

(No Model.)

2 Sheets—Sheet 1.

J. B. COTTOM.

SPRING HOE FOR SEEDING MACHINES.

No. 312,974.

Patented Feb. 24, 1885.

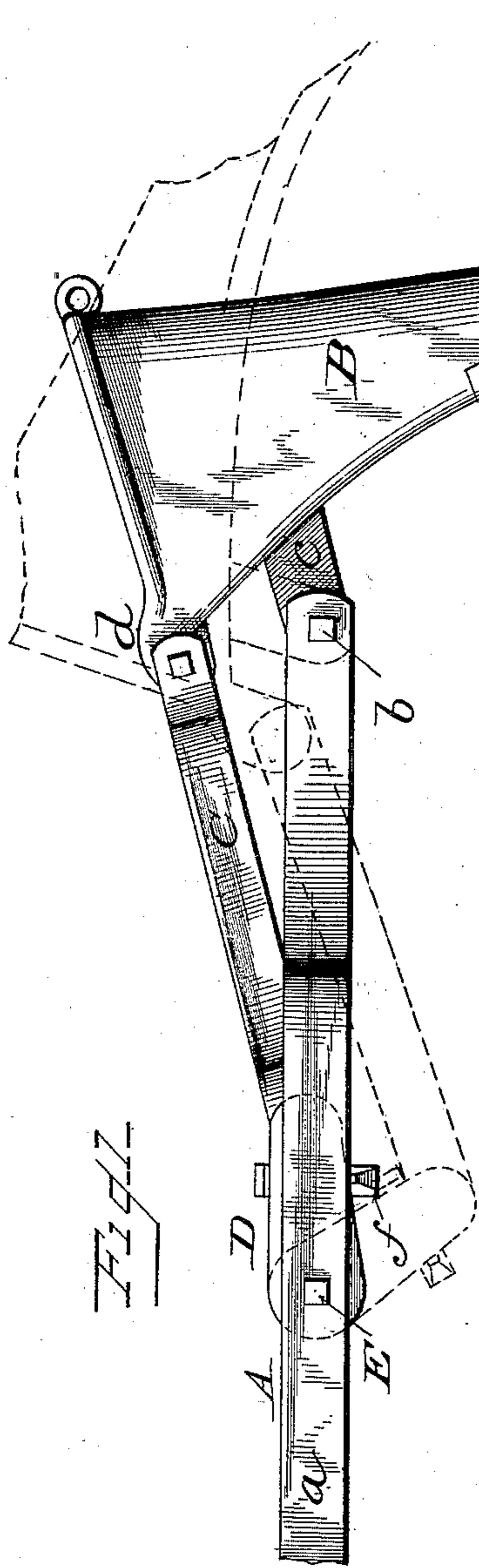


Fig. 1.

Fig. 2.

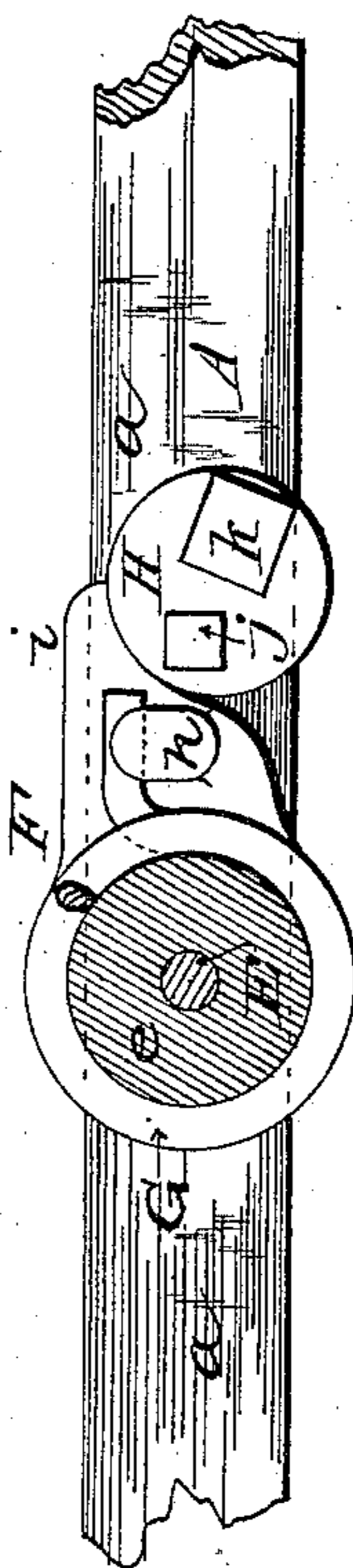
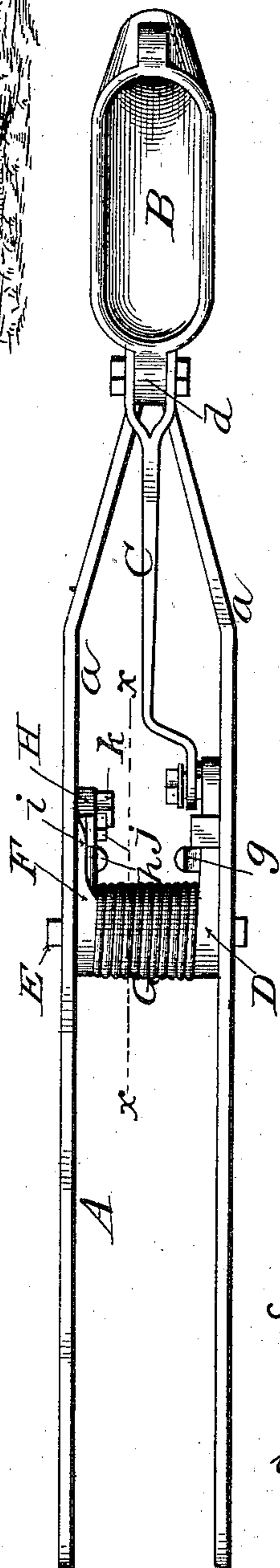


