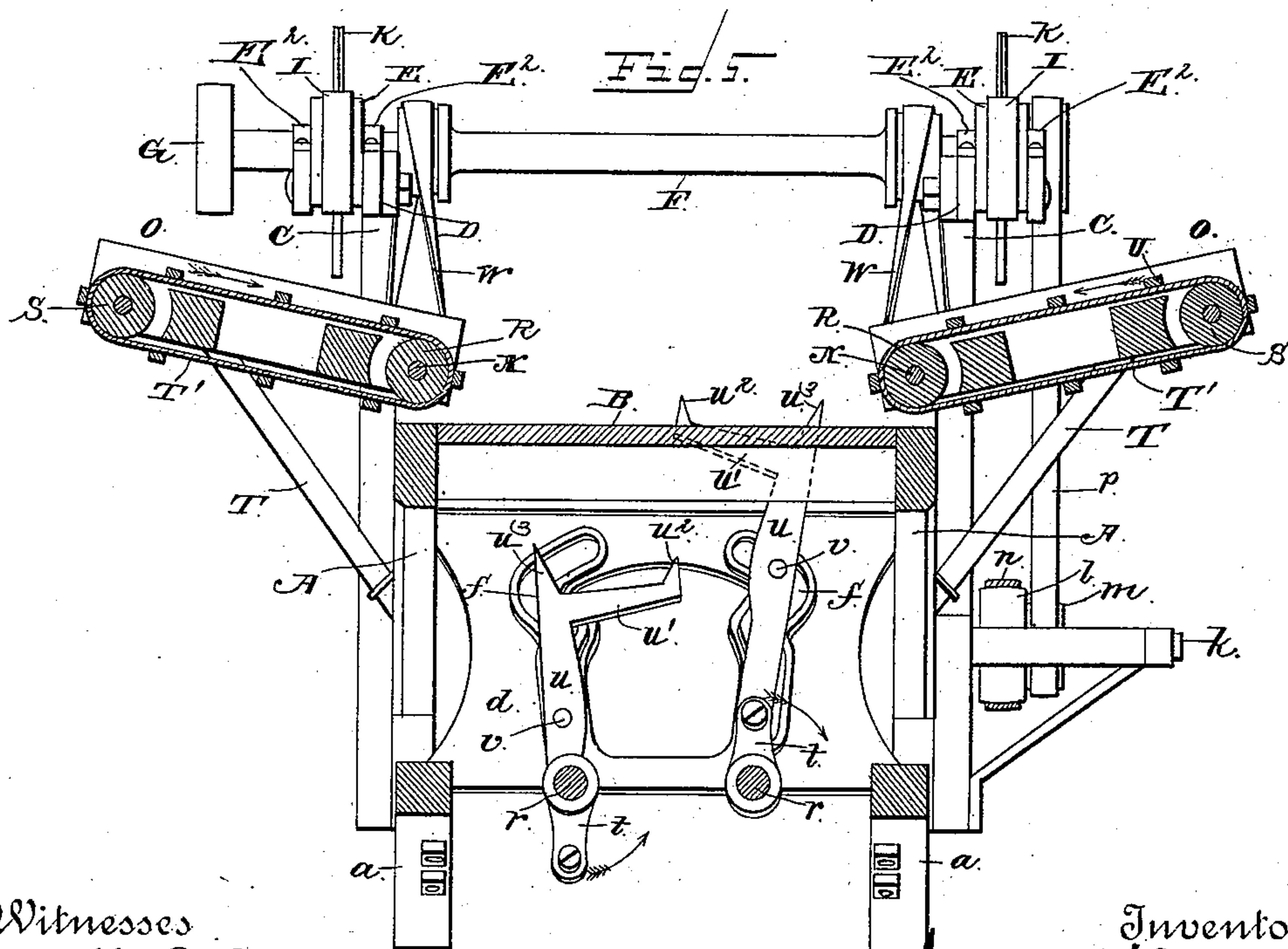
