

(No Model.)

3 Sheets—Sheet 1.

H. SIMON.
PURIFIER FOR MIDDLEINGS.

No. 601,817.

Patented Apr. 5, 1898.

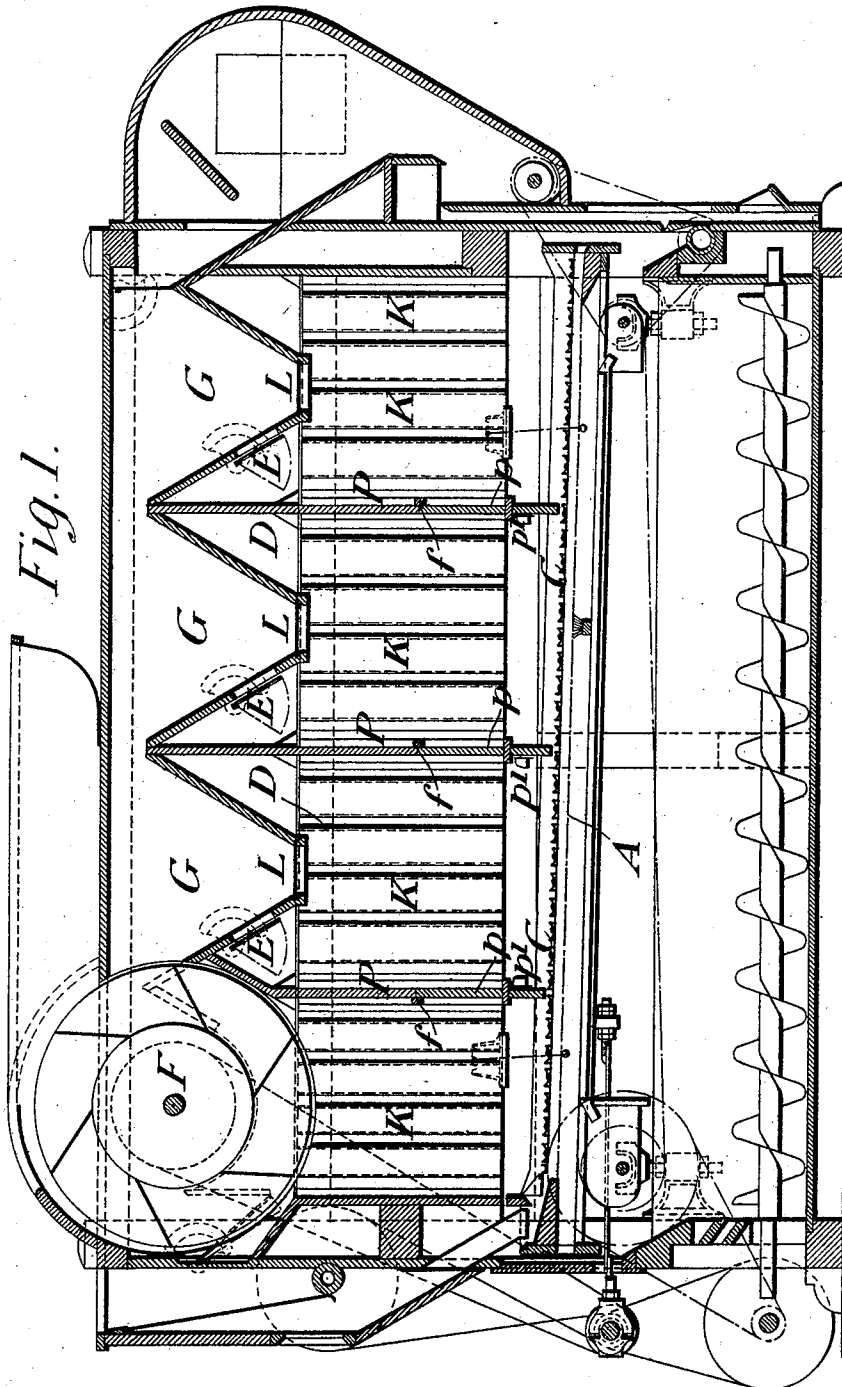


Fig. 1.

WITNESSES.

Henry L. Deck.
Emmet P. Pulford.

Henry Simon
By Wilhelm P. Pomeroy.

