

D. E. McSHERRY & JACOB H. LANDIS.

Improvement in Grain Drills.

No. 121,648.

Patented Dec. 5, 1871.

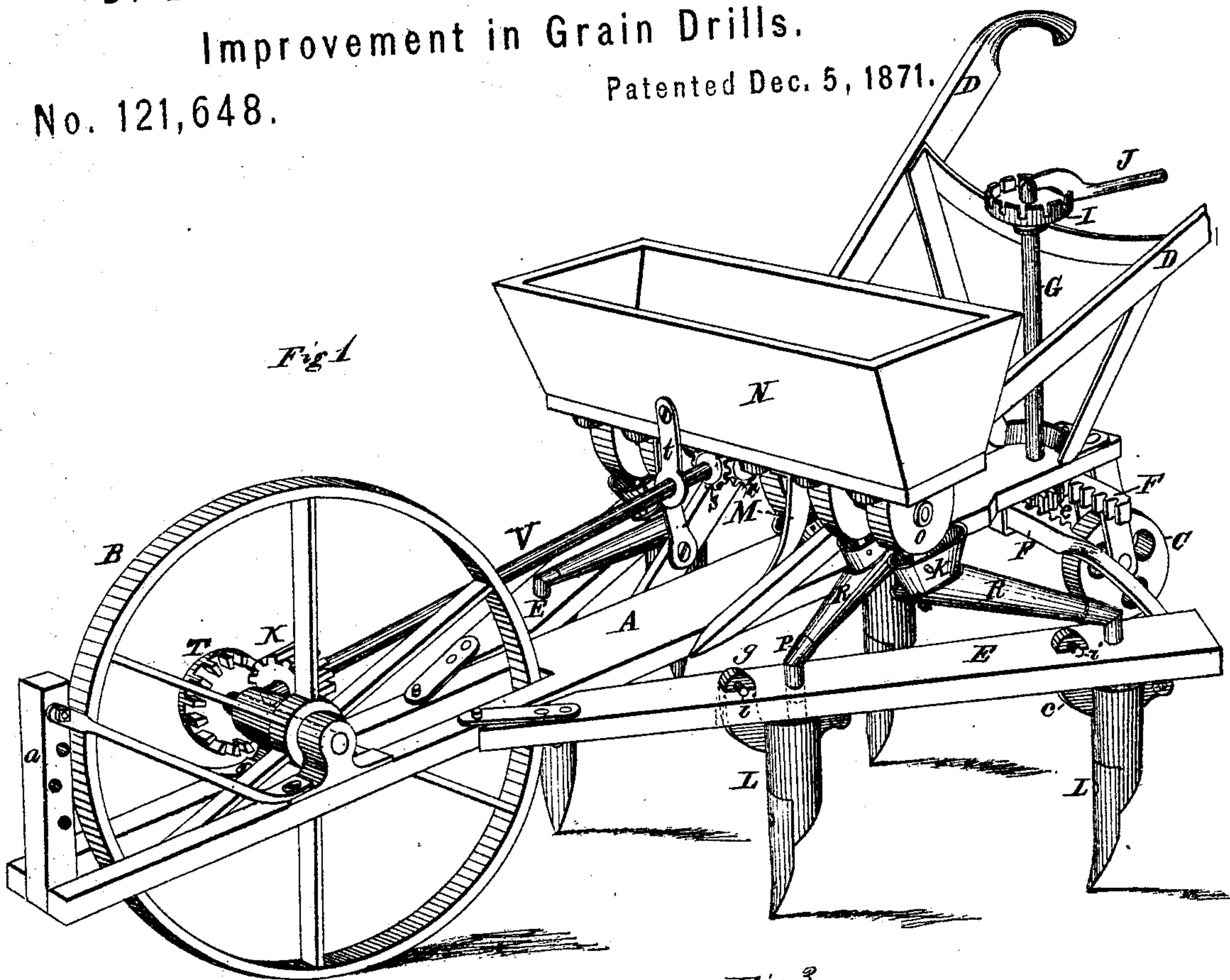


Fig 1

Fig 2

Fig 3

