

A. W. Smith.

Fanning-Mill.

N^o 73469

Patented Jan. 21, 1868

Fig. 1.

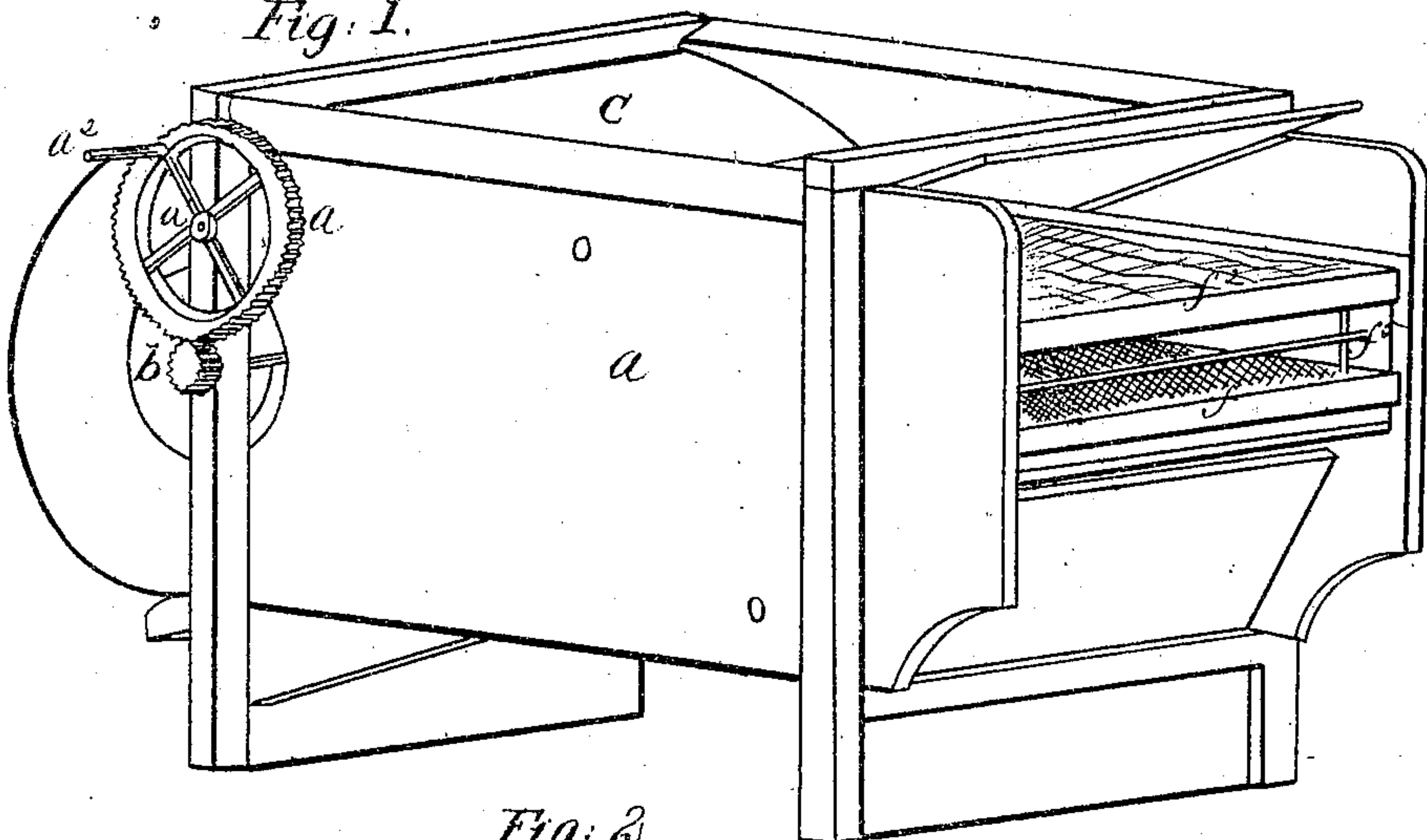


Fig. 2.

