(No Model.)

J. S. WATERMAN.

Corn Sheller.

No. 238,069. **Patented Feb. 22, 1881.**

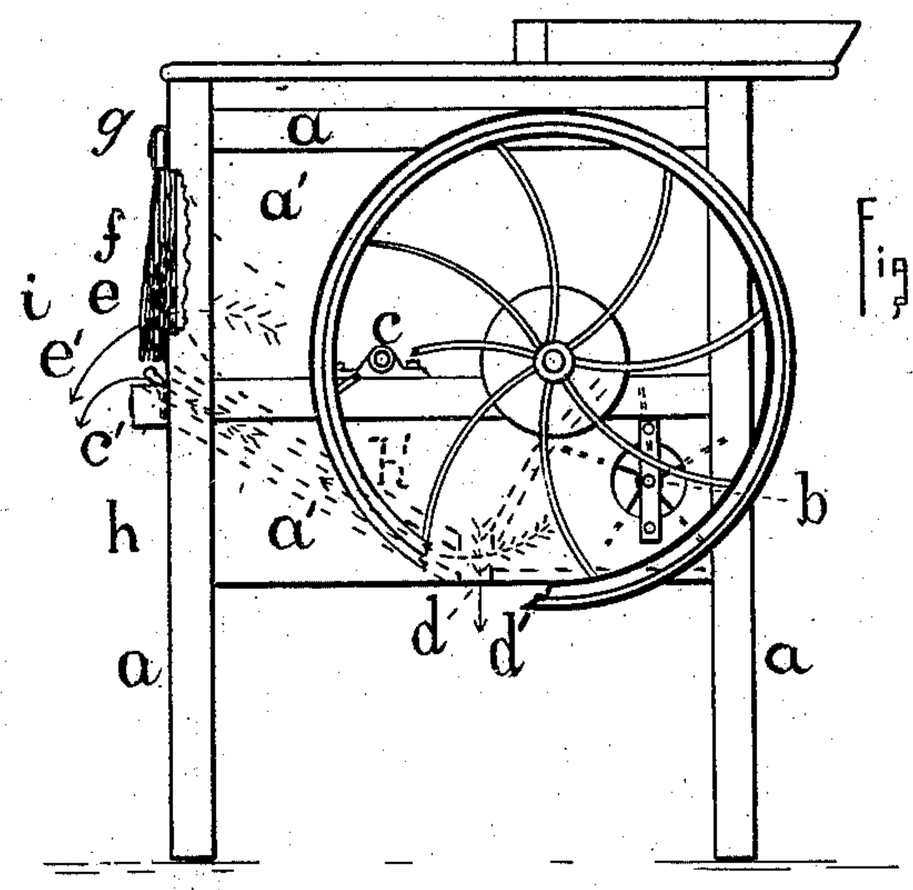

Fig. 1.

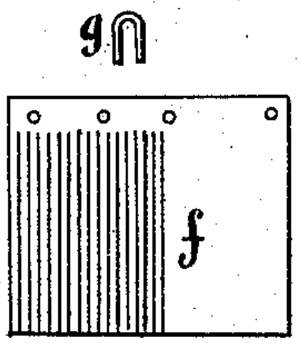

Fig. 7.

Fig. Z.

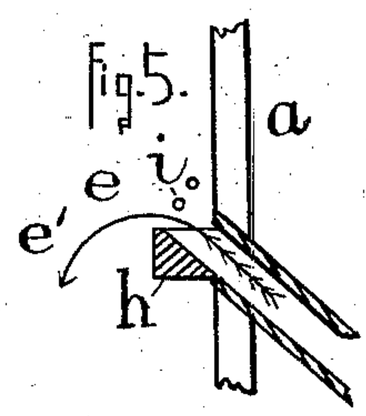

Fig. 5.

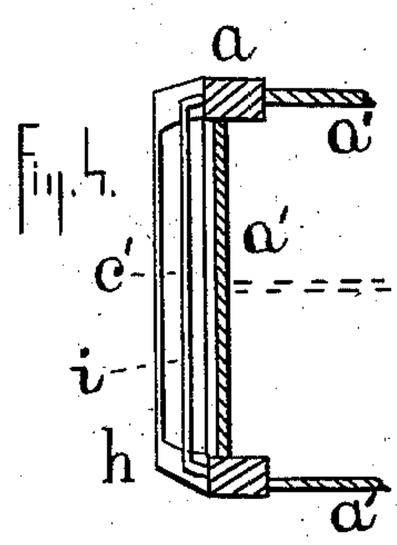

Fig. 4.

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Witnesses.

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UNITED STATES PATENT OFFICE.

JOHN S. WATERMAN, OF ITHACA, NEW YORK.

