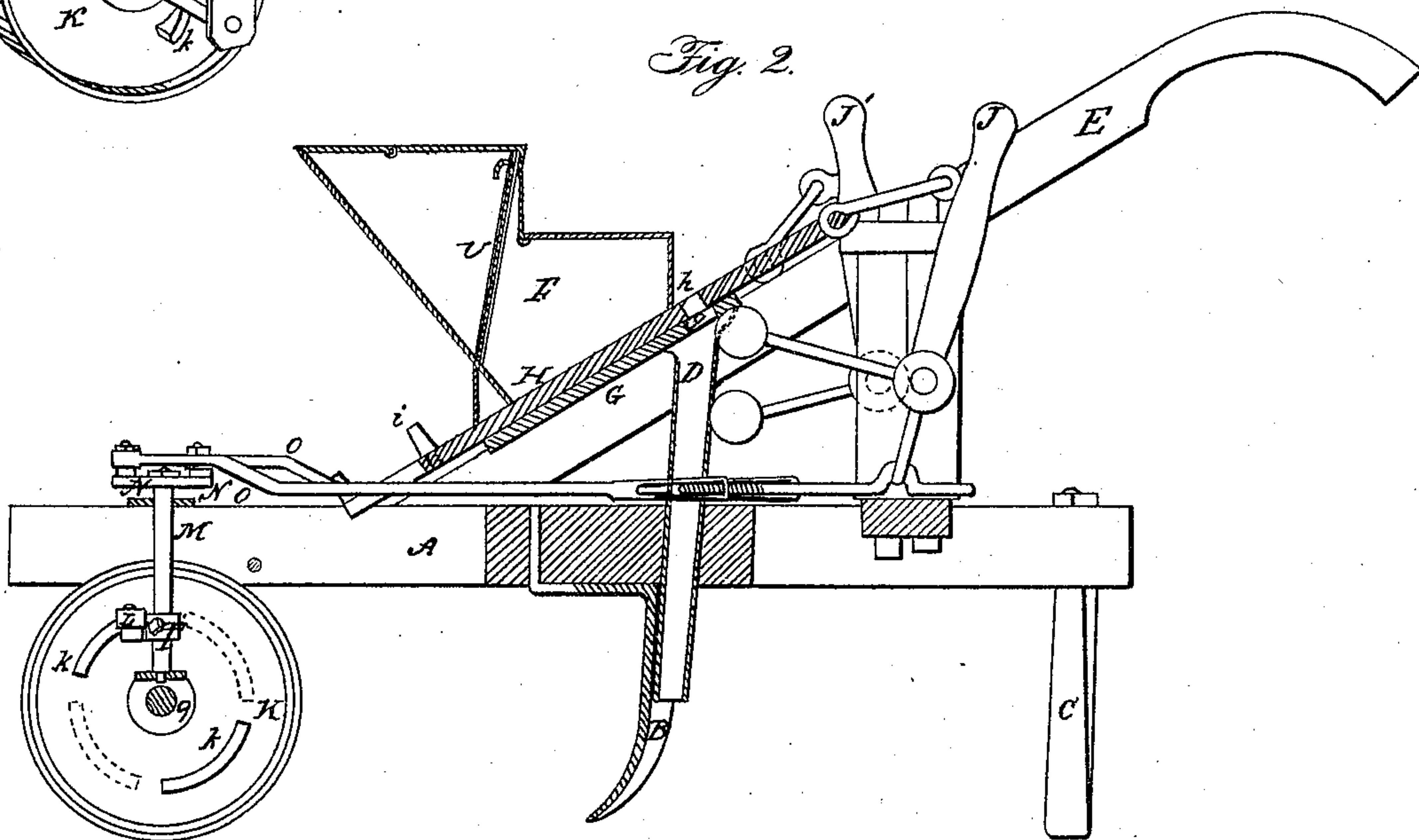
