

(No Model.)

W. N. WHITELEY.

BUTT DETAINER FOR GRAIN BINDERS.

No. 359,118.

Patented Mar. 8, 1887.

Fig. 1.

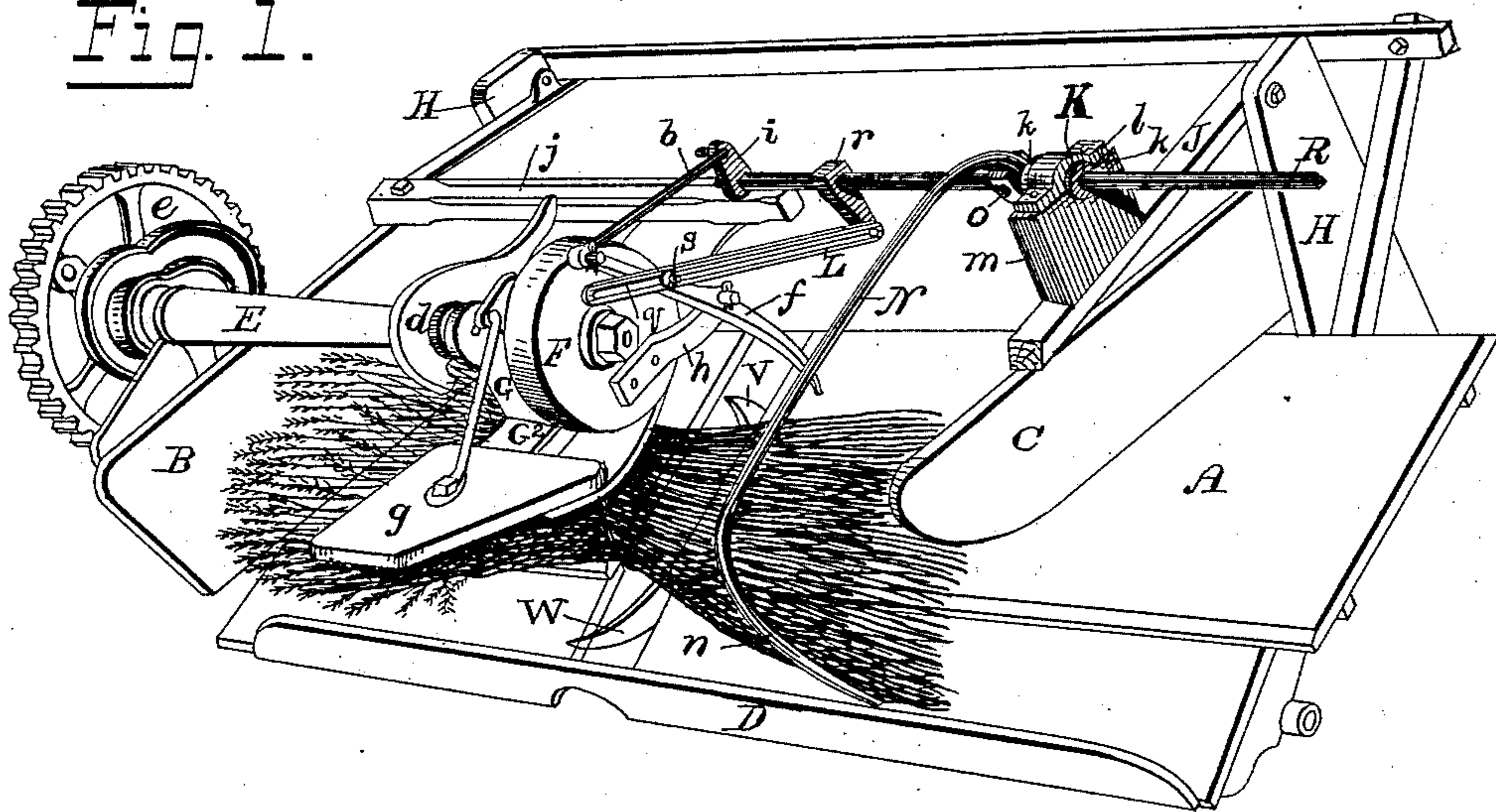


Fig. 2.

