

No. 608,325.

Patented Aug. 2, 1898.

G. A. FARRALL & E. PRIDMORE.

GRAIN HARVESTER.

(Application filed Oct. 16, 1897.)

(No Model.)

2 Sheets—Sheet 1.

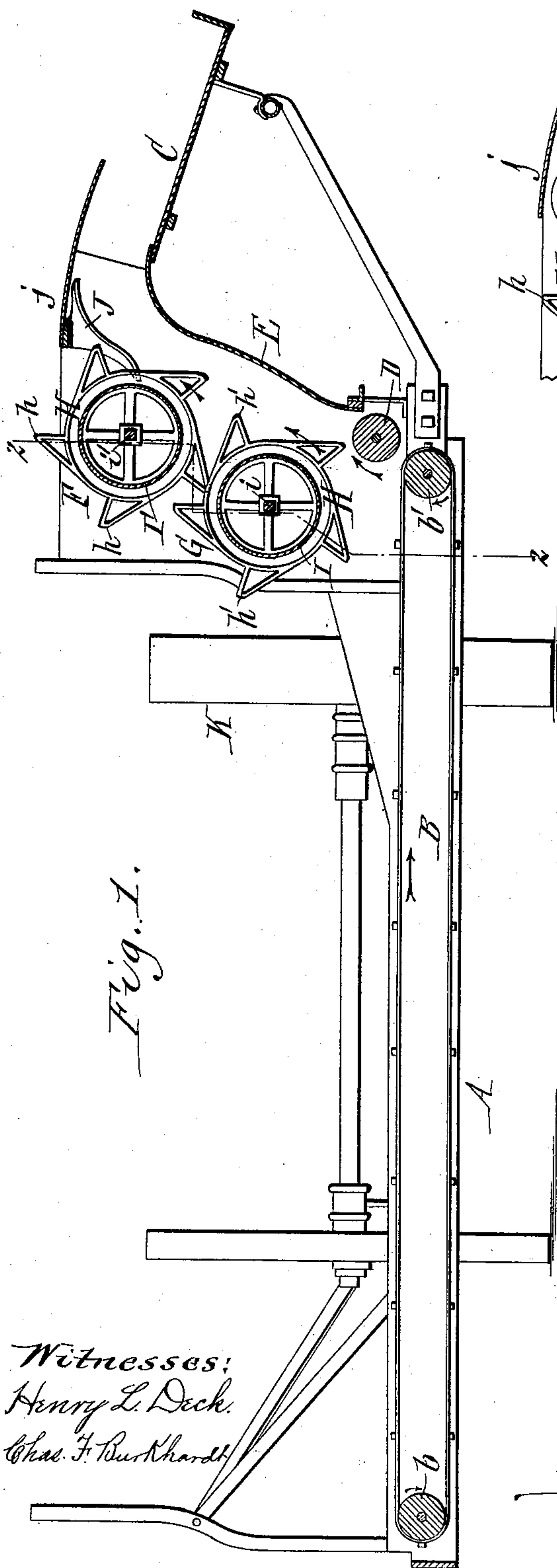


Fig. 1.