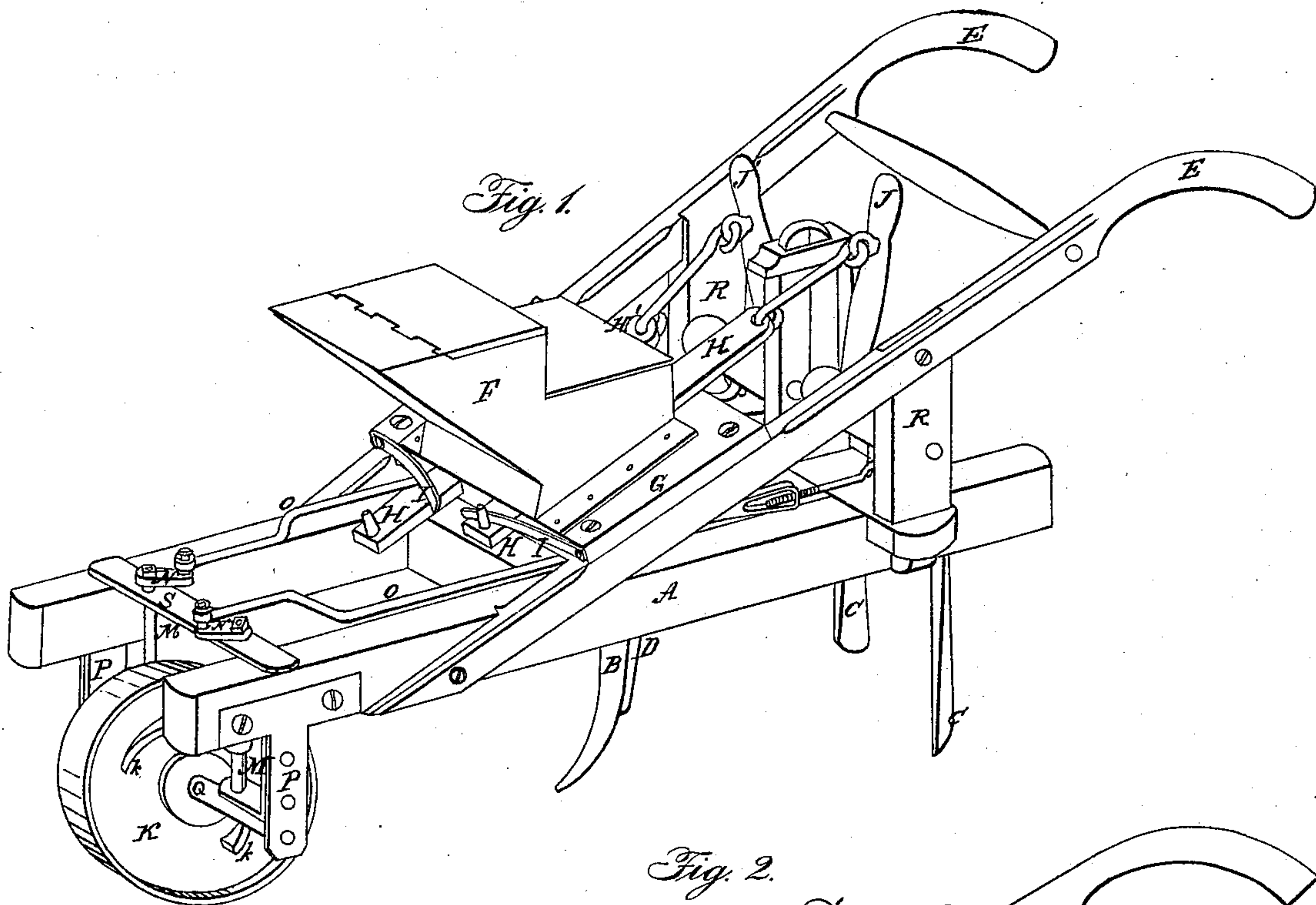


