F. SWIFT.

Patent No. 25,922,

Grain Separator.

Patented Oct. 25, 1859.

Fig. 1

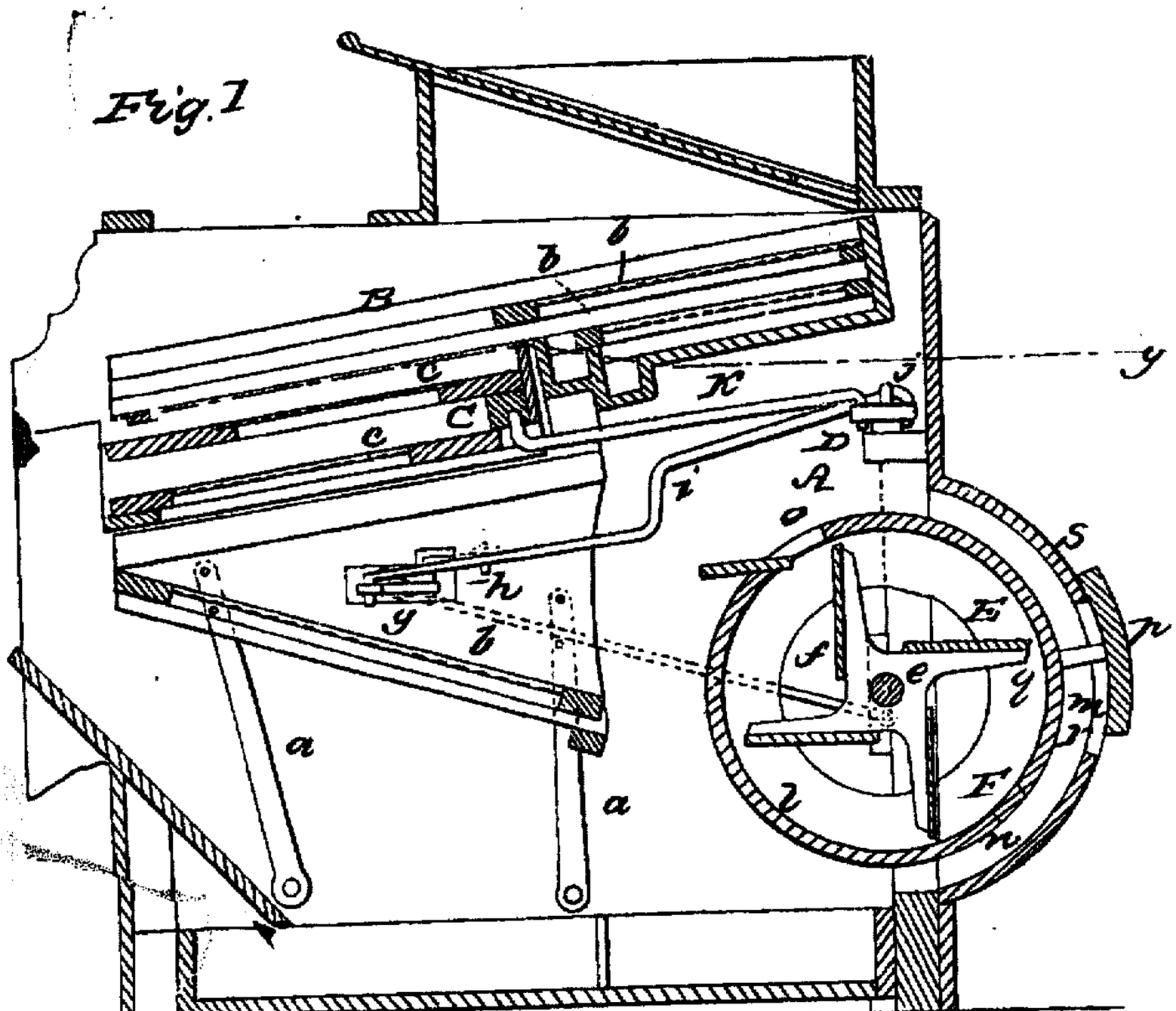
