

No. 702,034.

Patented June 10, 1902.

F. B. SEAVER.
DRAG AND HARROW PULVERIZER COMBINED.

(Application filed Dec. 7, 1901.)

(No Model.)

Fig. 4.

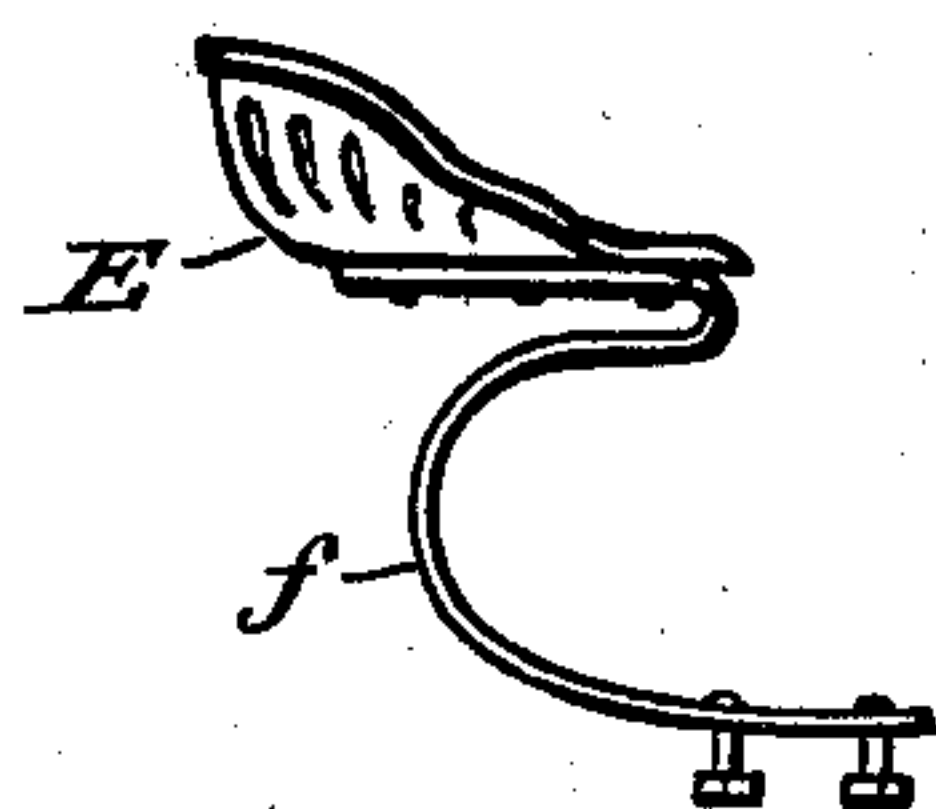


Fig. 1.

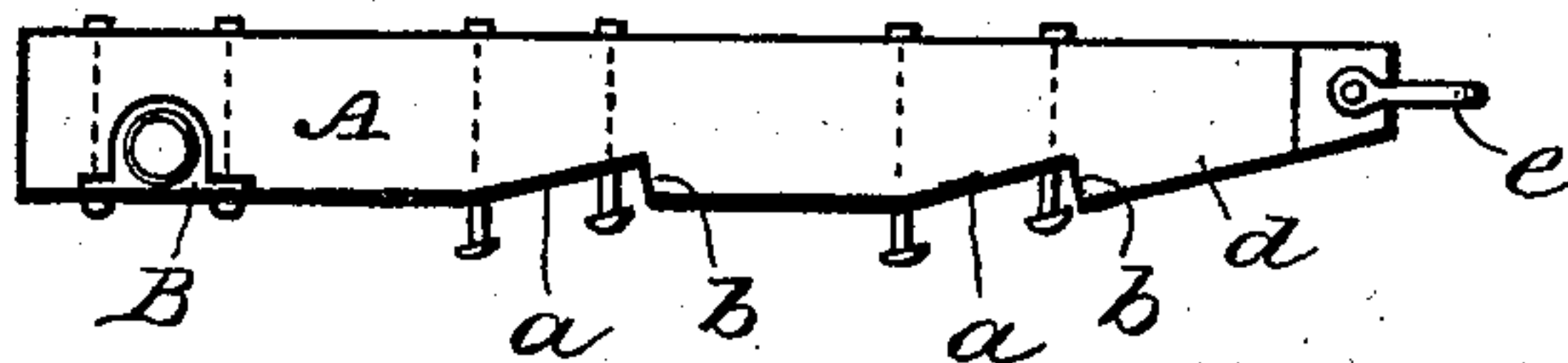


Fig. 2.