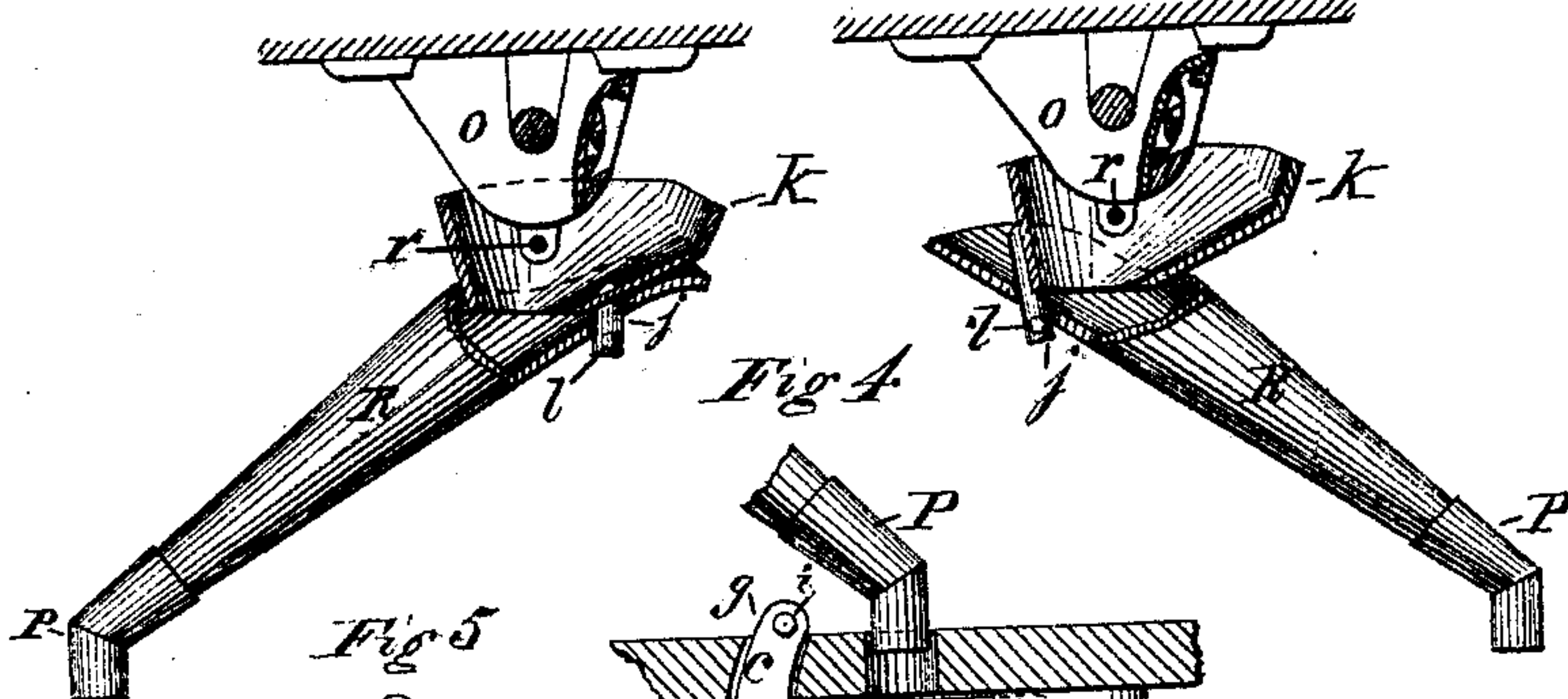


Fig 4

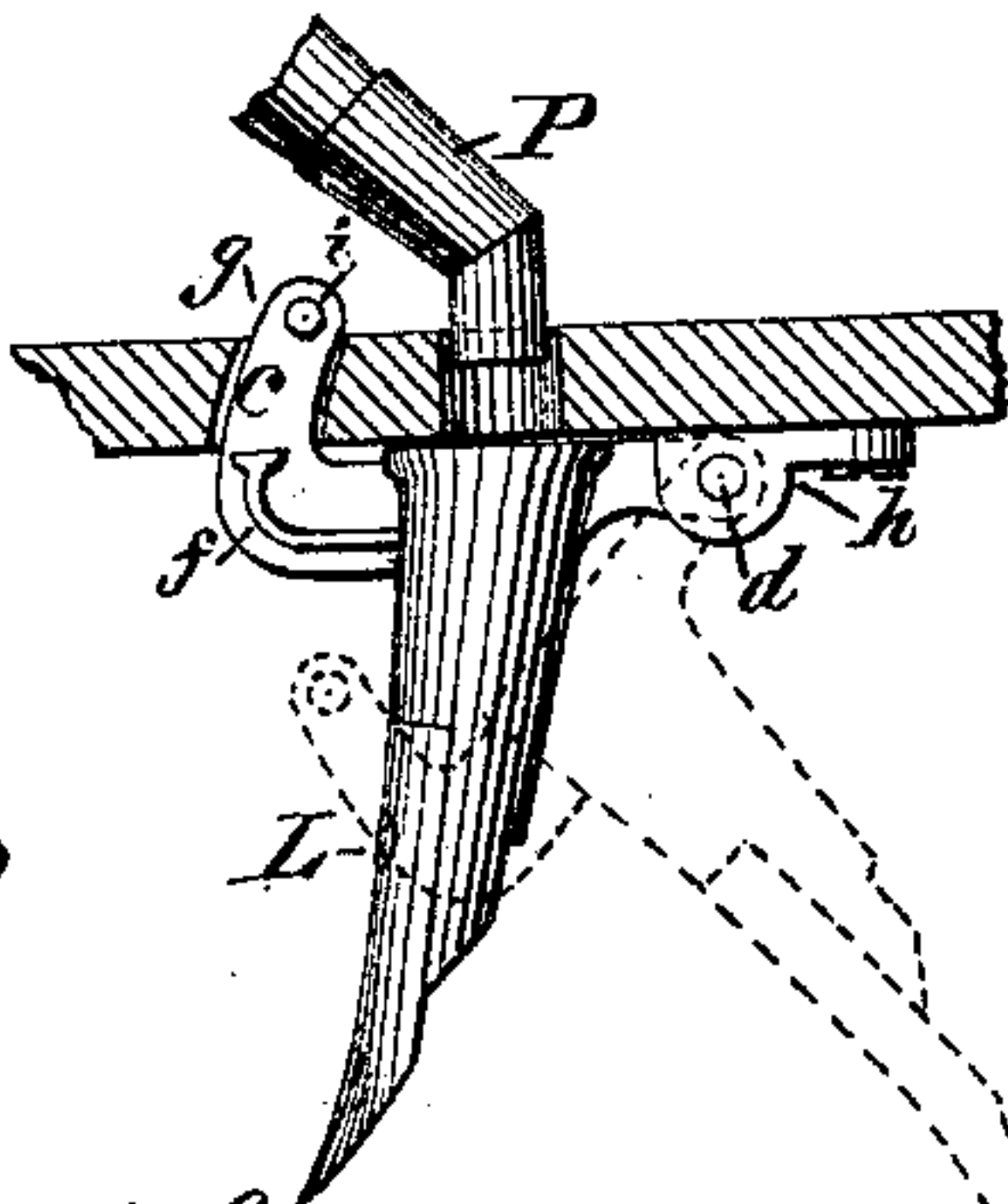


Fig 5

