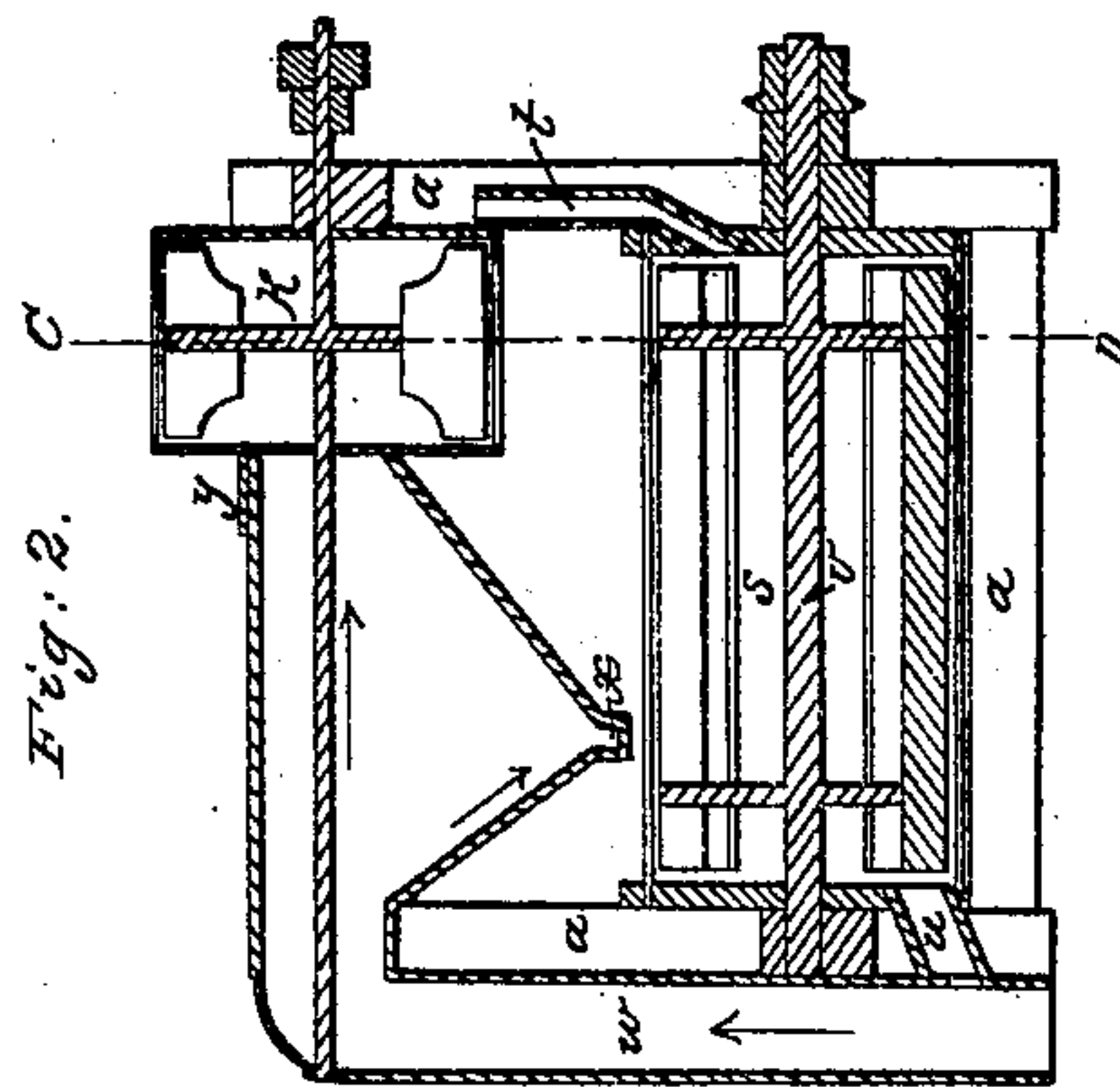
