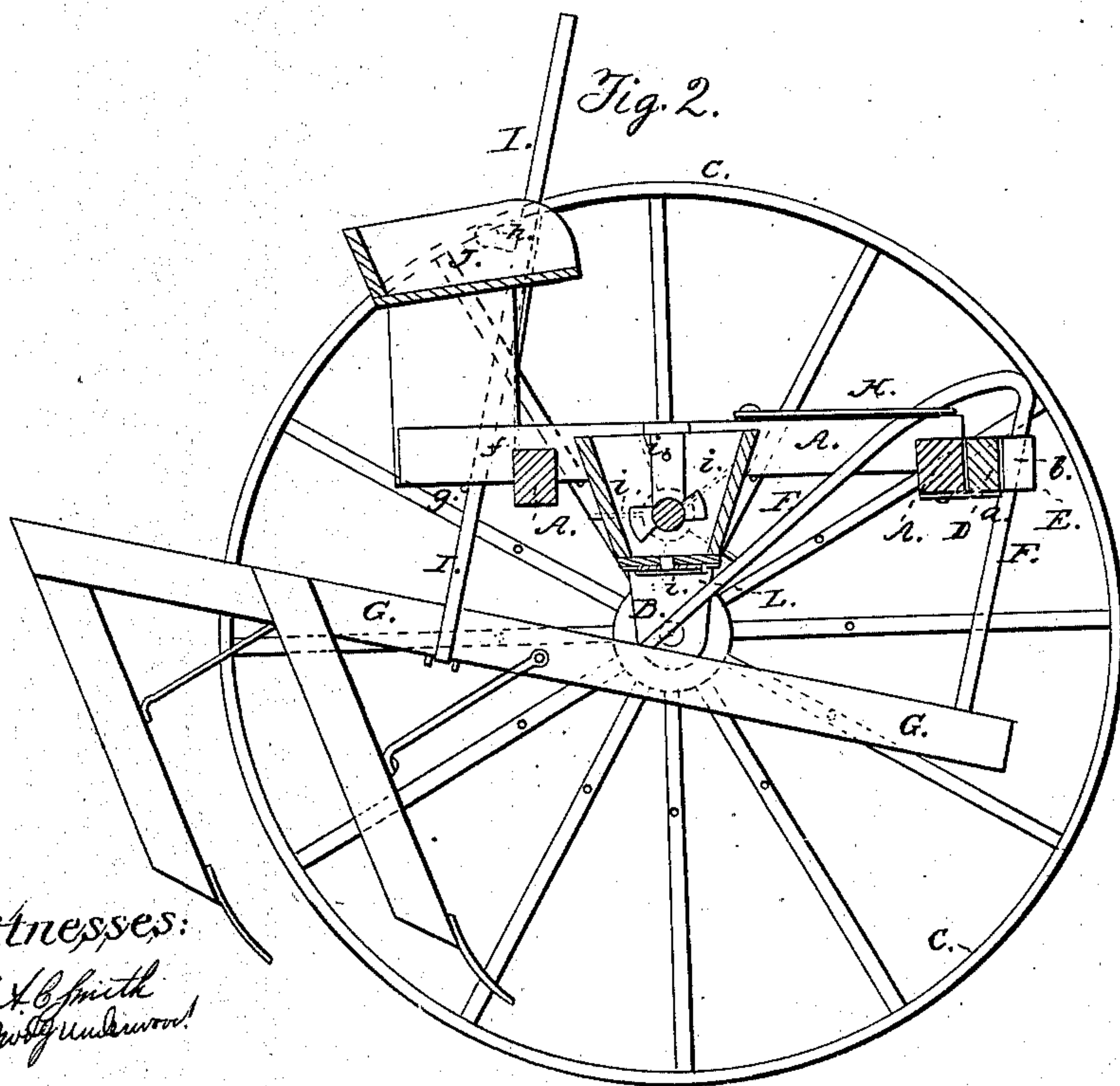
