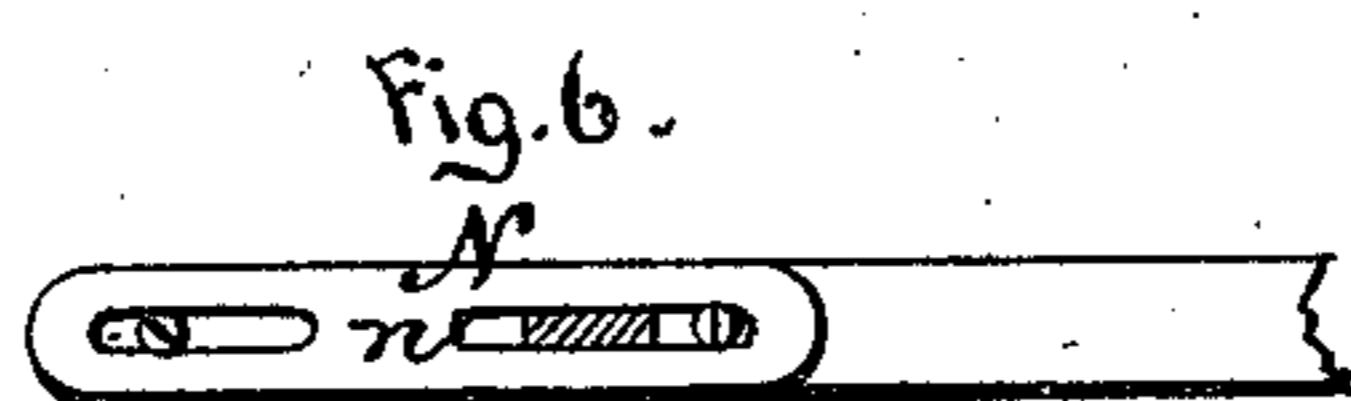
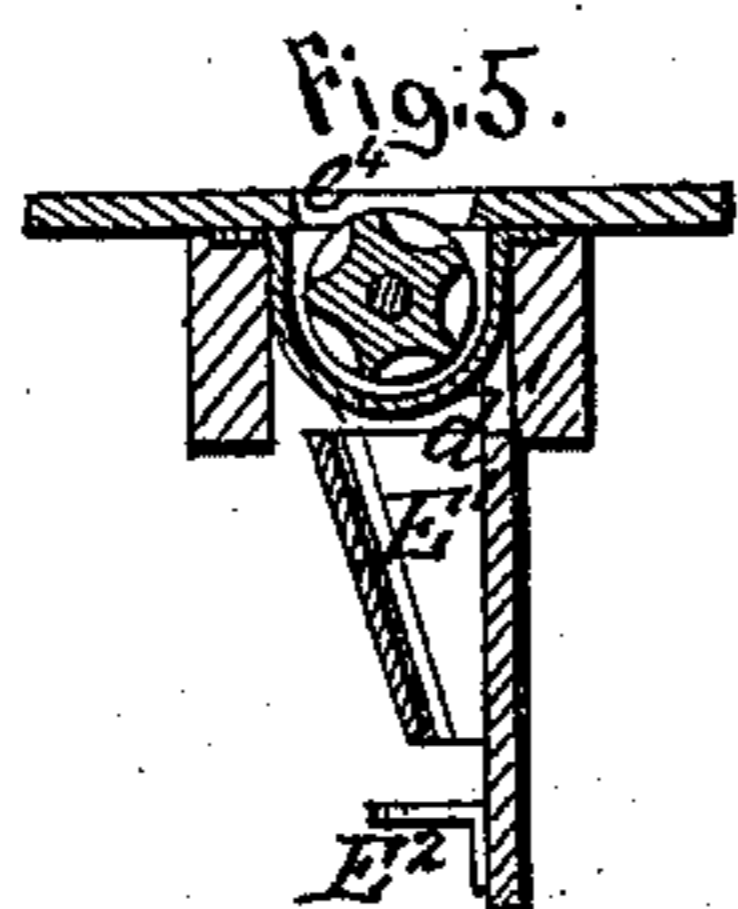
