

(No Model.)

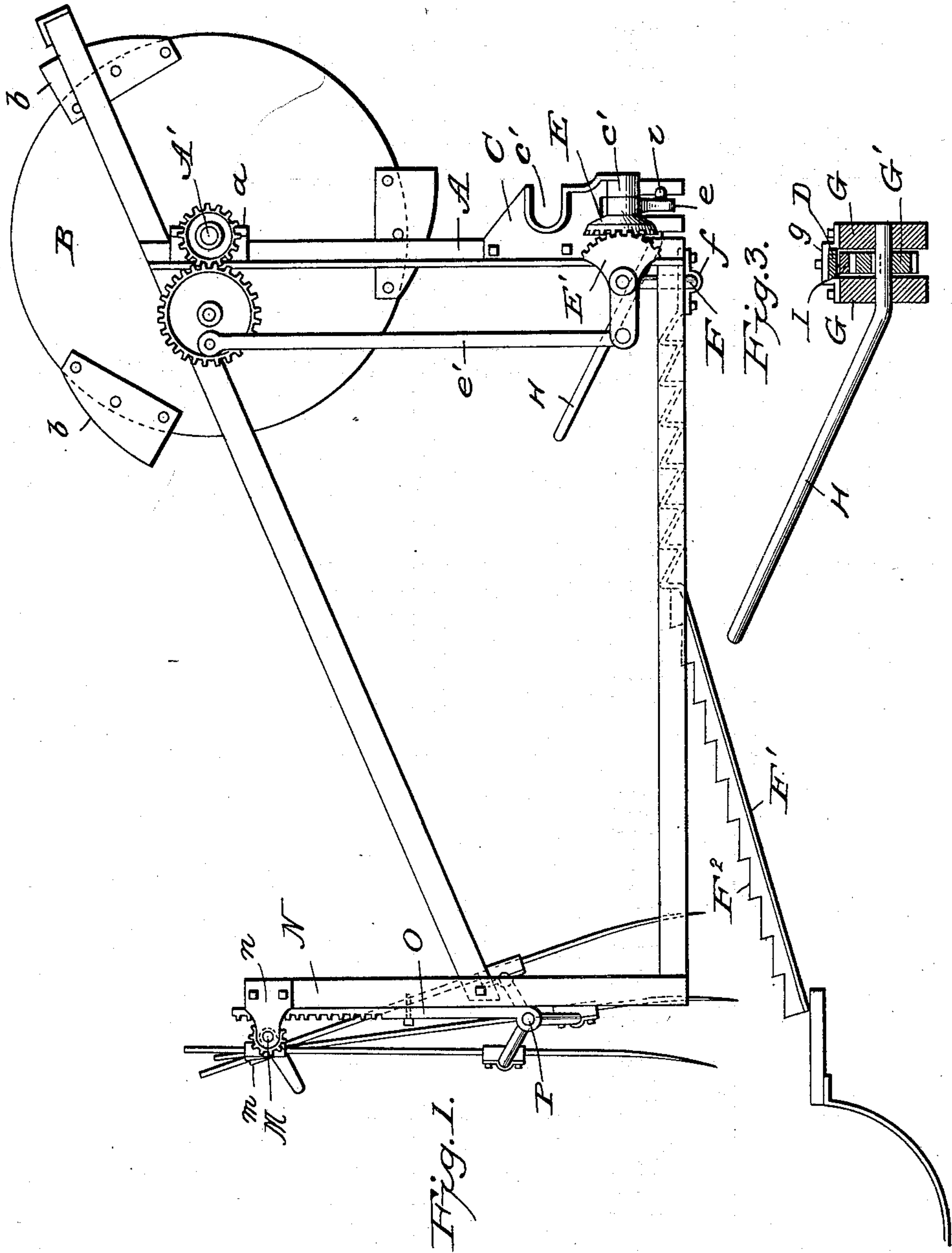
2 Sheets—Sheet 1.

F. J. WOOD.

BAND CUTTER AND FEEDER FOR THRESHING MACHINES.

No. 604,281.

Patented May 17, 1898.



