

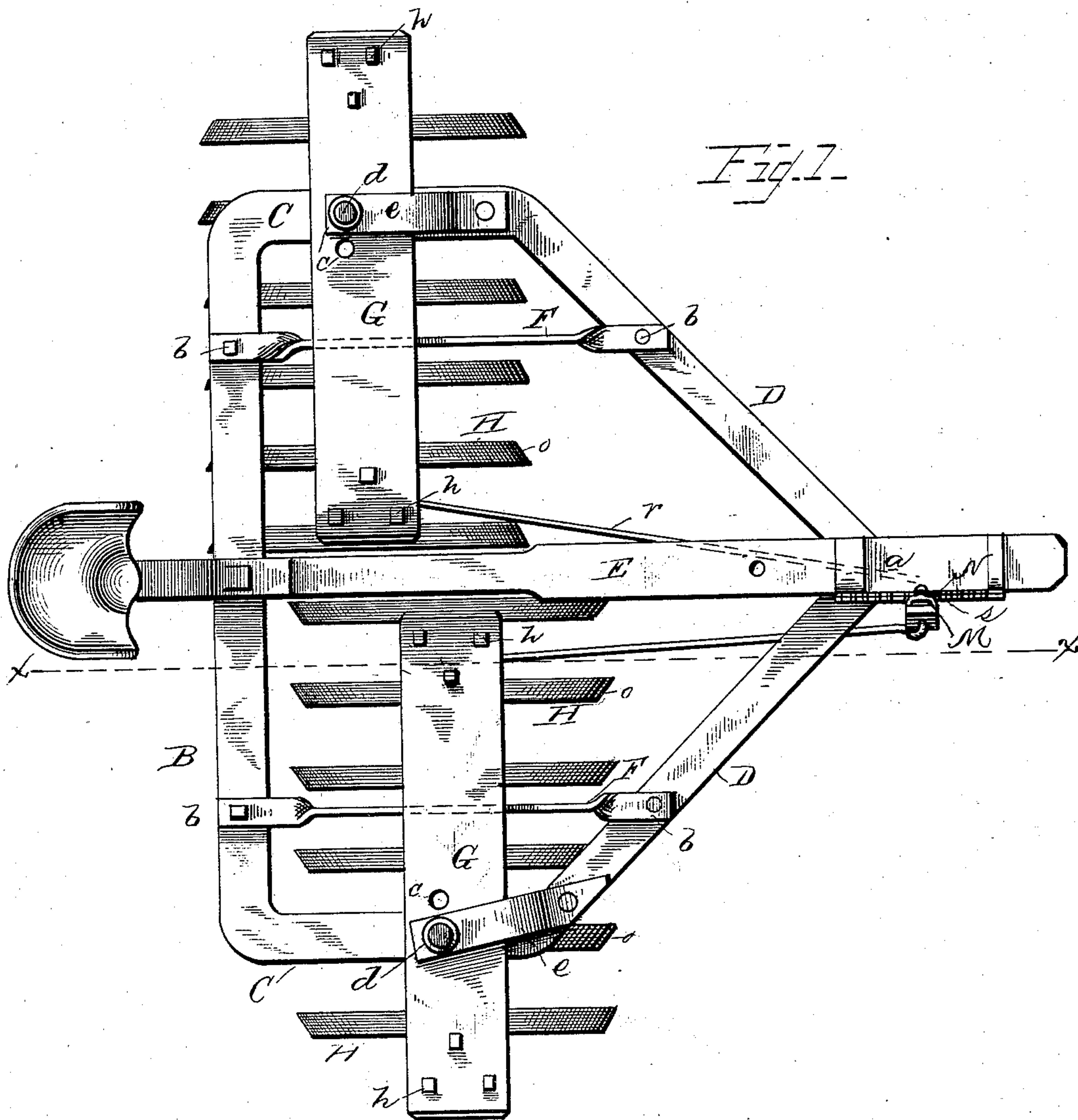
(No Model.)

