A. LEE & E. R. SINKS.

Seeding-Machines.

No. 151,494. Patented June 2, 1874.

Fig 1.

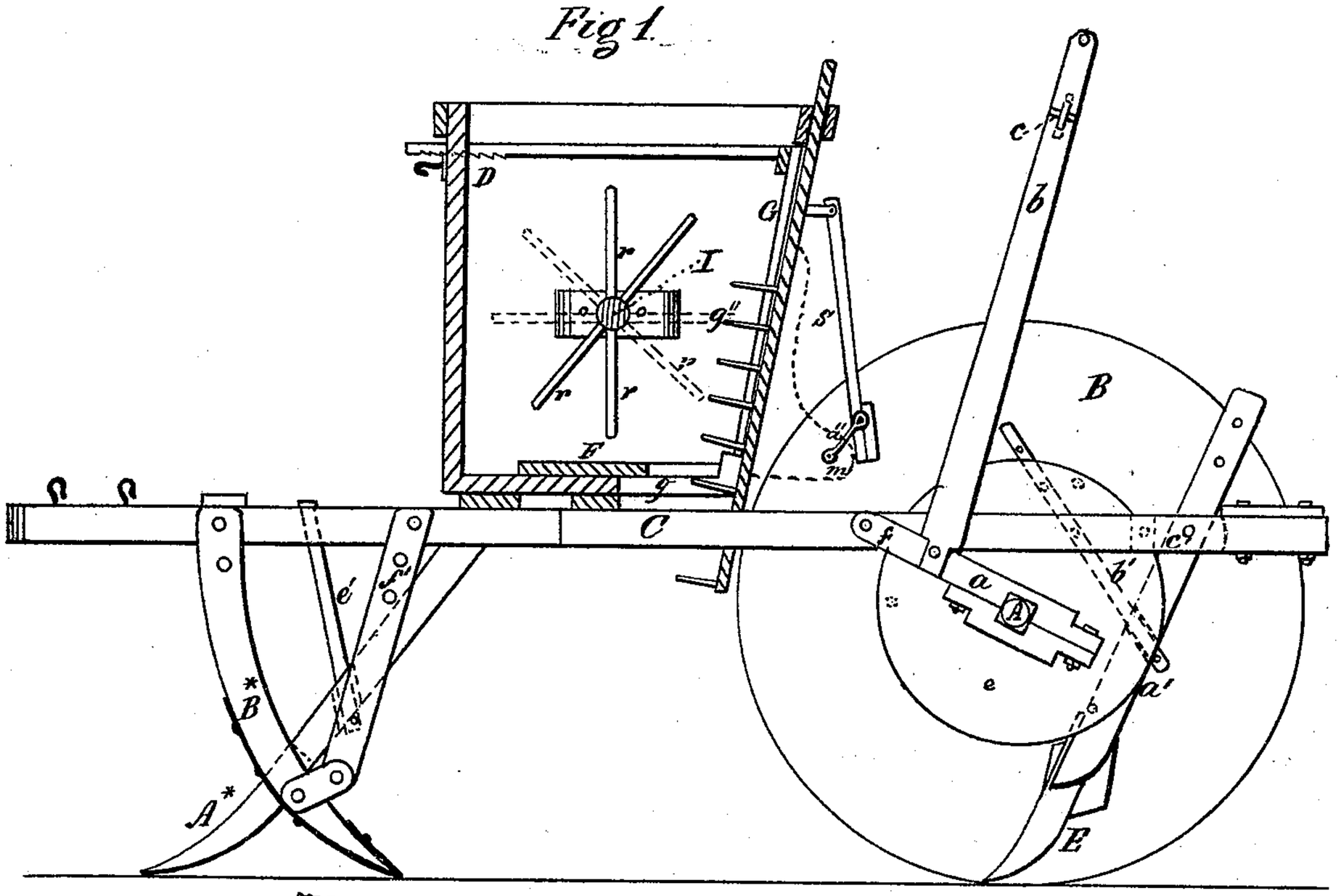
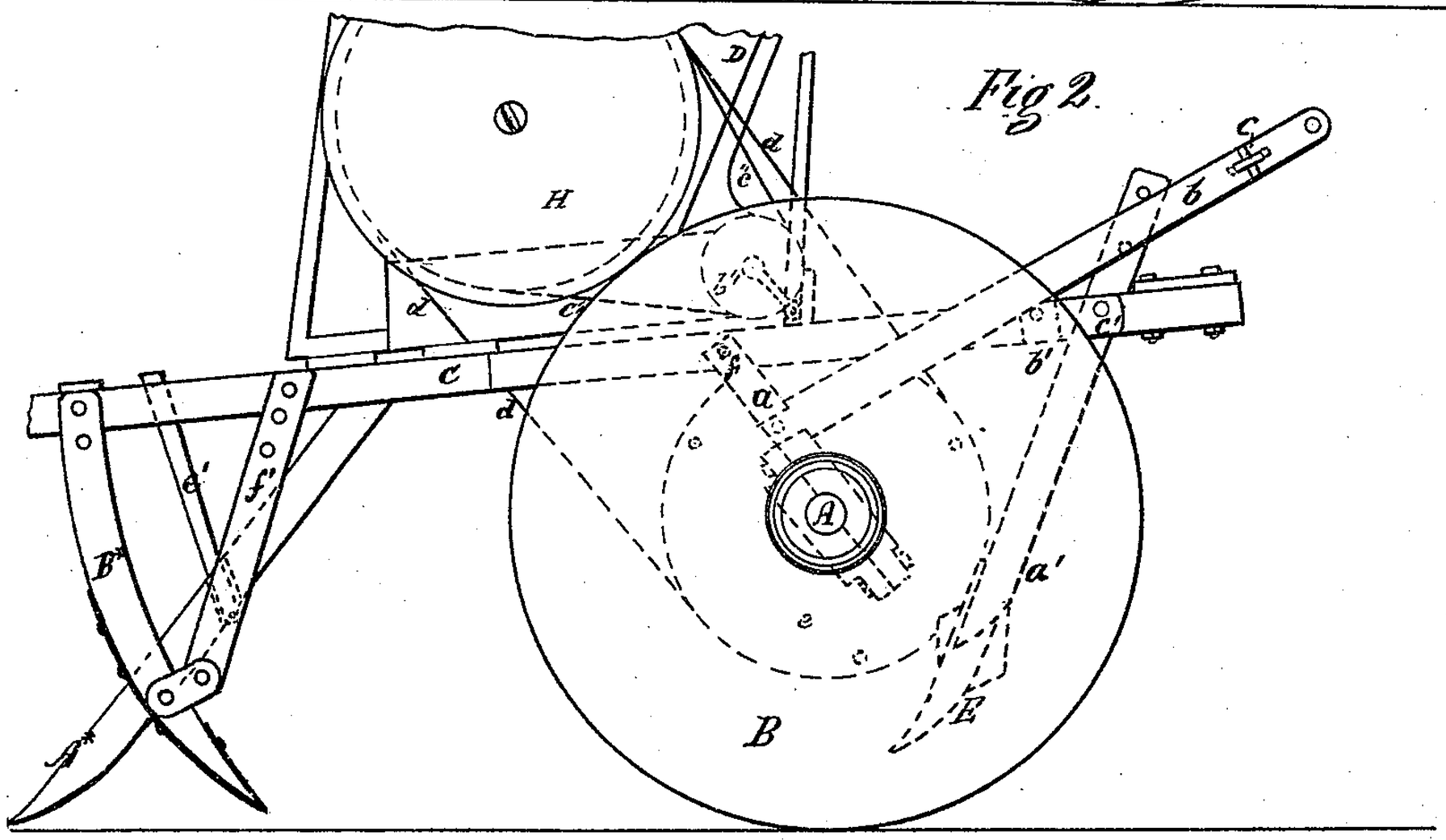