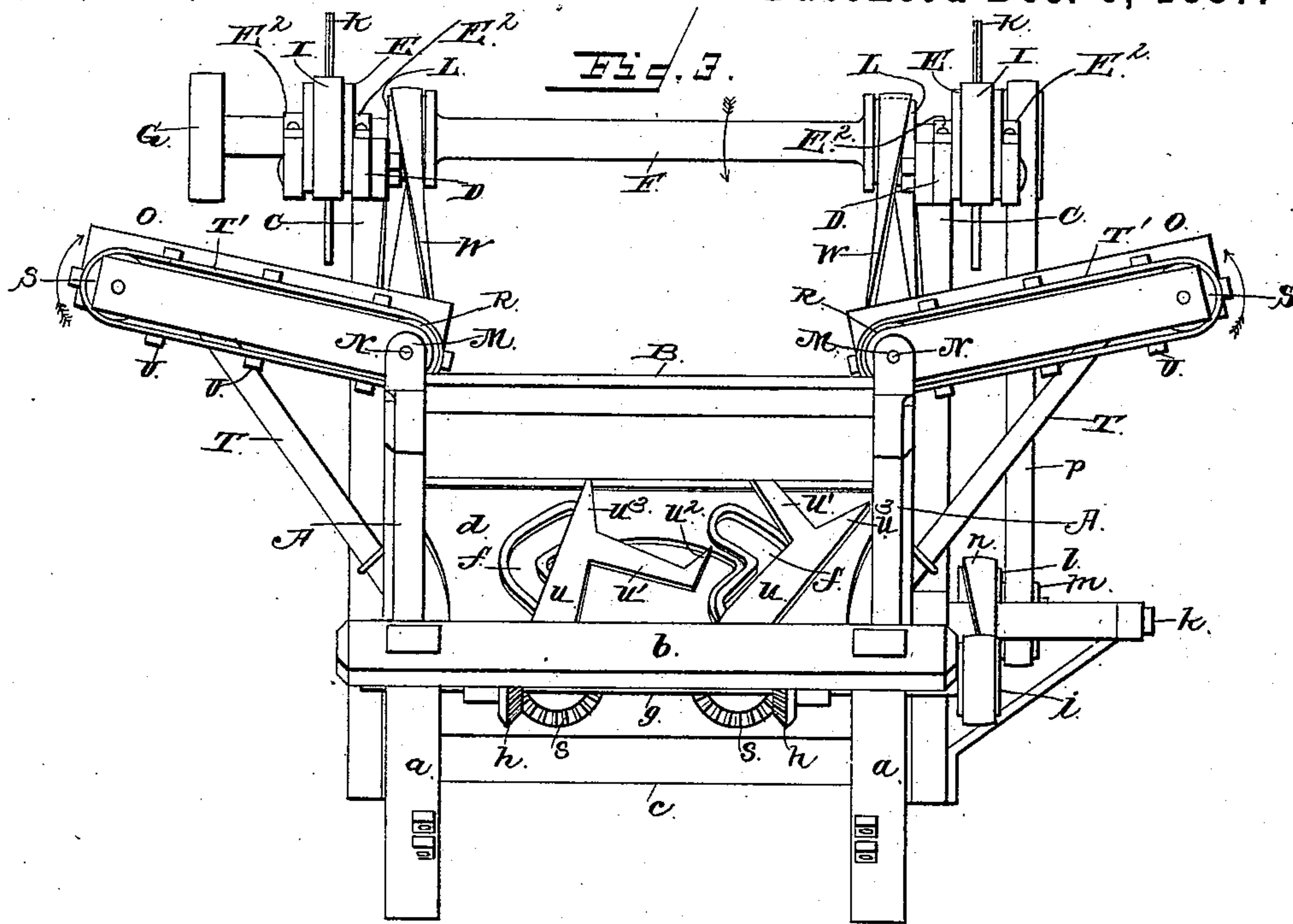
3 Sheets—Sheet 2.

