G. E. THROOP.

Grain-Scouring Apparatus.

No. 199,670. Patented Jan. 29, 1878.

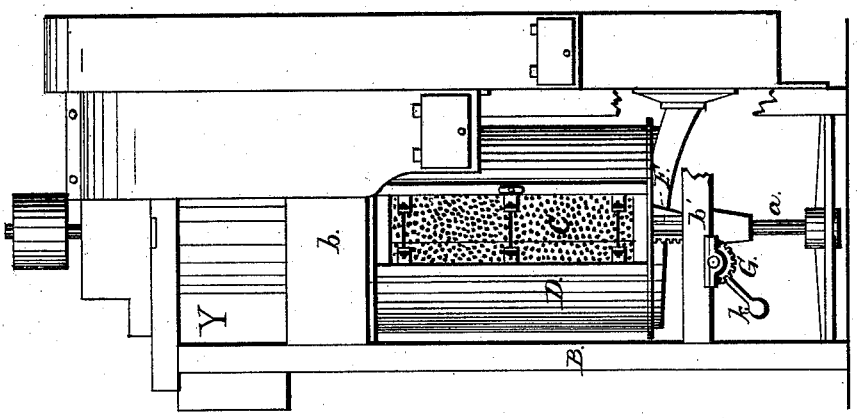

Fig. 1

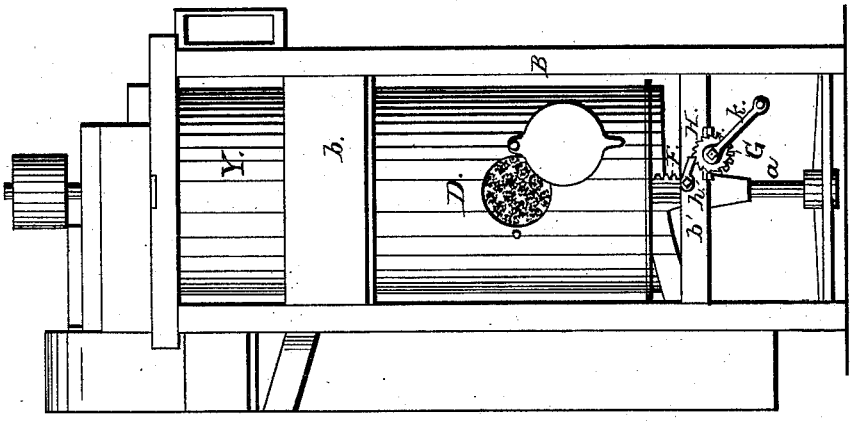

Fig. 2

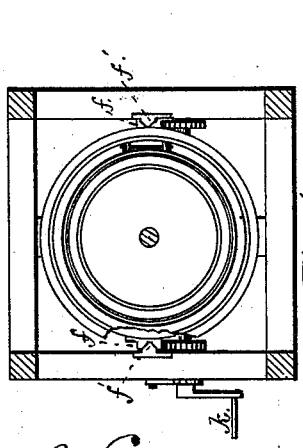

Fig. A

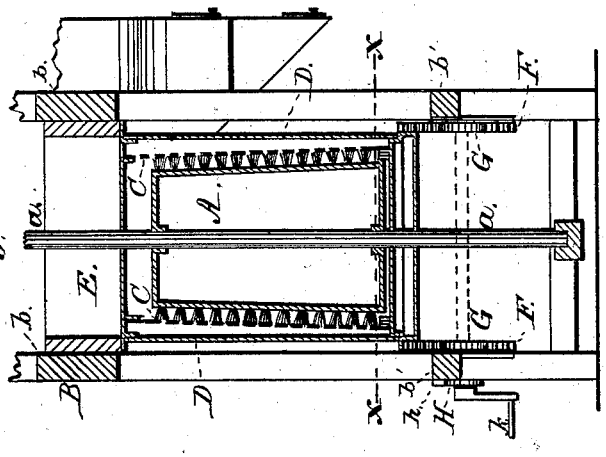

Fig. 3

Witnesses:

Chas A. Trowbridge

Louis Bagger.

