

No. 613,993.

Patented Nov. 8, 1898.

E. HART.
CLEANER FOR SEED COTTON.

(Application filed Jan. 24, 1898.)

(No Model.)

2 Sheets—Sheet 1.

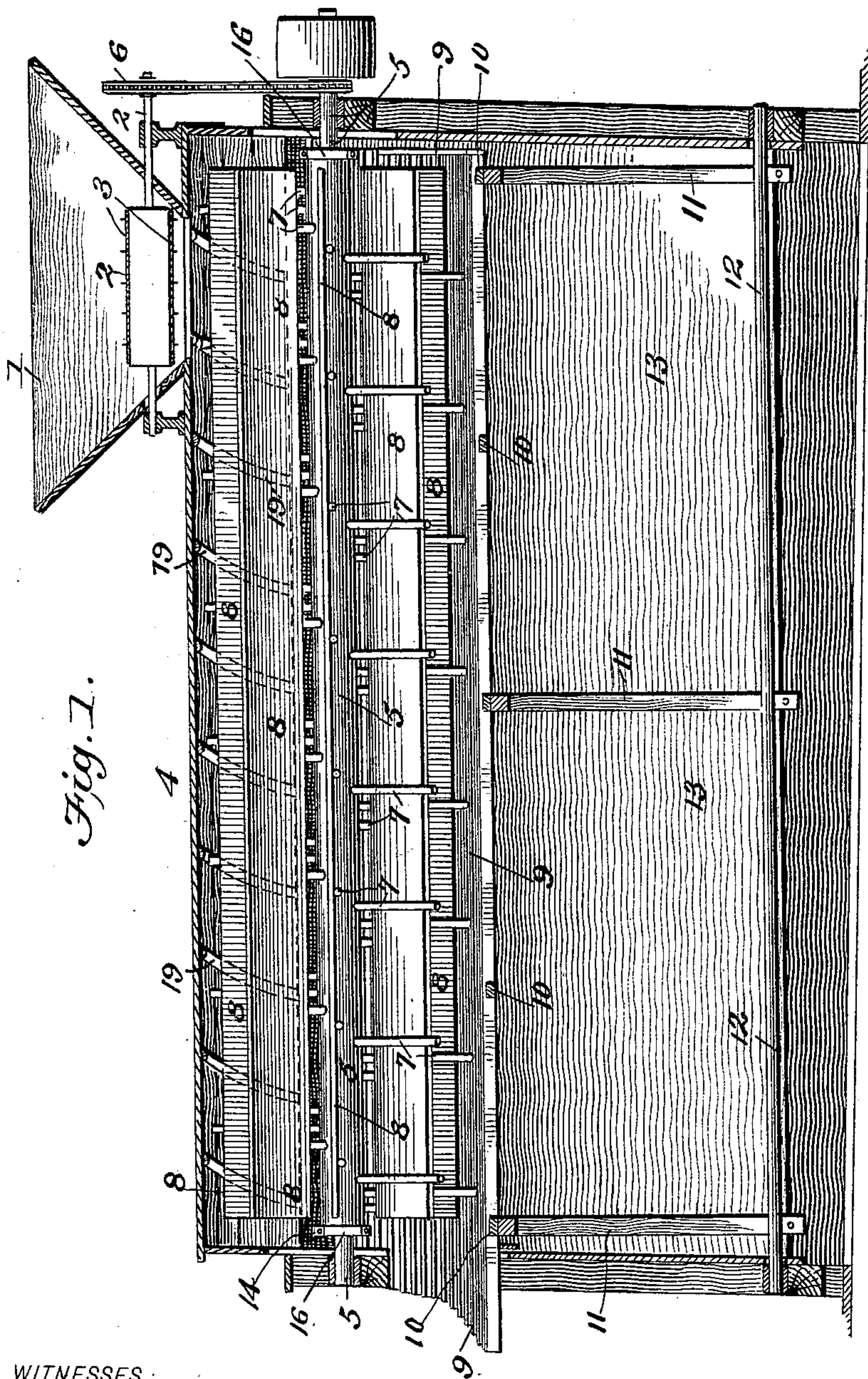


Fig. 1.