A., W. & J. CAMPBELL.

Seed-Planter.

No 24,537.

Patented June 28, 1859.



Witnesses:

R. H. Perry
Dennis Keedy

Inventor:

Alexander Campbell
William Campbell
James Campbell

UNITED STATES PATENT OFFICE.

ALEXANDER CAMPBELL, WM. CAMPBELL, AND JAS. CAMPBELL, OF
HARRISON, OHIO.

IMPROVEMENT IN CORN-PLANTERS.

Specification forming part of Letters Patent No. 24,537, dated June 28, 1859.

To all whom it may concern:

Be it known that we, ALEXANDER CAMPBELL, WILLIAM CAMPBELL, and JAMES CAMPBELL, all of Harrison, Hamilton county, in the State of Ohio, have invented a certain new and useful Improvement in Corn-Planters; and we hereby declare the following to be a full and clear description thereof, reference being had to the annexed drawings, making part of this specification.

Our invention consists in a peculiar arrangement of gravitating slides and their accessories, hereinafter described.

In the accompanying drawings our invention is represented as follows:

Figure 1 is a perspective view. Fig. 2 is a longitudinal section.

A is a rectangular frame.

P P are brackets attached on each side of the frame near the front and projecting downward, the lower parts of which form bearings into which the ends of the shaft Q are journaled.

K is a traction-wheel secured midway of the shaft Q.

E E are handles connected to the sides of the frame A, and supported at the rear end of the planter upon standards R R.

C C are covering-shares, also secured to the rear end of the frame, one a little in advance of the other.

B is the furrow-share, and D is a tube for conveying the grain into the furrow.

F is a hopper.

G is the hopper-floor, declining forward at an angle of about thirty degrees. Dovetailed into this floor, and flush with it, are two slides or valves, H H', whose seed-apertures *h h*, when at the lower or resting positions of the slide, are in position to receive corn from the hopper, and are, when in the upper position of the slides or valves, brought immediately over the apertures *g*, which lead through the floor into the conveying-tube D.

J J' are weighted rocking levers, the shafts of which work in bearings in the standards R R.

Secured on the inside of the brackets P, above the shaft, are other brackets in the form of a knee, into which vertical shafts M M are stepped at their lower ends, being at their upper ends journaled in the cross-bar S.

L L are friction-rollers attached to the wrist-pins of arms T on vertical shafts M M.

N N are cranks on the top of said shafts.

K K are inclined ridges concentric with the traction-wheel, but of smaller radius, and projecting alternately from its opposite sides, the direction of the inclination of the ridges being from the direction of motion of said wheel.

O O are adjustable rods, connecting with the cranks N, and at the other end by hooks to the rocking levers J J', through which means motion is communicated to the slides or valves from the traction-wheel K.

U is a sliding board to regulate the quantity of grain falling from the hopper upon the valves, and also to shut it off entirely when necessary. In the lower end of each of the valves is a stud, *i*, which, when the valve is raised in position for discharging the grain, retracts a spring, I, so as to arrest the momentum of the parts and assist in returning them to their normal position. The valves are held to their lowest position by their own gravity, or by springs, weighted levers, or both. This twofold arrangement of slides operating alternately is found of great practical benefit, from the fact that time is given to each to become charged with grain while the other is carrying up its load, and in view of this object the cams *k* occupy so small a part of the circuit on the wheel as to allow each slide or valve to remain perfectly quiescent during a longer period than that of its motion. The specific inclination of the slides is found to facilitate the removal of surplus grains by the back wall of the hopper, or by a brush where one is used. It will be seen that each seed-aperture becomes visible to the operator just as it is on the point of discharging, so that he can see whether each slide is effective; also, the levers J J assist the eye in judging of the

perfect action of the valves, and afford the means of the temporary working of the valves by hand should occasion require.

The following is what we claim as new and of our invention herein and desire to secure by Letters Patent:

The described arrangement of the inclined slides or valves H H', levers J J', adjustable rods O O, and cam-wheel K k, for the purpose explained.

In testimony of which invention we hereunto set our hands.

ALEXANDER CAMPBELL.
WILLIAM CAMPBELL.
JAMES CAMPBELL.

Witnesses:

DENNIS WEAD,
JOHN ASHBY.