

S. C. SCHOFIELD.

Grain Drill.

No. 56,454.

Patented July 17, 1866.

Fig. 1.

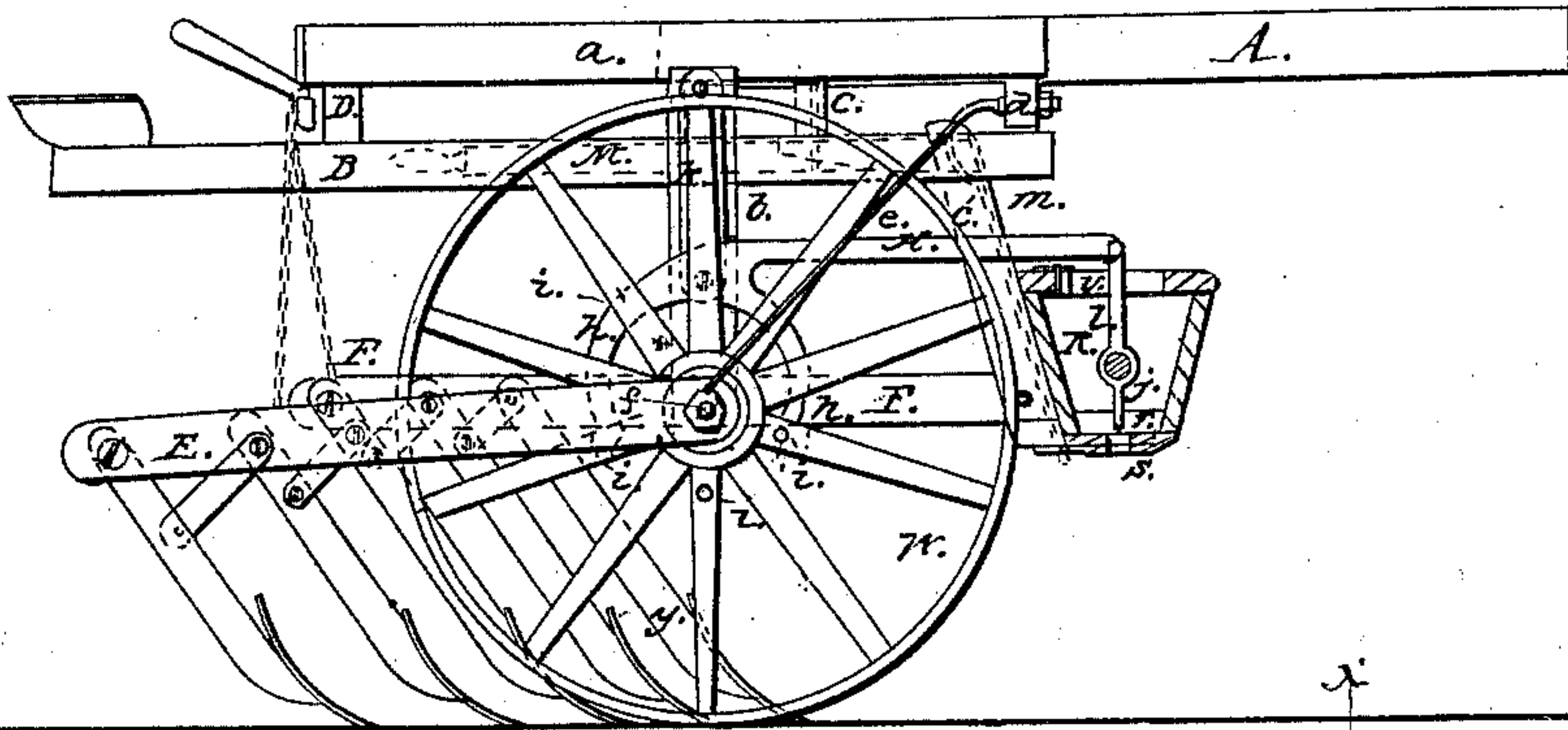
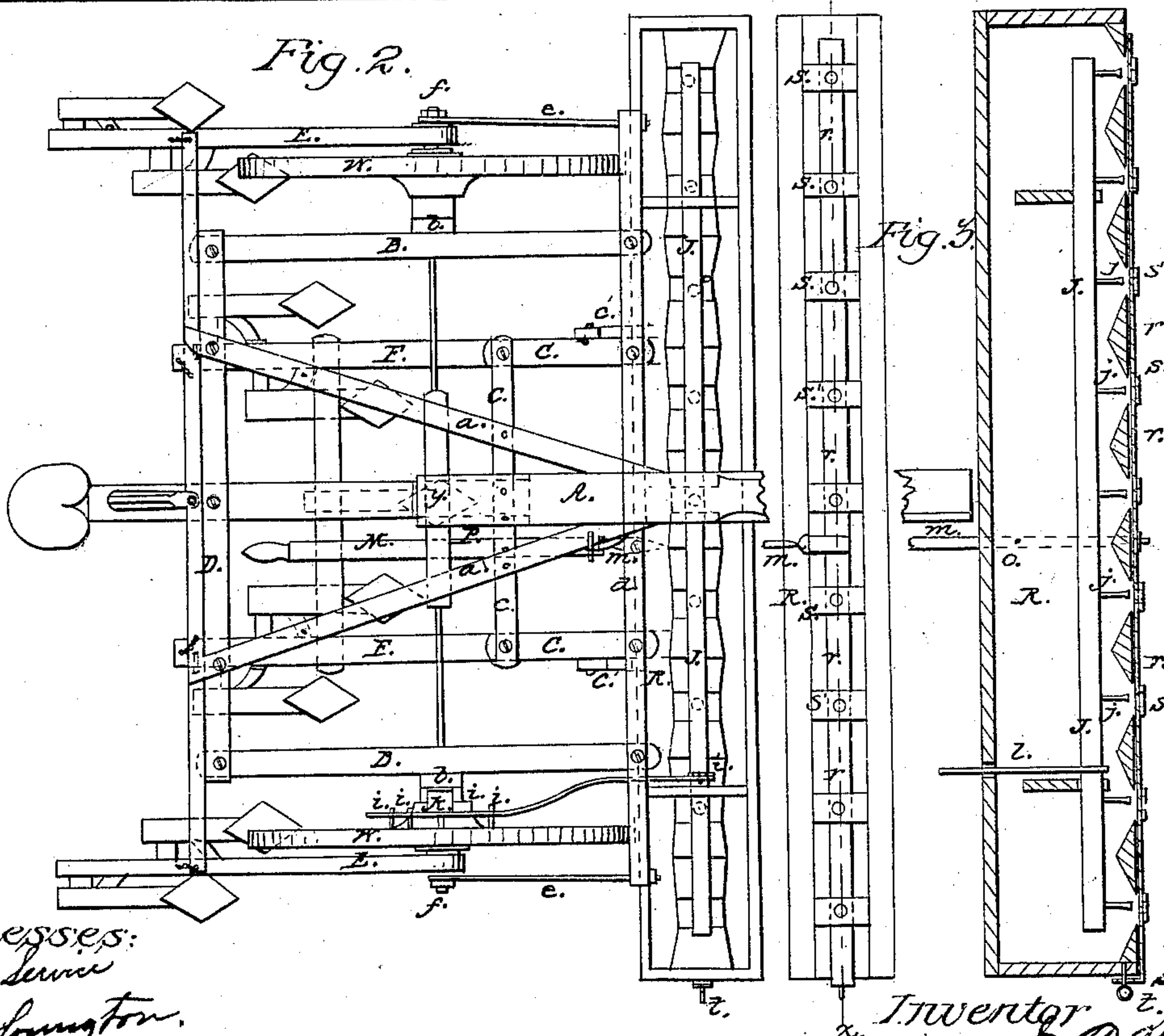