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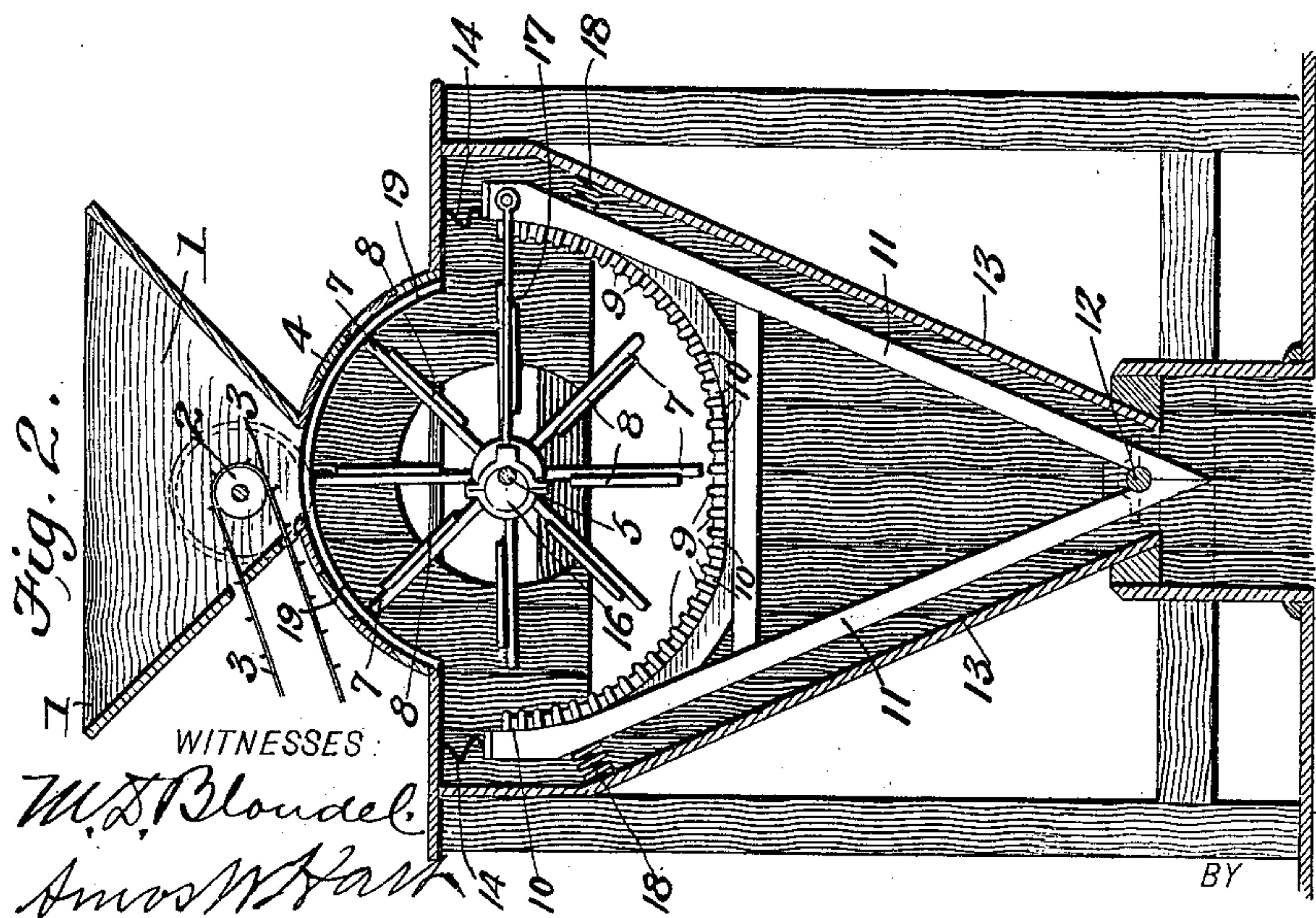
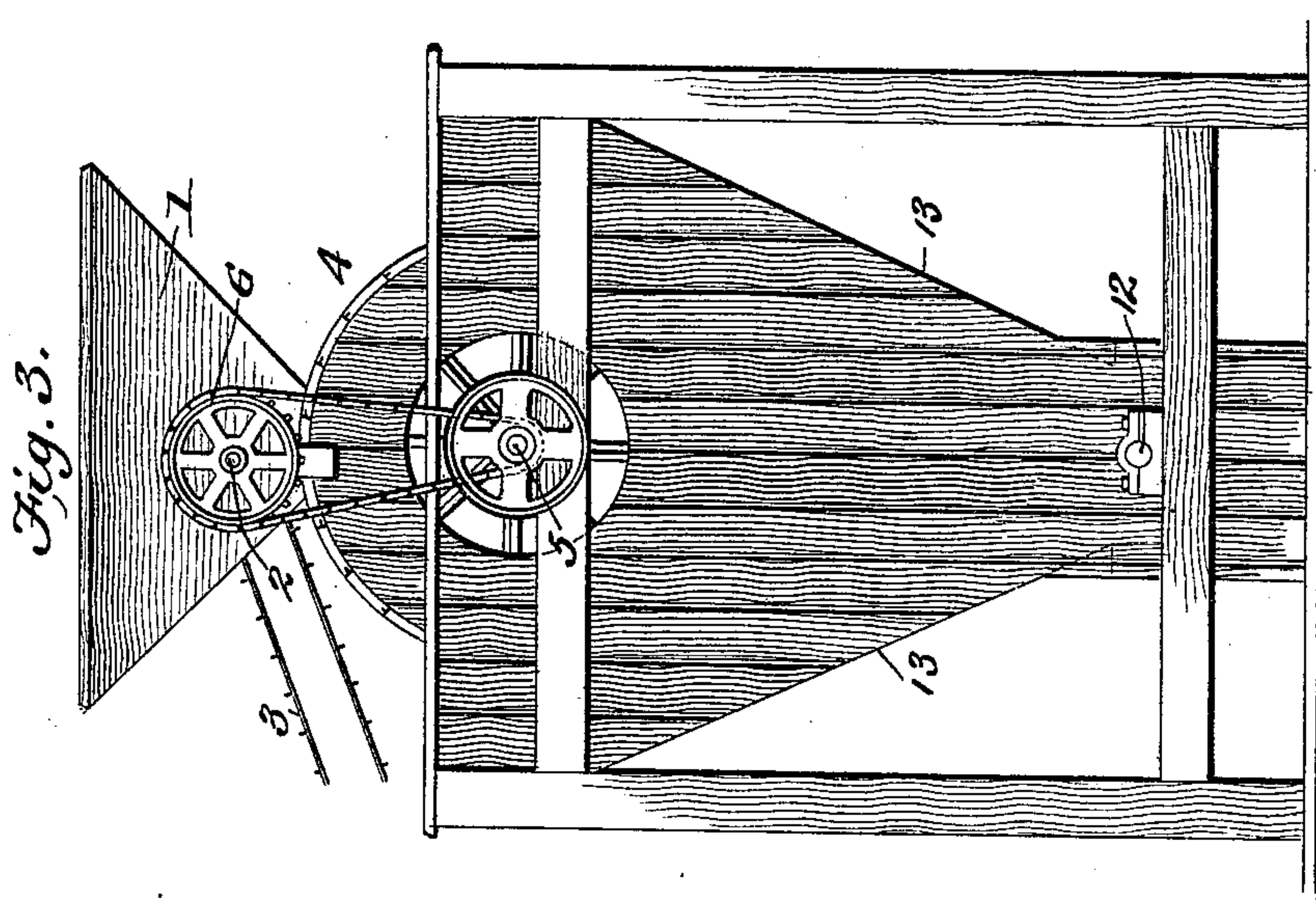
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UNITED STATES PATENT OFFICE.