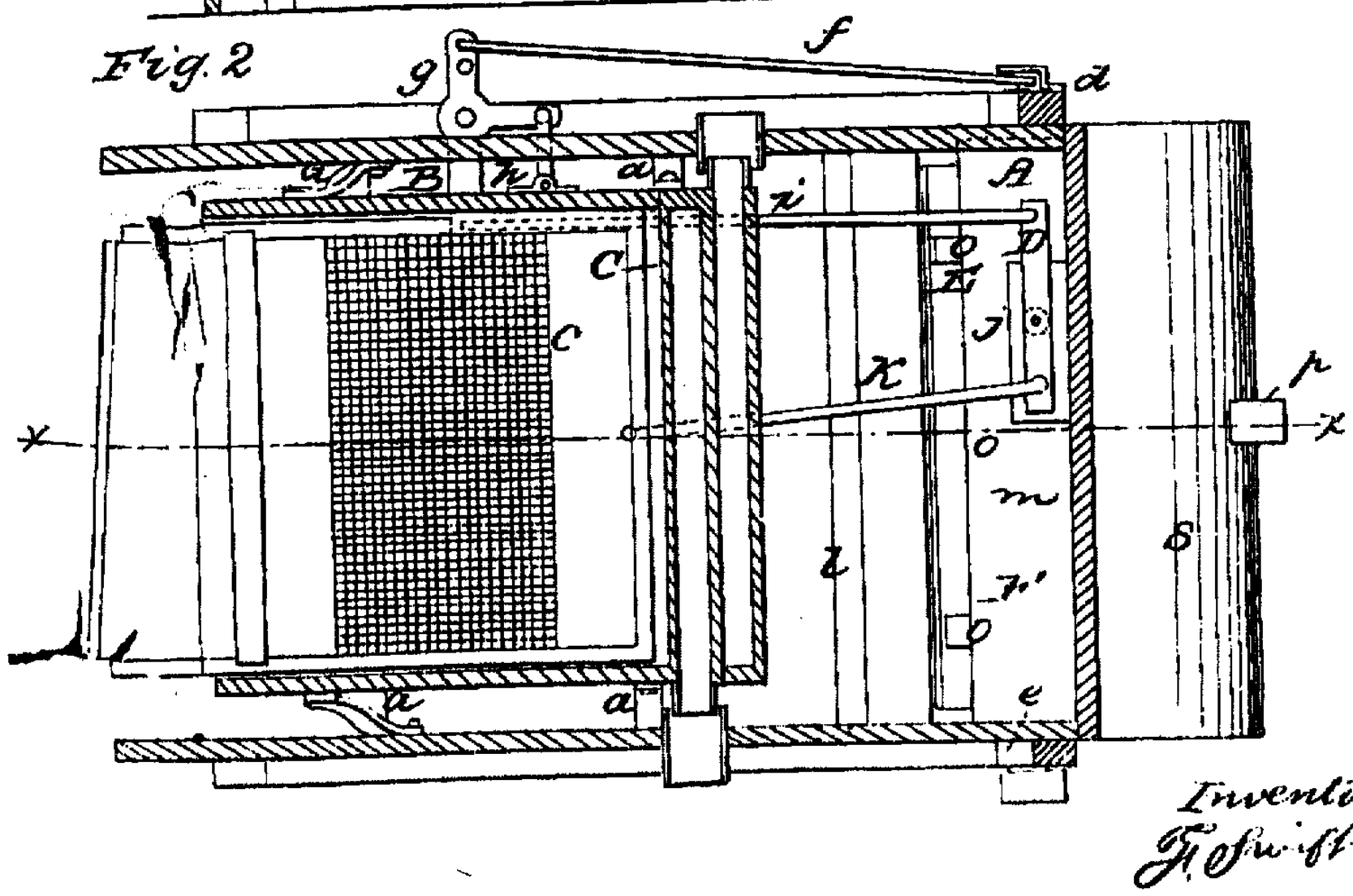


Fig. 2



Inventor
F. Swift

UNITED STATES PATENT OFFICE.