WITNESSES
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D. L. Rice.

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INVENTOR.

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Fig. 2.

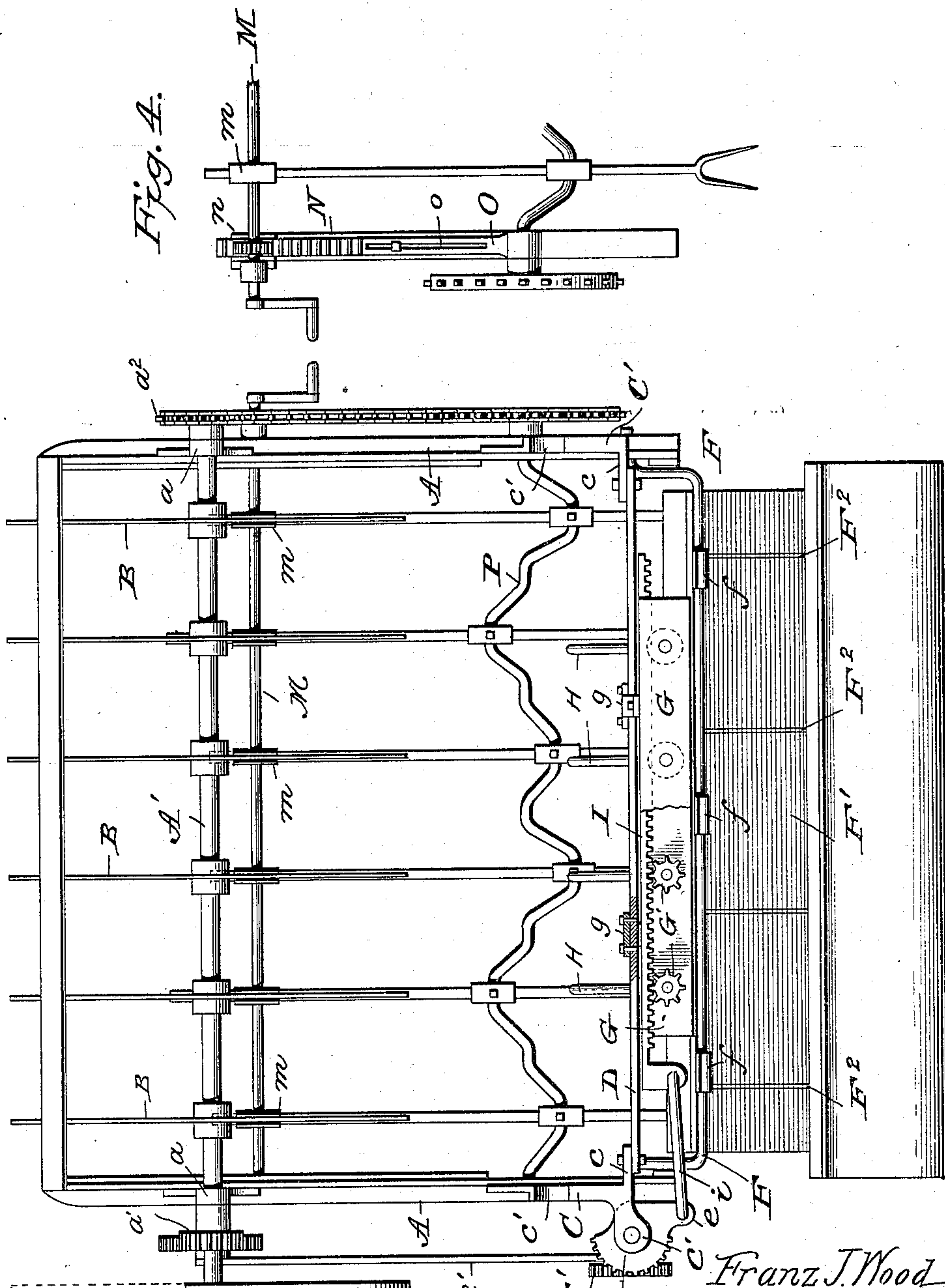
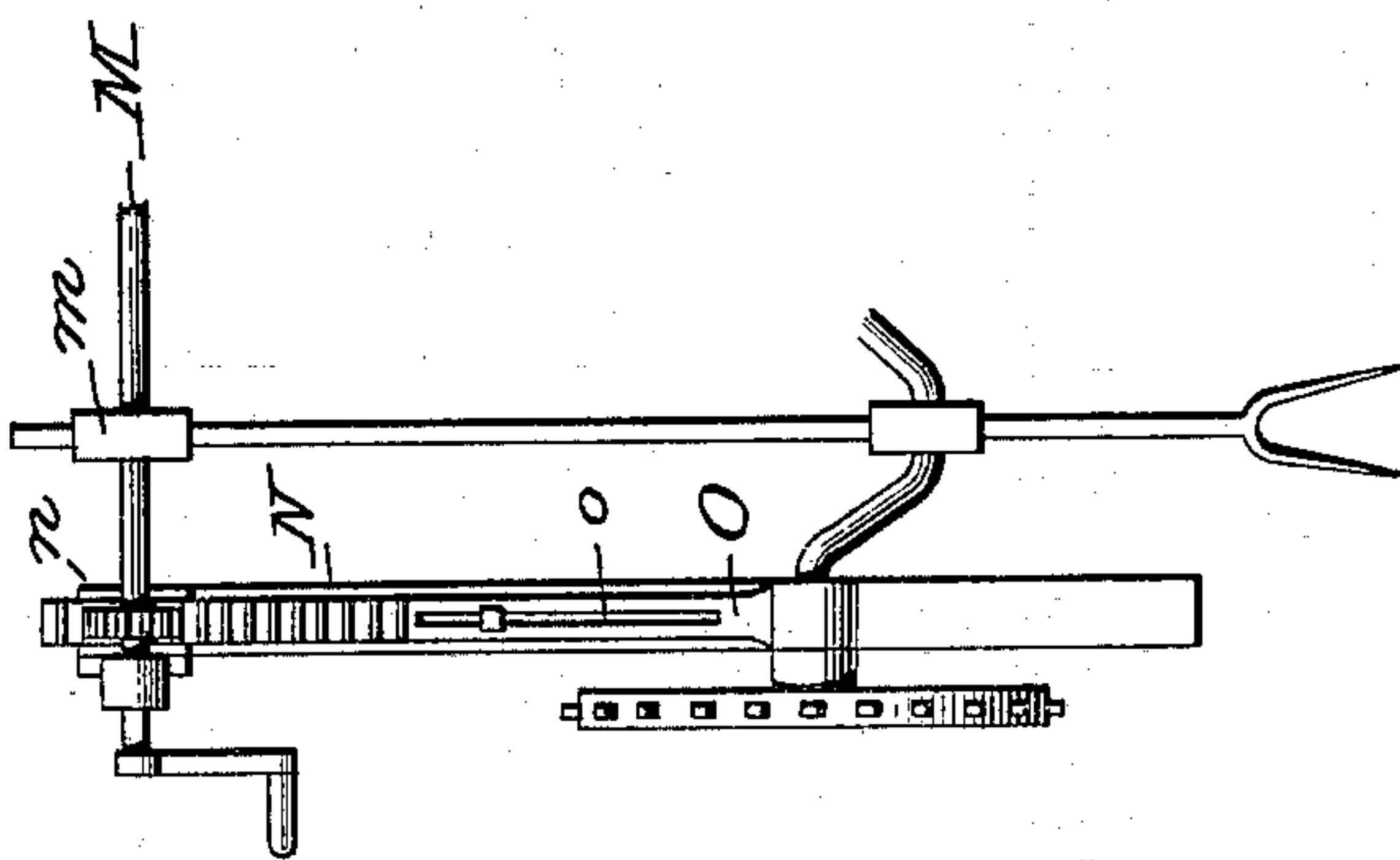