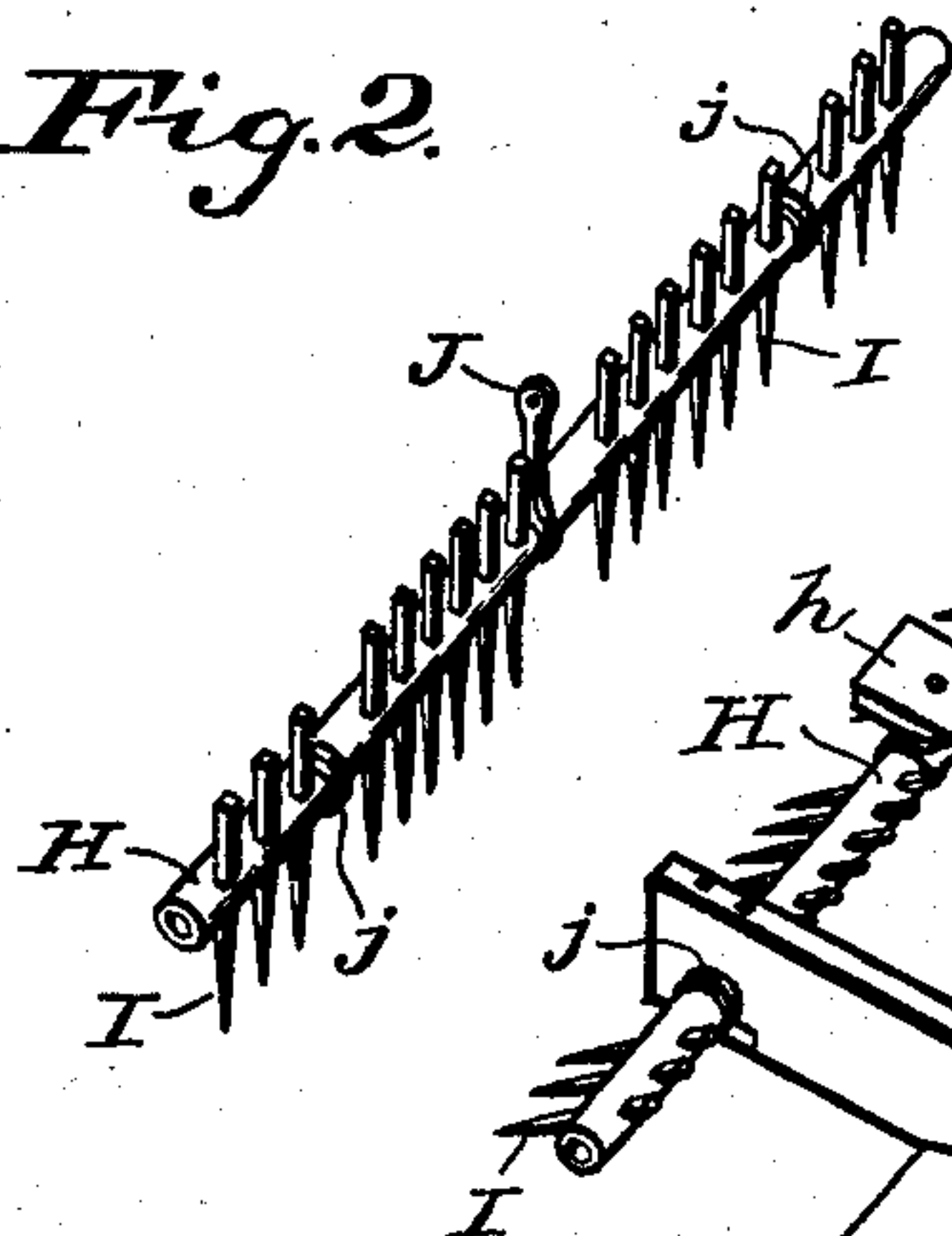


Fig. 3.