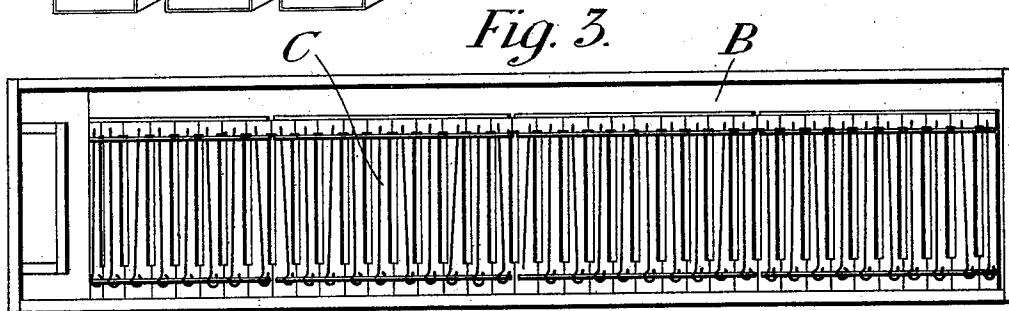
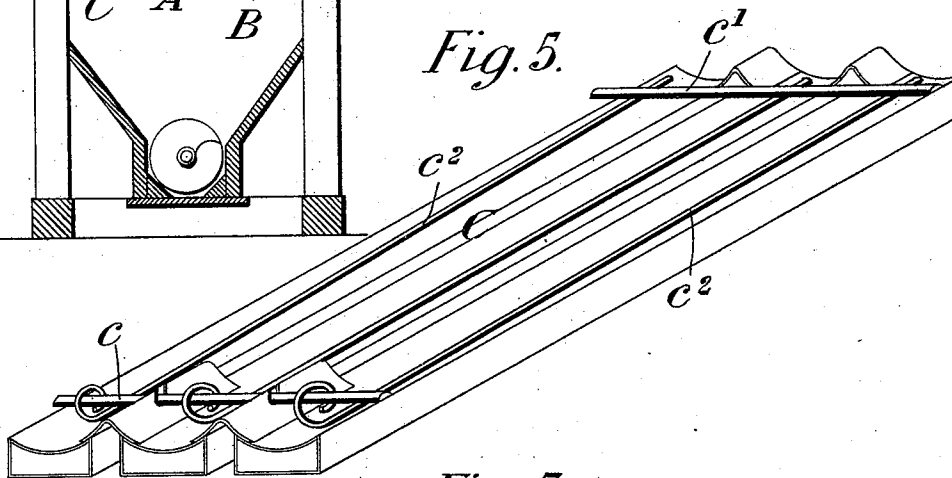
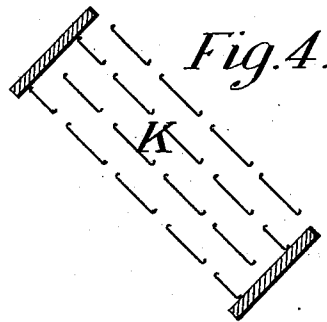
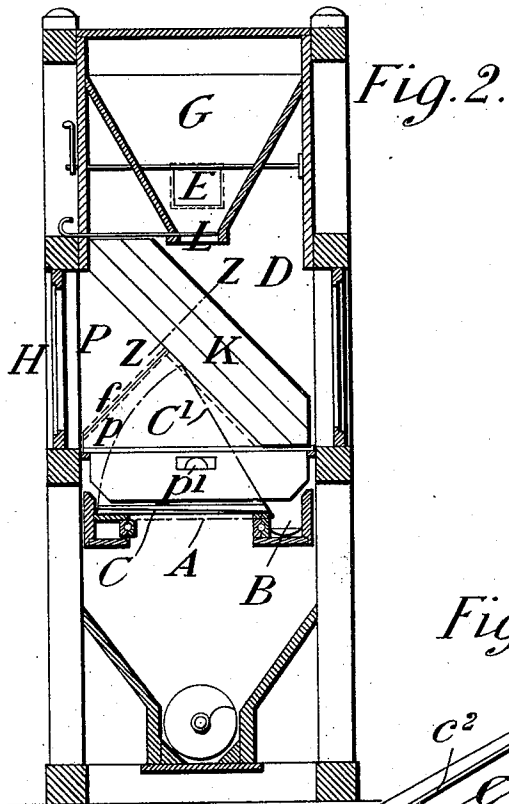
INVENTOR.

ATTORNEYS.

