No. 684,295. Patented Oct. 8, 1901.

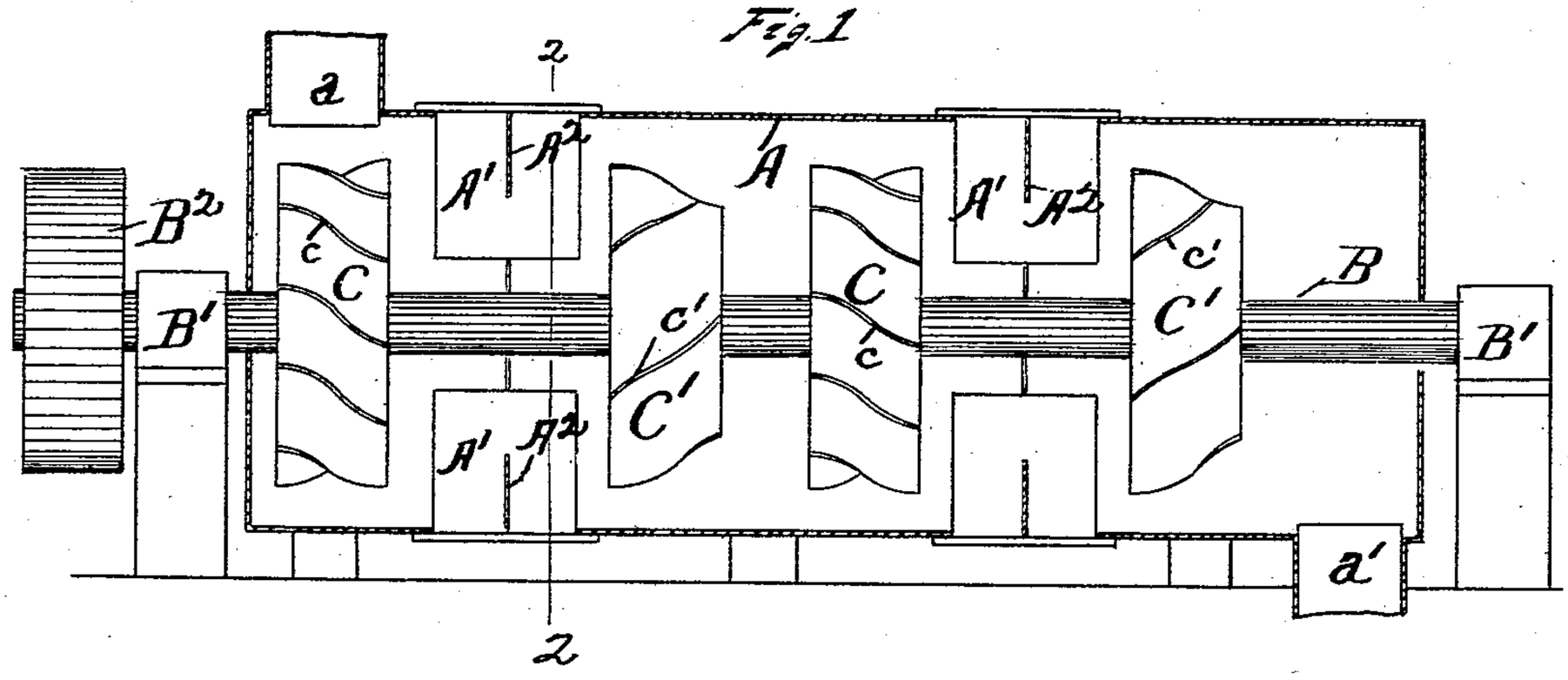
F. A. McLELLAN.

GRAIN SCOURER.

(Application filed May 13, 1901.)

(No Model.)

Fig. 1



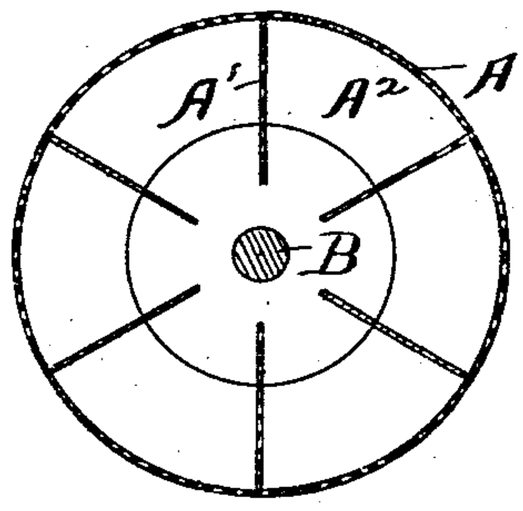


Fig. 2.