EDWARD HART, OF HUNTSVILLE, TEXAS.

CLEANER FOR SEED-COTTON.

SPECIFICATION forming part of Letters Patent No. 613,993, dated November 8, 1898.

Application filed January 24, 1898. Serial No. 667,801. (No model.)

To all whom it may concern:

Be it known that I, EDWARD HART, residing at Huntsville, in the county of Walker and State of Texas, have invented an Improved Cleaner for Seed-Cotton, of which the following is a specification.

It is the object of my invention to provide an improved machine for automatically cleaning seed-cotton by removing the dirt, trash, and dust therefrom.

The chief features of the machine are a combined rotating stirrer, beater, and fan and an oscillating concave bed or slatted cradle in which such stirrer, beater, and fan works, as hereinafter described.

In the accompanying drawings, two sheets, Figure 1 is a longitudinal section of my improved machine. Fig. 2 is a vertical transverse section of the same. Fig. 3 is an end view.

The seed-cotton required to be cleaned is delivered in any suitable manner into the hopper 1, wherein is arranged a horizontal rotatable shaft 2. A belt 3, studded with pins or teeth, runs on said shaft and through slots in the side of the hopper. Said belt 3 is adapted to stir the seed-cotton and feed it through the coincident openings of the upper and cleaner casing proper, 4. Such shaft 2 is rotated by a sprocket-wheel-and-chain connection with the main shaft 5, which is provided with a driving-pulley. The speed of rotation may be regulated at will by changing the size of the sprocket-wheel 6 on the shaft 2.