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Fig. 4.

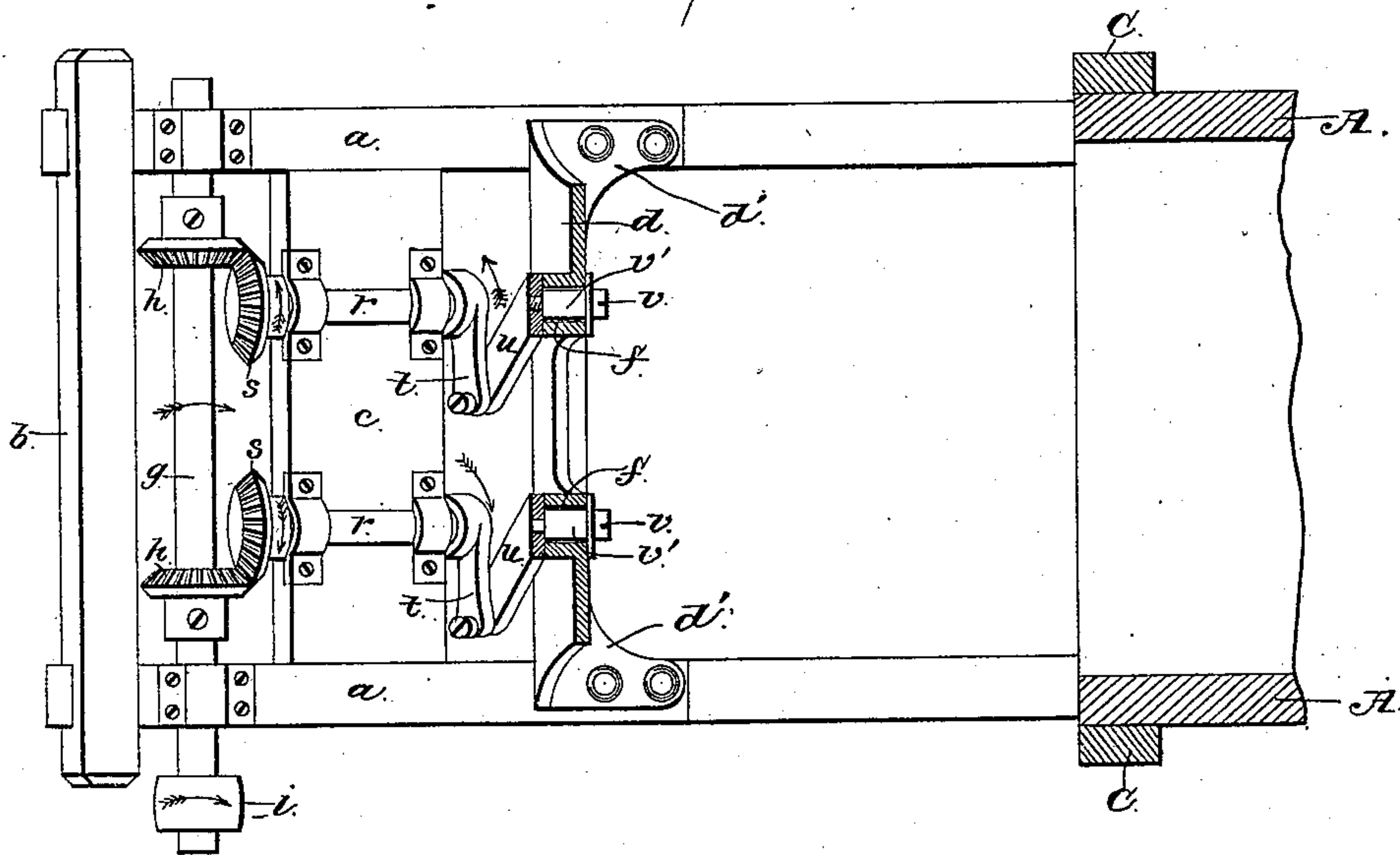
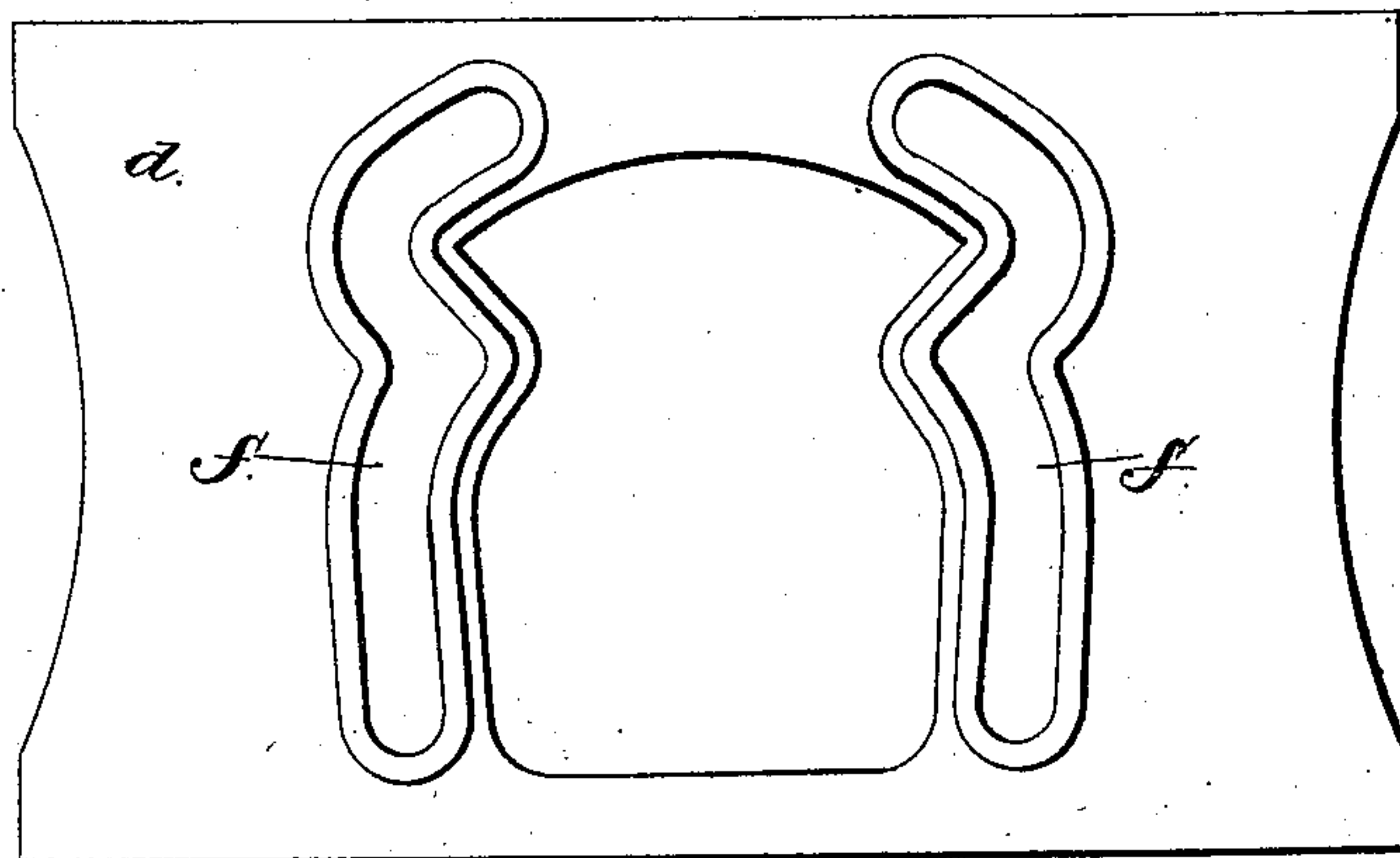