Fig 2.



Witnesses.

W. M. Edwards

Will. S. Brown.

Inventor.

Abram Lee

Edward R Sinks

per James A Whitney atty

UNITED STATES PATENT OFFICE.

ABRAM LEE AND EDWARD R. SINKS, OF LA GRANGE, TEXAS.

IMPROVEMENT IN SEEDING-MACHINES.

Specification forming part of Letters Patent No. **151,494**, dated June 2, 1874; application filed January 29, 1874.

To all whom it may concern:

Be it known that we, ABRAM LEE and EDWARD RANDOLPH SINKS, of La Grange, in the county of Fayette and State of Texas, have invented certain Improvements in Seeding-Machines, of which the following is a specification:

This invention consists in certain novel combinations of parts, whereby an efficient apparatus for planting seeds in drills is secured, and whereby the covering-shares, &c., of the apparatus may be lifted clear of the ground when required in the exigencies of use.

Figure 1 is a side view and partial vertical section of my improved seeding-machine, adapted for seeding in drills or rows, with the covering-shares lowered for work. Fig. 2 is a side view of the same, showing the said shares lifted.

The axle A is provided with the wheels B, made fast thereon, and has projecting forward from its outer end portions two arms, *a*, from which extend upward two other arms, *b*, united at the top by a cross-bar, *c*, the whole constituting, in fact, a kind of elbow-lever. The forward extremities of the arms *a*—in other words, the bends of the elbow-levers *a b c* aforesaid—are pivoted by bolts, at *f*, to the sides of the main frame C, which carries the hopper D, and has at its forward end the furrowing-share A*, flanked on each side by a curved runner, B*. To the rear end of the main frame are attached the covering-shares E. When the parts are in their normal condition the weight of the main frame and its attached covering-shares E depresses the same until it rests upon the axle A, with the covering-shares penetrating the soil to the desired depth. This depth may be adjusted at will, the shanks or standards *a'* of the shares E passing through slots or staples in the longitudinal parts of the main frame, and secured by pins *c'* passing through the said parts of the frame and through any one of a number of holes duly provided to each standard. Moreover, each standard has projecting obliquely forward and upward from it a brace, *b'*, pivoted thereto and passing through certain other slots or sockets provided to the frame, and made adjustable in a manner similar to the standards themselves, so that the inclination of the latter may be varied to bring the covering-shares at any desired pitch or angle to the surface of the ground. The furrowing-share is provided with a similar brace, *e'*, and may also be adjusted in substantially the same manner. The runners B* are also furnished with like adjustable braces *f'*, and the length and the pitch or inclination of the same may be adjusted in the same manner to bring the furrowing-share to make any preferred depth of furrow, or to work at any angle that may be found best. By simply forcing backward the arms *b* of the elbow *a b c* the elbow portions of the said lever will lift the rear end of the main frame, and thereby bring the covering-shares clear of the ground, as shown in dotted outline in Fig. 2. In the bottom of the hopper is an orifice, *g*, at the sides of which are lateral grooves or guides, which receive a horizontal slide or gate, F, by the longitudinal movement of which the available size of the orifice *g* is increased or diminished. Working in vertical guides at the back of the hopper is a vibrating bar, G, extending into and through the orifice *g*. This bar G has a longitudinal series of inwardly-projecting spikes, *g''*. Provided at the back of the hopper is a transverse shaft, *m*, having a crank, *a''*, at one end, and a pulley, *b''*, at the other. The crank *a''* connects with the bar G by a rod, S. A band, C'', from the pulley *b''*, passes through and over a double-grooved pulley, H, of larger diameter, a band, *d*, from which passes over a driving-pulley, *e*, on the axle A. The shaft of the pulley H extends transversely through the hopper, and within the same is furnished with radial arms *r*. The wheels B being fast upon the axle, as the machine moves forward the system of pulleys and bands rotate the shaft *m*, which, by its crank *a''* and the rod *s*, gives a reciprocating or vibratory motion to the bar G, simultaneously with which the shaft I receives a motion of rotation. This operation of the bar G and shaft I causes the spikes *g'* of the one and the radial arms *r* of the other to agitate the mass and feed the same uniformly and without clogging through the orifice *g*, whence it falls into the furrow or drill made in advance of the furrowing-share, and is covered by the

subsequent passage at the sides of the drill of the covering-shares. When desired, a roller, J, may be attached to the rear of the apparatus, to compress the earth upon or over the buried seed.

What we claim as our invention is—

1. The combination of the main frame, arranged to support the hopper, furnished with the adjustable runners B*, the furrowing-shares, and the covering-shares, with the elbow-lever *a b c*, arranged to elevate and depress the said main frame, substantially as and for the purpose herein set forth.

2. The combination of the hopper, having the orifice *g*, and provided with the adjustable slide F, the shaft I, furnished with the radial arms *r*, the vibrating bar G, carrying the spikes *g'*, and the system of bands, pulleys, crank, and rod, whereby the shaft I and bar G are simultaneously actuated from the axle A, substantially as and for the purpose specified.

ABRAM LEE.
EDWARD RANDOLPH SINKS.

Witnesses:
R. H. PHELPS,
E. C. PHELPS.