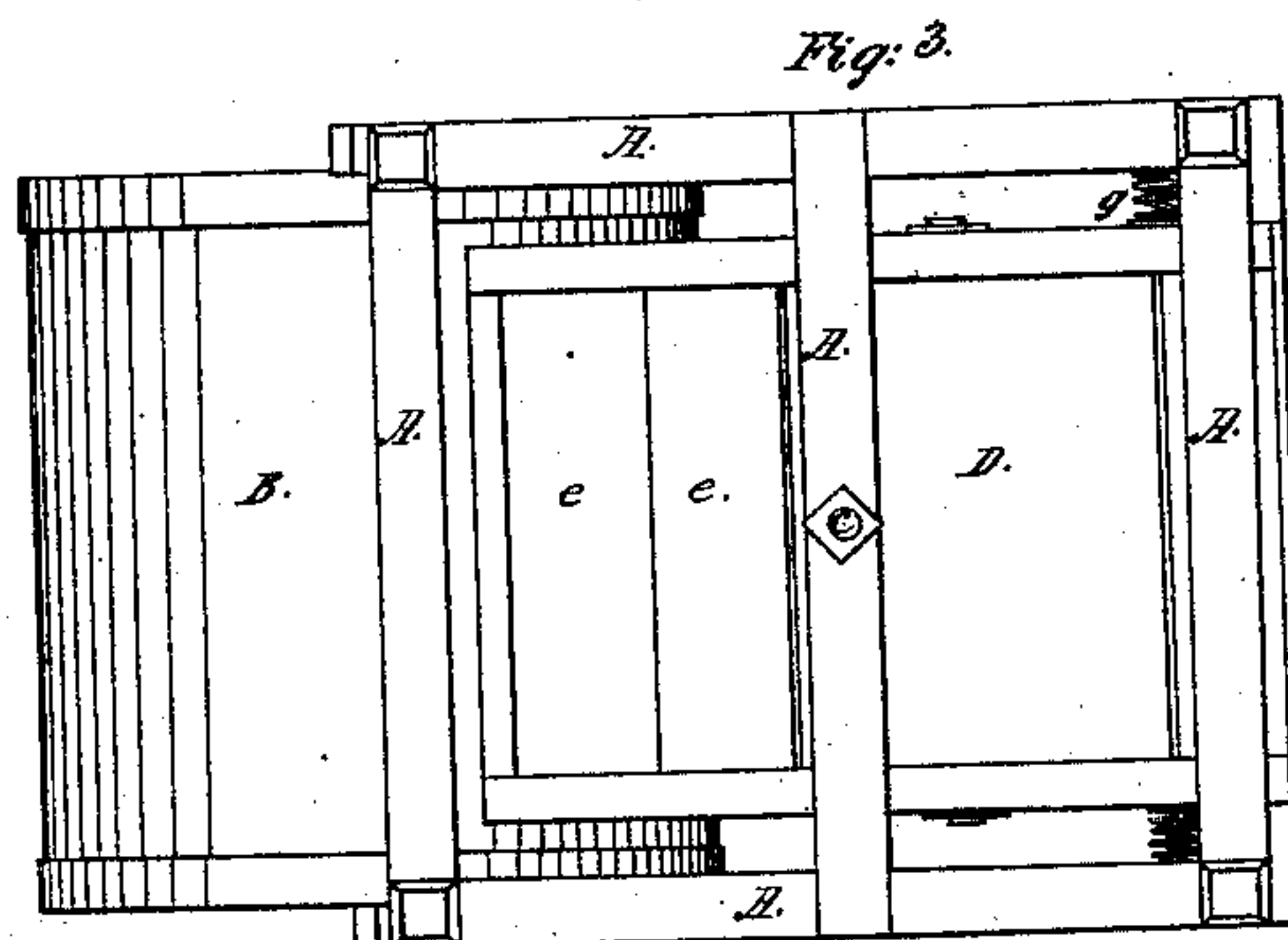