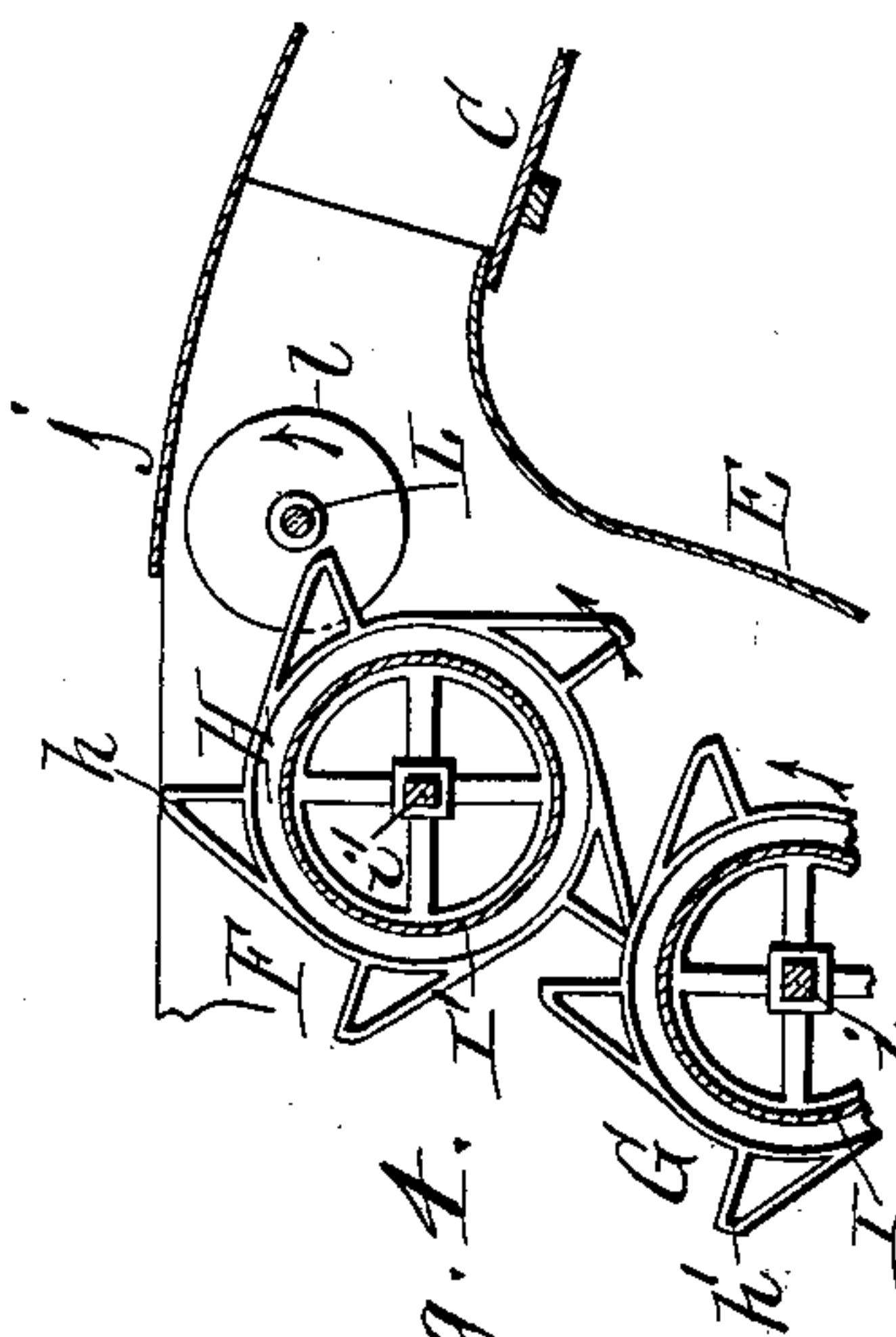


Fig. 4.