WITNESSES:

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FREDERICK A. McLELLAN, OF FORT WORTH, TEXAS.

GRAIN-SCOURER.

SPECIFICATION forming part of Letters Patent No. 684,295, dated October 8, 1901.

Application filed May 13, 1901. Serial No. 59,957. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK A. McLELLAN, a citizen of the United States, residing at Fort Worth, in the county of Tarrant and State of Texas, have invented certain new and useful Improvements in Grain-Scourers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to grain-scourers; and it consists in certain improvements in the construction thereof, as will be hereinafter fully described, and pointed out in the claims.

The invention is illustrated in the accompanying drawings, as follows:

Figure 1 shows a central longitudinal section of the device. Fig. 2 shows a section on the line 2 2 in Fig. 1.

The apparatus is arranged in a case A, having the inlet-passage *a* and outlet-passage *a'*. The shaft B is journaled in the bearings B' B' and extends through the central part of the case. A pulley B^2 is provided for driving the device. Arranged on the shaft is the forcing device C, having the conveying-blades *c*. Opposed to this is a retarding device C', having the blades *c'* pitched to tend to crowd the grain backward. Between the forcing device C and the retarding device C' is arranged a ring A^2, which reduces the size of the case at that point, and adjacent to this ring, preferably secured to it, are the longitudinal blades A'. The forcing device C is arranged of greater pitch or of greater number of blades than the retarding device C', so that notwithstanding the action of the retarding device grain is forced through the case. This action of the mechanism is substantially the same as that shown in my patent granted December 12, 1899, No. 638,743.

I have found that by introducing a reducing means adjacent to the forcing device C a greater scouring or crowding action is effected. This is particularly so where the reducing device is arranged between the conveying devices, and preferably between the retarding conveying device and the forcing device. By putting the blades A' adjacent to the ring A^2 any tendency to rotation of the grain in the case is prevented. Any number of forcing devices may be used and any number of retarding devices, and between each there may be arranged a reducing-ring, with blades to prevent rotation.

What I claim as new is—

1. In a grain-scourer, the combination of the case having an inlet and an outlet; means comprising a screw-pitched conveyer-blade for forcing the grain through said case; and means for reducing the size of the case adjacent to said conveying-blade.

2. In a grain-scourer, the combination of the case having an inlet and an outlet; a forcing means for forcing grain through the case; a retarding device tending to crowd the grain in an opposite direction; and a means for reducing the size of the case between the retarding device and the forcing means.

3. In a grain-scourer, the combination of a case having an inlet and an outlet; two conveying devices arranged to operate upon the grain in said case in opposite directions, one of said devices being of greater conveying power than the other; and a means for reducing the size of the case between said conveying devices.

4. In a grain-scourer, the combination of a case having an inlet and an outlet; two conveying devices arranged to operate upon the grain in said case in opposite directions, one of said conveying devices being of greater power than the other; a means for reducing the size of the case between said conveying devices; and a longitudinal blade adjacent to said reducing means for preventing the rotation of grain in the case.

5. In a grain-scourer, the combination of a case having an inlet and an outlet; a conveying device arranged to force grain through the case; a whirl of blades pitched to oppose the conveying device, said whirl of blades being of less propelling power than the forcing device; and a means for reducing the size of the case between said forcing device and whirl of blades.

6. In a grain-scourer, the combination of the case, A, having an inlet and an outlet; the shaft, B; the forcing device comprising the blade, *c*, on the shaft, B; the retarding de-

vice comprising the blade, c', also on the shaft, B, the retarding device having its blade pitched opposite to the blade, c, but of less propelling power; the ring, A^2, arranged between said forcing and retarding device; and the longitudinal blade, A', adjacent to the ring, A^2.

In testimony whereof I affix my signature in presence of two witnesses.

FREDERICK A. McLELLAN.

Witnesses:
G. C. BATTLE,
F. G. McPEAK.