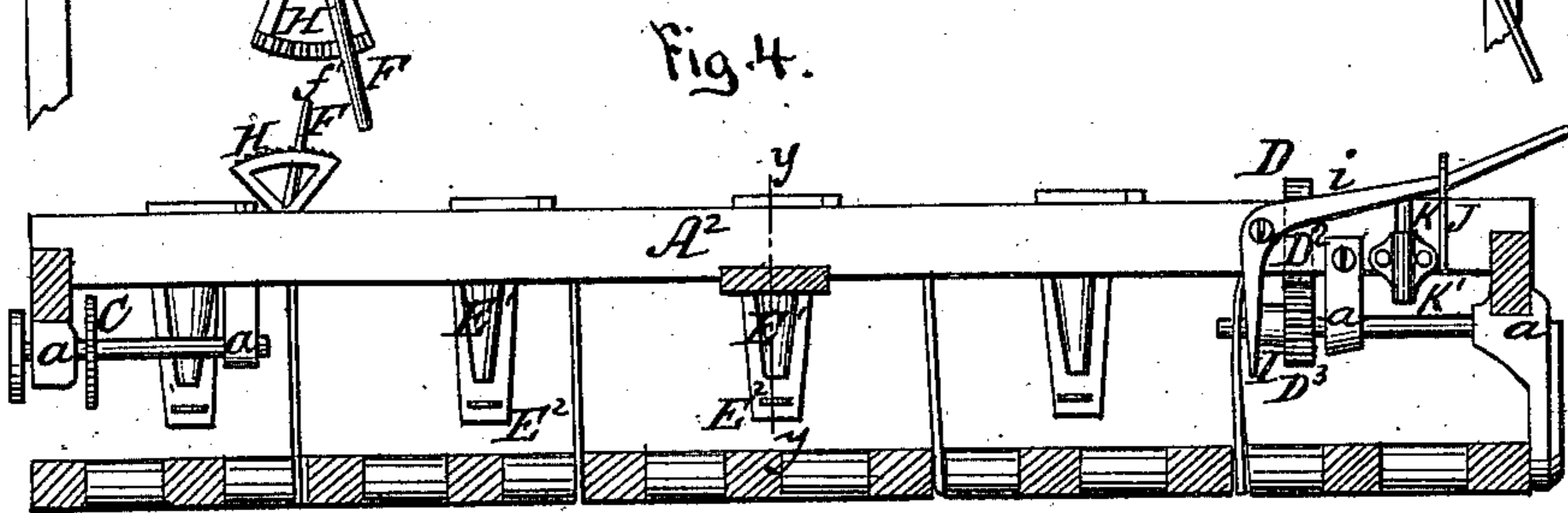