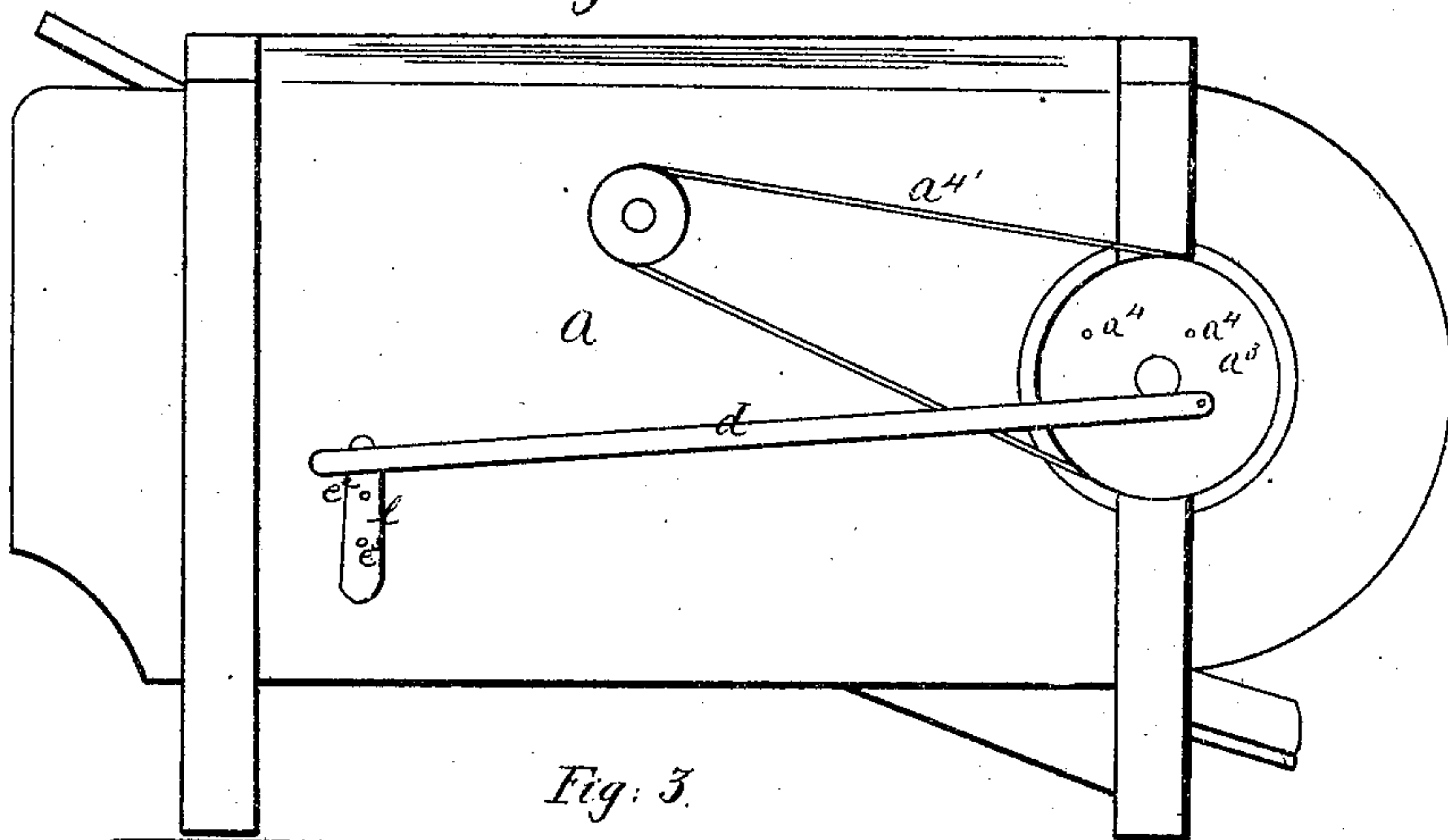