Fig. 4.



Witnesses:
Jas A. Service
J. W. Blount.

Inventor
S. C. Schofield
Per M. W. Co.

UNITED STATES PATENT OFFICE.

SILAS C. SCHOFIELD, OF FREEPORT, ILLINOIS.

IMPROVEMENT IN COMBINED SEEDER AND CULTIVATOR.

Specification forming part of Letters Patent No. 56,454, dated July 17, 1866.

To all whom it may concern:

Be it known that I, SILAS C. SCHOFIELD, of Freeport, in the county of Stephenson and State of Illinois, have invented a new and useful Improvement in Combined Seeder and Cultivator; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side view of my improved machine, the seed-box being shown in section. Fig. 2 is a top view of the same. Fig. 3 is a bottom view of the seed-box, and Fig. 4 is a vertical longitudinal section thereof, taken in the line *x x*, Fig. 3.

Similar letters of reference in the different figures indicate corresponding parts.

This invention relates to certain new and useful improvements in a combined cultivator and seeding-machine, whereby a strong and simple disposition of the parts is obtained and whereby an easily-operated and efficient machine is produced, as hereinafter set forth.

A *a B B D d* is the main frame of the vehicle, which is supported on two uprights or standards, *b' b'*, which project up from the short axes. In addition to this main frame is a small inner frame, *C C c*, the part *c* being bolted to the pole *A* and braces *a a*, and the pieces *C C* to the front piece, *d*, of the main frame. To the side pieces, *C C*, of this inner frame two hanging pieces or studs, *c' c'*, are rigidly attached for carrying the seed-box *R* and for attaching the center shovel-beams, *F F*, and thus the small inner frame, *C C c*, facilitates the attachment of the hanging studs *c' c'* to the main frame in a strong and simple manner.

R, Fig. 1, is the seed-box, which contains a longitudinal rock-shaft, *J*, which is provided upon its lower-side with a series of small paddles or pins, *j*, for agitating the seed and keeping up an even flow of the same from the seed-box.

The rock-shaft *J* is operated by a double cam-rod, *H*, which is bifurcated at its driving end, so as to straddle the hub of the driving-wheel, and it is suspended at its cam end by a swinging link, *k*, one end of the said link

taking hold of the cam-rod *H* and the other end being pivoted to the upright *b* on that side of the machine. The other end of the cam-rod *H* takes hold of the rock-shaft *J* by means of a lever, *l*, which projects up from the rock-shaft and out of the seed-box through a transverse slot, *v*, in its cover. Each leg or fork *h* of the cam-rod has a cam-face on its lower end, which faces the axis of the driving-wheel, and the hub or spokes of the driving-wheel are provided with a series of pins, *i i i*, Figs. 1 and 2, which act alternately upon opposite sides of the hub and upon the opposite cam-faces of the forks *h h*, so that the cam-rod *H* receives a vibratory longitudinal movement and works the rock-shaft *J*.

The seed-slide is operated for opening and closing the seed-discharging orifices by means of a compound lever, which consists in a vertical lever, *m*, Figs. 2, 3, and 4, having its fulcrum-pivot on the rear side of the seed-box, and in a horizontal lever, *M*, Fig. 2, which is pivoted to the frame-piece *c'* by a fulcrum-pivot, *p*. The lower end of the vertical lever *m* takes hold of the seed-slide *S*, and its upper end connects with the forward end of the hand-lever *M*, so that a lateral movement of the hand-lever gives motion to the seed-slide *r*.

t, Figs. 2 and 4, is a set-screw for regulating the feed by allowing the seed-slide more or less throw when opened.

The axle ends *f f* are extended out beyond the wheels *W W*, so that the outside plow-beams, *E E*, may be hung thereon for drawing the outside plows or shovels. These extended ends *f f* of the axle are re-enforced or supported by stay-braces *e e*, Figs. 1 and 2, which are secured at their upper ends to the frame-piece *d*.

The driving-pins *i i i* are of an uneven number, so as to act alternately upon the cams. These pins may be provided with anti-friction rollers to lessen their friction in passing over the face of the cams, if desired.

By removing the seeding apparatus and also the center plow, *y*, Fig. 1, and the outside plows, the machine is readily converted into a corn-cultivator. By these means I produce an elevated frame-work which is light and strong, and so simplify the movements and parts that

an inexpensive, efficient, and desirable machine is produced.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The bifurcated double cam-rod *H h h*, suspended by a swinging link, *k*, and operated by an odd number of pins, *i i*, substantially in the manner and for the purpose set forth.

2. The combination of the agitating rock-shaft *J* with an actuating cam-rod, *H*, substantially in the manner and for the purpose specified.

3. The compound lever *M m*, for operating the seed-slide *r*, as herein shown and explained.

4. The stay-braces or re-enforcing-rods *e e*, in combination with extended axle ends *f f*, when employed as draft-wrists for attaching the outside plow-beams, *E E*, substantially in the manner and for the purpose set forth.

SILAS C. SCHOFIELD.

Witnesses:

T. F. GOODHUE,
GEORGE WOLF.