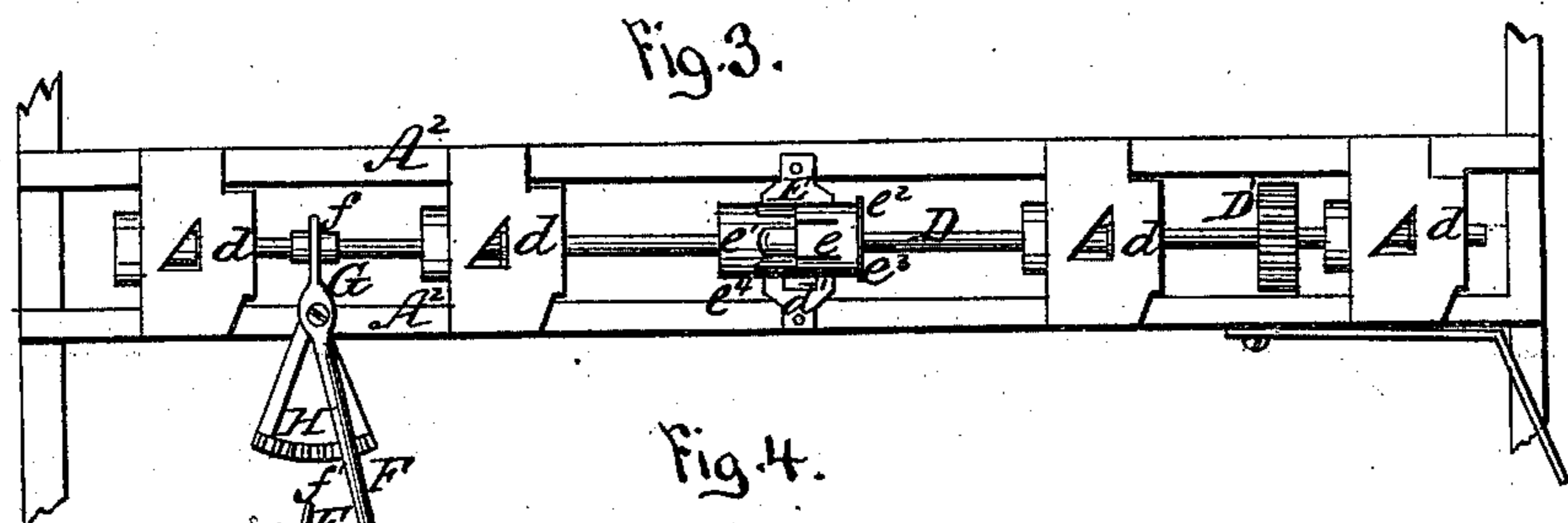
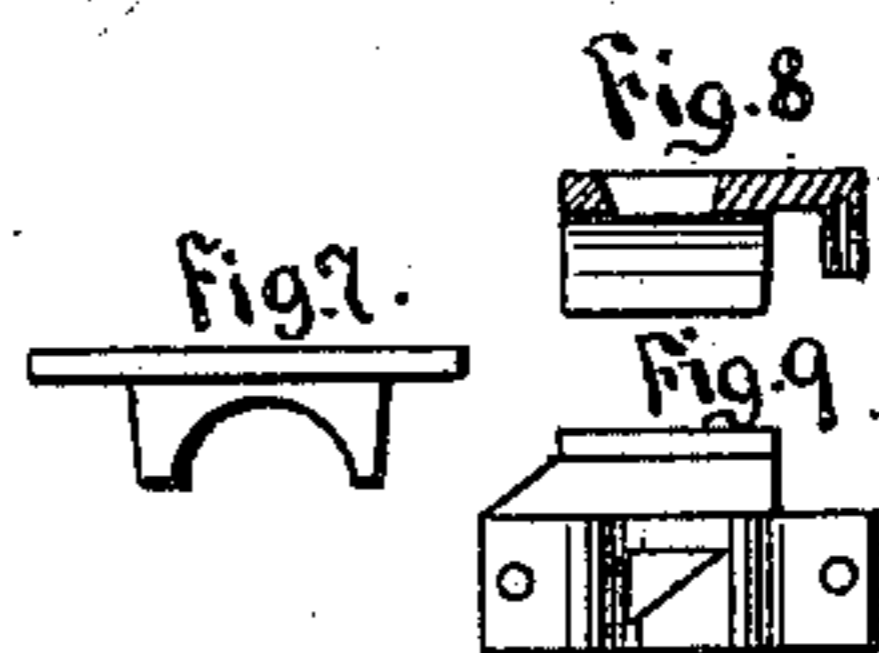