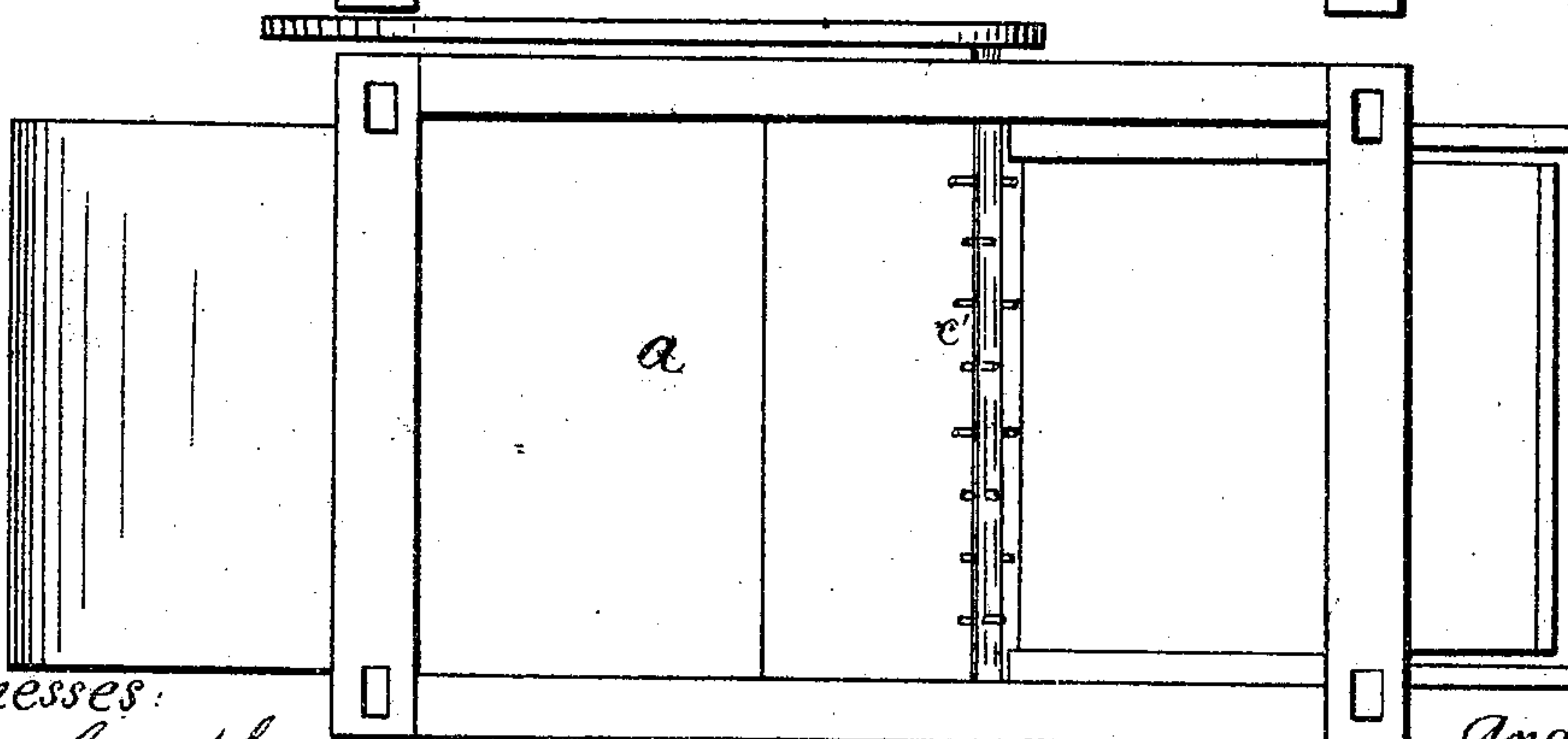