Fig. 5.



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# UNITED STATES PATENT OFFICE.

JOSEPH HARRISON WINSLOW, OF CAMBRIDGE CITY, INDIANA.

## BAND-CUTTER AND FEEDER.

SPECIFICATION forming part of Letters Patent No. 374,513, dated December 6, 1887.

Application filed October 27, 1886. Serial No. 217,334. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH HARRISON WINSLOW, a citizen of the United States, residing at Cambridge City, in the county of Wayne and State of Indiana, have invented a new and useful Improvement in Band-Cutters and Feeders, of which the following is a specification.

My invention relates to an improvement in band-cutters and feeders for thrashing-machines; and it consists in the peculiar construction and combination of devices, that will be more fully set forth hereinafter, and particularly pointed out in the claims.

In the drawings, Figure 1 is a side elevation of a band-cutter and feeder embodying my improvements. Fig. 2 is a top plan view of the same. Fig. 3 is a front elevation. Fig. 4 is a horizontal section taken on the line  $x x$  of Fig. 1. Fig. 5 is a transverse section taken on the line  $y y$  of Fig. 1. Fig. 6 is a detailed elevation of the plate having the cam-slots.

A represents the sides of the case or frame of a thrashing-machine, and B represents the inclined feed-board, which is located in the front ends of the sides.

C represents the vertical standards, which extend above the sides and are provided near their upper ends with horizontal forwardly-extending arms D. The outer ends of the said arms are bifurcated, and in the open slots thus formed in the arms are disposed grooved rollers E. The said rollers have projecting spindles  $E'$ , that are journaled in boxes  $E''$ , secured on the upper sides of the arms D.

F represents a transverse shaft which is journaled near the rear ends of the arms D, and is provided at one end with a driving-pulley, G, by means of which it may be rotated. Secured to the said shaft on the outer side of the arms D are grooved rollers H, which align with the grooved rollers E and are connected to the latter by means of endless belts I. The said belts are provided with inclined cutting-blades K, which are arranged at suitable distances apart.

L represents grooved pulleys which are rigidly secured to the shaft F and bear against the inner sides of the arms D. The upper edges of the sides A, at the front ends thereof, are provided with vertical brackets M, in

which are journaled horizontal longitudinal shafts N. Rectangular frames O have their inner ends hinged or pivoted upon the said shafts N, and the said frames extend outwardly from the side frame and are supported in an inclined position by means of braces T. Rollers R are attached to those portions of the shafts N between the side bars of the frames O, and in the outer free ends of the frames are journaled similar rollers, S.

T' represents endless aprons which connect the rollers R and S and extend transversely around the frames O, the said endless aprons being provided with cross-slats U. The rollers R and S, the frames O, and the endless aprons constitute endless carriers, which are actuated by means of pulleys V, that are attached to the shafts N, and are connected to the pulleys L by means of endless belts W. It will be noted that by rotating the shaft F in the direction indicated by the arrow in Fig. 1 the endless carriers will be caused to travel toward each other, so as to deliver any material that is placed upon them onto the inclined board B.

$a$  represents inclined supporting arms which project from the front ends of the case or frame A, and are arranged below the inclined board B. The outer ends of the arms  $a$  are connected together by a cross-bar,  $b$ , and in rear of the said cross-bar is a similar cross-bar,  $c$ .

$d$  represents a metallic plate which is provided at its upper and lower edges with rearwardly-extending brackets  $d'$ , that are bolted to the arms  $a$  and to the under side of the board B, the said plate  $d$  being arranged at right angles to the said board and the said arms.

$f$  represents cam-slots which are made in the plate  $d$ . The said slots extend first in a vertical direction from the lower edge of the plate and are then curved inwardly toward each other for a slight distance, and then curved outwardly and upwardly in opposite directions and again curved inwardly and upwardly toward each other, the said slots thus forming tortuous or zigzag guideways.

$g$  represents a transverse shaft which is journaled in bearing-blocks that are attached to the arms  $a$  between the cross-bars  $b$  and  $c$ . To the said shaft are attached miter-pinions



*h*, and to one end of the shaft is attached a pulley, *i*.

On one side of the case or frame is journaled a horizontal transverse shaft *k*, which is provided with a large pulley, *l*, and a small pulley, *m*, both of the said pulleys being fast upon the shaft. The large pulley *l* is connected to the pulley *i* on the shaft *g* by means of a cross-belt, *n*, and the pulley *m* is connected to a pulley, *o*, that is rigidly attached to one end of the shaft *F* by means of an endless belt, *p*.

