

W. P. PENN.
Grain Drill.

No. 42,871.

Patented May 24, 1864.

Fig. 3.

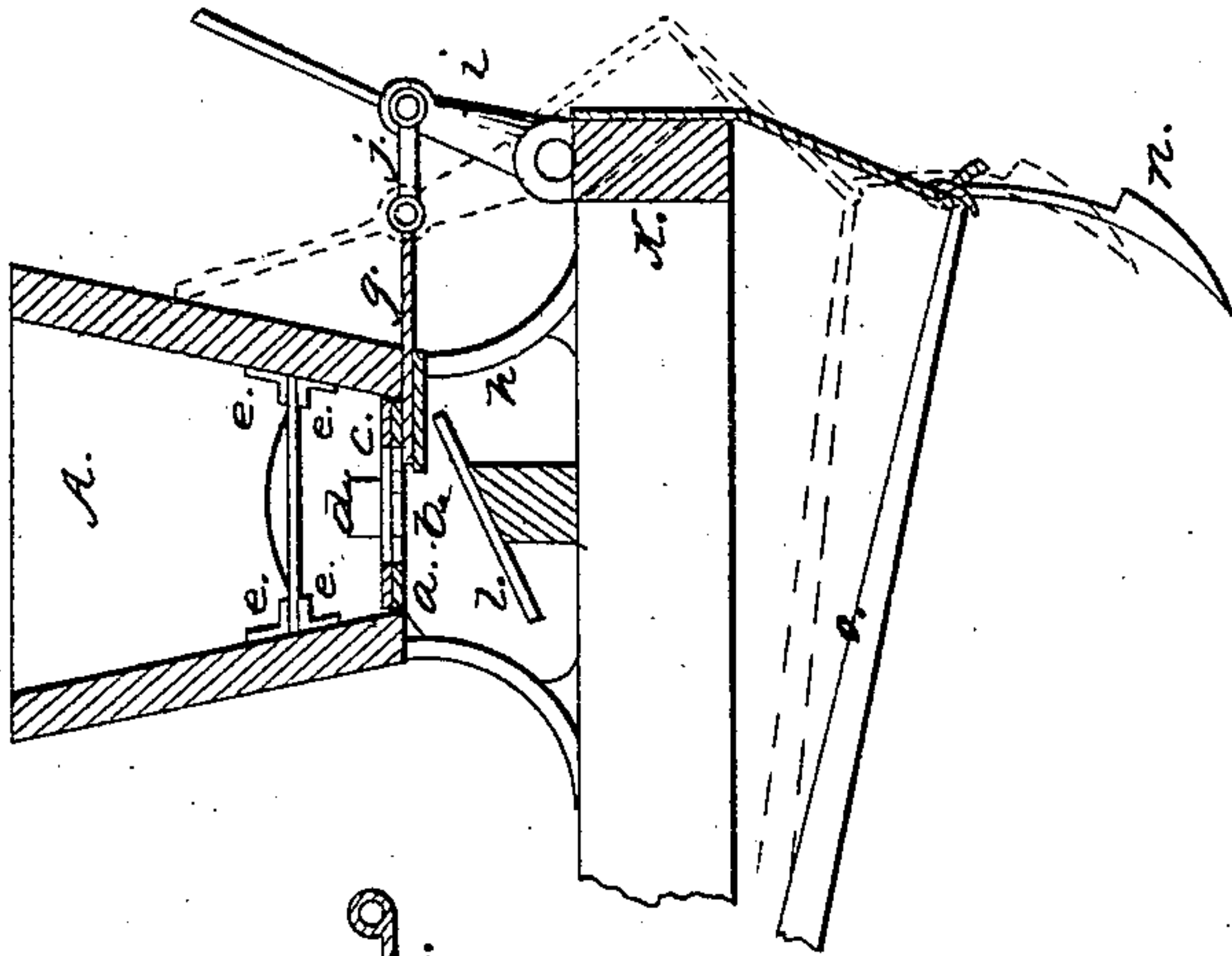


Fig. 1.