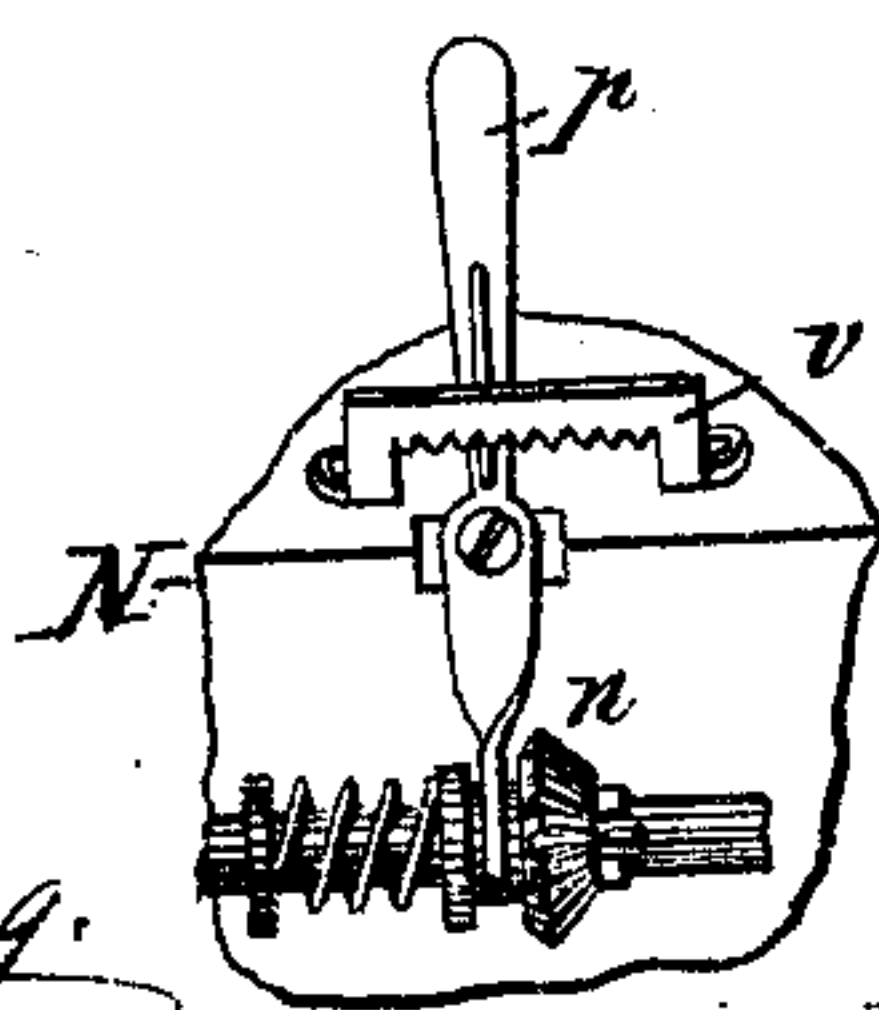
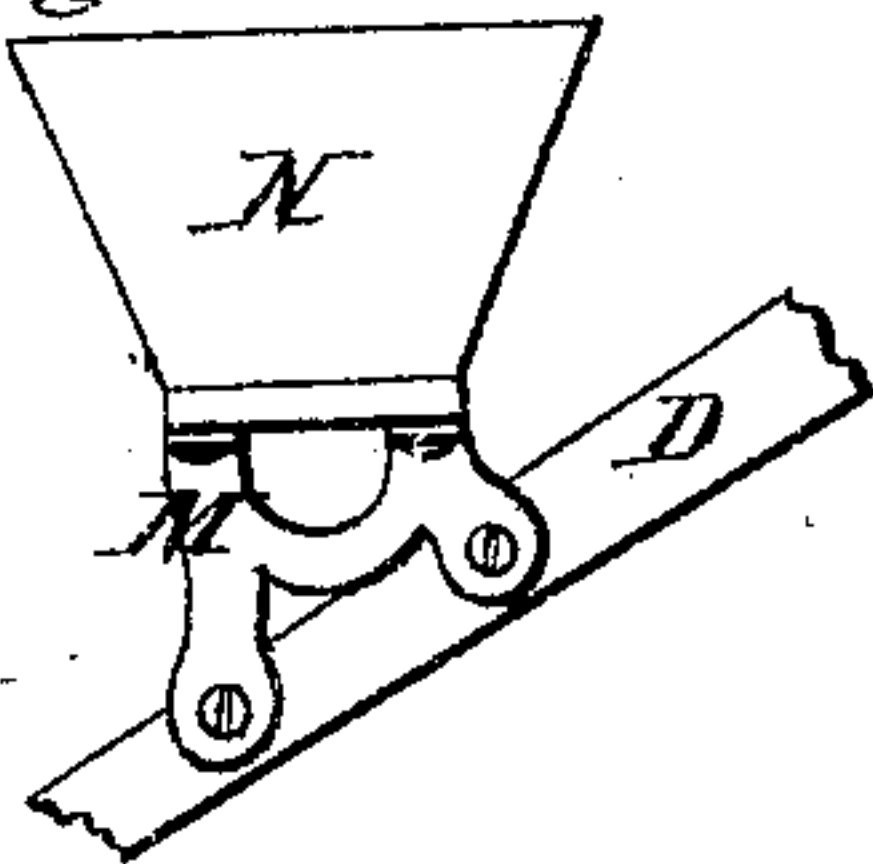


Fig 6



Witnesses.