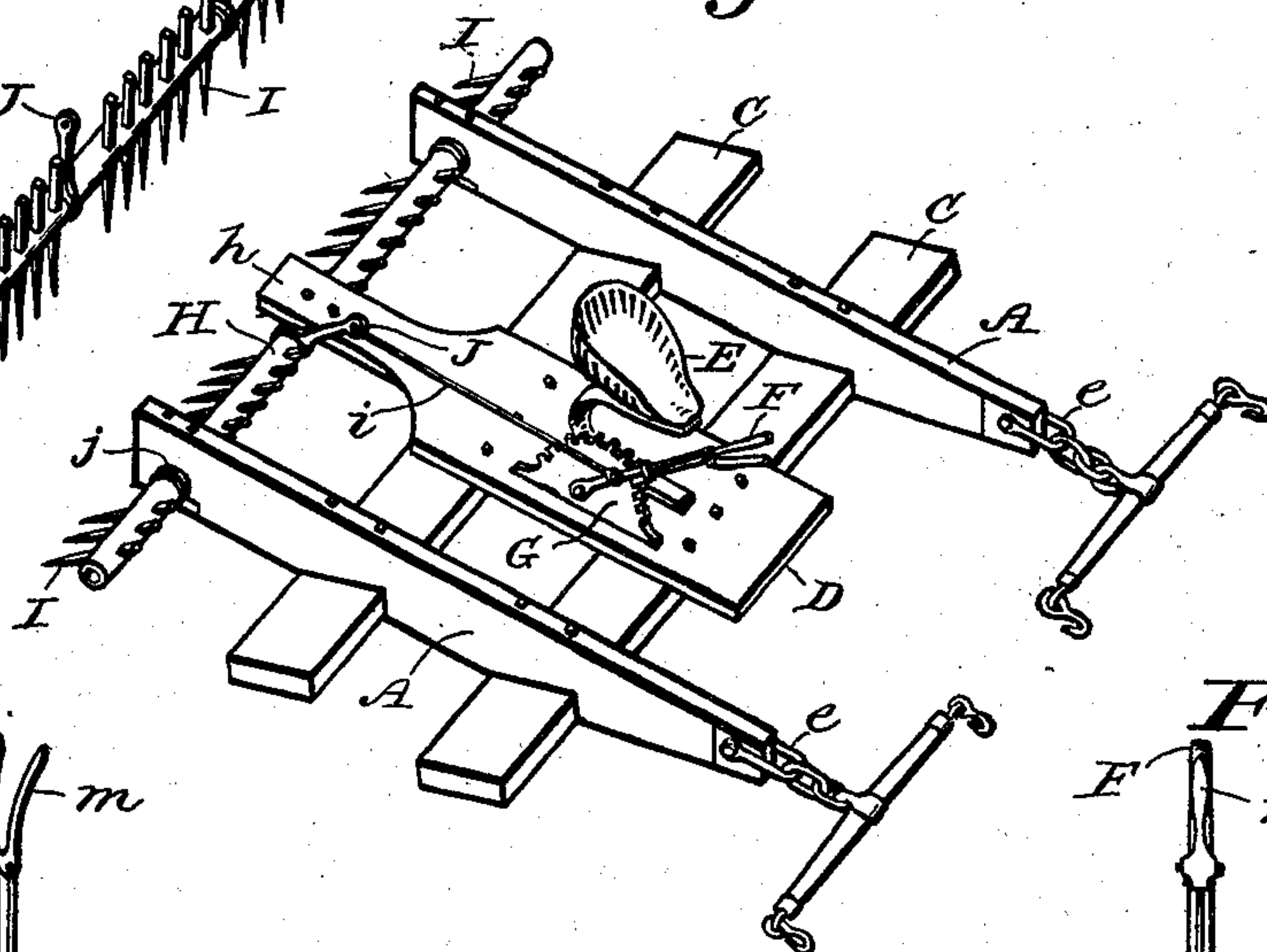


Fig. 5.

