

A. B. CULVER.
Grain Winnower.

No. 66,803.

Patented July 16, 1867.

Fig. 2

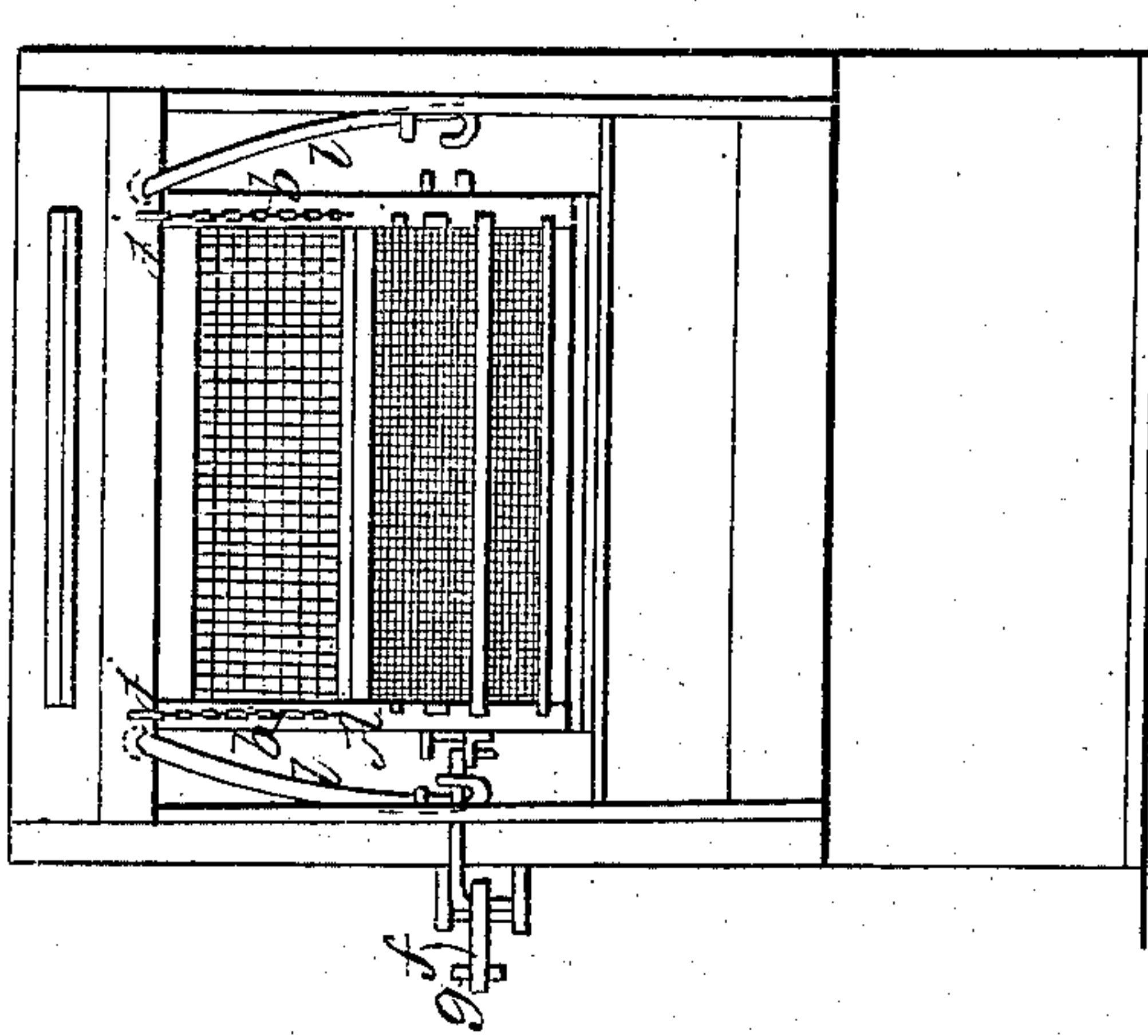