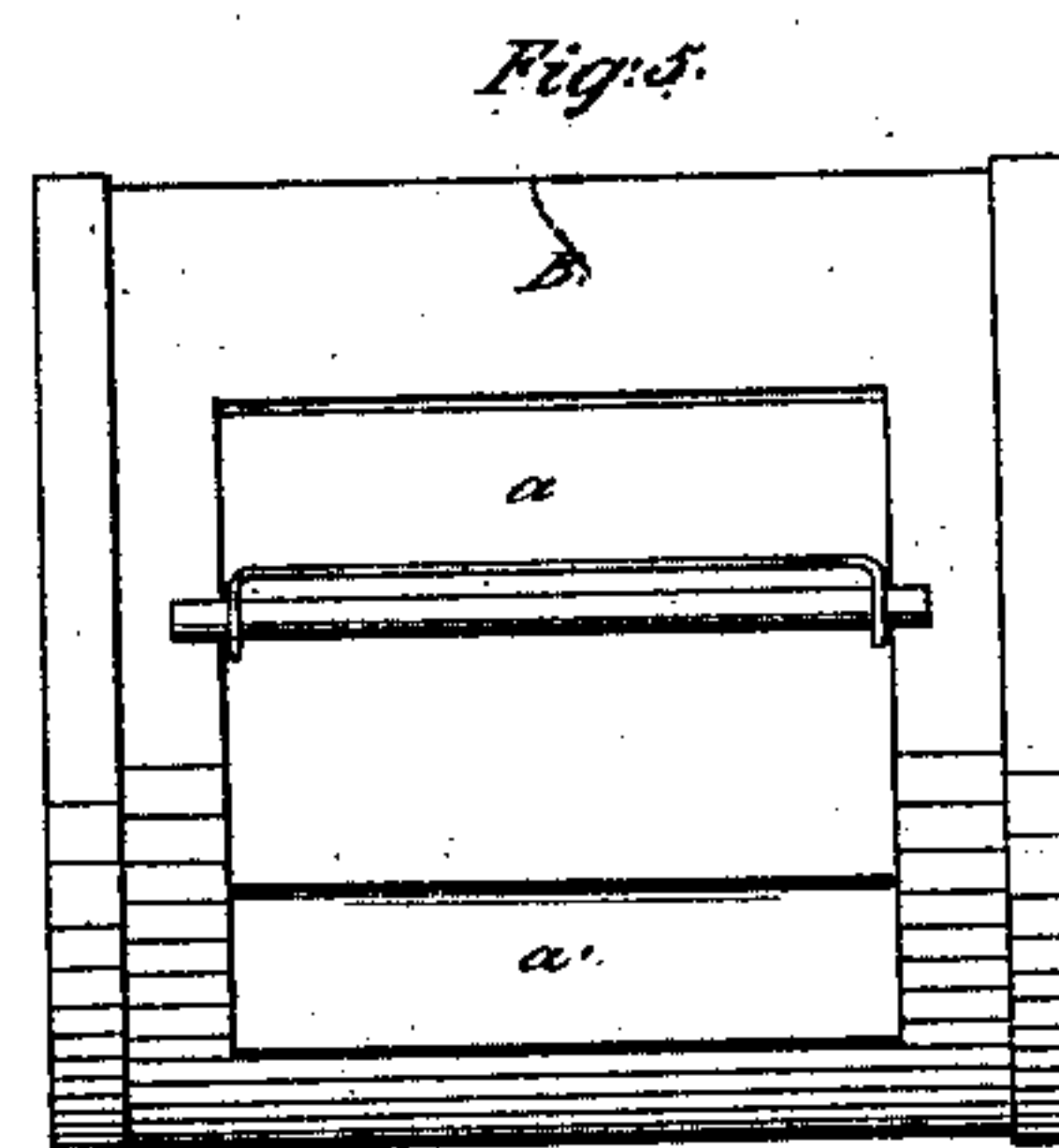
