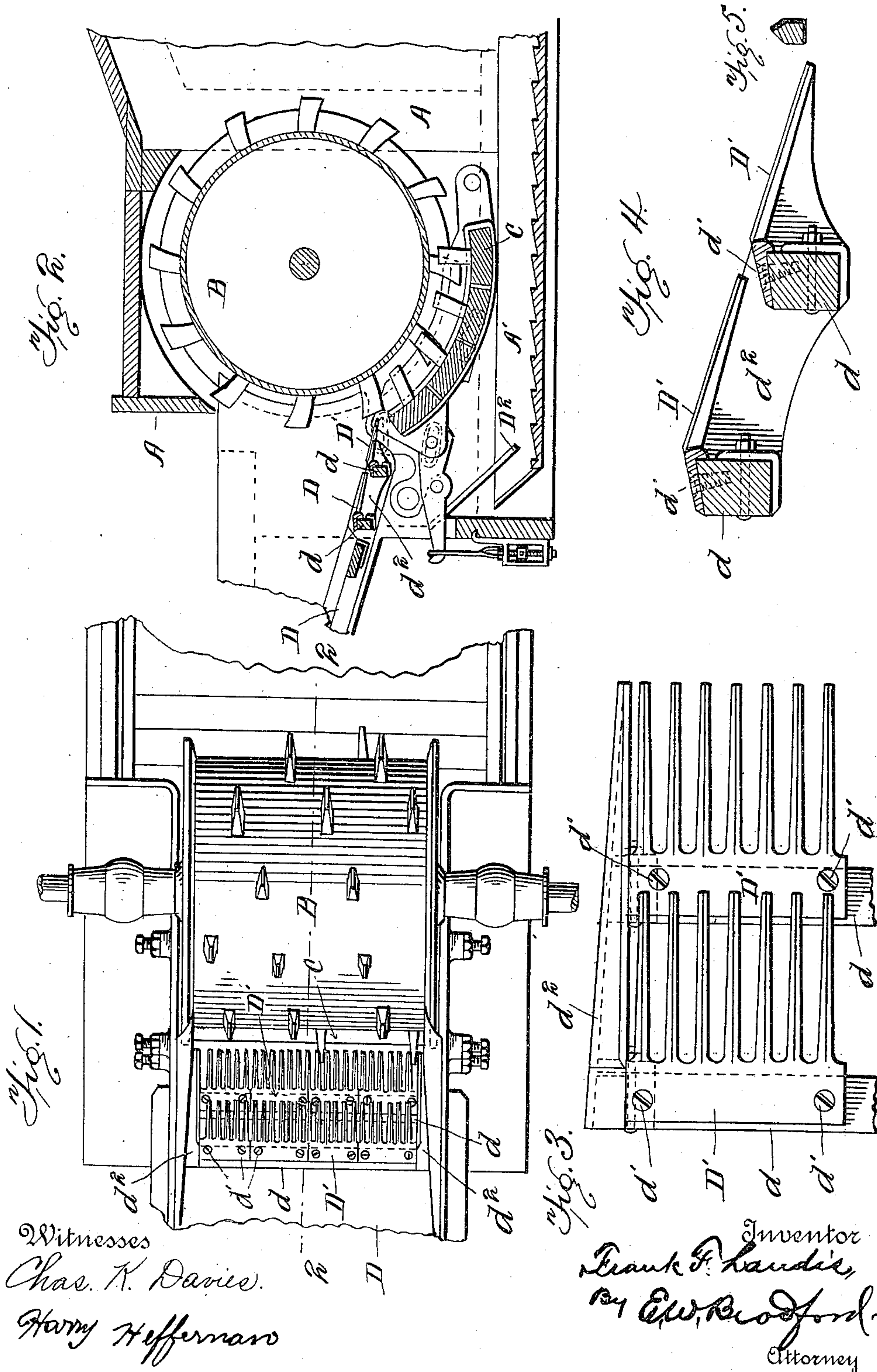


F. F. LANDIS.
FEED HOPPER FOR THRESHING MACHINES.
APPLICATION FILED DEC. 13, 1901.

995,689.

Patented June 20, 1911.



