

Henry Ries.

Impt in Threshers, Separators, &c:

No. 120,167.

Patented Oct. 24, 1881

Fig 1.

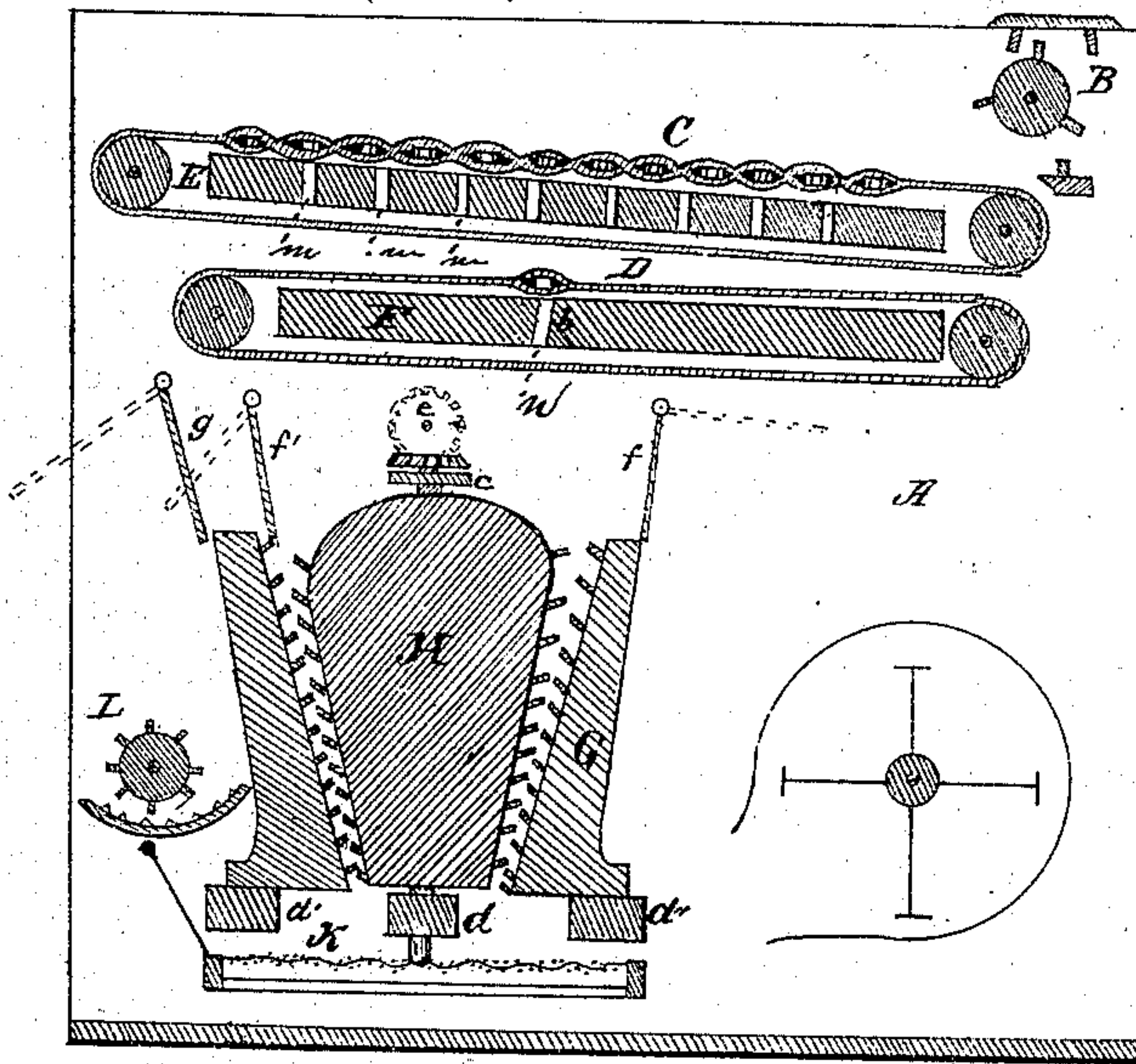
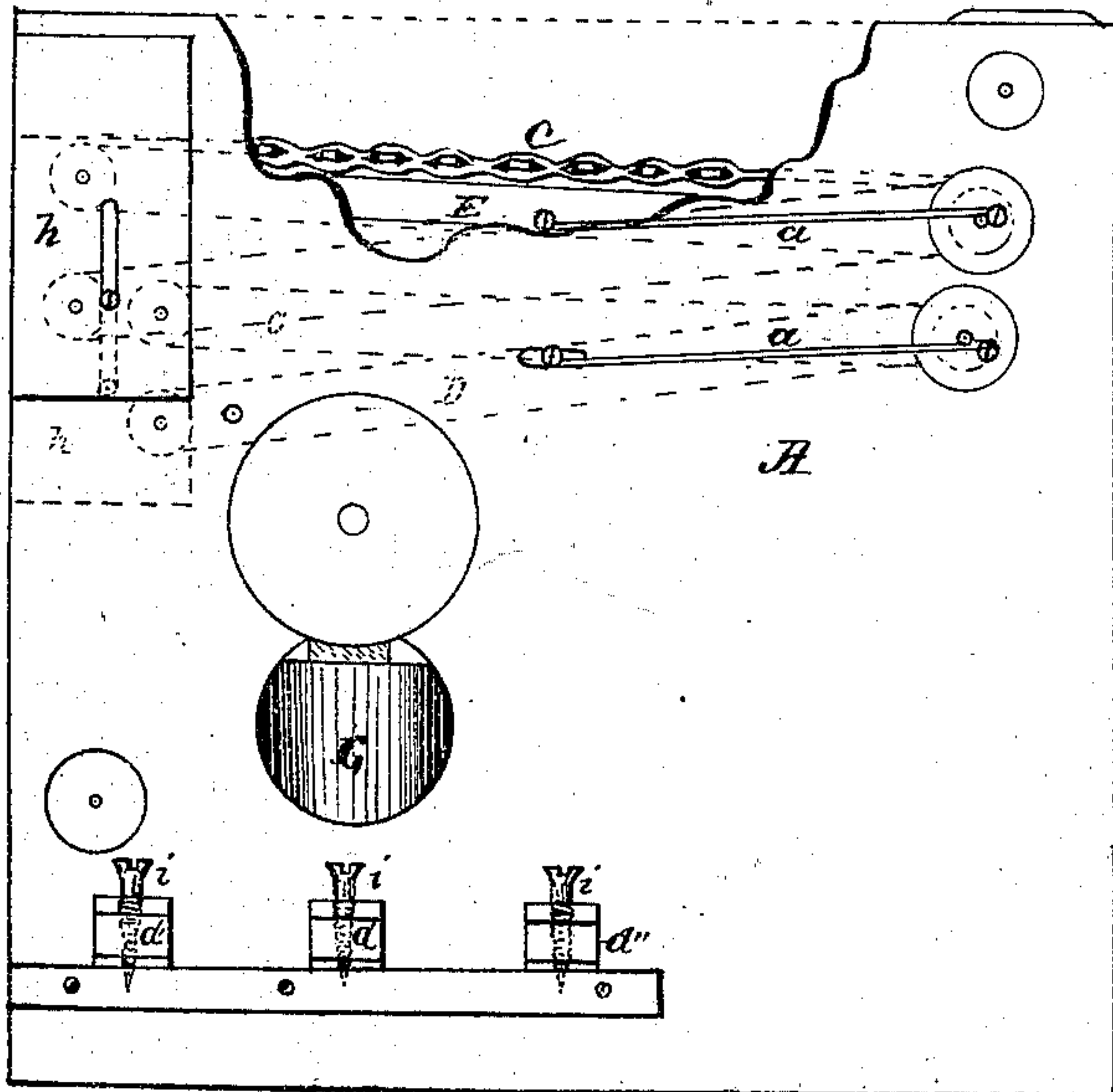