Fig. 4



Fig. 3

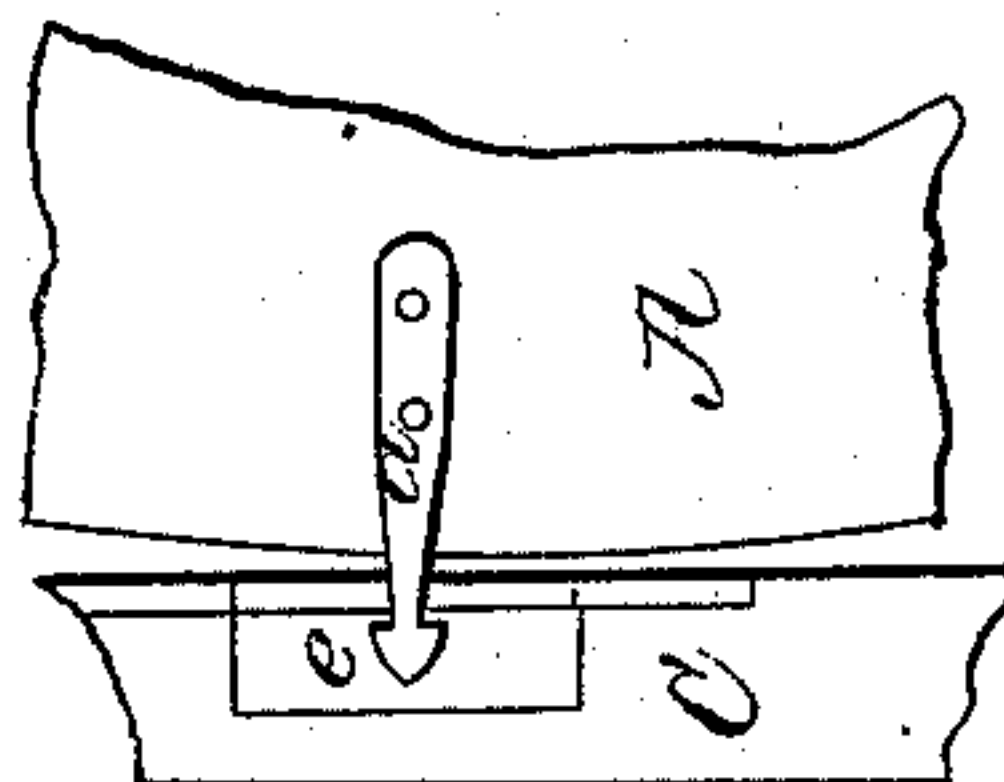
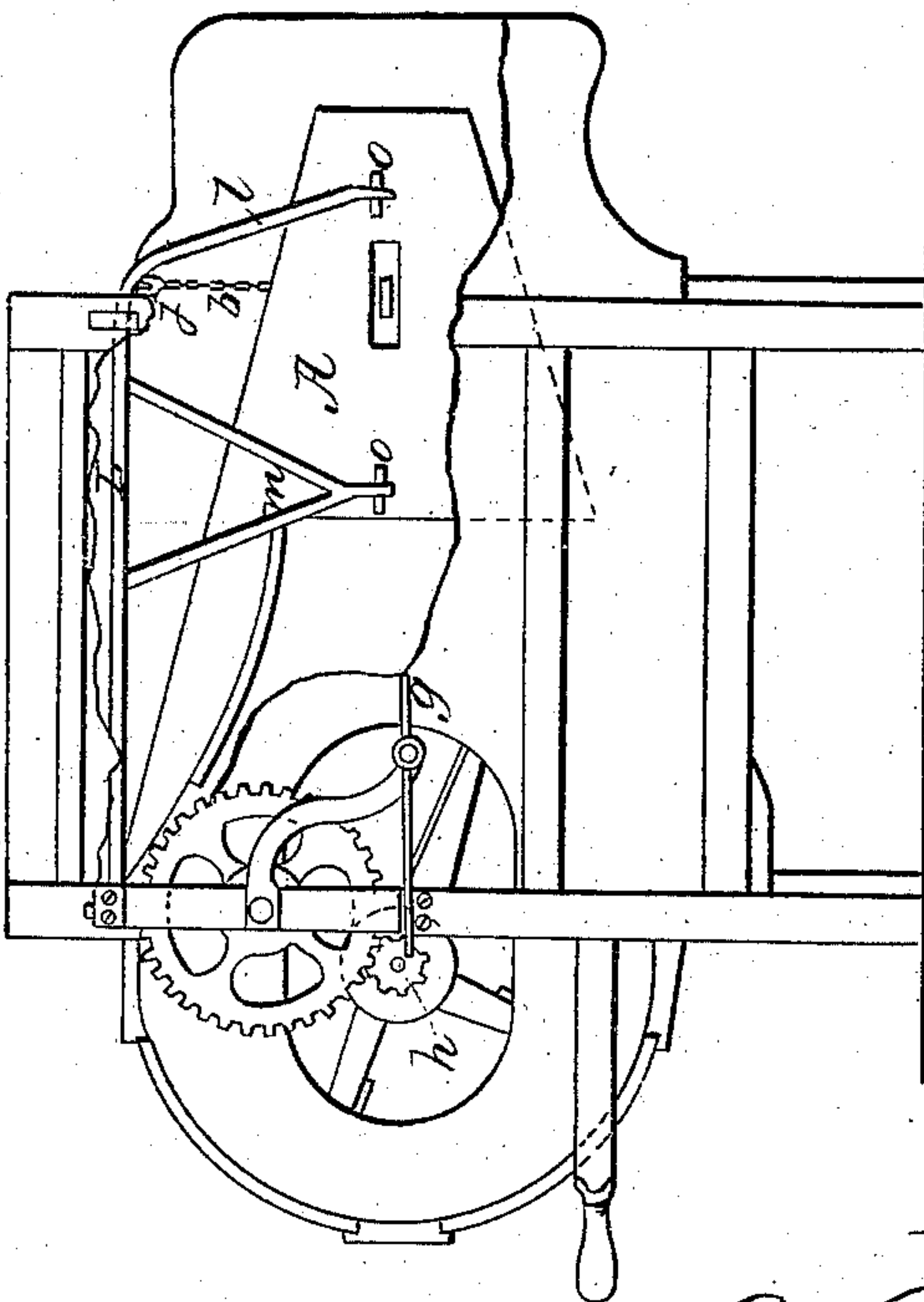


