M. D. BEARDSLEE.

Apparatus for Scouring and Polishing Grain.

No. 196,860. Patented Nov. 6, 1877.

FIG. 1.

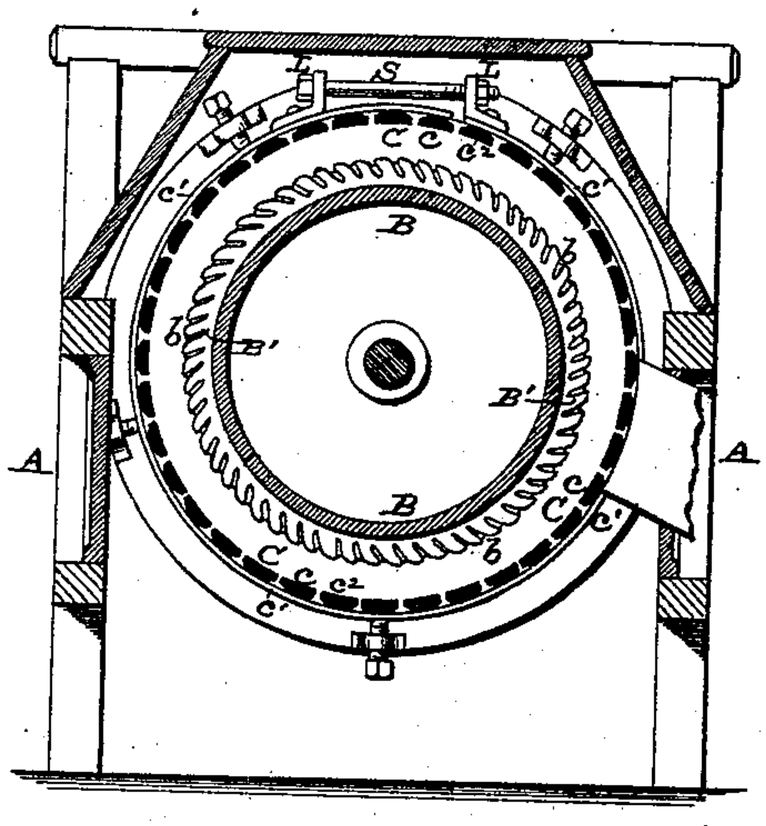


FIG. 3.

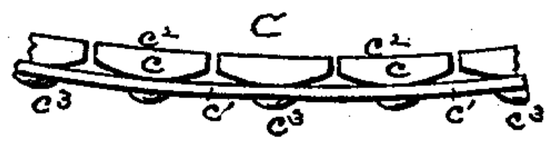


FIG. 4.

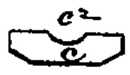


FIG. 5.

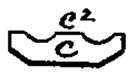
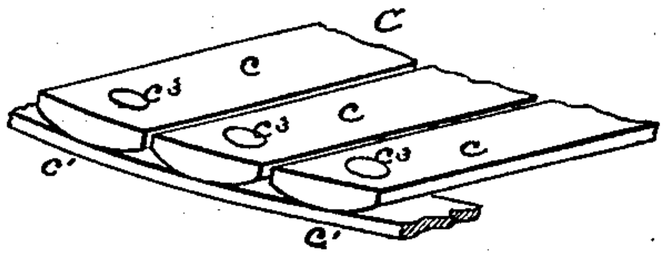


FIG. 2.



ATTEST:

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UNITED STATES PATENT OFFICE.

MARCUS D. BEARDSLEE, OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN APPARATUS FOR SCOURING AND POLISHING GRAIN.

Specification forming part of Letters Patent No. **196,860**, dated November 6, 1877; application filed February 3, 1877.

To all whom it may concern:

Be it known that I, MARCUS D. BEARDSLEE, of the city and county of St. Louis, and State of Missouri, have invented a certain new and useful Improvement in Machines for Scouring and Polishing, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification.

My improvement consists in the manner of construction of the perforate case in which the scouring-cylinder turns, said case being formed of thin longitudinal bars attached to encircling hoops, the bars being set a sufficient distance asunder to allow the dust and other impurities to pass between them, and to give a scouring action on the grain by exposing the edges of the bars.

The bars in my case are made of wrought-iron, hardened or converted into steel from the surface inward, more or less. They are made thin, so that they may have a vibratory motion, which dislodges objects that would otherwise clog the spaces between the bars.

Figure 1 is a transverse section, showing the case in connection with other parts of the scouring-machine. Fig. 2 is a perspective view of part of the case. Fig. 3 is an end view of part of the case. Figs. 4 and 5 show, in end view, a modification in form of bar.

A is the frame of the machine. B is a rotating cylinder, having a spiral rib, B′, with notches *b* in its outer face, to increase its scouring action on the grain.

The grain enters the case C at one end, and escapes at or near the other end.

The case C consists of longitudinal bars *c* and inclosing-hoops c^1, to whose inner sides the bars are attached.

The hoops may be made adjustable in circumference by turning out lugs thereon, and passing a screw, S, through the lugs L.

In decreasing the circumference of the case, one or more of the bars *c* may be removed, and on increasing the circumference one or more bars may be added.

It has been found that the dust-orifices in the cases of grain-scourers have been liable to become closed, or partly closed, by objects that are jammed fast therein.

To overcome this difficulty I have made my case of thin bars *c*, which, owing to their thinness, are in constant tremor while the machine is in operation, so that all objects becoming for a moment jammed in the spaces between the bars are quickly shaken out.

The hoops c^1 are preferably made thin, so as to partake of the tremor of the bars.

The bars *c* may be flat upon the inner surface c^2, as shown in Figs. 1, 2, and 3, or may be grooved longitudinally, as shown in end view in Figs. 4 and 5, to give a greater hold upon the grain.

The bars are connected to the hoops by single rivets c^3 at the points of contact, said rivet having a head at the outside of the hoop, and being riveted in a countersunk hole in the bar.

The case C is made cylindrical, and its ends held between the flanges or ribs of castings, or held in any appropriate frames or end pieces or supports.

My preferred manner of constructing the bars *c* is to form them of wrought-iron, and, after facing the edges by passing them between two parallel emery grinders, to harden them by first heating in a furnace, in a tray, with the addition of prussiate of potash, and, while hot, immersed in cold water. This process renders them very hard. After any strengthening that may be necessary, they are riveted fast to the inside of the hoops c^1.

I claim as my invention—

1. The case C, composed of bars *c*, with flat sides inward, presenting angular corners, and combined with the spiral ribbed cylinder B, substantially as set forth.

2. The case C, formed of bars *c*, having flat sides inward, presenting angular corners, and secured to flexible encircling hoops or bands, substantially as set forth.

MARCUS D. BEARDSLEE.

Witnesses:

SAML. KNIGHT,

ROBERT BURNS.