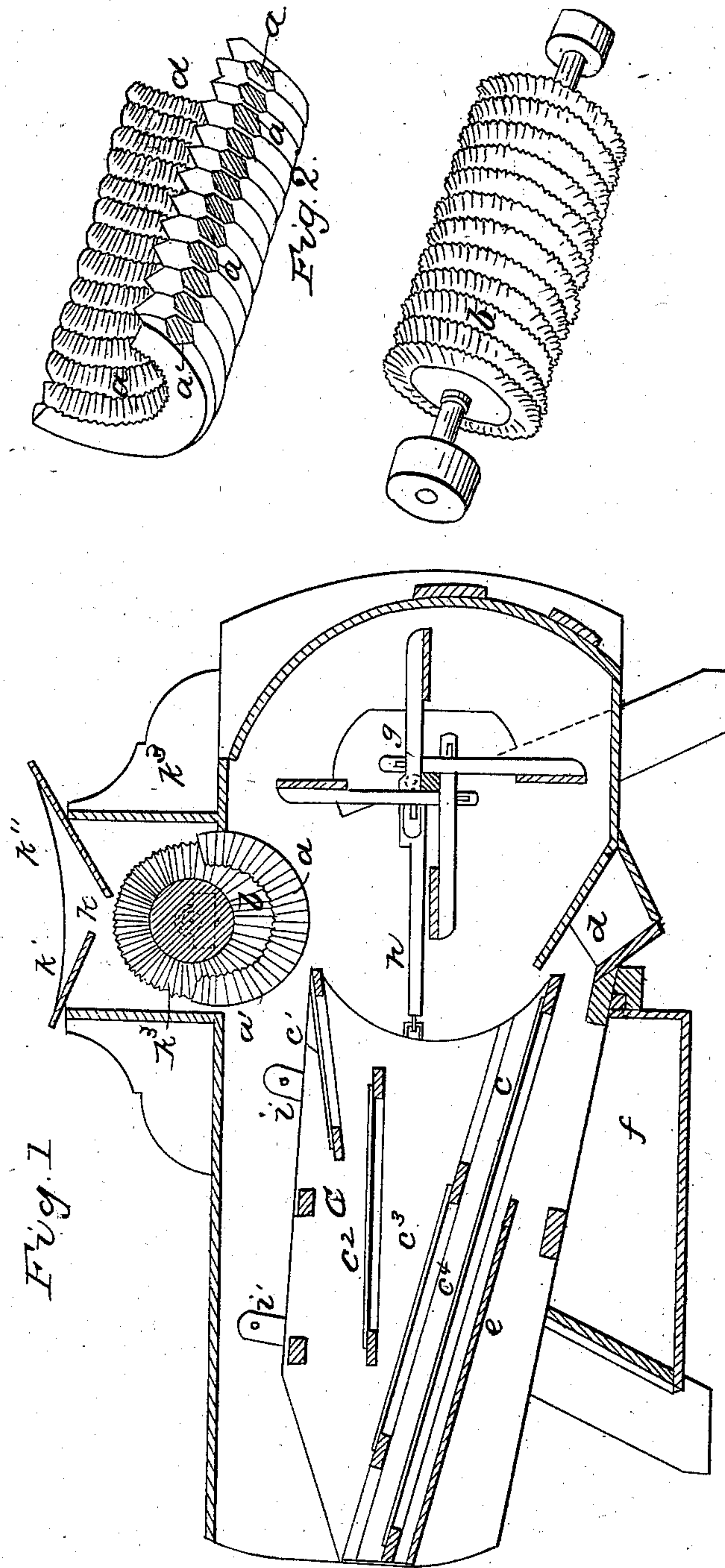


J. K. MITCHELL.

Clover Huller.

No. 3,182.

Patented July 20, 1843.



UNITED STATES PATENT OFFICE.

J. K. MITCHELL, OF DANVILLE, PENNSYLVANIA.

CLOVER-HULLER.

Specification of Letters Patent No. 3,182, dated July 20, 1843.

To all whom it may concern:

Be it known that I, J. K. MITCHELL, of Danville, in the county of Columbia and State of Pennsylvania, have invented a new and useful Improvement in Hulling Clover Seed and Cleaning the Same; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification, in which—

Figure 1 is a vertical longitudinal section; Fig. 2, detached parts.

The nature of my invention consists in the construction of a hulling cylinder, and concave so as to hull the grain more perfectly and attaching thereto a "shaker" and fan in such a way as to clean seed perfectly and separate the chaff from the tailings.

In constructing my machine, a series of circular ribs (*a*) are formed, the inner or concave side of which are of a triangular form in their cross section; at their ends next the shaker they are indented on each side at (*a'*) so as to form openings for the egress of the chaff after threshing or rubbing; these ribs are joined together their whole length, except at the opening above named, and form the bed or concave of the huller. To this concave a runner (*b*) is fitted, around which deep grooves are made to correspond with those in the concave. The sides of the grooves on both are cut across with small triangular indentations making the projecting edges serrated with fine teeth. These parts are correspondingly shown in Fig. 2.

The shaker (*c*) is of the usual construction except in the arrangement of the sieves and the manner of inclining them. The first sieve (*c'*) has an inclination downward from the concave of about 10°, and its lower end projects over the second sieve (*c''*) a space being left between them; the last named sieve inclining in the same direction at an angle of about 3°; the third sieve (*c'''*) projects out beyond the second nearly to the front of the shaker, and inclines in an opposite direction to the first two at an angle of about 20°. These are made of No. 8 clover sieves. The fourth and last in the series (*c''''*) is finer—about No. 12; it extends from the front end of the shaker to the back of it; in a full sized machine about 3 feet; the lower end passing under the fan case, from which a board (*d*) attached to the frame of the machine leads off the tailings.

Under the fine sieve a board (*e*) is put to convey the seed into a box (*f*); the fan (*g*) is below and just behind the concave; on its axis there is a sunk crank at each end, from which a pitman (*h*) connects with the shaker which is suspended by straps (*i*) so as to have a longitudinal motion. The fan is surrounded by a case of common form. It is revolved by means of a pulley on its axis from which a band passes to one on the axis of the runner (*b*). These are not shown in the drawing as their location will readily be perceived. On the other end of the axle of the runner is the driving pulley which connects with the motive power.

When the machine is put in motion the material to be passed through it is put into the hopper (*k*) sitting over the runner and resting on each edge of the concave. The front inclined board (*k'*) extends to near the center over the runner leaving a space between them through which the chaff, seeds, &c., pass. The back board (*k''*) inclines in the opposite direction, its lower edge being nearly under the lower edge of the front board (*k'*) and close down to the runner. This form prevents the seed from being carried around and thrown out of the back of the machine and a vertical piece (*k'''*) at the front and back resting on the concave shuts it in there. One half of the runner being above the concave carries the seed around between them and throws it out of the holes (*a'*) above described, and it falls onto the sieve (*c'*) just below which is attached to the shaker. Then the seed, &c., is shaken and receives the wind from a fan (*g*). It then passes through the series of coarse fans, and after arriving on the fine one (*c''''*) the clean seed falls into the box (*f*). The tailings fall out over the board (*e*), in a position to be thrown into the hopper again; the chaff being blown out of the front over the sieves.

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

1. The combination of the runner (*b*) and concave (*a'*) constructed and arranged in the manner and for the purpose herein described.

2. I also claim the arrangement of the sieves (*c'*, *c''*, *c'''*, *c''''*) in the manner and for the purpose set forth.

JAS. K. MITCHELL.

Witnesses:

I. W. CHADWICK,
J. J. GREENOUGH.