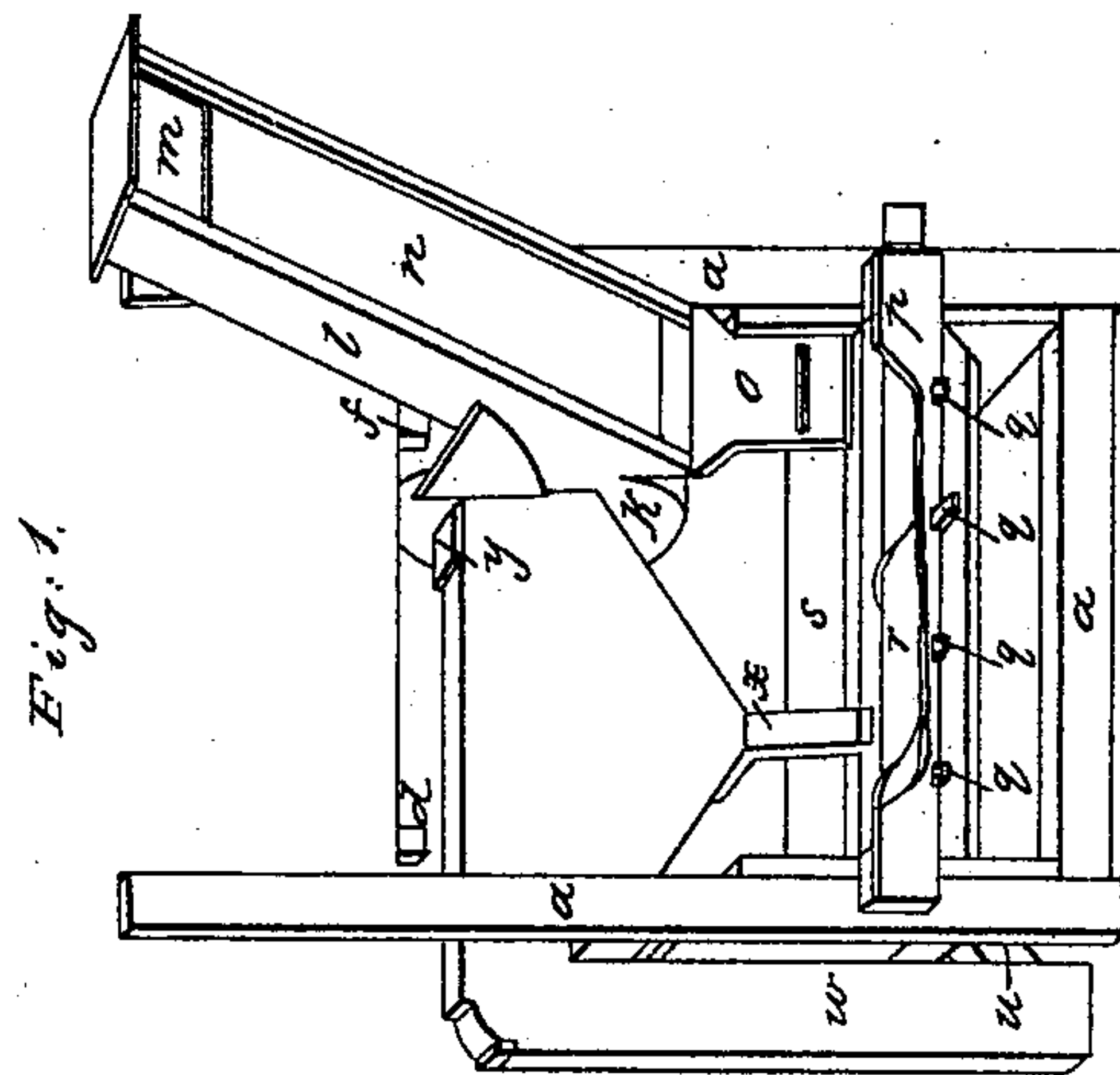