F. SWIFT, OF HUDSON, MICHIGAN.

GRAIN-SEPARATOR.

Specification of Letters Patent No. 25,922, dated October 25, 1859.

To all whom it may concern:

Be it known that I, F. SWIFT, of Hudson, in the county of Lenawee and State of Michigan, have invented certain new and useful Improvements in Grain-Separators; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, is a side sectional view of my invention taken in the line *x*, *x*, Fig. 2. Fig. 2, is a section of ditto taken in the line *y*, *y*, Fig. 1.

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

This invention relates 1st to an improvement in the screening operation substantially as hereinafter described, whereby the screens, so far as I am aware, are rendered much more efficient than hitherto without adding materially to the cost of construction or rendering the device more complex than usual.

To enable those skilled in the art to fully understand and construct my invention I will proceed to describe it.

A, represents a case or box which may be of the form usually employed for grain separators. In this case or box a shoe B, is placed. This shoe also may be of the usual form, its front end being supported by elastic bars or springs *a*, *a*, secured to the inner sides of the case or box.

The shoe B, is supplied with the usual number of screens *b*, *c*, the screens *b*, the upper and lowermost ones, are secured in the shoe B, as usual, but the screens *c*, the central ones are placed within a separate shoe C, which is fitted within shoe B, and between proper guides so that it may have a longitudinal play or vibration therein. The shoe B, has a lateral vibrating motion given it by means of a crank *d*, on one end of the shaft *e*, of the blast fan, a connecting rod *f*, and bell crank or right angled lever *g*, the fulcrum of which is at *g'*, said lever being connected with the shoe B, by a link *h*.

One end of the lever *g*, is prolonged, extends within the case or box A, and has one end of a rod *i*, attached to it. The opposite end of this rod *i*, is connected to one end of a lever D, which is placed within the case or box A, near its front end and has its fulcrum at *j*. The end of lever D, opposite to that where the rod *i*, is connected has one end of a rod *k*, attached to it, and the rod *k*, is connected to the back part of the shoe C.

From the above description it will be seen that simultaneously with the lateral vibrating movement of the shoe B, a longitudinal vibrating movement is given the shoe C, and the screens *c*, will consequently have two movements imparted to them a lateral and longitudinal one. By this arrangement of the screens they are rendered much more efficient than usual, the coarse stuff being carried over the screens with much greater facility.

E represents the blast fan which may be of usual construction and inclosed within a cylindrical case or box F. One part of this case *l* is stationary but the other part *m*, is movable, and its ends are fitted and work in grooves *n*, *n*, in the sides of the case or box, the grooves *n*, forming parts of circles coinciding with the ends of the stationary part *l*, of the case F. The part *m*, of the case does not form so large a portion of a cylinder as the part *l*, and consequently the part *m*, is allowed a certain degree of adjustment, and the eduction opening *o*, at the head of the shoe may be enlarged or contracted so as to increase or diminish the blast as may be desired. The part *m*, of the case F, may be adjusted by means of a button *p*, which is connected to the part *m*, by an arm or bar *q*, the outer end of which passes through a slot *r*, in a concentric end piece *s*, of the box A, on which the button *p*, slides. By this arrangement the strength of the blast generated by the rotation of the fan may be very nicely graduated, far more so than by regulating the admission of air into the fan box, for in the latter case the current is not strong enough in a hand power separator to be sensibly acted on in that way, but by having the eduction opening expanded or contracted the strength of the blast will be instantly affected and may be regulated as desired some grain and seeds requiring a greater blast than others.

I do not claim the adjustable fan box for the purpose of regulating the draft for that has been used, but

Having thus described my invention what

I claim as new and desire to secure by Letters Patent, is,

The employment or use of a supplemental shoe C, placed within the shoe B, provided with screens *c*, and having an independent longitudinal shake movement given it, while the shoe B, with its screens *b*, has the usual lateral shake movement imparted to it substantially as and for the purpose set forth.

F. SWIFT.

Witnesses:
S. M. WIRTZ,
LORENZO PALMER.