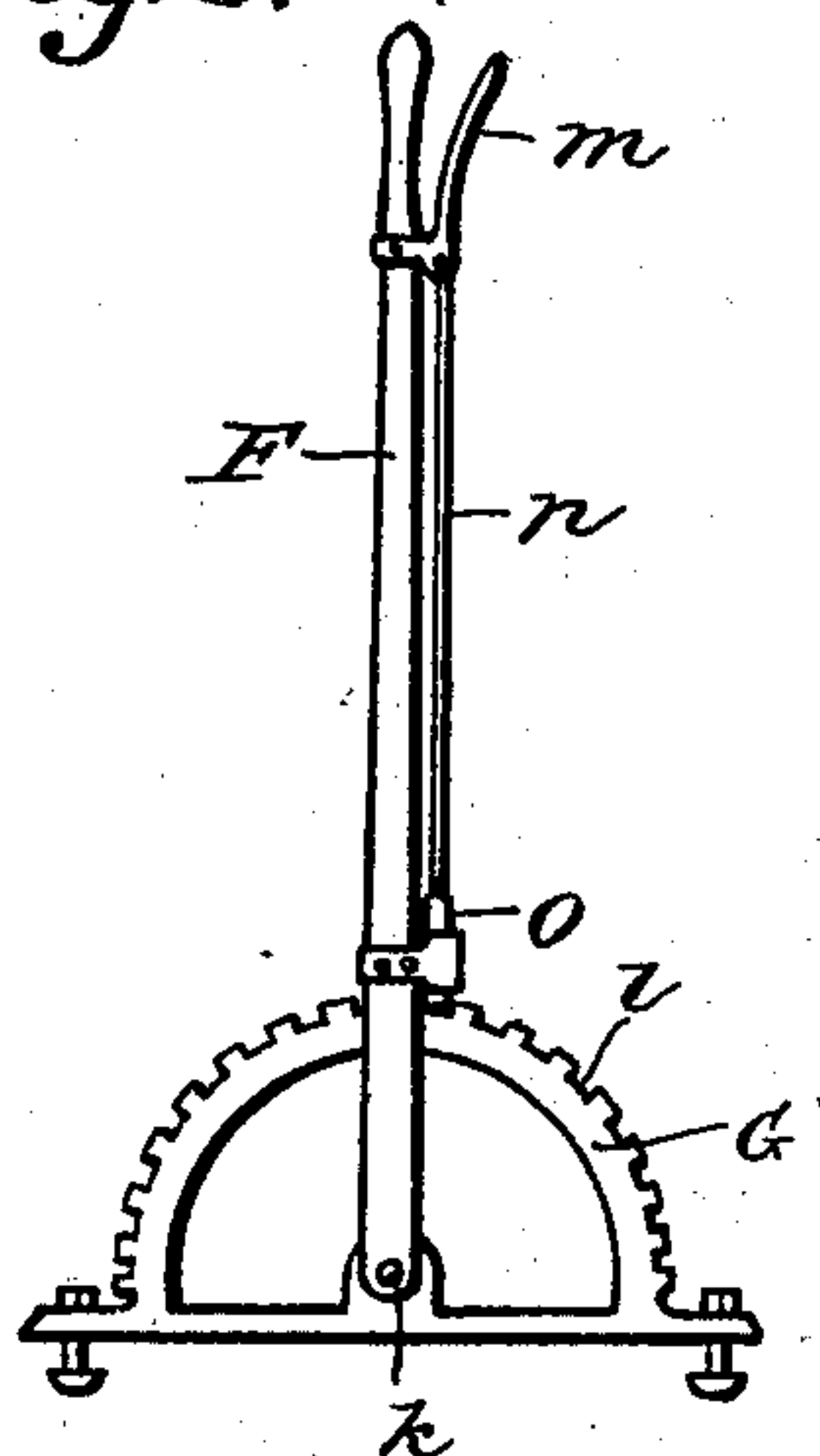
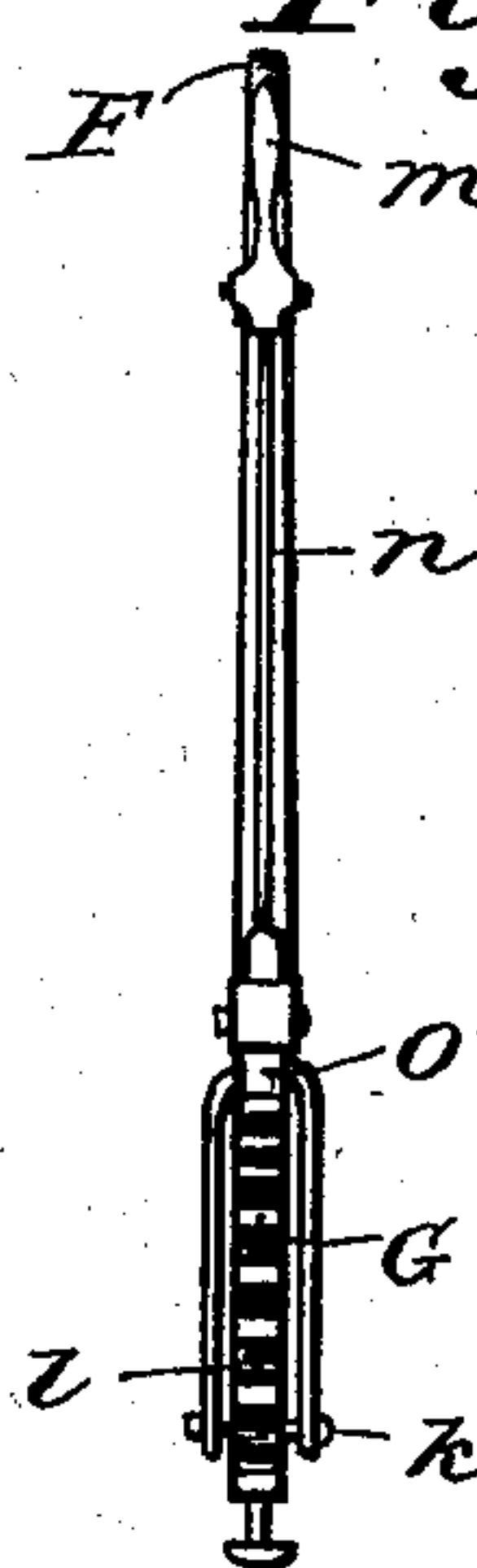