Fig. 3.

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2 Sheets—Sheet 2.

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Fig 3.

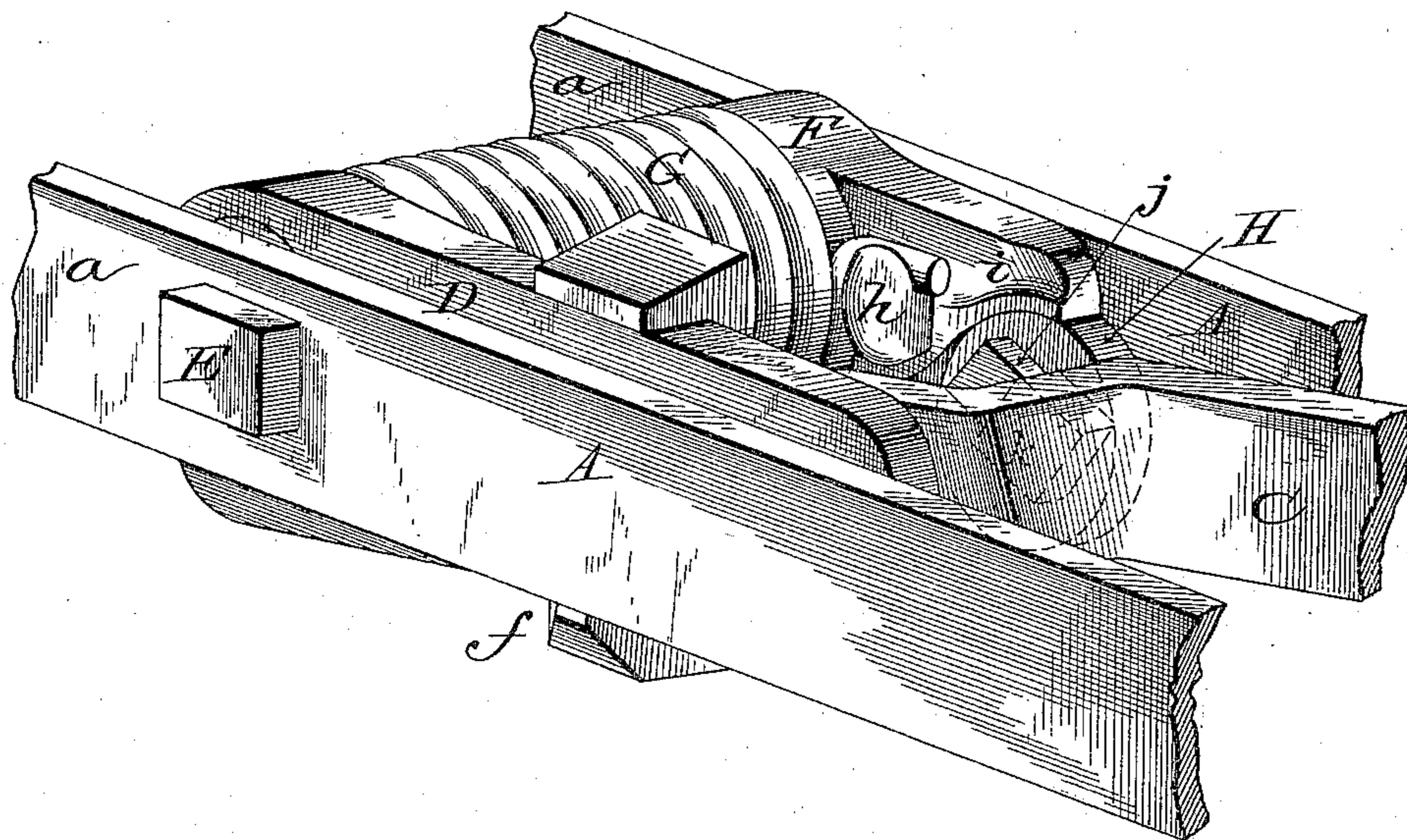