Fig. 4.



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UNITED STATES PATENT OFFICE.

FRANZ J. WOOD, OF PIPE STONE, MINNESOTA.

BAND-CUTTER AND FEEDER FOR THRESHING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 604,281, dated May 17, 1898.

Application filed October 18, 1897. Serial No. 655,600. (No model.)

To all whom it may concern:

Be it known that I, FRANZ J. WOOD, a citizen of the United States of America, residing at Pipe Stone, in the county of Pipe Stone and State of Minnesota, have invented certain new and useful Improvements in Band-Cutters and Feeders for Threshing-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in band-cutters and feeders for threshing-machines, the present invention being designed as an improvement upon the same class of machines as is set forth in my Patent No. 496,764, dated May 2, 1893.

In the accompanying drawings, which illustrate my invention, Figure 1 is a side elevation with the side frames or casing removed. Fig. 2 is a rear elevation, the same being partly in section to better show the construction of the mechanism for operating the agitating-fingers. Fig. 3 is a detail sectional view showing one of the agitating-fingers and means for operating and supporting the same. Fig. 4 is a detail view showing the means employed for adjusting or raising and lowering the forks in unison.

The supporting-frame of my improved band-cutter and feeder is preferably made up of steel angle-bars, which are bolted together and to which bars are secured side plates of sheet metal and the journal-boxes for the shafts, and to one end of the frame are secured castings to which is coupled the feed-carrier.

A refers to vertical bars to which are secured journal-boxes *a* for the main shaft *A'*, said shaft being provided with driving-pulleys and beyond the vertical bars *A* with a pinion *a'*, the opposite end of the bar carrying a sprocket-wheel *a''*. The shaft *A'* carries between the vertical bars *A* a series of disks *B*, to which are riveted or otherwise secured knives or cutters *b*.

C and *C'* refer to castings having inwardly-projecting portions *c*, to which is bolted a

transverse flat bar *D*, constituting a portion of the frame, and these castings *C C'* each have recesses *c'* for the reception of a shaft or offsets of an endless feed-carrier belt, upon which the sheaves are placed in feeding them to the band-cutter and feeder. One of the castings is provided with projecting portions *c'*, between which is journaled a segmental gear *E*, having a tail or projecting portion *e*, to which a link is attached, said link being connected to a reciprocating bar having rack-teeth, as will be hereinafter set forth. The casting *C* is also provided with a projecting portion which serves as a bearing for a rock or oscillating shaft *F*, and the end of this shaft carries a segment-gear *E'*, having a projecting portion to which is attached a pitman *e'*, the upper end of said pitman being attached to a gear-wheel which is journaled upon a stub-shaft carried by one of the upper pieces of the frame, so as to be in mesh with the pinion attached to the shaft *A'*.

The rock-shaft *F*, hereinbefore referred to, is connected by means of clips *f* to a bottom plate *F'*, preferably made up of sheet-steel, the horizontal portion of which is stamped or bent so as to present corrugations or steps, while the other portion is inclined and has attached thereto corrugated or serrated strips *F''*. The lower end of the plate rests upon the feed-board of the threshing-machine, so that it can have a reciprocating movement thereon, or it may be supported by a bail from the frame, and when so supported the bail will be adjustable to permit the inclination to be varied according to the height of the feed-board.

To the flat metal bar *D*, which is attached to the vertical side pieces of the frame, I attach, by means of plates or clips *g g*, bars *G G*, between which are journaled cog-wheels *G'*, said cog-wheels being attached to the agitating-fingers *H*, which have a bend therein adjacent to one of the bars *G*. The cog-wheels are keyed upon the horizontal portion of the agitating-fingers between the bars and are engaged by a reciprocating rack-bar *I*, which is connected by a link *i* to the depending portion *e* of the segmental gear *E*.

By the construction hereinbefore described when the shaft *A* is driven it will turn the cog-wheel which engages with the pinion *a*

carried by said shaft and operate the pitman, so as to impart an oscillating movement to the gears E' and E, the former gear operating through the medium of the rock-shaft F of the bottom plate F', so as to impart thereto a reciprocating movement, which will feed the straw to the forks carried by the opposite end of the frame from the disks having the knives or cutters which sever the bands of the sheave. As the gear E' is operated it will actuate the gear E, and said gear will reciprocate the rack-bar I, which will turn the pinions G', to which the agitating-fingers are connected. These agitating-fingers will separate the straw, so as to distribute it upon the table.