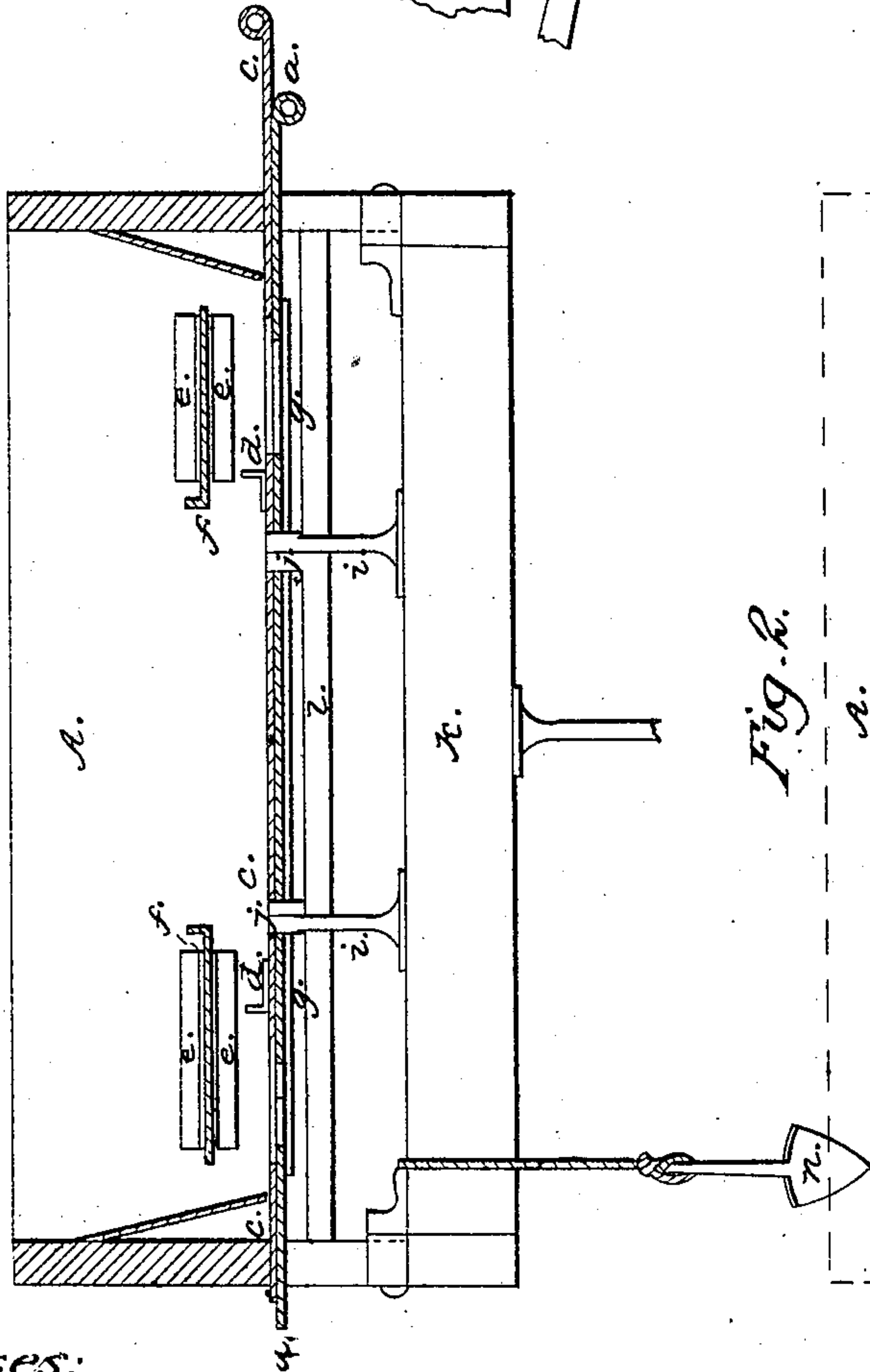