Fig. 1



Witnesses.
E. H. Long
J. R. Drake

Inventor
A. B. Culver,
J. Fraser & Co.
attys

United States Patent Office.

AUSTIN B. CULVER, OF WESTFIELD, NEW YORK, ASSIGNOR TO ALFRED S. PATTERSON, OF THE SAME PLACE.

Letters Patent No. 66,803, dated July 16, 1867.

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, AUSTIN B. CULVER, of Westfield, in the county of Chautauqua, and State of New York, have invented a new and useful improvement in fan-mills, which I denominate "Culver's Double-Action Fanning-Mill;" and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of a fan-mill with my improvement, a portion of one side being broken away to show the method of hanging the shoe when used for separating.

Figure 2 is an end elevation of the mill, showing the front of the shoe.

Figure 3 is a plan showing the pivot-iron *a* by which the rear of the shoe is hung when used for chaffing, also the seat in which it rests, both being broken away from the surrounding parts.

Figure 4 is a detached view of the portion of the frame *C* which forms the seat *e*, with the pivot-iron shown in section.

Like letters refer to corresponding parts in all the figures.

My invention consists in combining in one mill the parallel with the oscillating vibration of the shoe, to adapt it either to chaffing or separating, by means substantially as hereinafter described.

For producing the ordinary shake, the front end of the shoe *A* is suspended by the chains *b b*, and its rear by the pivot-iron *a*, which hangs in a seat or recess, *e*, in the transverse frame-piece *C*. This pivot-iron *a* being the only support of the rear end of the shoe, forms the axis of its motion when its front end receives the shake, which is applied in the ordinary manner, from an elbow, *f*, and shake-rod, *g*, connected with a crank on the fan-shaft *h*. The suspension-chains allow of the free vibration of the front of the shoe, and when motion is given it oscillates horizontally in the arc of a circle, having its centre at the pivot *a*. It also has a perpendicular motion, rising and falling with each vibration in an arc, of which the chain-hooks *j* form the centre. This motion is the one commonly given to fan-mills, and is used for chaffing. For separating after the grain has been chaffed, the uniform lateral vibration is preferable, to which my machine is readily convertible by detaching the chains and hooking the rods *l l* and *m m* into eyes *o o* on the sides of the shoe. These suspension-rods connect with a rock-shaft, *L*, on each side of the machine and immediately over the sides of the shoe, and extend down the requisite distance, terminating in hooks. The rod *m* preferably branches, as shown in fig. 1, so as to brace the shoe against any endwise motion.

When the machine is used for the purpose of separating, the shoe is detached from the chains *b b* and suspended on the hooks of rods *l l* and *m m*, being held by buttons or any other suitable means. When the shoe is thus suspended, the pivot-iron is disengaged and raised above its place in the seat *e*, where space is provided in which it moves with the shoe, but without contact with the machine. When motion is imparted to the shoe under this arrangement, it moves in a lateral parallel direction by the oscillation of the two rock-shafts, which motion is the most suitable for separating and screening grain, being equal in all parts, so as to spread the grain evenly over every part of the sieves, thereby using all the sieve surface to the best advantage.

When the machine requires to be changed for chaffing again, the shoe is slightly raised, so that the rods *l* *m* can be unhooked and secured to the side of the mill. On so removing the hooks the pivot-iron *a* drops into the recess *e*, and the front of the shoe is again suspended by the chains. The change is very readily effected, and the advantage of having the two shaking motions combined in the same machine is one of great convenience and economy to the user.

I do not claim separately the construction of the parts herein described; but what I claim as my invention, and desire to secure by Letters Patent, is—

Combining in one machine the two motions for chaffing and separating, by means arranged and operating substantially as herein described.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

Witnesses:

JOHN P. GIBSON,
JOHN FRANCIS.

AUSTIN B. CULVER.