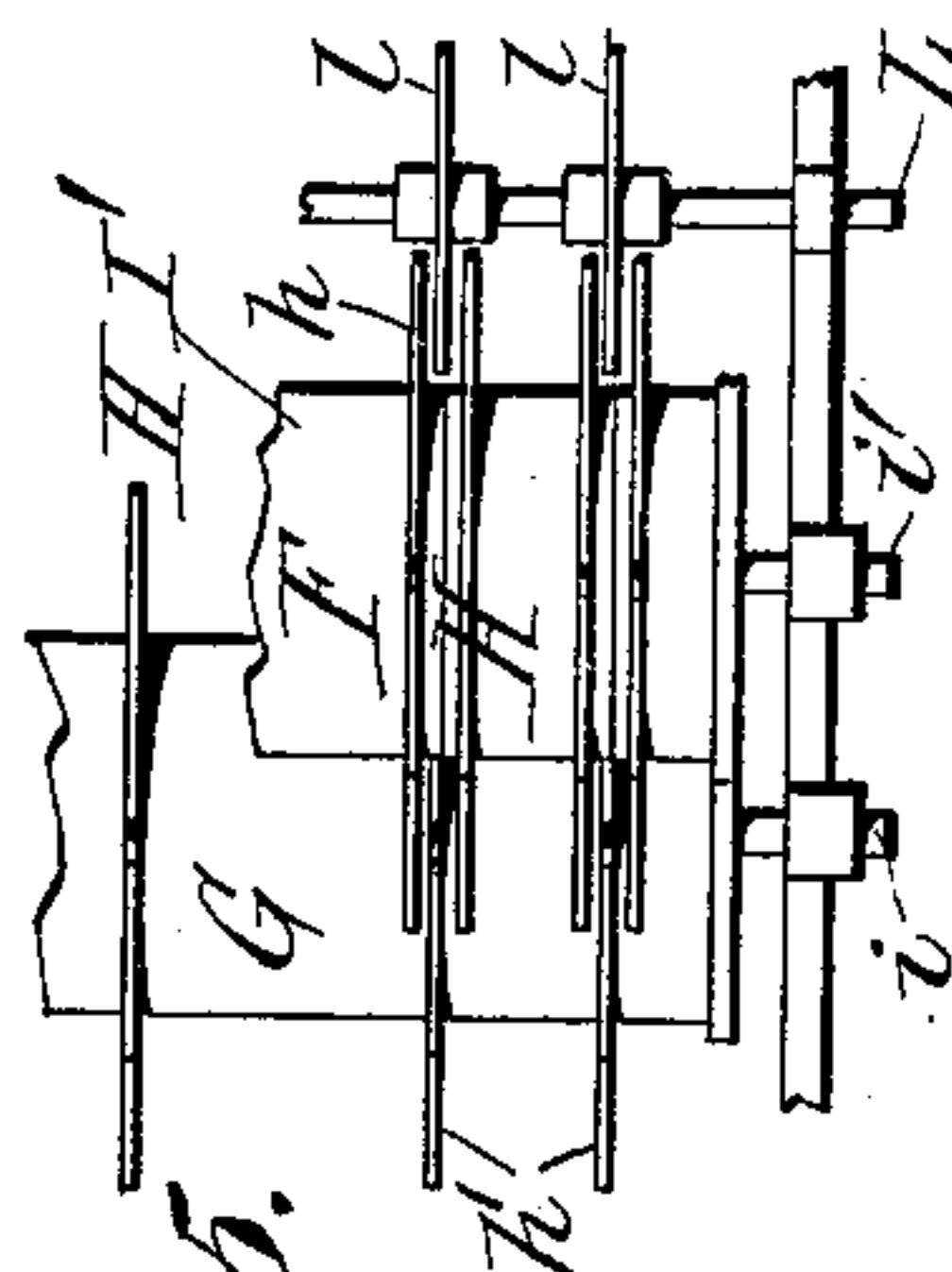


Fig. 5.