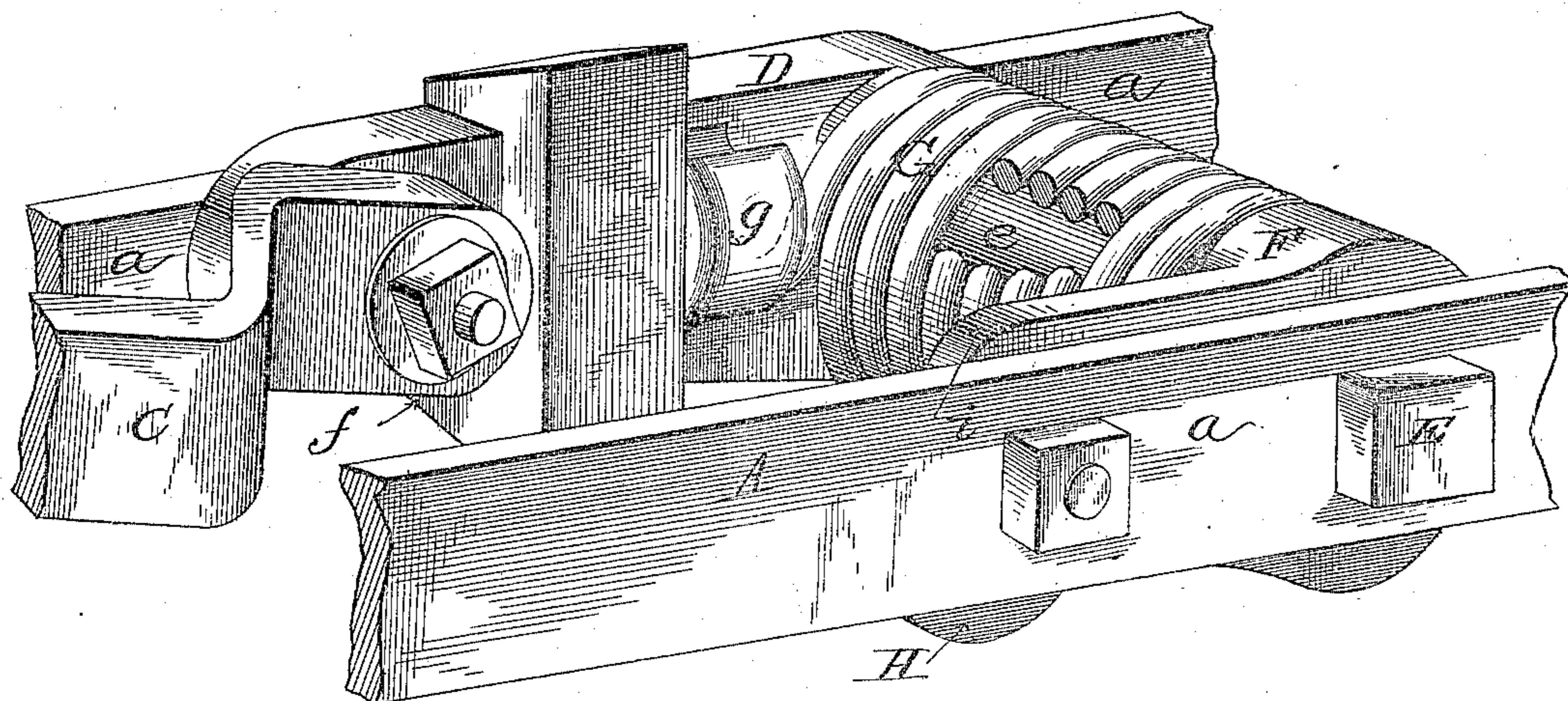


Fig 4



WITNESSES

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JAMES B COTTOM,
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UNITED STATES PATENT OFFICE.