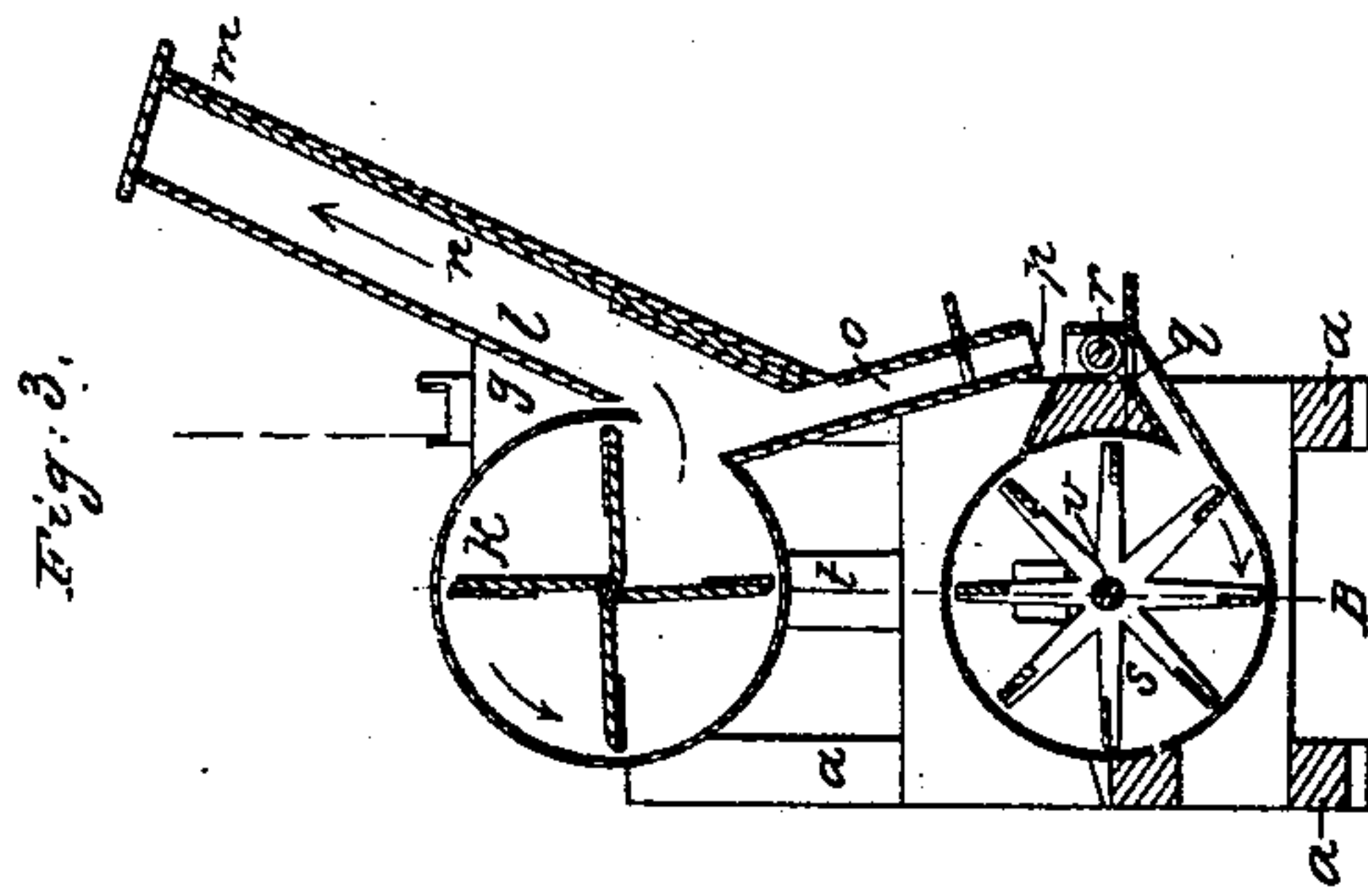