Fig. 3.



Witnesses:
W. E. Sumphs
R. S. Turner.

Inventor:
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Fig. 4.

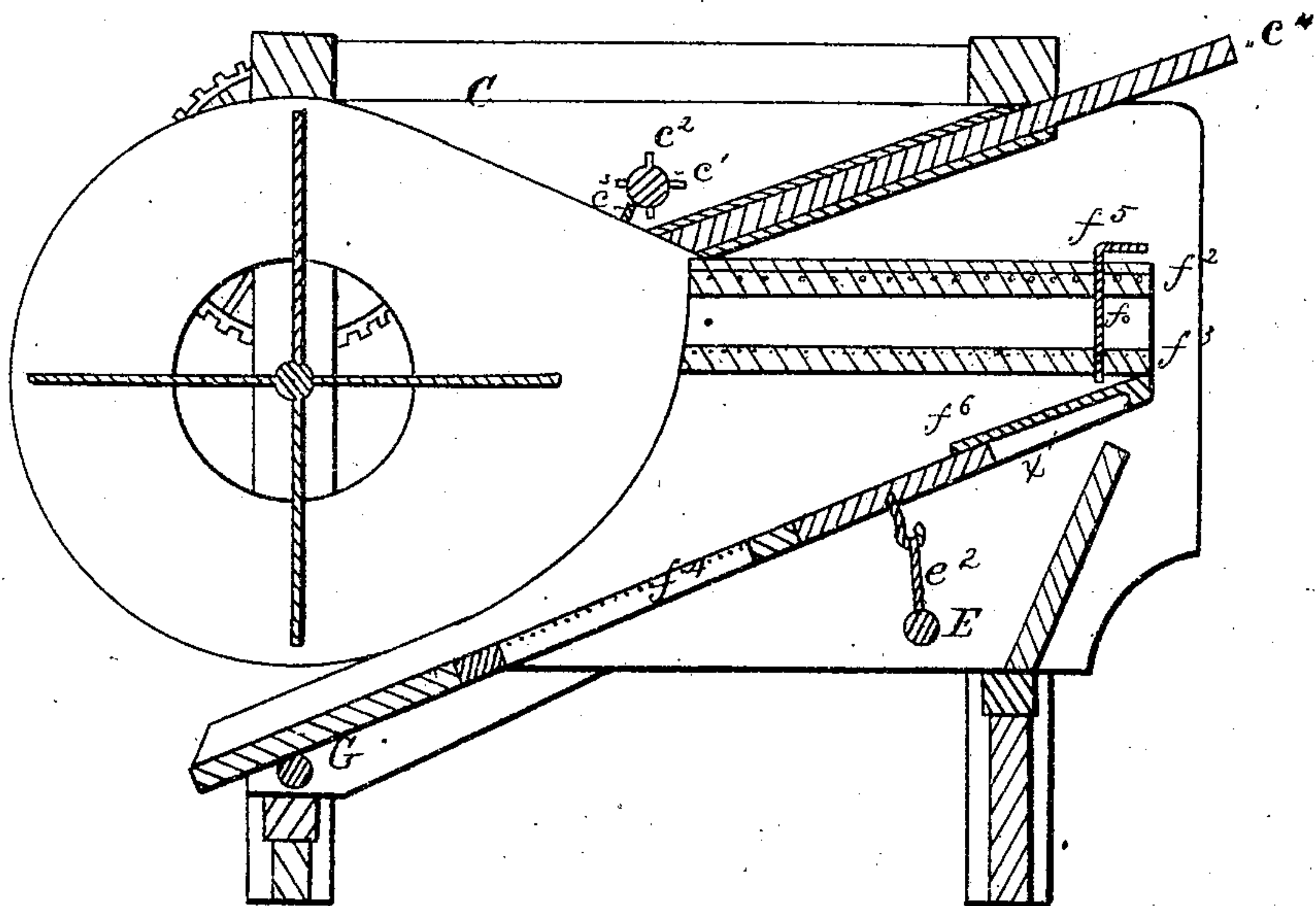
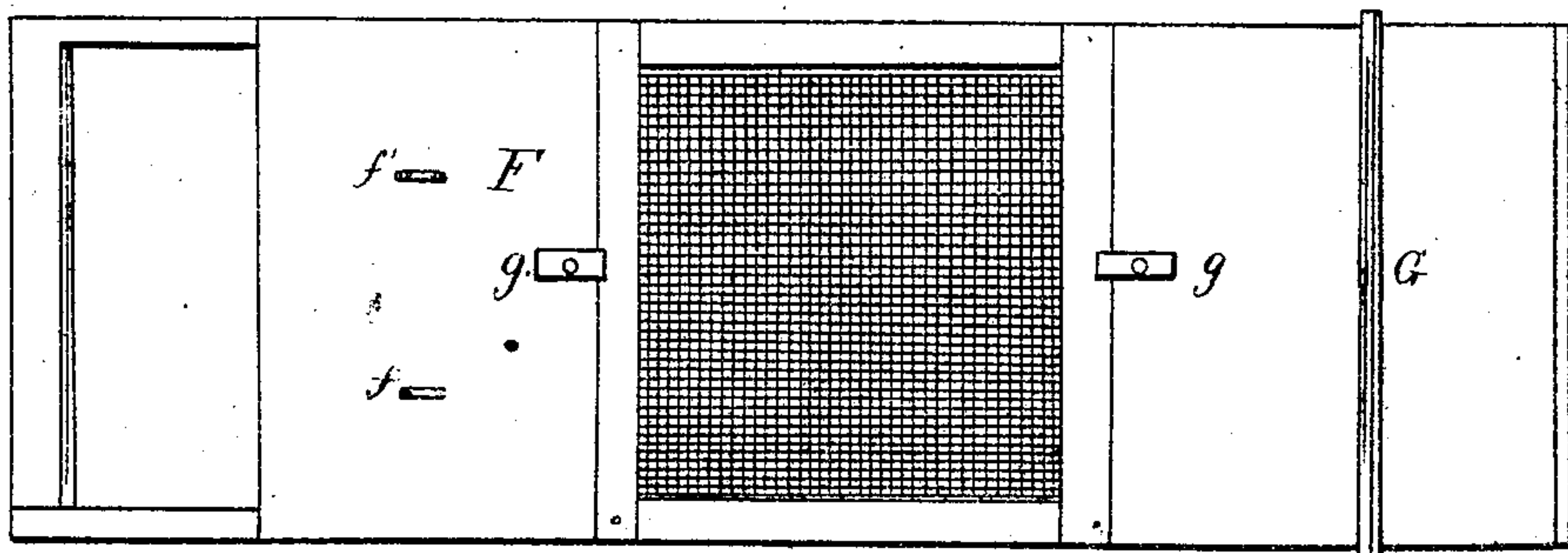