Fig. 6.



WITNESSES:

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UNITED STATES PATENT OFFICE.

FRANK B. SEAVER, OF JOHNSON TOWNSHIP, CLINTON COUNTY, INDIANA.

DRAG AND HARROW-PULVERIZER COMBINED.

SPECIFICATION forming part of Letters Patent No. 702,034, dated June 10, 1902.

Application filed December 7, 1901. Serial No. 85,058. (No model.)

To all whom it may concern:

Be it known that I, FRANK B. SEAVER, a citizen of the United States, residing in Johnson township, in the county of Clinton and State of Indiana, have invented new and useful Improvements in Drags and Harrow-Pulverizers Combined, of which the following is a specification.

My invention relates to improved parts and in the combination thereof in implements for crushing and pulverizing farming land, the main object of the invention being to provide a drag and harrow-pulverizer combined that while being simple and adapted to be cheaply constructed will be efficient in the highest degree and durable and economical in use, and another object is to provide means whereby the harrow-teeth may be inclined at various angles at will, as well as raised from the ground when desired, either wholly or partially.

My objects are fully attained in the construction illustrated in the accompanying drawings, forming part of this specification, in which similar reference characters indicate corresponding parts in the several figures thereof.

Referring to the drawings, Figure 1 is a side elevation of one of the two or more main frame members employed in the construction of the implement; Fig. 2, a perspective view of the rocking harrow cylinder and teeth; Fig. 3, a perspective view of the complete implement constructed according to my invention; Fig. 4, a side elevation of the operator's seat and spring-support; Fig. 5, a side elevation of the harrow-controlling lever and quadrant therefor, and Fig. 6 is a front elevation of the lever and quadrant.

In construction I employ the members shown substantially in the drawings, in which the main frame members A, two or more in number, have the upper and lower faces substantially parallel, with oblique-angled faces *a*, *b*, and *d* at portions of the lower face. The face *d* extends from the forward end of the member rearwardly to a face *b*, from which a face *a* extends rearwardly, and somewhat removed therefrom is another face *b*, from which another face *a* extends rearwardly, each two faces *a* and *b* forming a right

angle and the face *d* and forward face *b* also forming a right angle. Two fastening-bolts extend through each face *a* and the member A. At the forward ends of the members A are clevises *e* for hitching to the implement, and near the rear end thereof at the under side are journal-bearings B, either in the form of boxes or U-bolts, and suitable recesses in the members to receive the cylinder of the harrow. A suitable number of planks C of rectangular oblong form are attached to the members A by means of the fastening-bolts, with their broader upper faces in contact with the inclined faces *a* and their narrower forward edge faces in contact with the inclined faces *b*, so that the planks are situated at suitable distances apart and the under faces thereof in inclined planes. A platform D is attached to the planks C between two members A and extends from the rear plank rearwardly a suitable distance, so as to be connected to the harrow-cylinder, the rear end *h* of the platform being narrower than the body portion thereof. Upon the platform is a spring-support *f*, to which is attached a seat E. At the side of the support *f* is a lever F, connected substantially to the platform by a pivot *k* and operating in connection with a quadrant G, secured to the platform, the quadrant having notches *l*, engaged by a latch *o*, carried by the lever and operated by a rod *n* and a trigger *m*, the latter connected to the upper part of the lever.

