

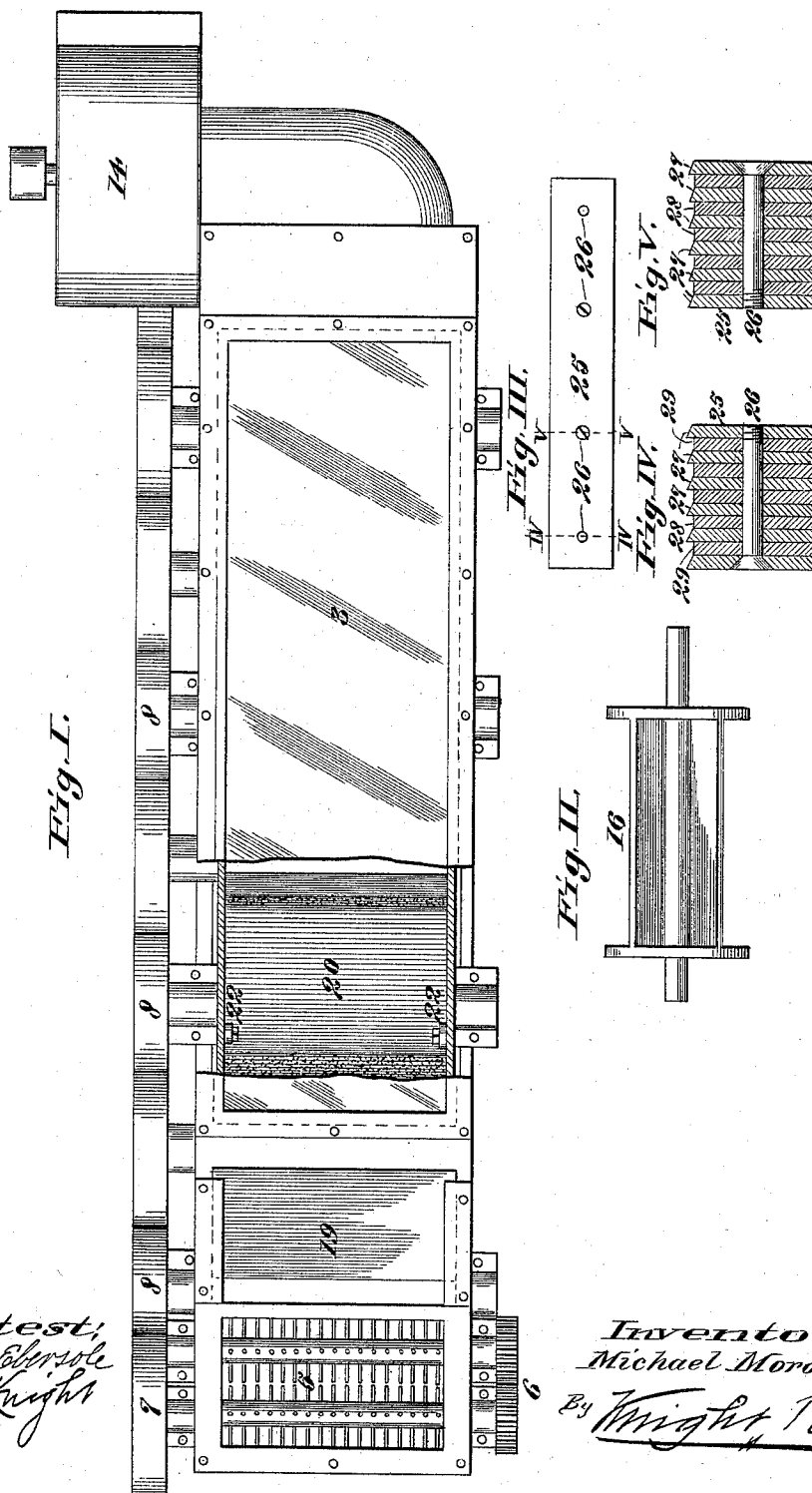
(No Model.)

2 Sheets—Sheet 1.

M. MORAN.
MACHINE FOR DELINTING COTTON SEEDS.

No. 534,804.

Patented Feb. 26, 1895.