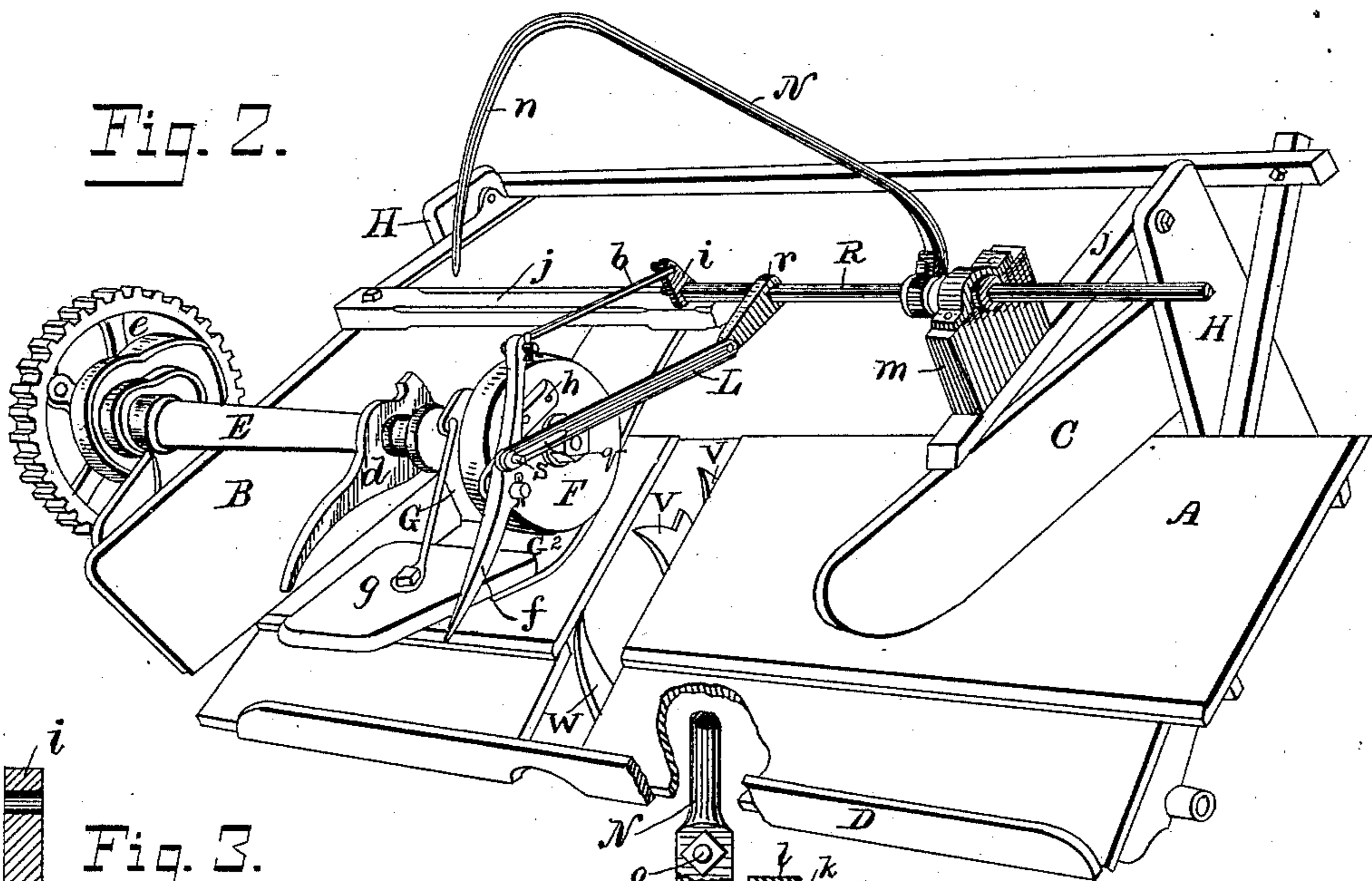
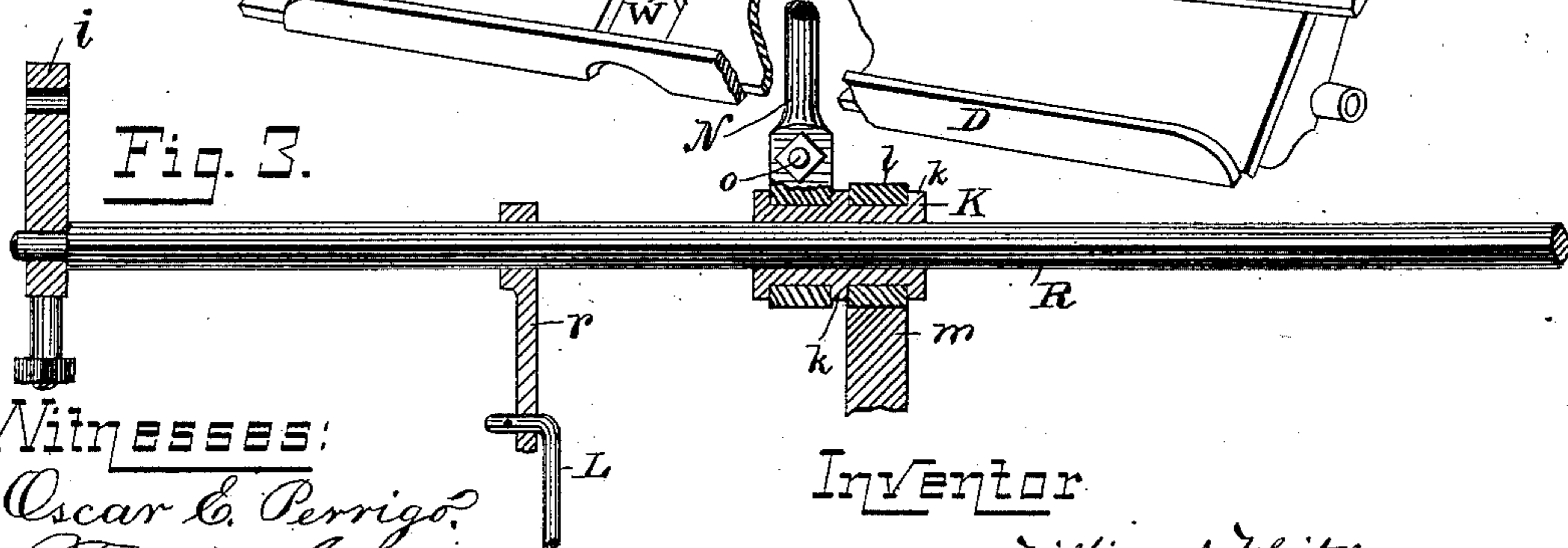