Journaled in bearing-blocks that are secured to the cross-bar *c*, and extending transversely across the said bar, are shafts *r*, which are provided at their front ends with pinions *s*, that mesh with the pinions *h*. To the rear end of the shafts *r* are attached crank-arms *t*.

*u* represents stirring arms, which are provided each at their upper ends with an inwardly-extending arm, *u'*, having at its inner end a vertical prong or tooth, *u<sup>2</sup>*. At the upper end of each arm *u* is formed a projecting prong or tooth, *u<sup>3</sup>*. Through the slots *f* extend bolts *v*, on which are mounted anti-friction rollers *v'*, that work in the slots, and the said bolts have their front threaded ends screwed into threaded openings which are made in the centers of the arms *u*, and thereby the stirring-arms are pivoted upon the said bolts. The lower ends of the stirring-arms are connected to the crank-arms *t* by means of bolts or crank-pins.

The operation of my invention is as follows:  
When the shaft *F* is rotated in the direction indicated by the arrow in Fig. 1, the carriers and the endless belts *I*, having the cutting-blades *K*, are moved, as before described, the paths of the said cutting-blades being at right angles to the endless carriers and over the same. The shaft *g*, being connected to the shaft *F* through the belts and pulleys previously described, is also rotated, thereby imparting rotary motion to the shafts which are geared to the shaft *g*. This causes the stirring-arms to be moved up and down in the tortuous slots *f*, and the upper ends of the said arms are first moved upwardly through a transverse slot, *B'*, in the front portion of the inclined board *B*, and are then withdrawn from the same. As the said stirring-arms are alternately thrust upwardly through the said slot and drawn downwardly therefrom, they are, owing to the tortuous shape of the slots *f*, moved laterally very rapidly, first in one direction and then in the other. The sheaves are thrown upon the endless carriers and are conveyed by

the same toward the inclined board *B*. Before reaching the inner ends of the carriers the sheaves are subjected to the action of the inclined cutting-blades *K*, which cut the bands by which the sheaves are bound and loosen the same, and the loose straws then fall upon the inclined board *B* and are caught by the stirring-arms *u* and thoroughly shaken and evenly distributed thereby over the surface of the said board *B*, and are fed by the same into the thrashing-cylinder, which is not here shown, as it forms no part of my invention.

Having thus described my invention, I claim—

1. The combination, in a band-cutter and feeder, of the inclined board *B*, the rotating shaft *F*, arranged transversely over the said board and having pulleys *L* and rollers *H* at opposite ends, the rollers *E*, arranged in front of rollers *H*, the endless belts *I*, connecting rollers *H* and *E* and having the projecting cutting-knives, the rollers *R* and *S*, arranged beneath and at right angles to the axes of rollers *E*, the endless carriers supported thereon and projecting from opposite sides of the inclined board, the rollers *R* having pulleys *V*, and the belts *W*, connecting the pulleys *V* to the pulleys *L*, substantially as described.

2. The combination, in a feeder for thrashing-machines, of the inclined board *B*, having the slot *B'*, the plate having the tortuous slots *f*, the rotating shafts *r*, having the crank-arms *t*, and the stirring-arms *u*, having their bearings in the slots *f* and connected to the crank-arms *t*, whereby as the latter rotates the upper ends of the stirring-arms are alternately thrust through the slot *B'* and withdrawn from the same and moved laterally, first in one direction and then in the other, for the purpose set forth, substantially as described.

3. In a band-cutter and feeder, the combination of the bottom board having the transverse slot *B'*, the stirring-arms adapted to work through the said slot and having the arms *u'* at their upper ends, and the projecting prongs *u<sup>2</sup>* and *u<sup>3</sup>*, extending above the ends of the arms *u'*, and means, substantially as specified, to operate the stirring-arms, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

JOSEPH HARRISON WINSLOW.

Witnesses:

HENRY KNOX,  
CONLY CONN.