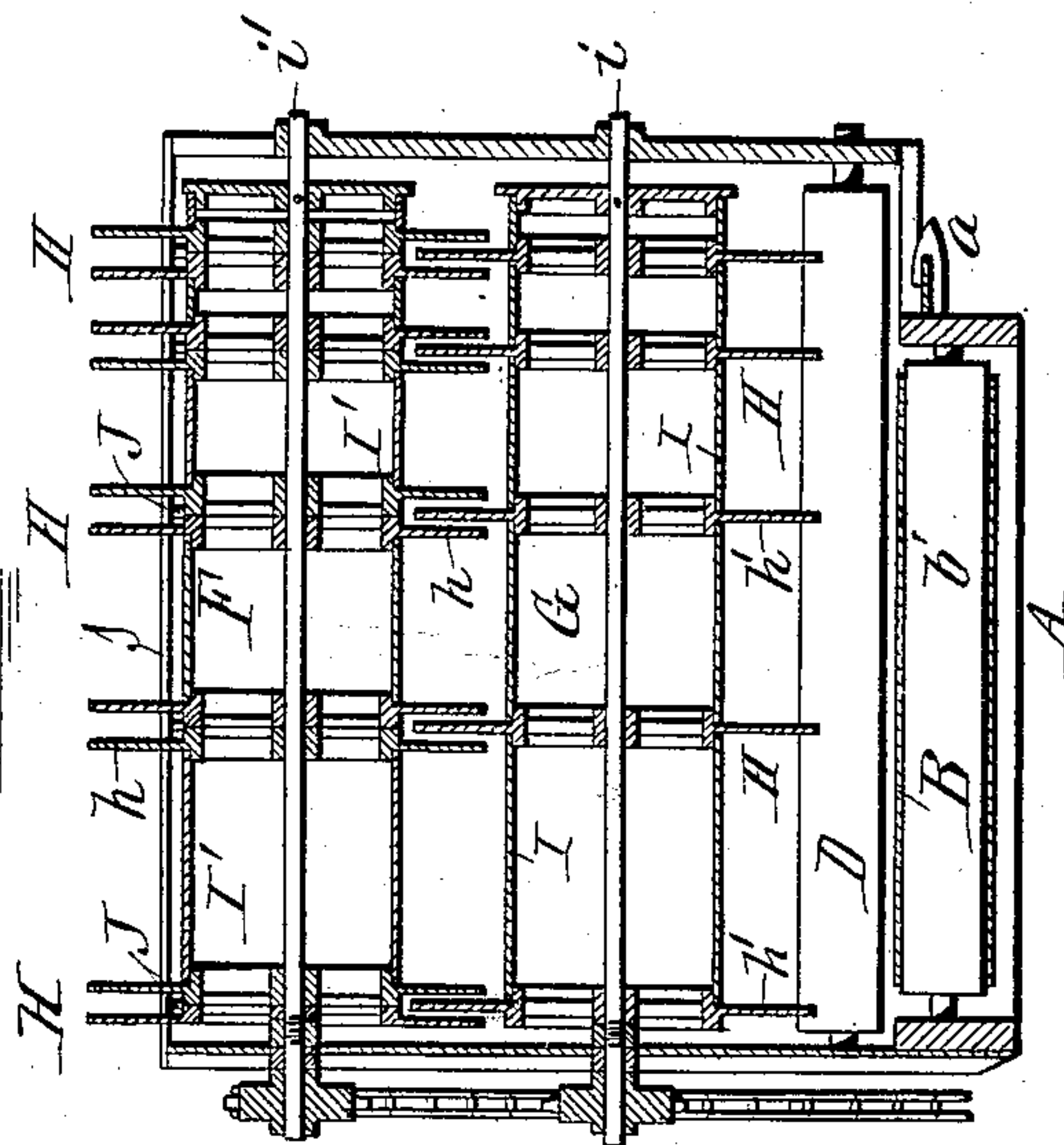


Fig. 2.

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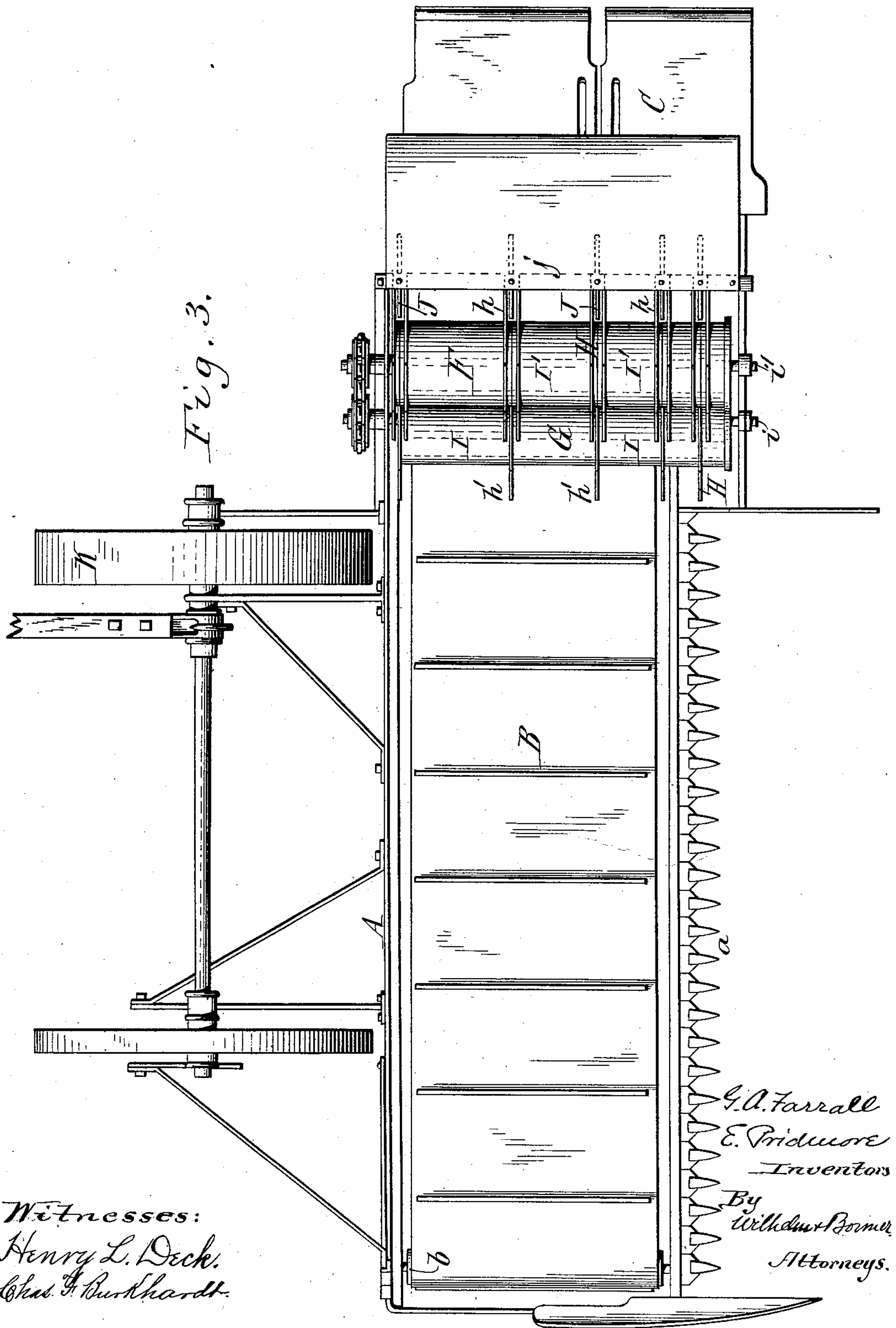
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UNITED STATES PATENT OFFICE.