Fig. 3.



Witnesses:

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BUTT-DETAINDER FOR GRAIN-BINDERS.

SPECIFICATION forming part of Letters Patent No. 359,118, dated March 8, 1887.

Application filed September 3, 1886. Serial No. 212,654. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM N. WHITELEY, 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 Grain-Binders—namely, an Automatic Butt-Detainer; and I hereby declare the following to be such a full, clear, and exact description of the invention as will enable any person skilled in the art to which it pertains to construct and use the same, reference being had to the accompanying drawings, forming a part of this specification.

My invention pertains, generally, to grain-binding harvesters which are automatic or self-binding, and particularly to the devices for discharging the bundle after it is bound, and is in the nature of an improvement upon the mechanism shown and described in Letters Patent No. 212,420, granted to J. F. Appleby, February 18, 1879, and improvements since made thereon.

The object of my improvement is to prevent the bundle when discharged from the binder from falling butt first, the heads of the grain hanging together, and causing the bundle to turn end over end, thus disarranging the bundle and shelling out and losing the grain. I accomplish this object by providing a curved rod or hook, which engages the butt-end of the bundle and holds it a moment until the ejector-arms have separated the heads of the grain composing the bundle from those of the unbound grain, at which time the rod or hook moves out of the way and the bundle is squarely discharged, the heads slightly in advance of the butts, and the bundle properly laid upon the ground.