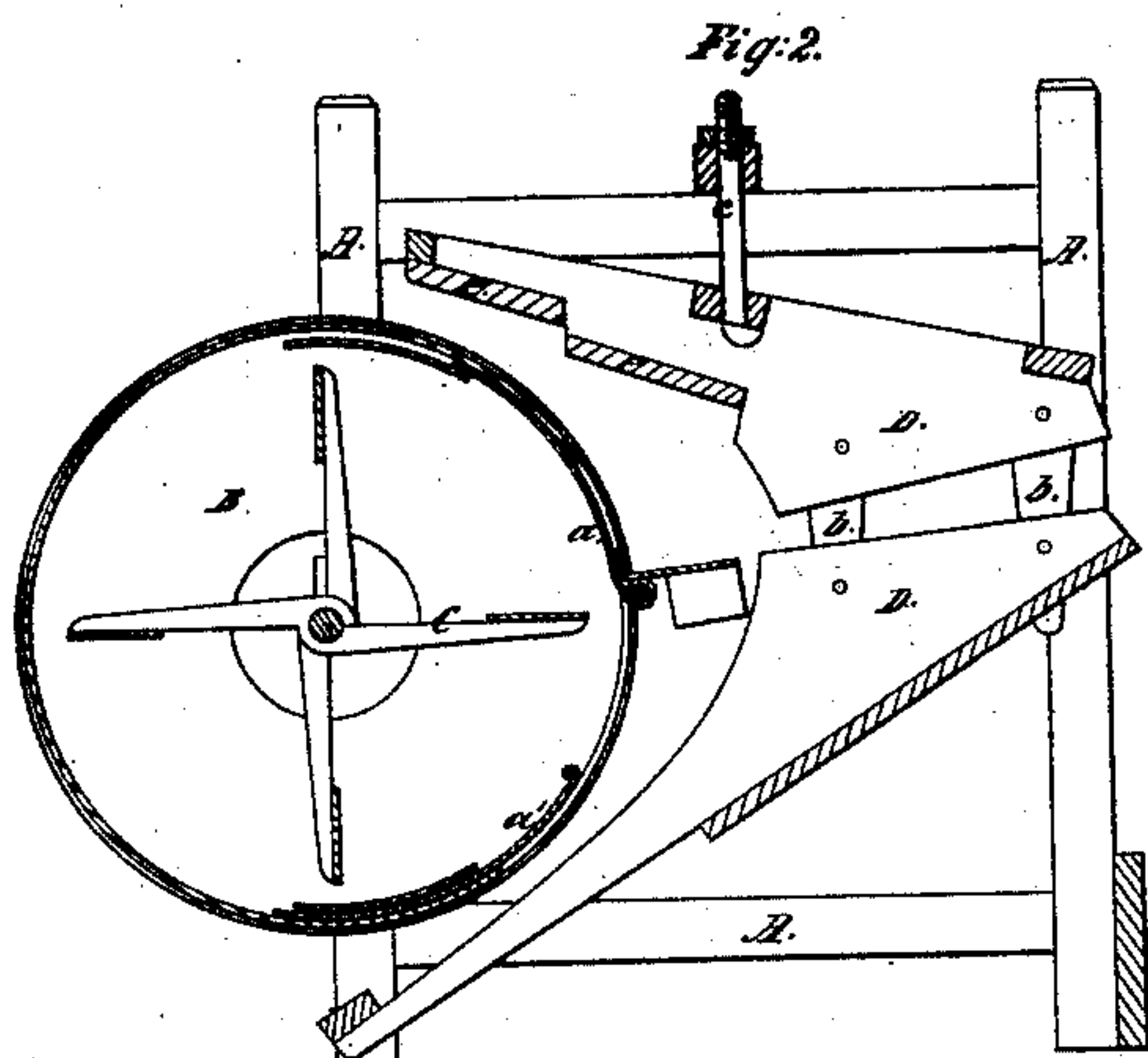