JAMES B. COTTOM, OF DAYTON, OHIO, ASSIGNOR TO D. E. McSHERRY & CO.,
OF SAME PLACE.

SPRING-HOE FOR SEEDING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 312,974, dated February 24, 1885.

Application filed July 9, 1884. (No model.)

To all whom it may concern:

Be it known that I, JAMES B. COTTOM, of Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Spring-Hoes for Seeding-Machines, of which the following is a specification.

My invention relates to spring hoes, teeth, or shovels for seeders, planters, and cultivators; and it consists in a novel manner of applying, connecting, and adjusting the spring, all as hereinafter fully set forth.

In the drawings, Figure 1 is a side elevation, and Fig. 2 a top plan view, of a drag-bar and hoe or teeth, showing my improvements; Figs. 3 and 4, perspective views showing the spring and attendant parts; Fig. 5, a section on the line *x x*, Fig. 2.

A indicates a drag-bar composed of two strips or rods, *a a*, of iron, bent inward and perforated at their inner ends to receive a bolt, *b*, which passes through said ends and through an ear or lug, *c*, of the hoe, tooth, or shovel B, forming a pivotal connection, on which the hoe may swing or turn in a vertical plane, as usual. The ear or lug *c* is made some distance below the upper end of the hoe or shovel, and at or near the upper end of the latter is formed a second ear or lug, *d*, to which is jointed a link or connecting-bar, C, which is similarly jointed at its forward end to a pivoted block, D. The block D is perforated, and a bolt, E, passes through it and likewise through the bars *a a* of the drag-bar, and through the cylindrical hub or body *e* of a second block, F. Block D is provided with a lug or lip, *f*, which engages with the under side of one of the bars *a*, and prevents the rise of said block above a given point, though it is free to move downward, except as such motion is resisted by a spring, G, which is coiled about the hub *e*, and has one end extending beneath a lug, *g*, on block D, and the other end hooked over a similar lug, *h*, on the block F. The joint connecting link C with block D is slightly below a line passing through the axis of bolt E and that of the joint connecting link C with ear or lug *d* of

the hoe or tooth B when the latter is in working position; hence it follows that if the point or lower part of the hoe or tooth meet with an unyielding obstruction it will rock or turn upon pivot *b*, throwing its upper end forward, together with link or bar C, and causing the latter to throw block D downward against the resistance of spring G, winding the same more tightly until the obstruction is passed, when the spring will return the hoe or tooth to its working position. Block F is made with a rearwardly-extending arm, *i*, which rests upon an eccentric or cam, H, capable of being rotated or moved to raise or lower said arm, and thereby to vary the force of the spring G as may be required for different kinds of soil or classes of work, or to compensate for any setting of the spring. The cam or eccentric is pivoted and clamped to one of the bars *a* by a bolt, *j*, and is furnished with a squared or polygonal projection, *k*, to receive a wrench or other tool by which to turn or move it.

I am aware that springs have hitherto been applied to shovels, hoes, and teeth such as herein referred to, and that in some instances means have been provided for varying the tension or force of such springs; hence I make no broad claim to such features; but I believe my construction as above set forth to be both new and valuable.

All the working parts are by this construction brought within the sides of the drag-bar.

I am aware that a toggle-lever has been pivoted to the upper side of a drag-bar at one end and to the upper end of a hoe or tooth at the other end, said parts being adapted to rise on the tipping of the hoe, and this I do not claim.

Having thus described my invention, what I claim is—

1. In combination with a drag-bar and a hoe, shovel, or tooth pivoted to the rear end thereof, a block pivoted to said drag-bar and having a stop to limit its upward movement, a spring acting to raise said block, and a link or bar extending from the upper end of the hoe, shovel, or tooth to the pivoted block and jointed thereto, substantially as described and shown, whereby an excessive resistance to the

advance of the shovel is caused to throw the shovel backward and depress the block against the force of the spring.

2. The combination, substantially as herein set forth, of drag-bar A, composed of two metal rods, *a a*, shovel B, block D, pivoted to the drag-bar and provided with a stop to limit its rise, link C, connecting the shovel and block D, and spring G, having one end made stationary and the other end acting to raise block D, all of said parts being located within the drag-bar, substantially as described and shown, whereby they are protected and the device is rendered more compact.

3. In combination with drag-bar A, shovel B, link C, block D, and spring G, all constructed and arranged to operate substantially as described and shown, block F, having arm *i* and carrying one end of the spring, and cam or eccentric H beneath arm *i*, substantially as and for the purpose explained.

JAMES B. COTTOM.

Witnesses:

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E. C. BOYER.