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Henry L. Deck.
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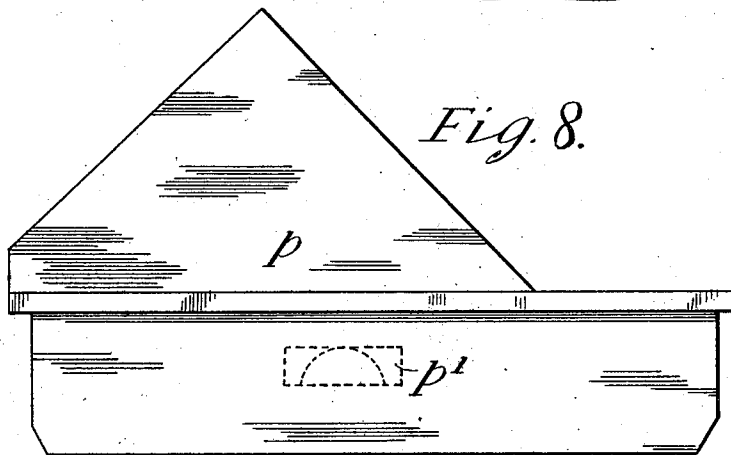
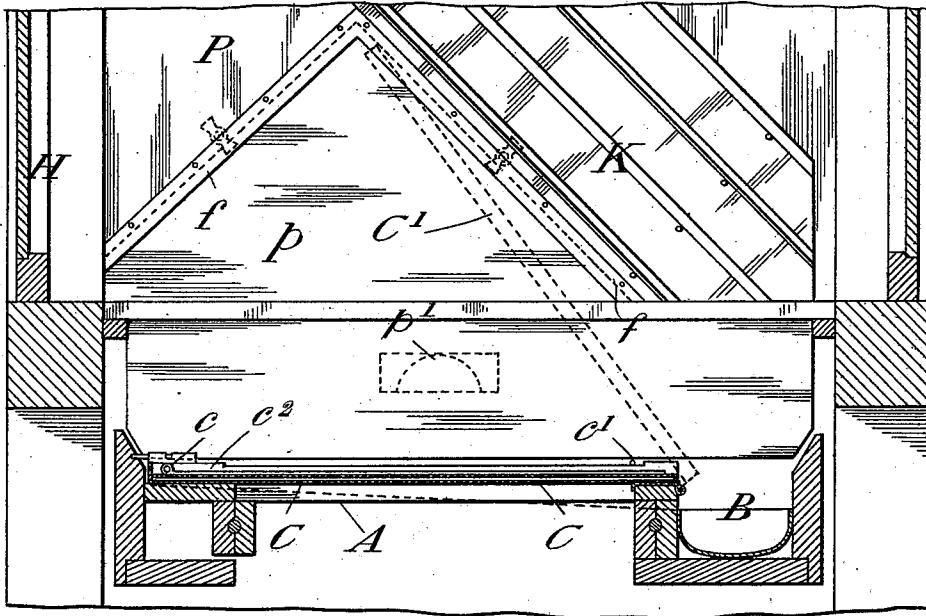
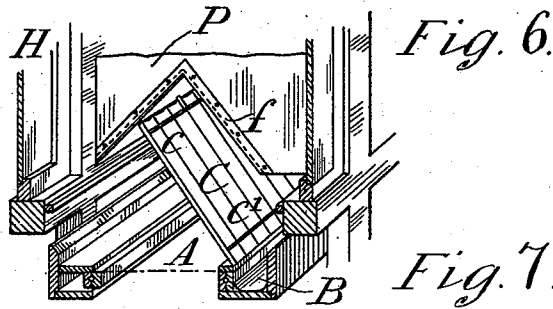
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3 Sheets—Sheet 3.

H. SIMON.
PURIFIER FOR MIDDINGS.

No. 601,817.

Patented Apr. 5, 1898.



Witnesses:
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Henry Simon Inventor.
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UNITED STATES PATENT OFFICE.

HENRY SIMON, OF MANCHESTER, ENGLAND.

PURIFIER FOR MIDLINGS.

SPECIFICATION forming part of Letters Patent No. 601,817, dated April 5, 1898.

Application filed September 3, 1896. Serial No. 604,696. (No model.)

To all whom it may concern:

Be it known that I, HENRY SIMON, a citizen of England, residing at 20 Mount street, Manchester, in the county of Lancaster, England, have invented certain new and useful Improvements in Purifiers for Middlings and other Pulverulent Cereal Products, of which the following is a specification.

In purifiers for middlings and other pulverulent cereal products as they are usually constructed it is difficult to obtain access to the sieve or to the channels which collect the fine particles raised by the air-current, and the windows often provided for inspection are generally so obscured by dust deposited on them that it is impossible to see the interior.

Now my invention relates to the construction and arrangement of the dust-collecting channels in such a manner as to lessen the quantity of dust raised within the machine, to render the air issuing from the machine dustless, to keep the windows for inspection clean, or nearly so, and to give facility for access to the sieve. I shall describe the construction and arrangements which I adopt for this purpose, referring to the accompanying drawings.