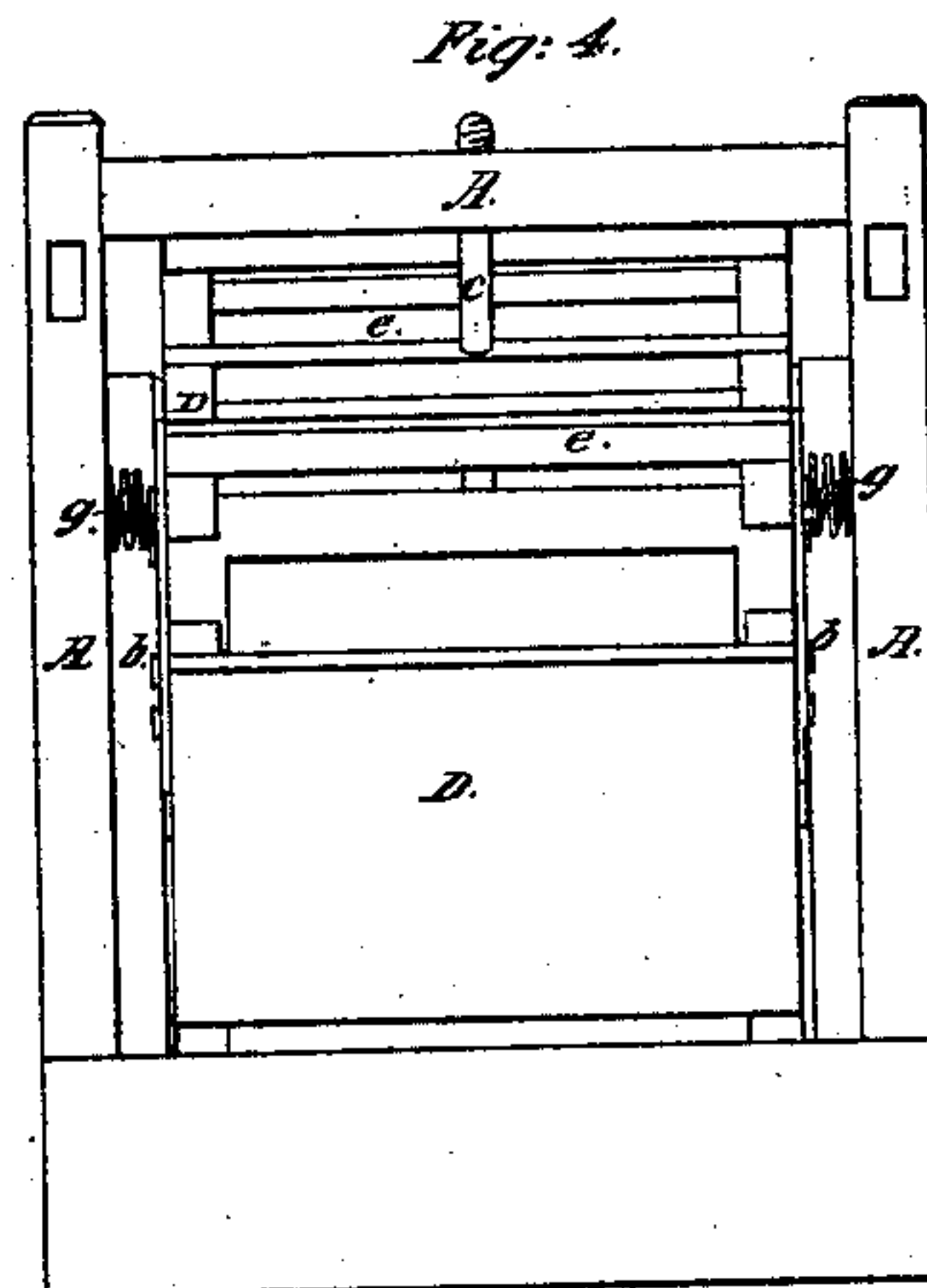