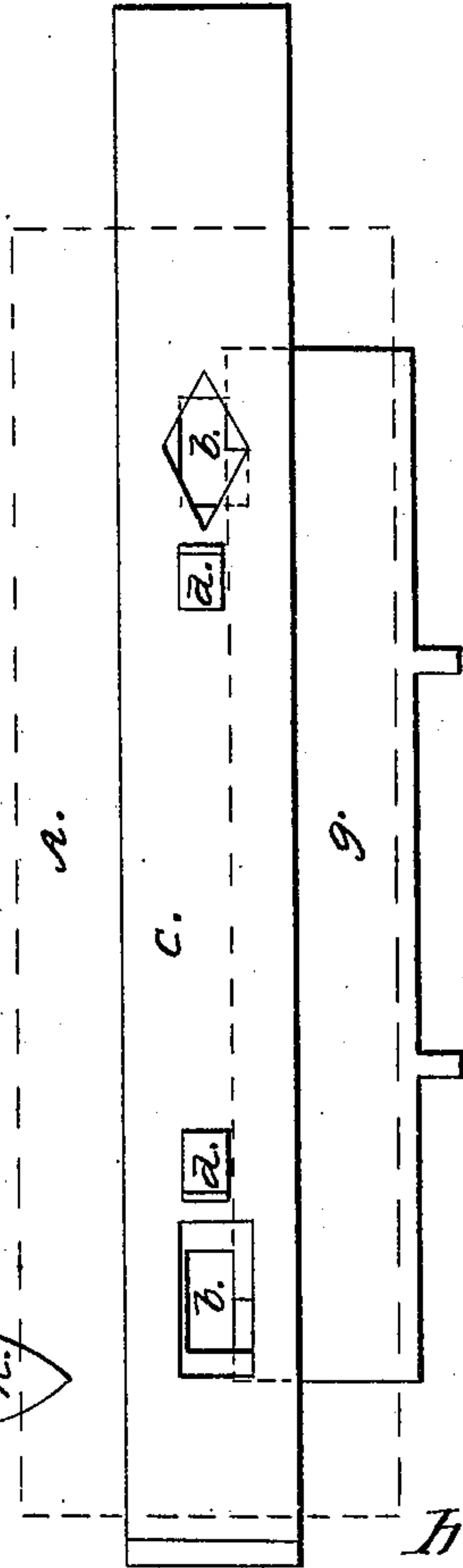