I am aware that a butt-detainer or other similar fixed mechanical obstruction has heretofore been used for the purpose of causing the ejectors to discharge the bundle slightly head first; but I am not aware that the said detainer or mechanical obstruction has been so constructed as to automatically move out of the way as the bundle is discharged.

In the drawings, Figure 1 is a perspective view of a binder with the butt-detainer or hook depressed as in the act of holding the butt of the bundle at the moment the ejectors engage it. Fig. 2 is a similar view after the

bundle has been discharged, showing the butt-detainer or hook elevated out of the way; and Fig. 3 is a longitudinal section of the rock-shaft by which the butt-detainer or hook is operated, and its appendages.

Similar letters refer to like parts in the several views.

A is the binder-deck. B is the head-board. C is the butt-board. D is the drop-leaf. E is the binder-frame. *e* is the binder-wheel. F is the tyer-wheel. G is the knotter. G² is the breast-plate. *g* is the sheaf-board. *d* is the rear ejector-arm. W is the compressor, and V V the packers. *f* is the outside ejector-arm, which is pivoted at or near its center to the crank-arm *h*, fixed to the tyer-wheel F, and is supported at its upper end by the link *b*, which in turn is pivoted to the bracket *i*, fixed to the rail *j*, fixed to the harvester proper. H H are the elevator sides. Thus far the binder is as usually constructed.

Fixed to the brace J is the block *m*, supporting the journal-box *l*, in which is fitted the sleeve K, which turns freely therein, and is provided with flanges or fixed collars *k k*, which prevent it moving endwise in the box *l*. To the sleeve K is also fixed the automatic butt-detainer or hook N by the clamping-screw *o*, and having its outer end bent downward, as shown at *n*.

Through a square hole in the sleeve K passes loosely the square rock-shaft R, the opposite end being journaled in the bracket *i*, and having fixed upon it the arm *r*, to which is pivoted the link-bar L, which has formed in its opposite end a slot, *q*, which fits upon the pivot-pin S fixed in the ejector-arm *f*.

The sleeve K is provided for the purpose of retaining the butt-detainer or hook N always in the same place in relation to the harvester proper without regard to the position of the binding-machine when the latter is adjusted to suit long or short grain, as the square rock-shaft R slides freely through the sleeve K, thus communicating the requisite motion to the butt-detainer or hook N without regard to its position.

The operation of my device is as follows, viz: The binder being at rest in the position shown in Fig. 2, the butt-detainer or hook N is elevated out of the way, and so remains while

the packers form the gavel against the compressor, after which it is bound in the usual manner, and the rotation of the tyer-wheel brings the ejectors *d f* to the position shown in 5 Fig. 1, and the ejector *f*, acting through the link-bar *L*, lever *r*, and rock-shaft *R*, throws down the butt-detainer or hook *N*, so that the portion *n* thereof engages the bound bundle near the butts. The tyer-wheel continuing its rotation and the ejectors their motion, the butt- 10 detainer *N* rests while the pivot-pin *S* travels the length of the slot in the link-bar *L*. By this time the ejectors have drawn down the head of the bundle and separated the heads of 15 the grain composing the bound bundle from those of the unbound grain. The pivot-pin *S* having arrived at the end of the slot *q* in the link-bar *L*, the butt-detainer or hook *N* is raised from its contact with the bundle and the latter 20 is discharged in the usual manner, the butt-detainer or hook *N* taking the position shown in Fig. 2, and remaining in that position ready for the binding of the next bundle, after which the foregoing operations are repeated.

Having thus described my invention and 25 pointed out its construction, objects, and uses, and without wishing to be understood as confining my claims of invention to the precise form or proportions of parts herein shown and described so long as the principles of construction and mode of operation are essentially the 30 same as that herein set forth, what I do claim, and desire to secure by Letters Patent, is—

In combination, in a grain-binder, a movable butt-detainer adapted to hold the butts of 35 the bound bundle until the ejectors have separated the heads of the grain composing the bundle from those of the unbound grain, and means to automatically move said detainer away from the deck to allow the bundle to 40 pass out, substantially for the purposes shown and described.

WILLIAM N. WHITELEY.

Witnesses:

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