Fig 2.



Witnesses:

*H. L. Layton,*  
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Inventor:

*Henry Ries*  
*by Wiedersheim & Norris*  
*his Attorneys.*



# UNITED STATES PATENT OFFICE.

HENRY RIES, OF NORWALK, OHIO.

## IMPROVEMENT IN COMBINED THRASHING AND HULLING-MACHINES.

Specification forming part of Letters Patent No. 120,167, dated October 24, 1871; antedated October 14, 1871.

*To all whom it may concern:*

Be it known that I, HENRY RIES, of Norwalk, county of Huron and State of Ohio, have invented a new and useful Improved Grain and Seed-Thrasher, and Separator and Cleaner; and I do hereby declare the following to be a clear and exact description thereof, sufficient to enable others skilled in the art to which my invention appertains to make and use the same, reference being had to the accompanying drawing forming part of this specification, in which—

Figure 1 is a central vertical longitudinal section of my device. Fig. 2 is a side section.

The invention relates more particularly to certain improvements in clover and small seed-huller, and also to an improved separator. It consists, first, of a conical bottomless mortar or concave, lined inside with spikes or a roughened metal surface, and having revolving in it a cone-shaped cylinder, provided with like spikes or surface. Second, of a separator which is composed of two endless aprons arranged over suitable pulleys, and having between them, the upper one a perforated shaker board suitably actuated, and the lower one a slotted board similarly operated, the whole so arranged as to thoroughly separate the substances, and to convey them to the huller or cleaner. Third, in rendering the aprons of the separator adjustable by means of slotted plates, in which the pulley-shafts of the rear ends of the aprons have their bearings. Fourth, it consists of the combination, with the lower apron and shaker-bed, of three, more or less, boards, chutes, or ways, which serve to convey the grain or seed to the cleaner from the slots in the lower apron shaker-bed. Fifth, combination of the several parts, when they are arranged to operate together in the manner and for the purpose specified.

Referring to the drawing, in which like letters on the several figures indicate like parts, A represents the frame of the machine. B is the ordinary thrasher, located in the upper front end of the machine. C and D are endless aprons, running over suitably-operated pulleys, and between these aprons a perforated shaker-board, E, and a transversely slotted board, F, respectively are arranged. These boards are operated by means of pitmen-rods *a a*, which receive the required length of stroke from eccentrics on the apron pulley-shafts, operated by suitable connection with the part to which the power is ap-

plied. As the straw is fed from the thrasher B onto the apron, the grain or seed falls through the shaker-bed E and onto the board F, by which it is regularly fed through openings or slots *b* into the huller. This huller consists of a bottomless inverted cone-shaped shell, G, having its interior lined with spikes or a roughened metallic surface. This is suitably secured on a horizontally-adjustable floor, and may be made of wood or metal. A cross-bar, *c*, is secured over the top of the concave and to the sides of the frame, and between this bar and the sieve-shaking bar *d* is secured an inverted conical cylinder, H, whose shaft is secured at one end in bar *d*, and at the other in bar *c*. This cone is also covered with a roughed metal surface or with spikes, and is made so as to nearly fill the concave, its spikes, when spikes are used, interlocking with those of the concave. A beveled gear-wheel is secured on the upper end of the cone cylinder-shaft and the beveled wheel *e* on the driving-wheel shaft engages with it, and rotary motion is thereby given to it.

In order to convey the grain or seed directly to this huller, shelves or boards *f f'* are arranged beneath the opening in the board F, and thus feed it to the huller. The board *g* is so arranged as to convey the material to the huller L when it is used instead of the cone and concave.

As the material is fed into this huller it is rapidly revolved, and coming in contact with the spikes or rough surfaces, it is thoroughly hulled, and the whole mass being gradually but quickly worked down finally falls out onto the sieve K, where it is subjected to the usual shaking motion and the draught from the fanning-mill; the refuse, chaff, &c., being blown away, dirt and dust falling through the netting, and the cleaned grain being delivered, all as usual. The special advantage of this method of construction is its perfect adaptability for the thrashing, hulling, and cleaning of clover and other small seed. The rear pulley-shafts of the aprons have bearings in vertically adjustable plates *h h*, which are slotted, and are secured to the frame by a thumb-screw passing through said slot into the frame. By raising these plates the rear ends of the aprons, and with them the boards E F, are also elevated, and the process of separating will be greatly facilitated; and not only so, but the separator can be used either with a horizontal or



an inclined bed, as may be desirable. The shaker-beds may be used by themselves and without the aprons, when so desired.

When necessary the hulling mechanism can be elevated or lowered by simply properly adjusting the set-screws *i i* on the bars *d' d''*, or when it is desired to work the seed close—that is, to have it come in close contact with the cylinder and concave, the cylinder is lowered and the concave raised, and, as will be readily seen, they are brought closer together, and their action on the seed is much more violent and effective.

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

1. In combination with the lower separating-table *F*, perforated as shown, and cone-shaped

shell *G*, the hinged guide-flaps *f' f' g*, substantially as described, for the purpose set forth.

2. The combination, in the thrashing and hulling-machine herein shown and described, of the adjustable endless belts *C D*, separating and receiving-tables *E F* provided with perforations *m, m*, and *n*, the hinged guide-flaps *f' f' g*, conical cylinder and shell *H G* armed with teeth, as shown, and sieve *K*, when said parts are arranged in relation to each other and to the fan and thrashing-cylinder in the manner and for the purpose substantially as specified.

To the above specification I have signed my name this 6th day of February, A. D. 1871.

Witnesses:

HENRY RIES.

ETHAN A. PRAY,

J. M. WILSON.

(159)