Inventor:

Gardner E. Throop.

By Parker H. Sweet Jr. & Co.

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UNITED STATES PATENT OFFICE.

GARDNER E. THROOP, OF AUBURN, NEW YORK.

IMPROVEMENT IN GRAIN-SCOURING APPARATUS.

Specification forming part of Letters Patent No. **199,670**, dated January 29, 1878; application filed April 23, 1877.

To all whom it may concern:

Be it known that I, GARDNER E. THROOP, of Auburn, Cayuga county, New York, have invented an Improvement in Grain-Cleaning Machinery, of which the following is a specification:

Figure 1 is an end elevation of a grain-cleaner constructed according to my invention. Fig. 2 is an opposite end view. Fig. 3 is a vertical section; and Fig. 4 is a horizontal section taken on line *x x*, Fig. 3.

My invention relates to that class of grain-cleaners in which a vertical brush having the shape of the frustum of a cone rotates within a similarly-shaped screen; and its object is to furnish a means of adjusting the screen to compensate for decrease in size of the brush by wear.

It consists in attaching the top of the jacket inclosing said screen to a sliding frame guided by the adjacent surrounding part of the stationary frame, and in providing said jacket at its lower end with downwardly-extending rack-bars, meshing with pinions journaled upon said frame.

In the drawing, A designates the rotary brush, having the shape of the frustum of a cone, and *a* is its shaft, which is mounted in stationary bearings at the top and bottom of the frame B. C is the screen surrounding the brush A, and having a similar shape, but is longer, and D is the jacket inclosing and carrying said screen. This jacket D is arranged immediately under the fan Y, and has its top attached to a sliding frame, E, which plays within the frame B, and is guided by the cross-pieces *b b*. From opposite sides of the bottom of jacket D rack-bars F extend downward, and mesh with pinions G, journaled to the cross-pieces *b' b'* of the stationary frame. The shaft of one of said pinions is provided with a ratchet-wheel, H, with which engages a pawl, *h*, and the end of said shaft is squared to fit the socket of a winch, *k*. For guiding the lower part of the jacket, in the outer faces of the rack-bars F are vertical grooves *f*, into which fit vertical ridges *f'* on plates secured to the frame.

In use, the brush A works close against the inner surface of the screen C, and, by friction, is worn gradually away until it becomes too small to touch the said surface, when the screen is at its highest position, as shown in Fig. 3, and is, therefore, ineffective for cleaning grain; but by lowering the jacket D, which incloses and carries the screen, said screen is brought down so that a smaller portion thereof surrounds the brush and is in contact therewith.

This lowering is performed by moving the pawl *h* from ratchet H, and turning winch *k* to draw down the rack-bars F by means of pinions G. When lowered sufficiently to cause the brush to fit close against the screen the pawl *h* is re-engaged with its ratchet H, to retain the parts in this position until another adjustment is rendered necessary by the further wearing away of the brush.

Heretofore, in order to keep the screen and brush in contact in machines of this class, the brush has been adjustable, involving a rearrangement of the working bearings and necessitating a stoppage of the machine; but by this improvement the screen is quickly brought in contact with the brush (whenever it is found necessary by observation of the work) even when the machine is at full speed, and no change of the working bearings is required.

I am aware that grinding-mills have been heretofore constructed with an outer adjustable shell secured upon an inner grinding-cone, and I do not, therefore, desire to claim such a construction, broadly; but

What I claim as my invention is—

In a grain-cleaner, the combination of the rotary non-adjustable brush A, the conical screen C, carried by the non-rotating jacket D, which is adjustable in the line of its longitudinal axis, and the adjusting devices for said jacket, substantially as and for the purpose specified.

GARDNER E. THROOP.

Witnesses:

CHAS. A. TROWBRIDGE,

JOHN MONTAGUE.