CORN-SHELLER.

SPECIFICATION forming part of Letters Patent No. 238,069, dated February 22, 1881.

Application filed December 24, 1880. (No model.)

To all whom it may concern:

Be it known that I, JOHN SAYLES WATERMAN, a citizen of the United States, residing at Ithaca, Tompkins county, New York, have invented a new and useful Improved Corn-Sheller, of which the following is a specification.

My invention relates to the means of separating the corn from the cobs in a machine on which several patents have been granted in which I am interested.

For the structure of the internal as well as some of the outer parts of the machine, reference is made to Patent No. 233,649, granted to myself October 26, 1880. The subject-matter now presented is applied to that machine, but not found in it, and will be apparent as I describe it.

Figure 1 is an elevation of the rear of my machine. Fig. 2 is the outlet-end view of the same. Figs. 3, 4, and 5 are detached partial views.

In the figures, *a a* is the general wood frame, and *a' a'* the boxing of the machine; and *b* is the shaft of a fan-wheel, by which a blast is made to drive the chaff out of the chaff-orifice *c'*, as indicated by two arrows—one near the fan, and the other in the orifice. The blast clears the chaff as the corn escapes out of the machine through the orifice *d*, as indicated by the descending arrow in that exit. The fan and its inclosure, and the blast-passage to the orifice *c'*, are indicated by dotted lines, being inside of the boxing. The exit of the cobs is at *e*, as indicated by the arrow *e'*. The position of the shelling-wheel of Patent No. 233,649 is indicated by the shaft on which is the fly-wheel of Fig. 1 of the drawings now given. The shaft of rag-wheel of that patent is also seen in Fig. 1, at *c*.

In the machine as now presented a slitted apron, *f*, is seen just on the outside of the cob-exit *e*. This apron is made of any suitable material, as leather, durable cloth, or like articles. It consists of any of these materials, made fast by a plate, or rib, or back, *g*, at its top, and by which it is secured to the machine over the exit. The leather or cloth is slitted from near the top to the bottom into strips, as seen in Figs. 3 and 4, and the separated parts or ends thus made hang loosely down over the exit, and to some distance below, reaching to near the chaff-exit *c'*. This apron serves several purposes: It causes the grains of corn that strike it on its inner side to rebound and fall within the machine, it causes those that get out of the exit *e* of the machine to follow some one of the divisions of the apron down to the exit *c'*, and thus, through the blast-tube *c''*, go to and out of the exit *d*, beneath the machine, as well as brushes or sweeps the cobs clear of loose corn. Practically, two or more pieces of leather or cloth are cut into the tape-like strips, cords, or strings about a half of an inch wide, leaving a portion an inch or so wide uncut at their tops, as has been said, and two or more are secured preferably to a back, made as seen at *g*, just above Fig. 3, thus making the brush-like apron described; and, slight as it may seem, it retains very effectually those grains of corn that tend to escape at the cob-exit, and which have caused much study, being an annoyance, as they scatter among the cobs and chaff and about the machine when in operation.

It will be next noticed that the orifice *c'* has a special construction, and thus made is useful with or without the apron *f*. A piece, *h*, is attached just outside of the machine, which piece is excavated into a trough-like shape, and adapted to fit the blast-tube; and since the orifice thus made must not be so open that cobs falling on it can enter it, one or more rods, *i*, are fixed over it, as shown. When the orifice thus made is used in connection with the apron *f*, the relative sizes shown in the figures are large enough; but when no apron is used the piece *h* should be wider, and several rods *i*, graded one above the other, should be used, so that the cobs shall roll off of the rods *i*. Fig. 4 is a view from above of the orifice with one rod. Fig. 5 is a sectional view with two rods.

I am aware that a rubber diaphragm or cloth slit in its middle to allow the cobs to escape and to retain the corn has long been used. This or like coverings of the cob-orifice I do not claim.

I claim—

1. An apron, *f*, with divided or brush-like lower edge, *f'*, fitted to the outside of the cob-exit *e*, and extended down to the chaff-exit *c'*,

and conveying the escaping grains of corn into the exit c', the said apron being made and combined with the said orifice and exit as described.

2. The trough-shaped piece h and rod or rods i, fitted to and making the guarded funnel-shaped aperture c', by which the chaff and blast escapes, and the corn falling from the orifice e is returned into the machine by the blast-tube c'', the piece h, the rods i, and tube c'' being combined together as set forth.

3. The combination of the elongated and corn-conveying brush-apron f, or apron made of strips or strands, funnel-shaped piece h, guard-rods i, blast-tube c'', and apertures e and c', operating together and constructed as set forth.

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Witnesses:
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S. F. MACK.