Harry King.

W. W. Dodge.

Inventors

D. E. McSherry.

J. H. Landis.

by Dodge & Munn  
Attys.



# UNITED STATES PATENT OFFICE.

DANIEL E. McSHERRY AND JACOB H. LANDIS, OF DAYTON, OHIO; SAID LANDIS ASSIGNS HIS RIGHT TO SAID McSHERRY.

## IMPROVEMENT IN GRAIN-DRILLS.

Specification forming part of Letters Patent No. 121,648, dated December 5, 1871.

*To all whom it may concern:*

Be it known that we, DANIEL E. McSHERRY and JACOB H. LANDIS, of Dayton, in the county of Montgomery and State of Ohio, have invented certain Improvements in Grain-Drills, of which the following is a specification, reference being had to the accompanying drawing.

Our invention relates to that class of small grain-drills in which the frame is of a triangular form, supported by a wheel at the front end and guided by an operator walking behind and grasping handles thereon; and the invention consists in a novel manner of constructing the frame, the driving mechanism, the feeding devices, the hoes, and various other details, as hereinafter described.

Figure 1 is a perspective view of our drill. Figs. 2 and 3 are vertical cross-sections through the seed-hopper and feed-cups. Fig. 4 is a vertical section through one of the beams with the hoe attached. Fig. 5 is a detached view, showing the devices for throwing the feeding mechanism in and out of gear. Fig. 6 is a view showing the manner in which the hopper is supported.

In constructing our machine we first provide a beam or plank, A, and cut a longitudinal slot or opening in one end and mount a supporting wheel, B, therein, and also mount a smaller supporting wheel, C, under the opposite end, as shown in Fig. 1. On the front end of beam A we brace securely an upright post or standard, a, to which to attach the team, and on the rear end of the beam we secure two handles, D, for guiding and controlling the machine. To each side of the beam A, near its front end, we hinge the forward end of a beam, E, and to the rear end of each of these side beams we pivot a rack-bar, F, the free ends of both rack-bars being passed through a loop or staple on the beam A, as shown in Fig. 1. On the rear end of the machine we mount a vertical shaft, G, the lower end of which passes down through the beam A, and is provided with a pinion, e, which lies between the two rack-bars F and gears into them both, so that when the shaft is turned in one direction the pinion will shove the rack-bars outward and spread the side beams apart, while upon turning the shaft in the opposite direction the pinion will draw the rack-bars in and close the side beams toward beam A. The upper end of the shaft G passes through and is supported by a circular plate, I, which is provided with a notched rim

around its edge, and is secured to the cross-bar between the handles D of the machine; and the end of the shaft has pivoted to it a hand-lever, J, which may be locked into either of the notches of plate I so as to lock the shaft and hold the side beams in the required positions. The beams are adjusted by lifting the hand-lever out of the notch and turning it around in one or the other direction, as necessary. To the beam A we attach a hoe or drill-tube, L, and to each of the side beams two similar drill-tubes, arranging them, of course, so as to form drills or furrows at equal distances apart. The hoes or drill-tubes are made similar in form to those in common use on grain-drills, but have their upper ends provided, on the rear side, with an eye, d, and on the front side with an upturned arm, c, which arms are provided, on one or both sides, with a flange, f, and in the upper end with an eye, g, as shown in Fig. 4. Each hoe is secured to the under side of its beam by pivoting the eye d to a metal block, h, secured to the beam, and by passing the arm c up through the beam and inserting a wooden pin, i, through the eye in the end of the arm, as shown in Figs. 1 and 4. It will be seen that when the hoe is thus arranged it is held firmly in place, and yet when it meets with any rigid obstruction the wooden pin i will break and allow the tooth to turn backward. The flange f on the sides or arm c prevents the arm from being driven up too far, and also serves to aid in holding the tooth firm and preventing it from moving laterally. To the lower portion of each handle D of the machine we bolt an iron plate or bracket, M, and upon these two brackets we mount the hopper N, which has attached to its bottom a series of seed-cups with feed-wheels in them, all mounted on a shaft running lengthwise through the cups o, as in the machines heretofore patented to me, there being nothing new or peculiar about these devices. To a pair of ears, r, projecting downward from the bottom of each seed-cup, o, we pivot a secondary cup or funnel, k, which has one side projecting and flanged much more than the other, as more clearly shown in Figs. 2 and 3, these flaring sides being located on the rear side of the seed-cup o so as to catch the grain as it falls from the openings in the latter. These funnels k are made with a round arm or lug, j, projecting downward, and to which we pivot spouts R, the upper ends of which are open