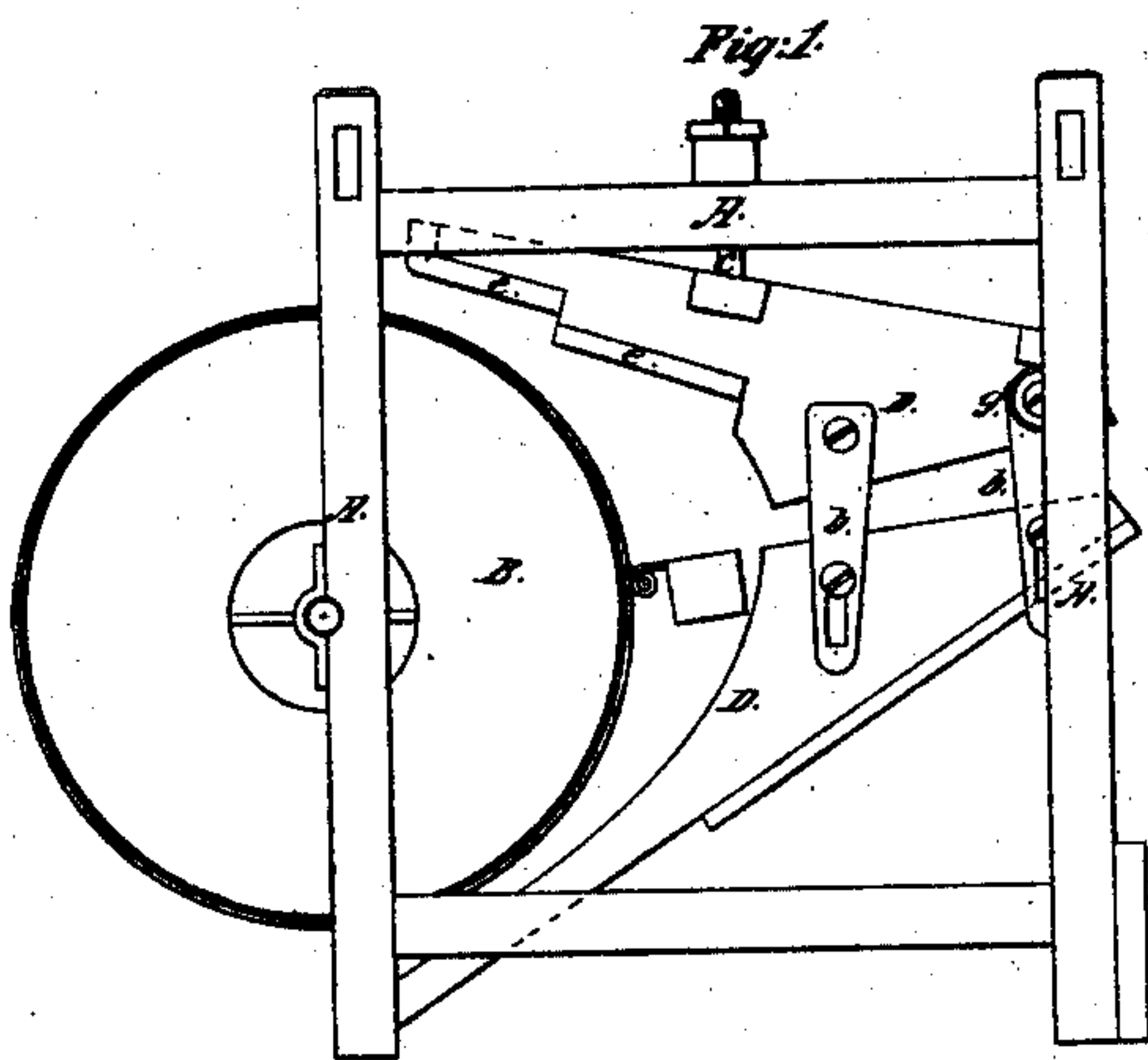