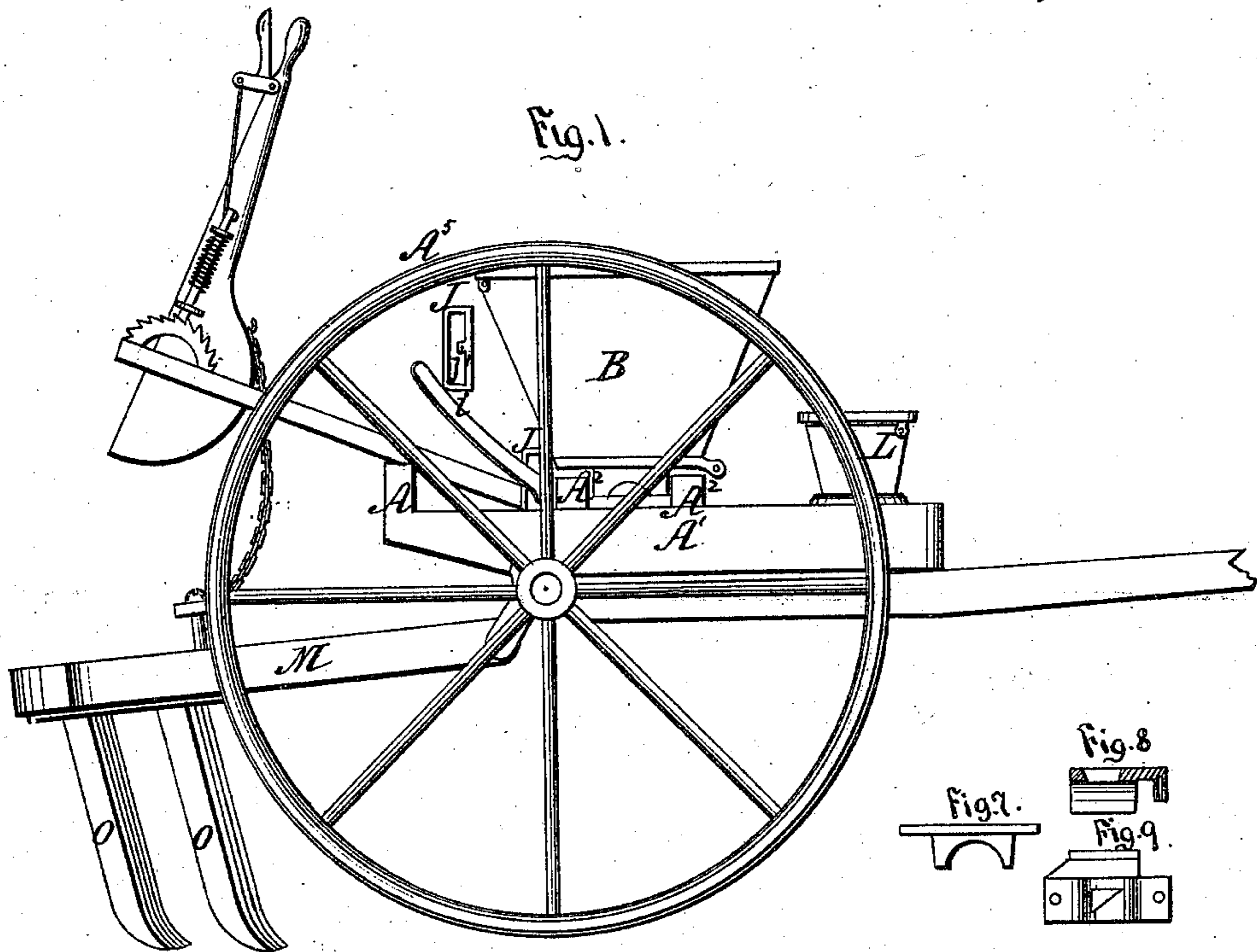