Fig. 5.



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United States Patent Office.

ANDREW W. SMITH, OF DUDLEYVILLE, ALABAMA.

Letters Patent No. 73,469, dated January 21, 1868.

IMPROVEMENT IN FANNING-MILLS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, ANDREW W. SMITH, of Dudleyville, in the county of Tallapoosa, and State of Alabama, have invented certain Improvements in Fanning-Mills; and I do declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

This invention relates to certain improvements in fanning-mills, which consist principally of a peculiar arrangement of sieves, and a simple method of operating them, and also of a combination of a feeding-roller in the hopper with stationary pins, for the purpose of catching and breaking any straw that may have adhered to the grain after passing through the threshing-machine, as will be hereinafter fully described. In the drawings—

Figure 1 represents a perspective view of my improved fanning-mill.

Figure 2, a side elevation.

Figure 3, a top view.

Figure 4, a sectional view; and

Figure 5, a bottom view of the sieve-frame.

To enable others to make and use my invention, I will now proceed to describe its construction and operation.

A represents the mill, constructed in the ordinary manner. a , fig. 1 represents a gear-wheel attached to the shaft a^1 , and provided with the handle a^2 , by means of which power is applied to the mill, as described, into which gears the small wheel b , to the shaft of which is attached the fan. Upon the opposite end of the shaft b' is attached the pulley-wheel a^3 , fig. 2, connected with which, by means of the belt a'' , is the pulley c upon the shaft of the feeding-roller c^1 . To the wheel a^3 is also eccentrically attached one end of the shaft d , to the opposite end of which is attached the arm e of the rock-shaft E. $a^4 a^4$ represent holes at different distances from the centre of the wheel a^3 , by means of which the rapidity of motion imparted to the shaft is readily regulated. $e^3 e^3$ represent holes in the arm e of the rock-shaft E, at different distances from its centre, by which means the length of the movement of the sieve-frame is regulated. From the shaft E, at the point e^1 , rise the short arms e^2 , provided with eyes, to which is suitably attached the sieve-frame F, by means of the staples f^1 . The opposite end of their sieve-frame F rests upon the roller G. The advantage of the arrangement will be readily seen, for the sieve-frame being thus supported only at three points, by the two arms e^2 of the shaft E and by the roller G, the amount of friction to be overcome, when motion is imparted, is made extremely small. The sieve-frame F is of peculiar shape and construction, as shown, being so arranged that all the sieves are held and operated by it; the upper ones of which, however, $f^2 f^3$, when the grain is first received, are held in a horizontal position, while the lower one, f^4 , is held in an inclined position, the object of this being to insure perfect action of the blast upon the grain, the tendency being in mills, when the sieves are all inclined, to throw the grain down before it is perfectly fanned. f represent rods for the purpose of strengthening the sieve-frame. The upper sieves $f^2 f^3$ slide in grooves, as shown, and are firmly held in place by means of the keys f^5 passing down behind the rods f . The lower sieves are held in place by means of the buttons g . These sieves can be readily removed and others of suitable sizes substituted. The upper part of the incline of the sieve-frame is left open, as shown at x , over which ordinarily rests the board f^6 . When, however, it is desired to separate light and heavy grain, this board is removed, and in operation the heavy grain falling perpendicularly, passes down the incline, while the light grain either falls into the opening or is blown out of the mill. By raising the outer end of the board f^6 when it is in place, very light grain, such as oats, can be separated. c^1 represents the feeding-roller, which is made of any suitable material, and provided with the projections c^2 . c^3 represent stationary pins placed in the hopper-board, as shown, and so arranged that the projections on the roller pass between them when the latter is in motion. c^4 represents an ordinary slide-board, by which the amount of grain admitted is regulated.

The operation of my invention is as follows: The grain having been placed in the hopper, the machine is set in motion. Any straw that may adhere is quickly cut apart by the feeding-roller and pins, in such manner as to be instantly removed when it enters the mill by the blast. Passing through the sieves $f^2 f^3$ of different degrees of fineness, the coarser articles are arrested, while the grain falls upon the lower inclined sieve, and

instead of passing through it, it passes over it, and is thus freed from finer foreign substances, such as sand, cockles, &c., which may have passed through the other sieves with it.

I do not claim broadly the idea of a feeding-roller, nor the method of operating my machine, but simply the various combinations and arrangements of it, the whole being compact, simple, and effective.

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

The feeding-roller c^1 with its projections, in combination with the pins c^2 , slide-board c^4 , and hopper C, when arranged as described.

This specification signed and witnessed, this twenty-fourth day of October, 1867.

A. W. SMITH.

Witnesses:

H. W. BEADLE,

W. E. STUMPH.