L. SCHULTZ.  
Grain Winnower.

No. 55,725.

Patented June 19, 1866.



Witnesses:  
R. T. Campbell  
E. H. Schaefer

Inventor:  
Levi Schultz  
by his attorney  
Mason, Kimball & Thorne

# UNITED STATES PATENT OFFICE.

LEVI SHULTZ, OF UPPER SANDUSKY, OHIO.

## IMPROVEMENT IN FANNING-MILLS.

Specification forming part of Letters Patent No. 55,725, dated June 19, 1866.

*To all whom it may concern:*

Be it known that I, LEVI SHULTZ, of Upper Sandusky, in the county of Wyandot and State of Ohio, have invented a new and Improved Fanning-Mill; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is an elevation of one side of the mill. Fig. 2 is a longitudinal section taken vertically through the mill. Fig. 3 is a plan view of the mill. Fig. 4 is an end elevation. Fig. 5 is a view of the mouth of the fan-case.

Similar letters of reference indicate corresponding parts in the several figures.

Fanning-mills for cleaning grain have hitherto been constructed with spouts leading from their fan-cases to a box or chamber in which the shoe with its riddles are arranged.

The object of my invention is to so construct a fanning-mill that the shoe containing the riddles shall form the closed sides of the mill; also, to provide for regulating the blast from the fan-case by increasing or diminishing the opening through it; also, to provide for increasing the capacity of the shoe and the distance between its riddles, so as to prevent the latter from becoming choked.

The invention also provides for suspending a shoe in such manner that a steady and regular motion can be given to the shoe, both ends moving alike, or having the same movement, as will be hereinafter described.

To enable others skilled in the art to understand my invention, I will describe its construction and operation.

In the accompanying drawings, A represents the open frame of the machine, and B is a cylindrical fan-case, which is secured to said frame at one end and near its bottom. This fan-case consists of a cylindrical shell having a wide opening through it, which shell is secured to two circular heads having central openings through them. The opening through the cylindrical case is provided with two sliding doors, *a a'*, by means of which this opening can be increased or diminished in capacity for regulating the amount of blast required. By having two slides, *a a'*, either one of which is

adjustable, the blast can be directed either upward or downward, as may be desired.

The fan C is constructed in the usual manner of making fans for winnowing-machines, and supported by the two upright posts of the frame A, as shown in the drawings.

In front of the fan-case I suspend the shoe D, which consists of two horizontal parts, united together by four or more slides, *b b*, applied outside of its side boards. These slides consist of thin straps having their ends slotted for the purpose of separating the two parts of the shoe more or less, as may be required. This shoe is suspended from a horizontal transverse beam of the frame A by means of a pin or pivot, *c*, which supports the shoe centrally, so that the same motion is given to the grain at either end of the shoe.

That portion of the shoe which is nearest the fan-case B is suitably curved, so as to extend well over and under this fan-case, so that the grain-boards *e e* will discharge the grain upon the riddles as near as possible to the blast-opening which is through the fan-case, thereby enabling me to make a comparatively short shoe and to bring the grain under the influence of a strong blast.

The uppermost riddle is applied to the upper section of the shoe, and the riddle which is next below it is applied to the lower section of the shoe, so that by adjusting these two sections the riddles can be set farther apart or brought nearer together, as may be required.

The lower extension of the shoe inclines downward, so that the grain shall have the greatest amount of screen-room and be discharged beneath the fan-case, as shown in the sectional view, Fig. 3.

The shoe may be vibrated in any suitable manner about its suspension-pivot *c*, and springs *g g* may be arranged at the sides of the shoe, near that end which is farthest from the fan-case B, for giving a regular and steady movement to the shoe.

By my invention I not only dispense with the usual side boards or side cover for inclosing a shoe within a frame and make the sides of the shoe serve the purpose of inclosing the riddles, but I also bring the riddles under a more direct influence of the blast from the



fan-case. The two sliding plates which are applied to the fan-case for regulating the size of the opening through it also serve as a means for directing the currents of air either upward or downward.

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

1. Constructing a fanning-mill with a suspended riddle-shoe, D, which in part extends above and below the fan-case B, and forms the closed sides of the mill, substantially as described.

2. Suspending the shoe D by a pivot, c, and

providing it with springs *g g*, for equalizing its movement, substantially as described.

3. Providing the blast-opening through the fan-case with adjustable slides *a a'* for regulating the force and direction of the blast, substantially as described.

4. The combination of a fan-case, B, and a shoe, D, having side boards applied to it, with an open supporting-frame, A, substantially as described.

LEVI SHULTZ.

Witnesses:

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