Figure 1 is a longitudinal section, and Fig. 2 is a transverse section, of a purifier according to my invention. Fig. 3 is a plan of the grid of dust-collecting channels arranged above the sieve. Fig. 4 is a section on the line Z Z of Fig. 2 of the inclined channels in the chambers above the sieve. Fig. 5 is a perspective view of several of the collecting-channels. Fig. 6 is a sectional perspective view showing a section of the grid raised. Fig. 7 is a vertical cross-section, on an enlarged scale, of the sieve and adjacent parts. Fig. 8 is a detached view of the removable piece which is taken out of the partition when the grid has to be raised.

A is the silk or sieve which is caused to oscillate and is provided with feed and discharge arrangements in the usual way. The frame which carries the silk is made with a recess or receiving-channel B at its one side, and over the silk is arranged a grid of transverse channels C, each having a flat bottom parallel and very near to the surface of the silk, the upper side of the channel being of

rounded trough shape and made with a slight inclination downward toward the recess B.

As shown in Fig. 5, each section of the grid of the collecting-channels C has a cross-wire *c* fixed near its upper end and another cross-wire *c'* near its lower end. In each channel there is a longitudinal wire *c²*, hooked freely to the upper wire *c*, so that as the sieve and grid of channels vibrate each of these wires oscillates to and fro in its channel, keeping the particles in it in motion and preventing them from adhering. The lower cross-wire *c'* prevents the longitudinal wire *c²* from jumping out of the channel. The space above the silk is, as usual, divided by partitions P into a number of compartments D, communicating by valved openings E with upper hopper-shaped compartments G, which communicate with the section of the fan F. The grid of channels C is divided into as many sections as there are compartments D, each section being hinged to the side of the channel B, so that it can be raised to the position indicated by the dotted lines C', Fig. 2, so as to give free access to the silk from the side window H, which can be opened for that purpose. In order to admit of the grid-sections being thus raised, the lower parts *p* of the partition P are made removable.

Fillets (indicated by the dotted lines *f* in Fig. 2 at the lower edges of the upper fixed parts of the partitions P) serve as stops, against which the upper edges of the removable lower parts *p* bear when these parts are in place. When it is desired to raise a section of the grid of channels C, the window H is opened and the attendant, taking hold of handles *p'*, withdraws the movable parts *p* of the partitions and removes them through the window, the grid-section being thus left free to be raised.

In each of the compartments D are fixed several rows of steeply-inclined shallow channels K, with narrow passages between them so arranged that the air-currents ascending to the upper compartments G as they pass between the channels of one tier are deflected by the channels of the next higher tier, and as they expand laterally over each tier they deposit in the channels K such dust or fine particles as may be suspended in them. The matters thus deposited slide down the chan-

nels K into the collecting-channel B, whence they, as well as the matters received from the channels C, are delivered at the discharge end of the machine. I have shown the channels C directly transverse. They might, however, be more or less diagonally inclined, their ends which discharge into the side channel B being nearer the delivery end of the machine than their other ends.

10 The air, which is almost dustless after passing the channels K, passes through the openings E, which are regulated by valves, into the upper hopper-shaped compartments G, and, expanding in them, deposits such dust as may
15 be still carried by it, and this descends through openings L at the bottom of the compartments G and falls into the inclined channels K. Each of the openings L is provided with a slide, which usually closes the opening and
20 is withdrawn only when there is an accumulation of deposit in the compartment.

Having thus described the nature of my invention and the best means I know for carrying the same into practical effect, I claim—

25 1. The combination with the shaking-sieve, of transverse dust-collecting channels arranged above the same and hinged to one of the longitudinal sides of the sieve-frame, whereby the channels can be swung up when
30 access is required to the sieve, substantially as set forth.

2. The combination with the shaking-sieve having a longitudinal dust-channel along one

of its sides, of a grid of transverse dust-collecting channels arranged above the sieve 35 with their lower sides in proximity to the sieve and their upper sides sloping toward said longitudinal dust-channel, said grid of channels being composed of sections which are arranged side by side from the head to 40 the tail of the sieve and hinged to the sieve-frame on the side on which said longitudinal channel is arranged, substantially as set forth.

3. The combination with the inclosing casing and the shaking-sieve having a longitudinal dust-channel along one of its sides, of a grid of transverse dust-collecting channels attached to the sieve and arranged in proximity to the upper side of the sifting-surface, 50 with their upper sides sloping toward said longitudinal channel, and stationary steeply-inclined dust-collecting channels extending across the interior of said casing and arranged with their lower ends over said longitudinal 55 channel and with their higher ends over the opposite side of the sieve, substantially as set forth.

In testimony whereof I have signed my name to this specification, in the presence of 60 two subscribing witnesses, this 18th day of August, A. D. 1896.

HENRY SIMON.

Witnesses:

HAROLD WORSLEY,
FRANCIS WILLIAM GUARD.