

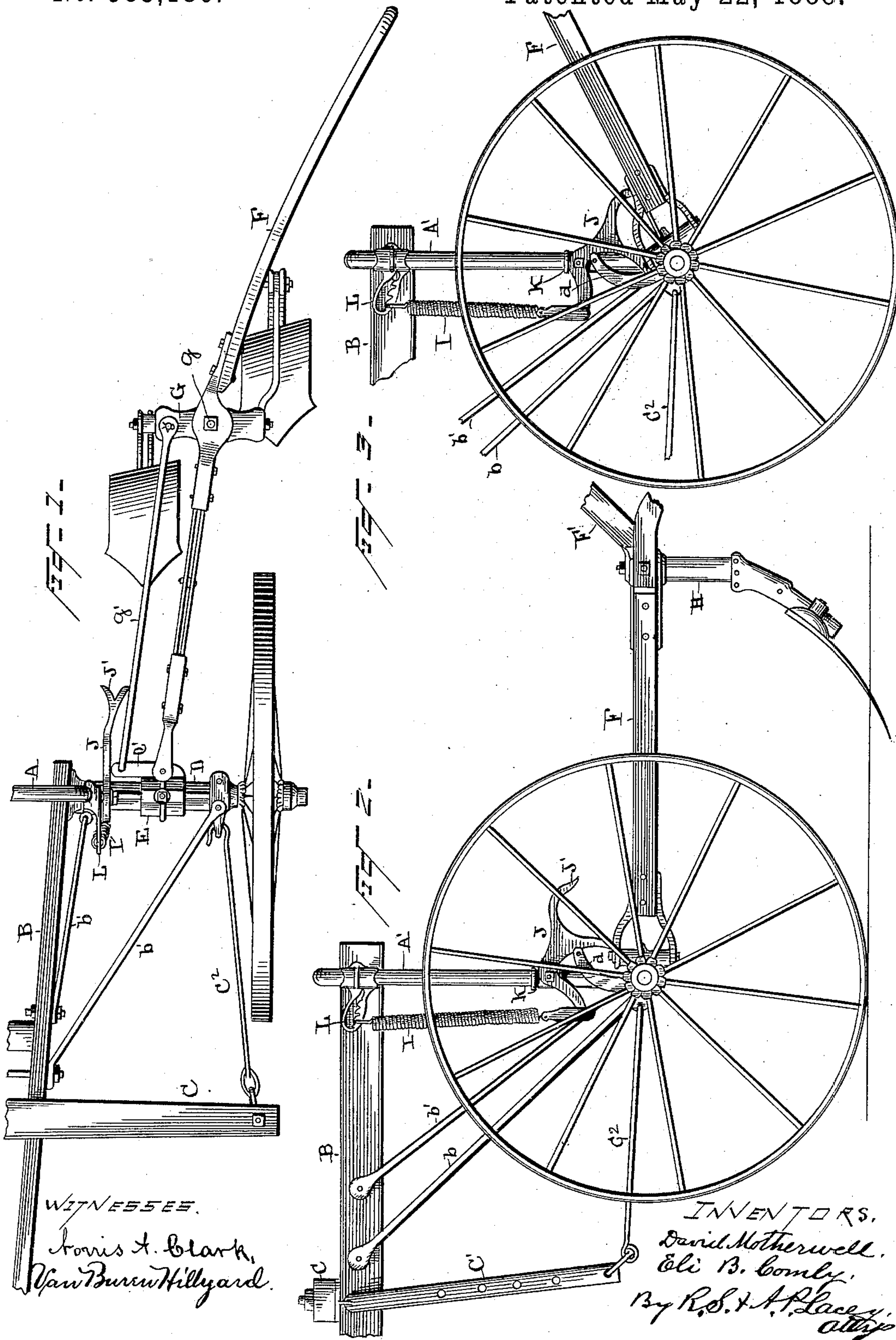
(No Model.)

2 Sheets—Sheet 1.

D. MOTHERWELL & E. B. COMLY.
CULTIVATOR.

No. 383,186.

Patented May 22, 1888.