GEORGE ALBERT FARRALL AND EDWARD PRIDMORE, OF BATAVIA, NEW YORK, ASSIGNORS TO THE JOHNSTON HARVESTER COMPANY, OF SAME PLACE.

GRAIN-HARVESTER.

SPECIFICATION forming part of Letters Patent No. 608,325, dated August 2, 1898.

Application filed October 16, 1897. Serial No. 655,390. (No model.)

To all whom it may concern:

Be it known that we, GEORGE ALBERT FARRALL and EDWARD PRIDMORE, citizens of the United States, residing at Batavia, in the county of Genesee and State of New York, have invented new and useful Improvements in Grain-Harvesters, of which the following is a specification.

This invention relates to that class of harvesters in which the cut grain falls upon a transversely-movable conveyer-apron and is elevated from the latter to the binder mechanism. When this binder mechanism is located at a considerable height above the cutter-platform and its conveying-apron, it has been customary to elevate the grain from the platform to the binder-deck by canvas aprons or belts. These are, however, not entirely satisfactory, because the aprons do not carry the grain uniformly and positively, which often results in the choking of the elevating contrivances, and, furthermore, because the aprons have a tendency to rub the grain and partially thresh the same.

The object of this invention is the provision of an elevating mechanism which carries the grain uniformly, positively, and rapidly, thereby avoiding choking, and which also does not rub and thresh the grain.

In the accompanying drawings, consisting of two sheets, Figure 1 is a sectional elevation of a grain-harvester embodying our improvements, taken lengthwise of the platform. Fig. 2 is a vertical section at right angles to Fig. 1 in line 2 2, Fig. 1. Fig. 3 is a top plan view. Fig. 4 is a fragmentary sectional elevation showing a modification of the elevating mechanism. Fig. 5 is a top plan view of the same.

Like letters of reference refer to like parts in the several figures.

A represents the usual platform, provided on its front side with the cutter *a*; B, the conveyer belt or apron, which passes around receiving and delivery rollers *b b'* on the platform and whereby the cut grain is carried transversely toward one end of the platform, and C the usual elevated binder-deck, arranged adjacent to and above the delivery end of the platform.

The elevating device whereby the grain is

raised from the platform to the binder-deck is constructed as follows:

D represents a starting-roller which is arranged above and partly outside of the delivery-roller of the conveyer-apron and parallel with the rollers of the same.

E represents a curved abutment or throat-plate which extends from the outer side of the starting-roller upwardly to the binder-deck and which, together with the starting-rollers, forms the outer side of the elevator throat or passage, through which the grain is carried in moving from the platform upwardly to the binder-deck.