Adjacent to the discharge end of the frame of the band-cutter and feeder are located a series of forks, the upper ends of which pass through slides *m*, attached to a shaft M, which is journaled in plates *n*, attached to the upper ends of vertical bars N, which vertical bars carry plates O, having at their lower ends boxes in which are journaled the ends of the crank-shaft P, said crank-shaft engaging with couplings attached to the forks in the usual manner, the plates O having longitudinal slots *o* and above said slots rack-teeth, which engage with pinions mounted on the shaft M, and said shaft has a suitable crank-handle for turning the same, so that when turned the pinions engaging with the rack-bar of the plate will raise and lower the plates and crank-shaft carried in unison to vary the position of the forks, which is desirable, as the position of the bottom plate of the feeder may be varied with respect thereto. Suitable guide-bolts may be passed through the slots *o* in the plates to retain the same upon the uprights, and the shaft may have a suitable ratchet-wheel and pawl for holding the shaft M against rotation after it has been once adjusted. The crank-shaft P has on one side of the frame a sprocket-wheel, as shown in Fig. 2, and over said sprocket-wheel a chain passes, which extends to a sprocket-wheel on one end of the shaft A.

In a band-cutter and feeder constructed as hereinbefore described the use of wood is practically avoided, and the side pieces, which are attached to the frame made up of angle-bars, are preferably metal plates, while the bottom is made up of sheet-steel. The agitating-fingers and forks have the same character of movement as the fingers and forks described in the patent hereinbefore referred to.

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

1. In a band-cutter and feeder for threshing-machines, the combination with a frame having journaled thereto a shaft upon which is mounted a series of cutting-disks, a series of agitating-fingers positioned below said cutting-disks, the journals of the cutting-disks

being at right angles with the shaft and provided with pinions, a reciprocating rack-bar in engagement with the pinions for imparting an oscillating movement to the agitating-fingers, a feed-board supported at one end by a rock-shaft, and connecting means substantially as shown for reciprocating the feed-board and rack-bar from the shaft carrying the cutting-disks.

2. In a band-cutter and feeder for threshing-machines a frame having a cross-bar to which are attached parallel bars of agitating-fingers journaled in said bars, pinions carried by the agitating-fingers and a rack-bar with depending teeth which engage with the pinions, and means for reciprocating the rack-bar substantially as shown and for the purpose set forth.

3. In a band-cutter and feeder for threshing-machines, a supporting-frame made up of angle-bars arranged and connected substantially as shown, of castings attached to the rear vertical bars of the frame said castings having recesses *c'* and inwardly-projecting members *c* to which a cross-bar of the frame is attached, one of the castings having outwardly-projecting lugs, a gear journaled between said lugs, a rack-bar connected to the gear, agitating-fingers and pinions carried thereby with which the teeth of a rack-bar mesh, a rock-shaft journaled to the vertical bars of the frame, a feed-table one end of which is movably supported by the rock-shaft, a gear having a projecting member carried by the rock-shaft so as to mesh with the gear carried by the casting and a pitman connected to the projecting portion of the gear for actuating the table and agitating-fingers, the parts being combined, substantially as shown and for the purpose set forth.

4. In a band-cutter and feeder for threshing-machines, the combination of the rotary band-cutters mounted upon a driven shaft, a pinion carried by said shaft, a gear-wheel which engages with the pinion, a pitman connected with said gear-wheel and to a gear E', a rock-shaft suitably journaled the gear E' being attached thereto on a line with the journals of the shaft a feeding-board supported at one end by the rock-shaft, a gear E in mesh with the gear E' a reciprocating bar connected to the gear E, said reciprocating bar having rack-teeth for engagement with pinions on agitating-fingers journaled between parallel bars G, the agitating-fingers projecting over the feeding-board, the parts being organized substantially as shown and for the purpose set forth.

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

FRANZ J. WOOD.

Witnesses:

J. C. MARSHALL,
JOHN PEARSON.