UNITED STATES PATENT OFFICE.

FRANK F. LANDIS, OF WAYNESBORO, PENNSYLVANIA.

FEED-HOPPER FOR THRESHING-MACHINES.

995,689.

Specification of Letters Patent. Patented June 20, 1911.

Application filed December 13, 1901. Serial No. 85,817.

To all whom it may concern:

Be it known that I, FRANK F. LANDIS, a citizen of the United States, residing at Waynesboro, in the county of Franklin and State of Pennsylvania, have invented certain new and useful Improvements in Feed-Hoppers for Threshing-Machines, of which the following is a specification.

The object of my said invention is to provide an improved construction of the floor or bottom of the feed-table or hopper of threshing machines, whereby the return currents of air from the cylinder are permitted to pass through into the machine, instead of being deflected back with the dust and dirt by said bottom, as is usual, and also whereby the loose grain is permitted to fall through without passing through between the concave and cylinder, and all as will be hereinafter more fully described and claimed.

Referring to the accompanying drawings, which are made a part hereof, and on which similar reference characters indicate similar parts, Figure 1 is a top or plan view of the front end of a threshing machine separator, showing the inner end of the table or hopper. Fig. 2 a longitudinal section through the same on the dotted line 2—2. Fig. 3 a detail top plan on an enlarged scale of a section of the grate, Fig. 4 a longitudinal section on the same scale as Fig. 3 through the same, and Fig. 5 a cross section through one of the grate teeth.

In said drawings the portions marked A represent the frame, B the cylinder, C the concave, and D the table or hopper. The frame A, cylinder B and concave C are of any usual or appropriate form and construction, that shown being peculiar to my own machine, but not essential in the use of this invention. The hopper D is of any appropriate form and construction except at its lower or inner end, where the bottom proper stops a distance back from the cylinder, leaving a space which is filled by grates D' of a peculiar construction. Said grates D' consist of sections in the form of "combs," their teeth being joined only at one end, by a back which is secured to a cross bar d by screws or bolts d' . There are preferably two of these cross bars d , secured between the side pieces of the hopper to divide the open space between the inner

end of the bottom of the hopper and the cylinder. An end piece d^2 at each end preferably connects said cross bars, the grate being thus made a unitary structure capable of being removed and replaced as a whole. Each of the teeth is formed with a tapered top edge, so as to present a sharp edge to the currents of air striking it and furnish no deflecting surface which would direct said currents back out of the hopper. The spaces between them are of width to permit nothing larger than a grain of wheat to pass through. The two sets of "combs" are arranged with their top surfaces substantially in line, but there is a space between the points of the upper and the backs of the lower sets, as shown in Fig. 4, so as to permit the free passage of the straw and material without affording any points on which the same may catch or become retarded. This construction provides a hopper bottom which, at its inner end, will offer practically no resistance to the free passage of the grain, air, dust and fine particles through it, while supporting and guiding the straw to the cylinder as well as the solid bottom.

Beneath the grate is mounted a deflector D^2 , adapted to deflect the grain, dust, and air currents passing through the grate back under the cylinder, the grain falling into the grain pan A', and being carried back into the separator in the well known manner.

In operation, the grain being fed down to the cylinder over the bottom of a hopper provided with the grate constructed as shown and described, the loose grain will fall through said grate and into the grain pan A', the return currents of air and dust caused by the motion of the cylinder will strike the sharp upper edges of the grate bars or teeth and pass on through said grate and back through the machine, relieving the front of said machine of much of the dust and dirt usually experienced, and rendering the work at this point free from this objectionable feature.

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

A threshing machine hopper the bottom whereof is provided with a grate at its inner or lower end, said grate comprising sec-

tions in the form of combs secured at their backs with their free open ends projecting toward the cylinder, and the bars or teeth of one section arranged in line with those
5 of the next section with open spaces between them, substantially as set forth.

In witness whereof, I have hereunto set

my hand and seal at Waynesboro, Pennsylvania this 3d day of December A. D. one thousand nine hundred and one.

FRANK F. LANDIS. [L. s.]

Witnesses:

C. E. MENTZER,

ALF. N. RUSSELL.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