F G represent upper and lower parallel elevator drums or rollers, which form the inner side of the elevator-throat and whereby the grain is moved upwardly through the throat. The lower elevator-roller is arranged over the delivery portion of the conveyer-apron and parallel with the conveyer-rollers, and the upper elevator-roller is arranged above and outward from the lower elevator-roller. Each of the elevator-rollers is provided with a number of feed-wheels H, having, respectively, teeth *h h'*, which grasp the grain and carry the same upwardly through the throat. The teeth *h* of the upper roller overlap and pass by the side of the teeth *h'* of the lower roller, so that the teeth of the upper roller strip the grain from the teeth of the lower roller and clear the latter. The front side of each tooth is slanting or inclined, while the rear side is abrupt, and the drums rotate in the same direction, so that adjacent teeth of the two drums move with their inclined front sides toward each other in approaching each other. The feed-wheels of the lower elevator-roller are preferably secured singly at suitable distances apart on a shaft *i*, which is journaled in bearings on the main frame, and the spaces between these feed-wheels are occupied by cylindrical sections I, which are fitted between the feed-wheels and which are constructed of sheet-iron or other suitable material. The feed-wheels of the upper elevator-roller are preferably arranged in pairs, so that each pair straddles one of the lower feed-wheels, and are secured to a shaft *i'*, also journaled in bearings on the main frame.

The teeth of each pair of upper feed-wheels pass by the sides of the teeth on one of the lower feed-wheels, so as to strip the grain from the teeth of the lower elevator-roller and then propel the grain onward to the binder-deck. The upper elevator-roller is likewise provided between the feed-wheels with cylindrical sections I'.

J represents stripping-fingers whereby adhering grain is removed from the teeth of the upper elevator-roller and directed upon the binder-deck. These fingers are preferably secured to the under side of the hood j, which is arranged over the upper end of the binder-deck, and each finger extends with its inner end downwardly into the space between the teeth of one pair of feed-wheels on the upper elevator-roller.

The grain delivered by the platform-conveyer is directed by the starting-roller upwardly into the throat. The teeth of the lower elevator-roller now grasp the grain and propel the same upwardly within reach of the teeth of the upper elevator-roller, and the latter then seizes the grain and propels the same to the binder-deck.

The shafts of the elevator-rollers, starting-rollers, and conveyer-rollers are driven from the master-wheel K of the harvester by any suitable driving-gearing, so as to turn in the direction of the arrows, Fig. 1.

In the modified construction of the elevating mechanism shown in Figs. 4 and 5 rotary stripping-disks l are substituted for the stripping-fingers J. These disks project into the spaces between the teeth of the upper pairs of feed-wheels and are mounted on a shaft L, which is turned in the direction of the arrow, Fig. 4.

We prefer the arrangement of the teeth of the elevating-drums which is shown and described, in which the single teeth are arranged on the lower drum and the double teeth on the

upper drum; but, if desired, the arrangement may be reversed, in which case the stripping-fingers J must be duplicated or arranged in pairs, so as to straddle the single teeth of the upper drum.

We claim as our invention—

1. The combination with the platform-apron, the elevated binder-deck, and the throat-plate between the same, of a grain-elevating mechanism containing a lower and an upper rotary feed-drum, one of said drums being provided with single elevating-teeth and the other with pairs of elevating-teeth which straddle the single teeth of the other drum and operate as strippers for the same, substantially as set forth.

2. The combination with the platform-apron, the elevated binder-deck, and the throat-plate between the same, of an elevating mechanism containing a lower and an upper rotary feed-drum rotating in the same direction and each provided with elevating-teeth which have inclined front sides, substantially as set forth.

3. The combination with the platform-apron, the elevated binder-deck, and the throat-plate between the same, of a starting-roller arranged over the delivery portion of the apron, a lower rotary feed-drum arranged above the starting-roller and provided with single elevating-teeth, an upper feed-drum provided with elevating-teeth in pairs which straddle the single teeth of the lower drum, and stripping devices which engage between the teeth of the upper feed-drum, substantially as set forth.

Witness our hands this 8th day of October, 1897.

GEORGE ALBERT FARRALL.
EDWARD PRIDMORE.

Witnesses:
GEORGE O. VOLZ,
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