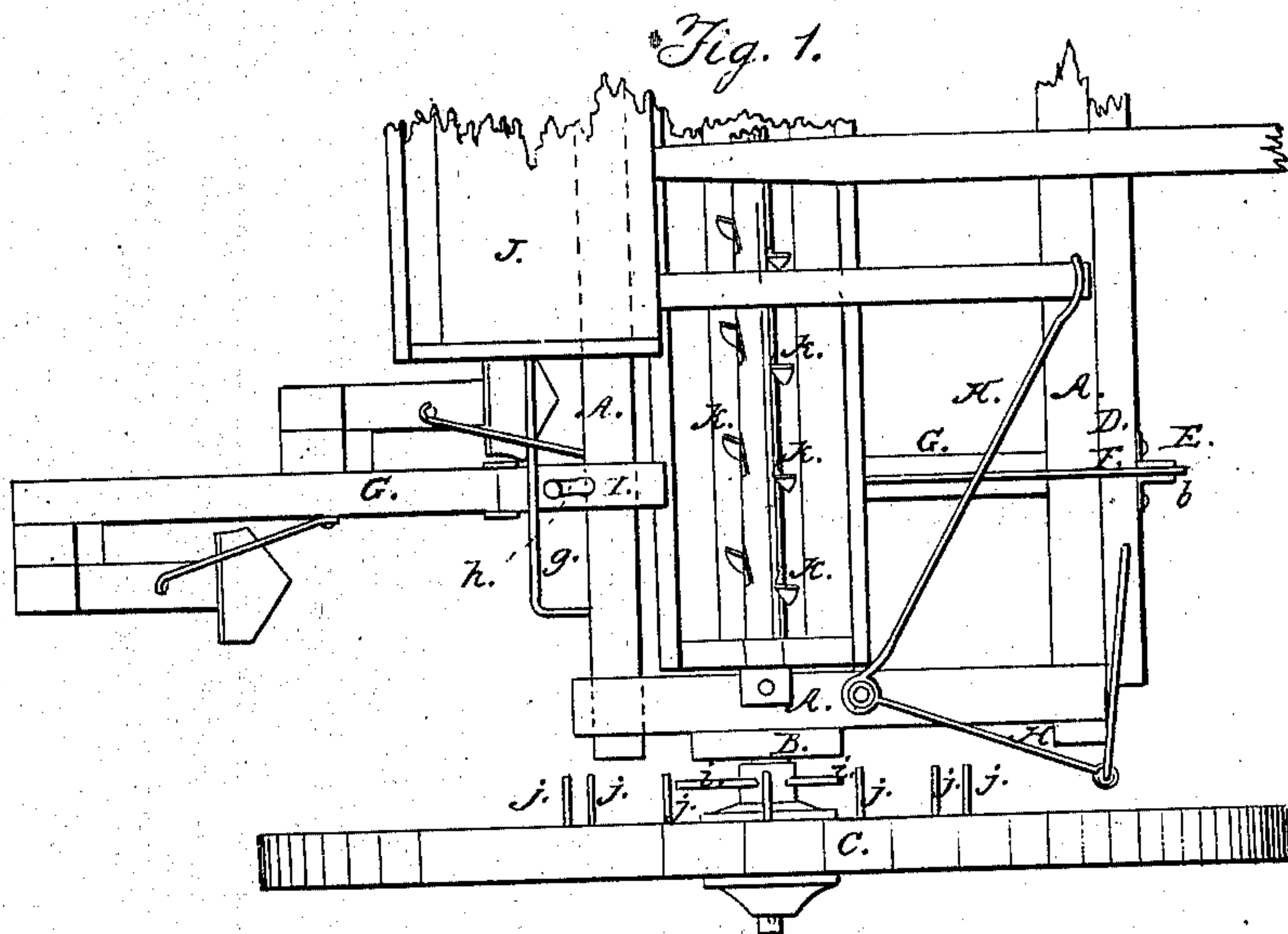