and flaring, and which are cut away on their upper side so as to permit the lower end of the funnel *k* to fit easily and loosely therein, they being secured to each other by having the lug *j* protrude through a hole in the spout *R* and inserting a pin, *l*, through a hole in the lug *j* under the spout. At their lower end these spouts *R* are provided with a supplemental spout, *P*, which slips over the end of spout *R*, and which is bent at an angle and made to fit into a hole in the beams directly over the mouths or open upper ends of the hoes *L*, as represented in Fig. 4. By this method of constructing and uniting the seed-cups *o*, funnels *k*, and spouts *R* it will be seen that the latter may be arranged in any direction necessary to lead the grain from the hopper *N* to the hoes *L*; and, further, that the spouts *R* are free to move laterally with the beams *E* as the latter are adjusted toward or from the central beam. Motion is transmitted to the feed-rollers in the following manner: On the shaft of the front wheel *B* we secure a gear-wheel, *T*, which is provided with a circle of gear or teeth projecting at right angles from its face, which engage with a pinion, *K*, secured to a shaft, *V*, which extends from thence up to the under side of the hopper *N*, where it is provided with a bevel gear, *s*, which engages with a similar wheel, *n*, on the shaft that carries the feed-rollers or wheels. This shaft *V* has its bearing at the front end in the side of the box or bearing of the wheel *B*, and is supported at its rear end by a metallic strap or bracket secured to the front of the hopper *N*, as shown in Fig. 1. The bevel-wheel *n* on the feed-wheel shaft is made to slide to and fro on the shaft, being secured thereto by a spline or feather, as shown more clearly in Fig. 5. A forked lever, *p*, is made to engage the neck of this sliding pinion *n*, and is pivoted to the under side of the hopper, by which the pinion *n* can be moved on its shaft so as to disengage it from the pinion *s* on shaft *V*. A notched rack, *r*, serves to hold the lever *p*, and thereby the pinion *n*, away from the pinion

*s*, while a spiral spring on the shaft serves to shove it up to and hold it in gear with the wheel *s*, when the lever *p* is released. By these means the feed-rollers can be set in motion or stopped, at the will of the operator.

This machine is more especially intended for use in sowing wheat between rows of corn, the object of the lateral adjustment being to adapt it to rows of different distances apart.

It is, however, obvious that it may be used for the ordinary purposes of a grain-drill, and is especially adapted for small farmers, as it may be used with a single horse, and thus avoid the expense of a large drill and a double team. It is also obvious that it may be used for putting in crops of peas and beans; and that by closing a proper number of the openings in the hopper-bottom, which is readily done by a slide, it may also be used to plant corn in rows or drills. It is simple, strong, cheap, and easily adjusted, and its hoes being hinged and provided with the break-pin, it is well adapted to the wants of the farmer.

Having thus described our invention, what we claim is—

1. The hoe *L* hinged to the plate, and provided at the front with the flange or arm *g* having the laterally-projecting ribs formed thereon, said hoe being secured to the beam, as herein shown and described.

2. The funnels *k* pivoted to the seed-cups, and having the spouts *R* secured by means of the lug *j* and pin *l*, whereby the spouts can be arranged at any desired angle, and will also adapt themselves to the varying positions of the beams as the latter are adjusted, as set forth.

3. The brackets *M*, constructed and applied as described, whereby the hopper is supported underneath upon the handles *D*, as set forth.

DANIEL E. McSHERRY.

Witnesses: JACOB H. LANDIS.

J. A. SHANCK,

EDWARD BRENNEMAN.

(133)