Within the casing 4 rotates the combined stirrer, beater, and fan, which is composed of the shaft 5, extending lengthwise through the casing, a series of spokes or arms 7, set radially in said shaft, and a series of thin boards 8, one being secured to each lengthwise row of arms 7 at a point intermediate their ends. Such boards constitute so many fan-blades, which serve to drive the dust down through the concave or cradle 9 into the dust-box.

The ends of the arms, which project beyond the boards or fans 8, serve as so many fingers or stirrers, which sweep around through the seed-cotton.

It will be observed, Fig. 1, that the arms 7 are set spirally in the shaft 5, so that no one

arm follows exactly in the rotating path of another, whereby a general, complete, and uniform stirring or agitation of the contents of the concave is effected.

The concave oscillating bed or cradle is composed of slats 9, arranged longitudinally parallel, but separated by blocks 10, so that narrow spaces are left between them. These slats 9 are arranged to form a receptacle which is nearly semicircular in cross-section and extends beyond the casing 4 at its lower end. The bed or cradle is secured to and supported between the upper ends of the oscillating frames 11, whose bearings are on a stationary shaft 12, that extends longitudinally through the lower portion of the V-shaped dust-box 13. (See Fig. 3.) The upper or side edges of the concave or cradle are connected with the top of the casing by means of canvas strips 14, which prevent cotton flying over into the dust-box 13.

It will be observed that the driving-shaft 5 and concave or cradle are inclined slightly downward from right to left in order to cause the material to feed in that direction and to be delivered from the open ends of the casing and concave. The oscillation of the concave is effected by means of eccentrics 16, formed or arranged on the driving-shaft 5, and lateral rods 17, whose outer ends are pivoted to the V-frames, as shown.

The aforesaid concave or "cradle" has a flat central portion, Fig. 2, that intervenes the two quarter-circle sections forming the sides of the same. Buffers in the form of springs 18 will be applied between the casing 13 and the upper portions of the V-frames 11 to take the jar or shock of contact with the sides of the machine.

The top or semicircular portion of the casing 4 is constructed with ribs 19, arranged at an inclination or spirally, as shown best in Fig. 1. The function of these ribs is to cause the seed-cotton thrown against them by the rotating beater to glance toward the open end of the casing, and they also tend to direct the course of the air-current in the same direction.

The machine is run at a high speed, and seed-cotton deposited in the hopper 1 will be fed by the toothed belt 2 into the upper end

of the casing 4 and cradle 9, where it is rapidly jarred, stirred, and beaten and the dirt, trash, and dust blown out, while the seed-cotton being shaken as a body laterally or from side to side by means of the oscillating cradle and up against the fan or beater is gradually shaken toward and finally delivered from the mouth or open end of the concave.

What I claim, and desire to secure by Letters Patent, is—

1. In a seed-cotton-cleaning machine, the combination with a laterally-oscillating concave, or "cradle" of a rotary stirrer, and a fan for blowing out the dirt and dust freed from the seed, substantially as shown and described.

2. In a seed-cotton-cleaning machine, the combination with a laterally-oscillating concave or cradle, of a stirrer or means for separately agitating the seed-cotton as it is shaken bodily from side to side, substantially as shown and described.

3. In a seed-cotton-cleaning machine the combination with a laterally-oscillating concave, or cradle having spaces for escape of dust and dirt, of a rotary stirrer and fan composed of arms having boards secured at points, removed from their outer ends, and a casing

which is open at the lower end, substantially as described.

4. In a seed-cotton-cleaning machine the slatted concave or cradle and V-shaped arms supporting the same and a shaft on which the said arms are pivoted, as shown and described.

5. The combination of a rotary shaft having arms forming a stirrer, the oscillating concave or cradle, eccentrics on said shaft, and rods connecting the eccentrics with said cradle, as shown and described.

6. The improved seed-cotton-cleaning machine, composed of the hopper, the stirrer consisting of a rotary toothed belt arranged in said hopper, the casing, the rotary driving-shaft arranged at an inclination therein, and having radial arms and fan-blades attached thereto at points intermediate their ends, the concave or cradle, V-shaped pivoted supports therefor, the eccentrics and rods connecting such cradle with the driving-shaft, and the dust-box inclosing the cradle but open at its lower side, as shown and described.

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Witnesses:

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