A. P. DURANT.

Grain-Drill.

No. 35,306.

Patented May 20, 1862.



Witnesses:
J. A. Smith
E. W. Underwood

Inventor:
A. P. Durant & Co.
Attorneys

UNITED STATES PATENT OFFICE.

A. P. DURANT, OF ATLANTA, ILLINOIS.

IMPROVEMENT IN COMBINED CULTIVATOR AND SEEDING-MACHINE.

Specification forming part of Letters Patent No. **35,306**, dated May 20, 1862.

To all whom it may concern:

Be it known that I, A. P. DURANT, of Atlanta, Logan county, Illinois, have invented certain new and useful Improvements in Combined Sowing and Cultivating Machines; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the annexed drawings, making part of this specification, in which—

Figure 1 is a top view, and Fig. 2 a vertical cross-section, of my improved machine. Fig. 1 shows but little more than half of my machine, the other part being a mere duplicate of that shown.

My invention consists in a novel construction of cultivator, and in a novel combination therewith and arrangement of mechanical devices for sowing seed broadcast.

The following description of my invention will enable any one skilled in the art to which it appertains to make and use it.

Like letters of reference represent corresponding parts of the different figures of the drawings referred to.

The main frame of the machine is represented by A. It is of rectangular form, and of such size and proportion as will best fill the conditions of strength and convenience. Two brackets are bolted to the outside of the frame, one of which is shown by B.

In the lower end of each of these brackets an arm is fixed, which constitutes the axle of the truck-wheels C. Said brackets must be made long enough to raise the frame of the machine far enough from the ground to clear the tops of the plants when the machine is used for cultivating.

Against the front end of the main frame, on the outside thereof, a sliding beam, D, is arranged in clasps *a*, fixed to the main frame for that purpose. On the outside of said sliding beam, in the brackets E the brace F is pivoted at *b*. By means of this brace the cultivator-frame G is supported and sustained. Said cultivator-frame hangs perfectly free on said brace, so as to leave it susceptible of a lateral movement. Said sliding beam is moved back and forth by means of a bell-crank lever, H, which has its fulcrum at *d*, and which is connected to said beam by means of a link, *e*, and the front end whereof is brought in front of the driver's seat, so that he can move it with

his foot. There are of course two of these levers, arranged on opposite sides of the machine, by which the driver is enabled to push the beam in one direction with one foot and in the opposite direction with the other.

A lever, I, is attached to the cultivator-frame loosely, a little behind the center thereof, by means of a clasp which passes around the beam and is attached to the lower end of the lever. Said lever has a spring-catch fixed to its front face, as shown by *f*, the lower end whereof reaches forward and catches on the rear piece of the main frame. Said lever is held in its proper position by means of a staple, *g*, which spans it and is fixed to the main frame. There are of course two of these levers, one on each side of the driver's seat J. By means of the aforesaid arrangement of levers in connection with said sliding beam and cultivator-frame the driver is provided with the most perfect control of the cultivators laterally, so as to heap the dirt more or less closely against the plants, and by means of the handles *h*, attached to the levers I, he can raise the said cultivators off the ground altogether, and by means of the spring-catch *f* hang them on the rear part of the frame.

Thus much for the cultivator.

The sowing attachment consists of a hopper-box, K, located in the rear part of the main frame, as shown. The bottom of said box is perforated, and under it a slide-valve is arranged, which is also perforated to correspond with the perforations in the bottom of the box, and said valve is operated by a lever (not shown) attached to one end thereof and pivoted to the main frame, which pivot constitutes the fulcrum of said lever. Said valve is shown by L, Fig. 2. It is held in its place by means of brackets bolted to the bottom of said box, and its use is to gage the flow of seed through said perforations in the bottom of said box. A shaft, M, is arranged in said box, near the bottom thereof. In the ends of said box suitable journal-boxes are made to receive the journals of said shaft. One end of said shaft extends through the end of said box, and also through the bracket B, and on it a collar is made in which a number of pins, *i*, are fixed. These pins are operated upon by pins *j* in the spokes of the truck-wheel, by which said shaft is made to revolve. On the periphery of said

shaft are a number of oblique lugs, arranged over the perforations in the bottom of said box. By means of said lugs & said perforations are kept from choking and the seed allowed an uninterrupted flow.

None of the devices or features herein described are new, considered by themselves alone. It is only their arrangement, combination, and general construction, considered as a whole, that constitutes my invention.

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

1. The arrangement of the hopper-box, with

its shaft operated as described, and by the means described, with the cultivator constructed and operated as described.

2. The arrangement of the sliding beam D, with the levers H and I, and in connection with the cultivator-beam G, to enable the driver to operate the same, as described.

A. P. DURANT.

Witnesses:

GUY H. TUTTLE,
E. W. LONG.