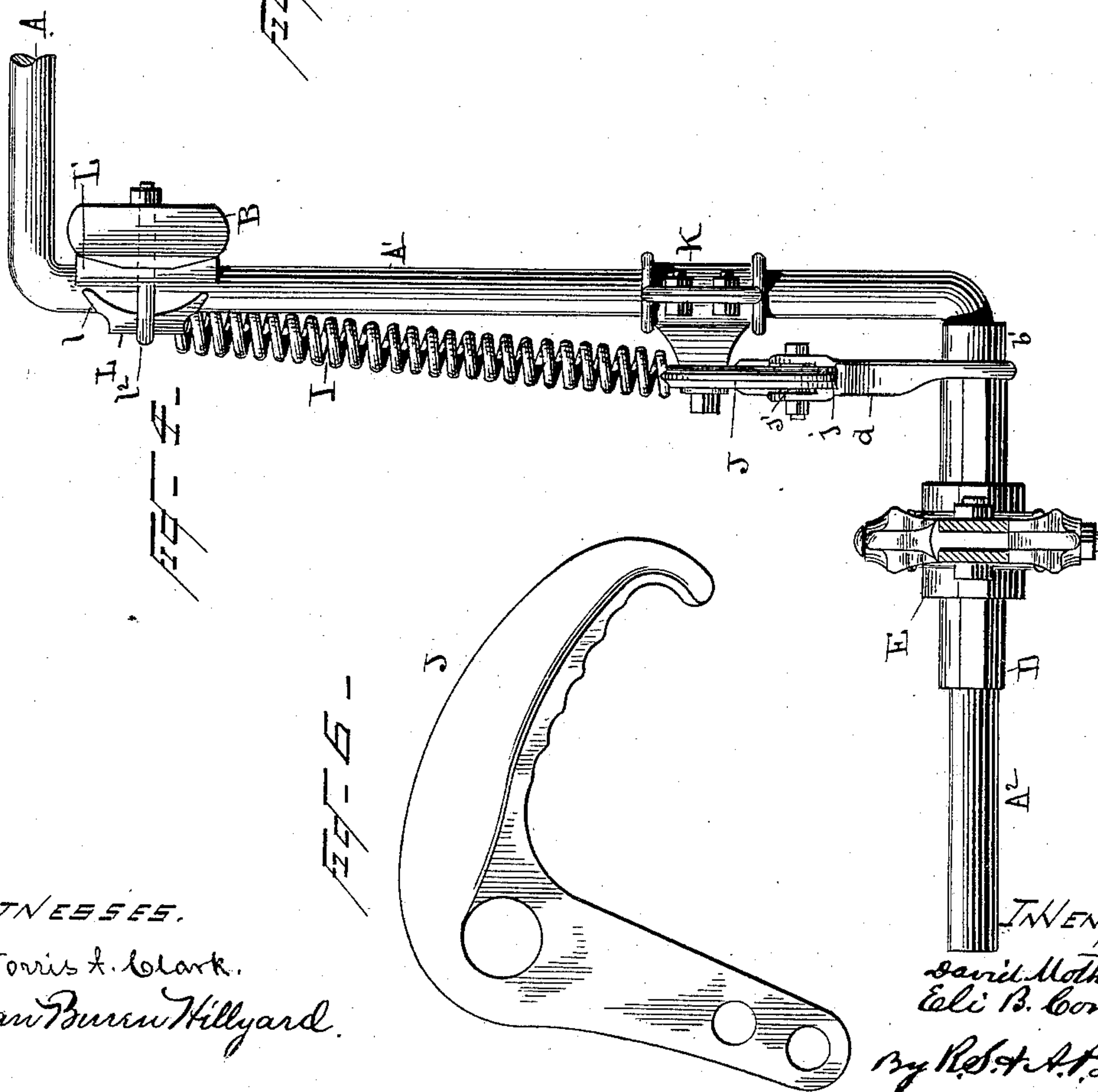
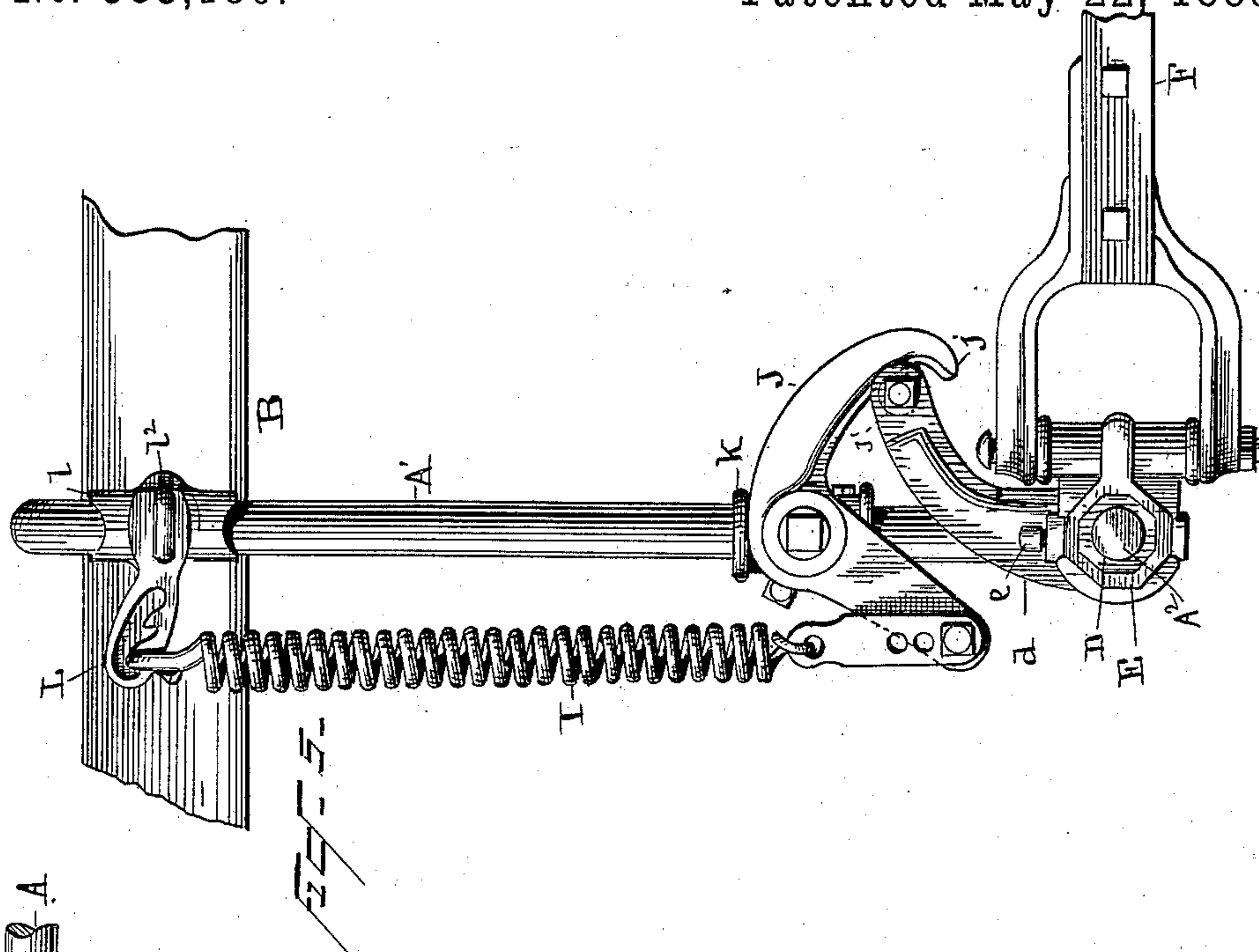
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WITNESSES.