F. H. Manny. Sheet 1-2, Sheets.

Seed Sower.

No. 87,576.

Patented Mar. 9, 1869.



Witnesses.
Chas. D. Brown
S. J. Ayres

Inventor.
F. H. Manny
by *H. W. Beadle atty.*

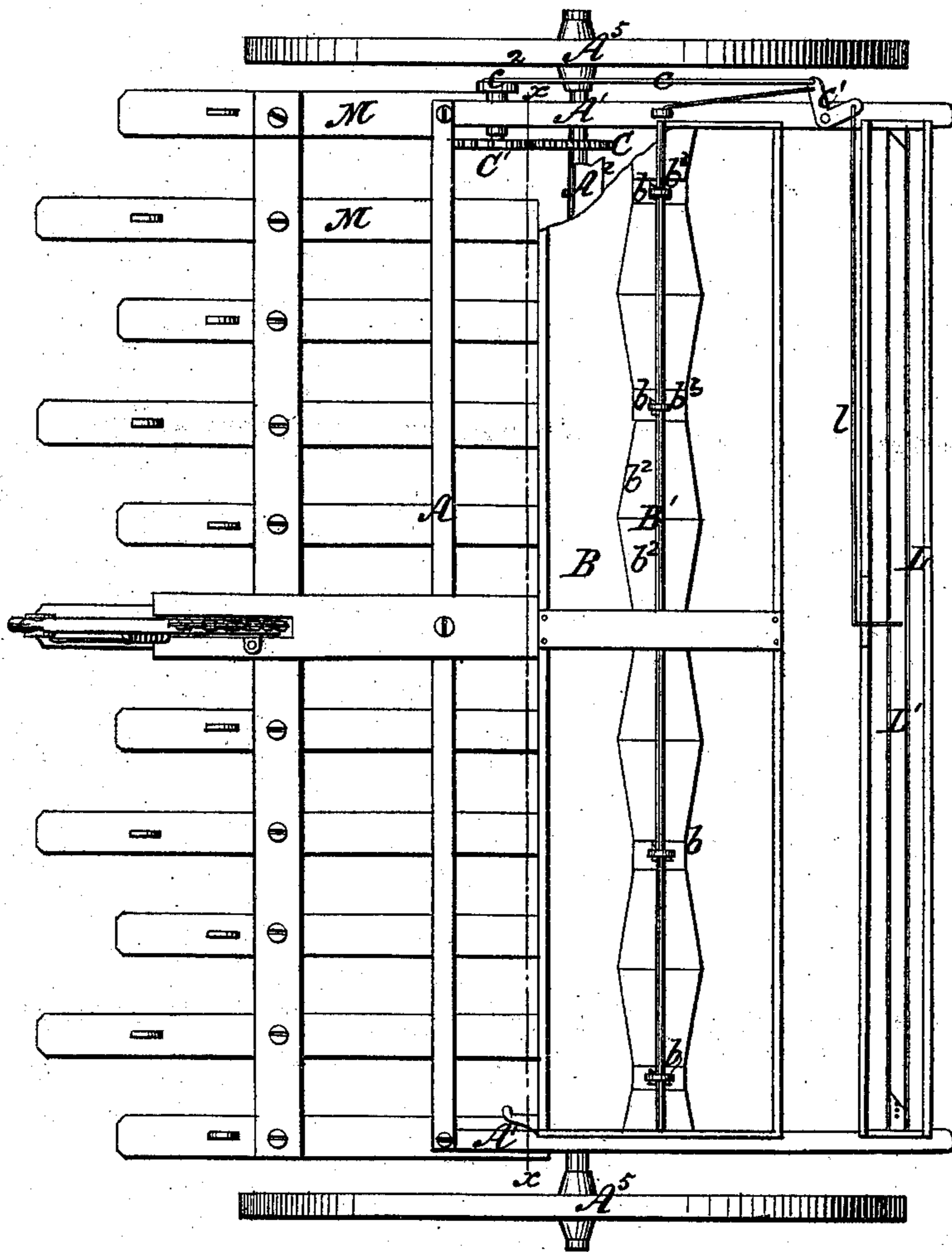
F. H. Manny.

Seed Sower.

N^o 87,576.

Patented Mar. 9, 1869.

Fig. 2.



Witnesses.
Chas. F. Brown.
G. J. Hayes.

Inventor.
F. H. Manny
by H. W. Beadle, atty.

United States Patent Office.

F. H. MANNY, OF ROCKFORD, ILLINOIS.

Letters Patent No. 87,576, dated March 9, 1869.

IMPROVEMENT IN SEED-SOWERS.