Fig. 2.



Witnesses:
Ed. Bartlett.
A. S. Willard

Inventor:
W. P. Penn.
by his Atty.

Amos B. Bunnell

UNITED STATES PATENT OFFICE.

W. P. PENN, OF BELLEVILLE, ILLINOIS.

IMPROVEMENT IN GRAIN-DRILLS.

Specification forming part of Letters Patent No. 42,871, dated May 24, 1864.

To all whom it may concern:

Be it known that I, WORDEN P. PENN, of Belleville, in the county of St. Clair and State of Illinois, have invented a new and useful Machine, which I denominate a "Combined Seeding and Cultivating Machine;" and I do hereby declare the following to be a full, clear, and exact description of my said invention, reference being had to the annexed drawings, making part of this specification, in which—

Figure 1 is a vertical longitudinal section through the hopper-box only. Fig. 3 is a vertical transverse section through the machine; and Fig. 2 is a top view of the valves, the red line showing the outline of the hopper-box.

The object of my invention is to reduce the number of agricultural machines necessary for a farmer to successfully and cheaply cultivate his farm; and it consists of a novel combination of mechanical devices by which a machine is organized which will efficiently perform the functions of a seed-drill, a broadcast-sower, and a wheel-cultivator.

To enable any one skilled in the arts to which my invention appertains to make and use the same, I will proceed to describe the construction and operation thereof.

Similar letters of reference represent corresponding parts of the different figures of the drawings annexed.

In the drawings the hopper-box is represented by A, the bottom whereof consists of an adjustable valve, *a*, which I term the "regulating-valve," and which is operated, in the case of working machines, by means of a screw. I have not thought it necessary to show said screw in the drawings, as it may be applied in any convenient and efficient manner. In said valve there are a number of slot-holes, *b*, the relative capacity whereof may be enlarged or contracted by the operation of said screw, and the number of which should be equal to the number of flukes it is intended to use, or as may be necessary to make the machine an efficient broadcast-sower. Said valve is supported in its place by means of cleats, which are not shown in the drawings, they being common devices used for such purposes.

On the top of the regulating-valve *a* the feed-valve *c* is arranged. In this valve there are cut either slot or diamond-shaped holes, to correspond in number and position with the holes in the regulating-valve—that is to say,

the holes in one valve are over the holes in the other. On the feed-valve brackets *d d* are fixed between the holes. These brackets act as feeders and serve to bring the grain to the outlets. The feed-valve is operated by means of a cam or crank applied to some convenient part of the machine which will afford the desired movement. Neither cam nor crank is shown in the drawings, as they are both common devices and make no part of this invention.

Directly over the outlets are arranged what I denominate "moderating-valves." Their function is to modify the flow of seed through the outlets. They consist of slide-valves *f*, arranged in cleats *e e*, of corresponding form, fixed in opposite sides of the hopper-box, in the manner shown, so as to partially arrest the flow of seed through the feed-holes.

Under the regulating-valve there is arranged a stop or shut-off valve, whose function is to stop the flow of grain when the machine comes to the end of the land being planted. The drawings show this valve composed of one long flat plate supported by the bracket or brace, *h*, which also supports the rear part of the hopper-box; but said valve may be divided in a series of valves, one for each outlet, and all be attached to one common bar, and yet produce the same result. Said stop-valve is connected to an eccentric-beam, *k*, through the agency of arms *i* and links *j*, and it is operated through the agency of a lever (not shown in the drawings) applied to said eccentric-beam anywhere within convenient reach of the attendant. To the beam *K* the flukes or cultivators *n* are attached, so that when the stop-valve is opened or closed the fluke or cultivator is raised out of or lowered into the ground, as the case may be. The draft-bar, by which the flukes or cultivators are drawn through the ground, is represented by *o*, the front ends being attached to the front end of the machine in the ordinary manner. The flukes are not all shown in the drawings. They are of the ordinary description, and are applied in the usual way.

Under the hopper-box there is arranged, upon an inclination, a sheet-metal deflector, *l*, directly under the outlets in the hopper. The object of this deflector is to scatter the seed forward of the flukes, by which it is sown broadcast and covered by the flukes as the machine

progresses. Said deflector is so arranged under the hopper that it may be removed at pleasure, and is of course used only when the machine is used as a broadcast-sower.

There are no flukes, nor funnels, nor other leaders from the hopper to the flukes shown in the drawings. Neither are there any wheels shown on the machine in the drawings. All of these parts being common, it was not thought necessary to show them in the drawings nor especially describe them in the specification.

It will be seen that I have so constructed and arranged the various parts of this machine that it can be readily used to seed in drills, to sow broadcast, or to cultivate.

I am aware that the devices described in this

specification, considered by themselves, are not new; nor is the application of any one of them to a drilling-machine new; nor do I claim them as such; but

What I do claim, and desire to secure by Letters Patent, is—

The combination of the regulating valve or slide *a*, the feed-valve *c*, the shut-off valve *g*, and moderating-valve *f* with each other and with the hopper-box of a grain-drill, substantially as described.

W. P. PENN.

Witnesses:

AMOS BROADNAX,
ED. BARTLETT.