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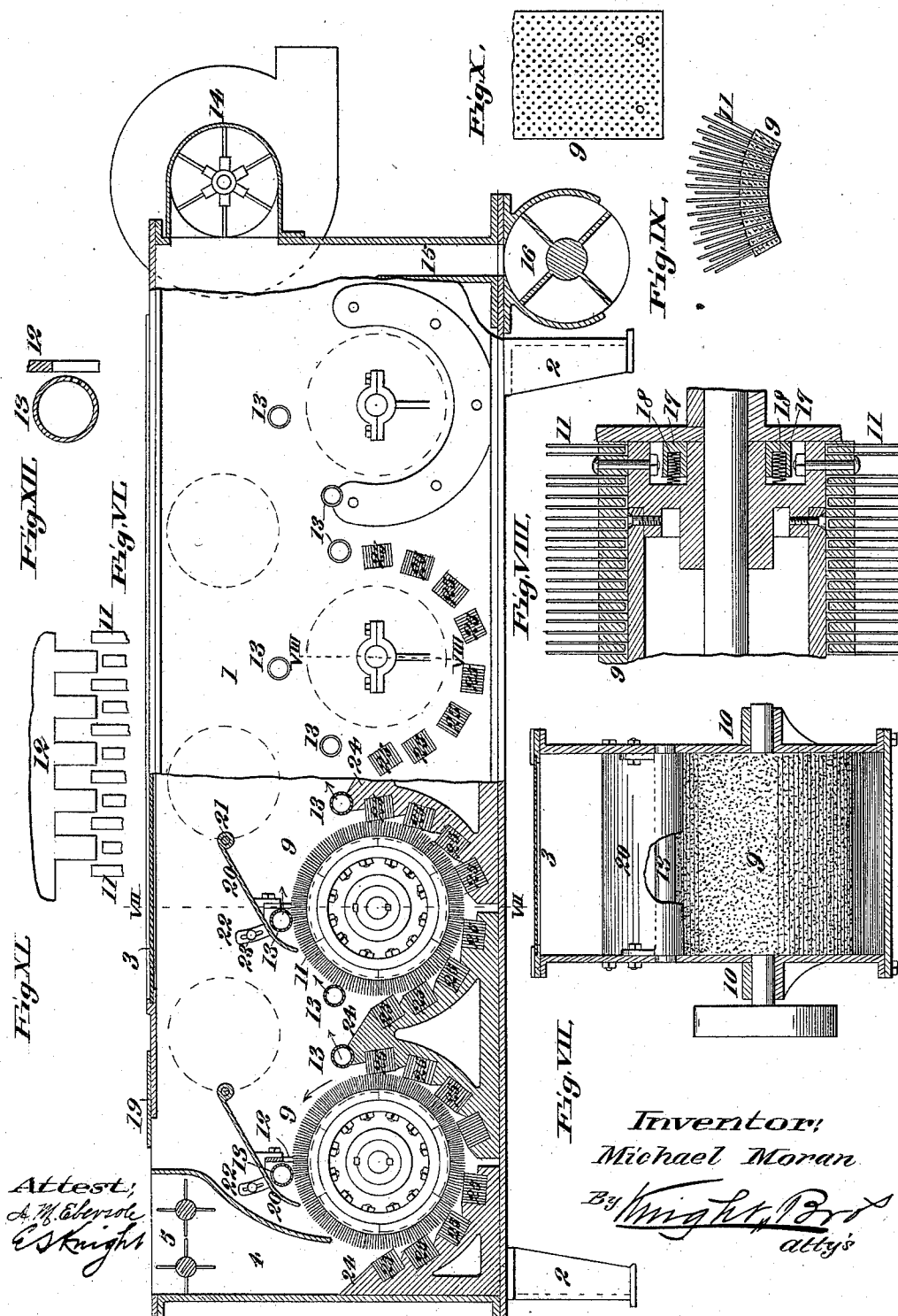
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UNITED STATES PATENT OFFICE.

MICHAEL MORAN, OF ST. LOUIS, MISSOURI.

MACHINE FOR DELINTING COTTON-SEEDS.

SPECIFICATION forming part of Letters Patent No. 534,804, dated February 26, 1895.

Application filed April 30, 1894. Serial No. 509,442. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL MORAN, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Machines for Delinting Cotton-Seeds, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My present invention relates to certain improvements in machines for removing the lint from cotton seeds. This machine might be used for polishing grain, such as wheat or oats, and the portions removed from the grain carried off in a similar manner to the way in which the lint is carried from the cotton seeds.

My present invention consists in features of novelty hereinafter fully described and pointed out in the claims.

Figure I, is a top or plan view of my improved machine, with part of the top of the casing removed. Fig. II, is a top view of the discharge valve removed. Fig. III, is an enlarged side view of one of the blocks. Fig. IV, is a transverse section taken on line IV—IV, Fig. III. Fig. V, is a similar view taken on line V—V, Fig. III, showing the rivet or bolt inserted in the opposite direction. Fig. VI is a side elevation, part in section. Fig. VII, is in part a vertical transverse section taken on line VII—VII, Fig. VI, the cylinder being shown in elevation. Fig. VIII is a detail vertical section taken on line VIII—VIII, Fig. VI. Fig. IX, is a detail vertical transverse section of one of the cylinders. Fig. X is a detail top view of one of the cylinders. Fig. XI is a diagram showing the manner of arranging the brushes or bristles on the cylinders and the relation thereto of the comb. Fig. XII is an enlarged detail section showing part of one of the combs and the air pipe.