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, F. H. MANNY, of Rockford, in the county of Winnebago, and State of Illinois, have invented new and useful Improvements in Seed-Sowers; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

This invention relates to an improved seeder; and

It consists mainly in certain details of construction, first, for throwing the seed-delivering apparatus in and out of gear; second, for regulating the amount of seed delivered by the cups; third, for operating a grass-seed attachment; and fourth, for improving the operation of the cultivator-teeth.

It also consists in certain minor details, not here specifically named, but which, in connection with the foregoing, will be full described hereinafter.

In the drawings—

Figure 1 is a side elevation of my invention;

Figure 2, a plan view of the same;

Figure 3, a plan view of the seeding-apparatus detached;

Figures 4 and 5 are sections through lines $x-x$, $y-y$, figs. 2 and 4;

Figure 6, a plan view of one of the drag-bars inverted; and

Figures 7, 8, and 9, are detached views of the cap d .

To enable others skilled in the art to which my invention appertains, to make and use the same, I will now proceed to describe fully its construction and operation.

A represents the seeder-frame, consisting of the longitudinal end-pieces $A^1 A^1$, and transverse beams $A^2 A^2 A^3 A^4$.

This frame is supported upon the wheels $A^5 A^5$, the short axes of which turn in bearings $a a a^1 a^1$, beneath the frame, as shown.

Upon the frame A and the beams $A^2 A^2$, is located the seed-hopper B.

This hopper is provided with triangular openings $b b$, in its bottom, through which the seed is delivered to the cups.

These openings are provided with slides b^1 , by means of which they may be securely closed, when desired.

The hopper has also the inclines $b^2 b^2$, as shown, by means of which the seed is conducted to the openings.

Through the hopper, near its bottom, passes the transverse rock-shaft B^1 , which is provided with agitators $b^3 b^3$, as shown.

This shaft receives motion, by means of various connections, from the gear-wheel C, fixed upon the axle of one of the wheels A^5 .

This wheel C gears into the wheel C^1 , which has upon the outer end of its shaft (which has bearings in the frame, as shown,) a wheel, C^2 , to which is eccentrically attached one end of the rod c , the other of which is attached to the bell-crank c^1 .

Extending from this bell-crank is a connecting-rod, which gives motion to the rock-shaft B^1 .

Beneath the hopper-bottom, and between the beams A^2 , is located the seed-delivering apparatus.

D represents a transverse shaft, upon which, at suitable intervals, are located the seed-cylinders E.

These cylinders are composed of two parts, $e e^1$, one of which consists of a hollow cap, having the slots e^2 , and flange e^3 , as shown, and the other, of a cylinder provided with ribs e^4 , which fit snugly into the slots of the cap e .

The cap e is made in thickness to correspond with the depressions between the ribs of the part e^1 .

By pushing the two parts together, the depressions in the part e^1 are filled by the projecting edges of the part e , and no opening appears in the cylinder formed by their union. By separating the parts more or less, cells are formed, as shown.

The parts e^1 of all the cylinders are rigidly secured to the shaft D.

The parts e are secured, by their flanges e^3 , to the caps d , the former revolving freely in grooves in the latter, as shown.

These caps d have triangular openings, and are provided with grooves upon the under sides, as shown, for the purpose of preventing the seed from being crushed.

d^1 represents bands beneath the seed-cylinders, which serve to conduct the seed properly to the spout, and also furnish bearings for the cylinders.

The spouts E^1 conduct the seed to the scatterers E^2 , as shown.

To give the shaft D the movement necessary to vary the opening in the cylinders, for sowing more or less seed, I provide the lever F, which is located upon the beam A^2 , in rear of the shaft D.

This lever I construct with the fingers $f f$ upon its forward end, which rest in the groove g of the sleeve G, in such manner as not to interfere with the revolution of the shaft.

The rear end of the lever is provided with the projecting catch f^1 , which rests upon the rack-bar H.

This rack-bar may be numbered, to indicate the amount of grain delivered, when the lever is fixed in any given position.