The harrow-cylinder H in cross-section may be either circular, hexagonal, or other contour and is journaled in the bearings B. The cylinder may suitably be made of iron piping and is provided with harrow-teeth I, set in a row and each tooth transversely of the axis of the cylinder. Collars *j* are provided to prevent end motion of the cylinder, the collars bearing against the sides of the members A. The cylinder is also provided with a rocking arm J, extending upwardly from the central portion thereof, and the arm is connected with the lever F by a rod *i*, which, although for convenience is shown rather as a pull-rod, is in practice a stiff unyielding push-rod. It will be apparent that two or more harrow-cylinders and sets of teeth may be employed, all connected together, and also

any desired number of planks C may be employed in construction, depending upon the size of implement contemplated.

In practical use the draft-team may be
 5 hitched to the clevises e, one or two animals to each clevis, and the harrow-teeth set either in a vertical plane or in an inclined plane, as may be desired, by movement of the lever F and its latching devices. In some cases it
 10 may be desired to work with the points of the teeth forward of the cylinder H, so that light trash will slide up the teeth and fall rearward over their upper ends to the ground, and in some cases the teeth-points may draw
 15 back of the cylinder, and should some trash adhere to the teeth it may be dislodged by manipulation of the controlling-lever, as will be apparent. When moving, the forward edges of the planks C will cut or break large
 20 lumps of earth and the lower faces will pass over and crush and pulverize the remainder, as well as drag the earth and fill up uneven places, while the harrow-teeth will loosen the ground-surface suitably to receive the seed.
 25 In transporting the implement on roads the teeth-points may be elevated so as to clear the ground.

Having thus described my invention, what I claim as new, and desire to secure by Letters
 30 Patent, is—

1. In a drag and harrow-pulverizer combined, the combination of the main frame members each having the journal-bearings and also the recesses therein, the clevis attached to each main frame member, the clod-
 35 breaking members having their forward edges in said recesses and separated one from the other, the platform having the narrow rear end and attached to said clod-breaking members between said main frame members, the
 40 rocking cylinder journaled in said bearings, the harrow-teeth in said cylinder, and the arm attached to said cylinder adjacent to the narrow rear end of said platform, substantially
 45 as set forth.

2. In a drag and harrow-pulverizer combined, the combination of the main frame members having the inclined lower forward faces, the clevises attached to said members
 50 independently, the harrow mounted at the rear ends of said main frame members, the clod-breaking members attached to said main

frame members between said harrow and the rear ends of said lower forward faces, the platform, and the arm attached to the har- 55 row, substantially as set forth.

3. In a drag and harrow-pulverizer combined, the combination of the main frame members, the clod-breaking members, the platform, the journaled rocking harrow-cyl- 60 inder, the arm attached to the rocking cylinder whereby the same may be locked against movement thereof, the controlling-lever mounted on the platform, the connecting-rod, the harrow-teeth extending through said cyl- 65 inder, and the stop-collars on said cylinder at the sides of said main frame members, substantially as set forth.

4. In a drag and harrow-pulverizer combined, the combination of the main frame 70 members, the clevises at the forward ends of said frame members, the clod-breaking members attached to said frame members, the journal-bearings in the rear ends of said frame members, the rocking cylinder mount- 75 ed in said bearings, the harrow-teeth extending through said cylinder and projecting at each side thereof, the arm secured to said cylinder, the platform on said clod-breaking members, the notched quadrant on said plat- 80 form, the operating-lever connected to said quadrant, the lever-latch, the latch-trigger, and the push-rod connected to said lever and also to said arm, substantially as set forth.

5. In a drag and harrow-pulverizer com- 85 bined, the combination of the main frame members, the clod-breaking members, the platform, the journal-bearings in said main frame members, the quadrant on said plat- 90 form, the controlling-lever, the connecting-rod, the rocking harrow-cylinder mounted in said bearings and consisting of the hollow tube having transverse apertures therein, the teeth driven into the apertures, and the arm attached to said cylinder between two of 95 said teeth and attached to said connecting-rod, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

FRANK B. SEAVER.

Witnesses:

WILLIAM A. WATSON,
 LORA FORKNER.