Referring to the drawings, 1 represents the closed casing or housing of the machine, supported on suitable legs 2, and having preferably a glass top 3, which permits an observation of the interior of the machine.

4 represents the feed hopper which may be provided with spiked rollers 5 to form a forced feed, the rollers being geared together, as shown at 6 Fig. I, so as to be turned toward each other. On one of the spiked rollers 5 is

a pulley 7 having frictional or other gear connection 8 with the cylinders of the machine.

Within the housing are a number of cylinders 9, journaled in the sides of the housing, as shown at 10, Fig. VII. The peripheries of these cylinders carry brushes or bristles 11, preferably of wire, bent as shown in Fig. VIII and passed through perforations made in the outer wall of the cylinders to receive the bristles, as shown in Fig. X. One row of perforations is staggered with the adjacent rows, so that the bristles of the different rows will be arranged in staggered form. The bristles of every other row are shorter than the bristles of the intermediate rows, as shown in Fig. IX and in the diagram Fig. XI. Over each cylinder is a comb 12, between the teeth of which the longer bristles on the cylinder pass, as shown in the diagram, so that the teeth of the comb will effectually remove the lint from the surface of the cylinder.

Arranged within the housing are air pipes 13. These air pipes extend through the sides of the housing and are open at their ends, and each pipe has a slot running its entire length within the housing, so that the air can pass from the tubes into the housing to supply the vacuum formed by the fan 14.

The slots in the tubes 13 are so arranged as to direct the air current in the most advantageous direction for carrying the lint toward the rear of the machine, where it escapes through the fan while the seeds escape through a chute 15 into a discharge valve 16 (see Figs. II and VI), the valve being turned by suitable means. The course of the air as it issues from the pipes 13 is indicated by arrows in Fig. VI.

To prevent air entering around the journal bearings of the cylinders 9, I employ rings 17 which are set into the heads of the cylinders, as shown in Fig. VIII, and which are held outwardly against the inner wall of the housing by means of springs 18. By thus closing off the air at these points and by closing a slide 19 over the hopper 4, no air can enter the housing except through the tubes 13, and by entering at these points the air is directed in the most advantageous way to produce the desired results.

I place one of the pipes 13 directly over each cylinder, as shown in Fig. VI, and over these pipes I arrange plates 20 that are hinged at 21 to the sides of the housing. The free ends of the plates carry lugs 22, which have a slot and pin connection 23, with the housing, so that the lower ends of the plates 20 may be raised and lowered. The plates 20 carry the combs 12, so that the combs may be raised and lowered by raising and lowering the free ends of the plates. The plates 20 serve to direct the lint which is acted upon by air currents issuing from the pipes 13 which are directly over the cylinders, in a direction toward the discharge end of the machine.

24 represents concaves beneath the cylinders and in these concaves are arranged blocks 25, these blocks being set in recesses formed in the concaves, as shown in Fig. VI. The form of these blocks is shown in Figs. IV and V. They are substantially rectangular in transverse section, and are each made up of a number of strips, secured together by rivets or bolts 26. Each alternate strip has a beveled edge 27, while the intermediate strips have flat edges 28. The blocks are placed in the concaves with the faces 27 and 28 presented toward the cylinders, and they are placed with the acute edges of the inclined faces 27 toward the approaching or advance side of the cylinders. Thus there is presented to the surface of the cylinder a series of right-angle rests 29, which receive the seeds, and as the brushes or bristles move past the blocks, the seeds are turned and rubbed between the sharp edges of the blocks and the brushes, and the lint thus effectually removed from the seeds.

As shown in Fig. VI the blocks 25 are

placed with their faces at an angle to the face of the cylinders, so that the seeds readily enter the triangular spaces between the forward edges of the blocks and the cylinders, and entering here they are thoroughly operated upon by the rubbing action between the blocks and cylinders.

I claim as my invention—

1. In a machine for delinting cotton seeds, the combination of a closed casing, the cylinders having bristles, means for rotating the cylinders, the concaves arranged beneath the cylinders, and a series of blocks built up of alternate beveled and straight edges respectively and set within the concave at an angle to the peripheries of the cylinders thereby forming triangular spaces into which the seeds and lint are collected and turned among themselves, as they pass from one block to another; substantially as described.

2. In a machine for delinting cotton seeds, the combination of a closed casing, the cylinders, the concaves arranged beneath the cylinders, perforated air pipes traversing the casing over the cylinders and having open ends, and a suction fan connected with the casing; substantially as described.

3. In a machine for delinting cotton seeds, the combination of a closed casing, the cylinders, the concaves arranged beneath the cylinders, perforated air pipes traversing the casing over the cylinders and having open ends, the plates located over the upper pipes, and a suction fan connected with the casing substantially as described.

MICHAEL MORAN.

In presence of—

A. M. EBERSOLE,
E. S. KNIGHT.