The shaft D is provided with a gear-wheel, D^1 , which receives motion from the idle-wheel D^2 , operated by the wheel D^3 from the axle of one of the wheels A^1 .

In order that the seeding-apparatus may operate only when desired, I make the wheel D^3 loose upon the axle, and provide the clutch I, which is keyed thereto in such manner as to have a slight lateral movement.

To operate this clutch, I provide the bent lever i , pivoted, as shown, to one of the beams A^2 .

The short arm of this lever is provided with fingers, which rest in a groove in the sleeve I.

The long arm of the lever moves in the guide J,

which is provided with a stop, *j*, for the purpose of holding the lever down when it is desired to disconnect the seeding-apparatus.

In order to insure the perfect operation of the clutch, I provide the bar *K*, upon which the long arm of the lever rests, as shown.

This bar rests upon a spring of any suitable material and construction, which is placed in the socket *K'*.

The clutch *I* is so arranged, in connection with the gear-wheel *D*³, that no motion can be communicated to the seeding-apparatus when the machine is moving backward. The teeth of the clutch slip by the teeth of the wheel without communicating motion.

L represents a hopper, placed upon the first beam *A*³, which is intended for the purpose of saving grass-seed. The hopper-bottom is provided with suitable openings, through which the seed is delivered. It is also provided with a slide, for shutting off the delivery, when desired.

To insure the perfect sowing of the seed, I provide the agitating-bar *L'*, which has upon its lower side a number of fine notches or cuts, at regular intervals, by means of which the seed is forced toward and into the openings in the hopper.

This bar has a sliding movement from side to side, and is operated by a rod, *Z*, which connects with the bell-crank *c'*, as shown.

M M represent the drag-bars, which are constructed and operated in the usual manner.

The teeth, however, are attached to the drag-bars in a peculiar manner. Their upper ends are pivoted in slots in the drag-bars, in such manner as to have a limited movement forward and back.

Upon the under side of the drag-bars are placed slotted irons *N*, which are secured in place by screws, as shown.

These irons are so adjusted upon the bar, that the shank of the tooth *O* bears against the cross-piece *m*, when in proper position for working.

The arrangement of the iron permits the tooth to swing forward when the machine is moved backward, which operation relieves the team from straining when turning.

In case of a tooth striking an obstruction, the slotted

iron yields, the shank of the tooth pressing against the cross-piece *n*, and permitting the tooth to slip back over the obstruction. When passed, the tooth may be placed back in position, and the iron be adjusted, by loosening the holding-screws.

The operation of my improved seeder is as follows:

The hopper having been properly filled, the machine is driven to the field, the seeding-apparatus being of course disconnected, so as to be inoperative. When ready to operate, the lever *i* is detached from the catch in the guide *J*, by which means the clutch *I* is caused to engage with the gear-wheel *D*³, and thus communicate motion to the seeding-apparatus. If grass-seed is to be planted at the same time, the slide in its hopper must also be adjusted. The team now moves over the field. The seed in the hopper is thoroughly stirred by the agitators, so that no clogging can possibly take place. It is regularly delivered to the cylinders, in proper quantities, and is by them delivered to the spouts, passing through which, it falls upon the scatterers, and is uniformly delivered over the ground. The grass-seed is at the same time planted by the operation of the devices in the hopper.

In case a tooth strikes a serious obstruction, the iron which holds it in place, slides back upon the drag-bar, and permits it to slip over the obstruction, after which it may easily be adjusted in place again.

By the general construction herein described, an extremely efficient and desirable machine is produced.

Having thus fully described my invention,

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

1. The lever *i*, guide *J* with stop *j*, spring-bar *K* with socket *K'*, and clutch *I*, when combined and arranged as described, for the purpose set forth.

2. The slotted iron *N* with cross-piece *n*, when used in connection with cultivator-tooth and drag-bar, substantially as described, for the purpose set forth.

This specification signed and witnessed, this 26th day of December, 1868.

F. H. MANNY.

Witnesses:

THOS. J. L. REMINGTON,
G. W. FORD.