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INVENTOR.

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UNITED STATES PATENT OFFICE.

DAVID MOTHERWELL AND ELI B. COMLY, OF LOGAN, OHIO.

CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 383,186, dated May 22, 1888.

Application filed March 17, 1888. Serial No. 267,498. (No model.)

To all whom it may concern:

Be it known that we, DAVID MOTHERWELL and ELI B. COMLY, citizens of the United States, residing at Logan, in the county of Hocking and State of Ohio, have invented certain new and useful Improvements in Cultivators; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to straddle-row or wheel cultivators.

The object of the invention is the provision of simple, compact, and efficient means for holding the gang down to its work and which will hold the gang elevated when raised to a certain point.

The improvement consists in the novel features and combination of parts hereinafter fully described and claimed, and shown in the annexed drawings, in which—

Figure 1 is a plan view of a longitudinal half of a cultivator embodying our invention; Fig. 2, a side view, parts broken away, of the cultivator; Fig. 3, a side view, parts being broken away, of the cultivator, showing the gang raised; Fig. 4, a detail front view of one end of the axle, showing the coupling devices and a modified form of power-transmitting lever; Fig. 5, a side view of the devices shown in Fig. 4, and Fig. 6 a detail view of a modified form of power-transmitting lever.

The axle A is of the usual arch-shaped form, having the vertical branch A' and the axle-arm A² at each end. The tongue B is secured to the axle near the top of the vertical branch A' thereof. The braces b and b' stay the axle-arm and prevent lateral motion of the tongue. The front bar, C, is connected at each end with the axle by the depending bar C' and the horizontal rod C². The octagon sleeve D, mounted on the axle-arm and provided with the arm d at its inner end, has the sleeve E mounted thereon, to which the gang F is coupled. This sleeve E is adjustable on the sleeve D, and is held thereon by the set-screw e. The handle

F' is attached to the end of the gang, and the cross-bar G is pivotally connected about midway of its ends with the gang by the bolt g. The cultivator-standards H are connected with the ends of the cross-bar and are arranged in front of one another. The cross-bar is held parallel with the axle when the handle F' is moved laterally by the rod g', which is connected at its front end with the arm e', extending from the sleeve E.

The gang is held down to its work by the spring I and the lever J, which transmits the power of the spring to the arm d. The power-transmitting lever J is elbow-shaped, and is mounted on an extension or pivotally connected with the sleeve K, that is clamped to the vertical extension A' of the axle. The rear end of the lever J terminates in a hook, j, that forms a stop and prevents the arm d from disengagement with the said end of the lever J. The spring I is adjustably connected at its lower end with the lever J, and is adjustably connected at its upper end with the arm L, that is secured to the upper end of the branch A' of the axle. The inner end of this arm L is shaped to form a clamping-plate, which is provided at each end with fingers l, that fit close to and embrace the branch A'. A corresponding clamping-plate, L', is placed on the opposite side of the branch A', and the plates L L' and the tongue B are clamped to the said branch A' by the bolt z.

The arm L is longitudinally slotted, and the lower edge of the slot is serrated to receive and hold the end of the spring I at any distance within certain limits from the said branch A', thereby changing the direction of action of the said spring.

The lever J is adapted to bear on the arm d, and to relieve friction the end of the lever J is provided with the roller j'. The tension of the spring I being properly adjusted will exert a force to hold the gang and cultivator shovels down through the lever J and the arm d. Now, when the gang is elevated, the arm d will be moved forward until it comes directly, or nearly so, beneath the pivotal support of the lever J, when it will be retained in this position. In some instances it is preferred to serrate the inner edge of the lever J, as shown

most clearly in Fig. 6, so that it can obtain a firm purchase on the end of the arm *d* to hold the gang at points intermediate of its extreme movements. Again, it has been found expedient
 5 to provide the lever J with a supplemental arm, J', which is forked at its lower end to fit over the gang. Now, as the gang is elevated, the rear end of the lever J and the arm J' are lowered, and the forked end of the said arm
 10 J', fitting over the gang, holds it from swaying or lateral motion.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

15 1. In a wheel-cultivator, the combination, with the axle, the sleeve D, having the arm *d*, mounted on the axle, and the gang connected with the sleeve to turn therewith, of the elbow-lever pivotally supported at the elbow and
 20 having one end bearing on the said arm *d*, and the spring I, interposed between the other end of the said elbow-lever and the frame, substantially as set forth.

25 2. In a wheel-cultivator, the combination, with the axle, the sleeve D, having the arm *d*, mounted on the axle to turn thereon, the sleeve E, adjustable on the sleeve D and held to turn therewith, and the gang secured to the sleeve

E, of the elbow-lever J, pivoted at the elbow and having one end bearing on the arm *d*, the
 30 spring adjustably interposed between the other end of the lever and the frame, and the arm J', integral with the lever J and having its end forked, substantially as and for the purpose described.

35 3. The combination, with the axle, the gang, and the arm, of the lever J, having its rear end serrated on its inner edge, and the spring, substantially as and for the purpose described.

40 4. The combination of the axle, the tongue, the clamp-plate L', the arm L, having a longitudinal slot which is serrated on its lower edge, the bolt connecting the arm, the plate L', and the tongue together, the sleeve K, clamped to
 45 the axle, the lever J, pivotally connected with the sleeve, the sleeve D, having the arm *d*, the sleeve E, and the gang connected with the sleeve E, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

DAVID MOTHERWELL.
 ELI B. COMLY.

Witnesses:

S. D. VICKERS,
 ROBT. F. PRICE.