H. D. REYNOLDS.
Grain Cleaning Machine.

No. 13,103.

Patented June 19, 1855.



N^o 13,103.

UNITED STATES PATENT OFFICE.

HARRISON D. REYNOLDS, OF PENDLETON, INDIANA.

GRAIN-CLEANER.

Specification of Letters Patent No. 13,103, dated June 19, 1855.

To all whom it may concern:

Be it known that I, HARRISON D. REYNOLDS, of Pendleton, in the county of Madison and State of Indiana, have invented certain new and useful Improvements in Machines for Cleaning Grain; and I 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 a perspective view of the machine, Fig. 2, a longitudinal section in the line A, B without the screen, and Fig. 3 a transverse section in the line C, D.

The letters of reference indicate the same parts in the different figures wherever they occur.

The nature of my improvements consists, in the use of a conducting apparatus, provided with openings and valves at various points in its length whereby the grain is conveyed to any part of the scouring cylinder that may be desired as hereinafter described.

The machine is constructed and arranged as follows: A suitable frame work (*a*) sustains the various parts. Upon the top of the machine is placed a revolving cylindrical screen (*b*) having openings or slots therein just wide enough to allow the grain (which is fed in at *c*) to pass through without the refuse and impurities of greater size than the grain, which pass out of the open end of the cylinder and through the opening *d* in a semi-cylindrical trough (*e*) which is placed immediately under the screen and concentric therewith. Upon the exterior of the screen is a spiral flange working in the trough and acting as a conductor to convey the grain which has passed through the screen to the outlet *f*, whence it falls into the hopper *g*, a semi-annular flange or partition at *h* preventing the refuse that has been separated from again mixing with the grain. A partition (*i*) with radial openings is placed in the screen near the end, where the grain, &c., is thrown in. Its function is to prevent the too rapid passage of the grain through the screen lengthwise. The screened grain as it falls from the hopper *g* is met by the direct blast from the fan *k*, which separates all light grains and refuse, by forcing it up the inclined passage *l*, and out through the opening *m*, the area of which is regulated by the slide *n*. The heavy grain thus partially cleaned falls through the tube *o* into

the trough *p*, which is placed in front of the machine. In this trough is placed a conductor *r*, consisting of a horizontal shaft with a spiral flange thereon. In the bottom of the trough *p*, are a series of openings *q*, closed by slides.

The scouring apparatus consists of a revolving shaft (*r*) provided with radial arms sustaining a series of beaters placed slightly inclined to the axis of the shaft so that they shall have a tendency to pass the grain forward in the cylinder during the operation of scouring, and a stationary concave or cylinder *s*, formed of strong wire cloth, and concentric with the shaft *r*. This cylinder is closed at the ends with the exception of the air tube *t*, and outlet tube *u*.

In some conditions of the grain it is not necessary, and even detrimental to beat the grain so long in the cylinder as it should be, under other circumstances, therefore, I use the openings *q*, which lead from the trough *p*, into the cylinder, any one of which being opened by removing the slide, allows the grain to pass into the cylinder opposite thereto, thus enabling me to control the amount of beating or scouring that the grain receives, without alteration of the speed or gearing of the machine.

The grain being scoured, passes out of the cylinder by the inclined outlet tube *u*, which leads into the indraft passage *w*, where it meets a strong ascending current of air, which separates any light stuff that may remain with the grain, and carries it through the fan *k*, whence it is expelled through the passage *l* and opening *m*. If the draft should be strong enough at any time to carry over any heavy grain as it leaves the cylinder, it will be returned to the cylinder by its own gravity through the tube *x*. The slide *y* regulates the draft.

I do not claim the devices above described separately considered; but

What I do claim as my invention and desire to secure by Letters Patent are—

The openings *q*, in combination with the conductor *r*, and scouring cylinder *s*, arranged substantially as described, for the purpose specified.

In testimony whereof I have hereunto signed my name this 22d day of May 1855.

H. D. REYNOLDS.

In the presence of—

GEORGE E. HAMILTON,
CHAS. EVERETT.