2 Sheets—Sheet 1.

W. M. ROBERTS.
PULVERIZER.

No. 308,803.

Patented Dec. 2, 1884.



WITNESSES
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(No Model.)

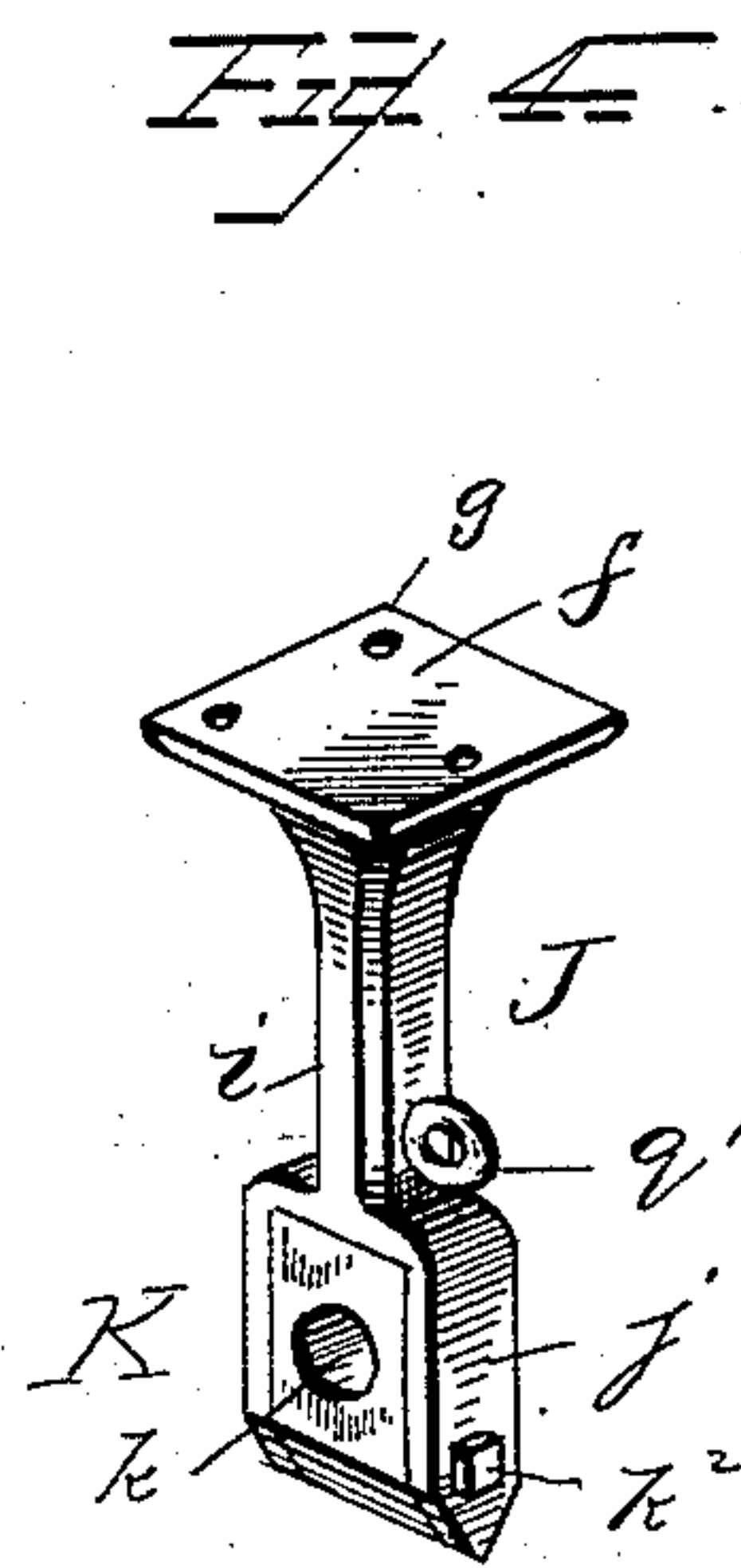
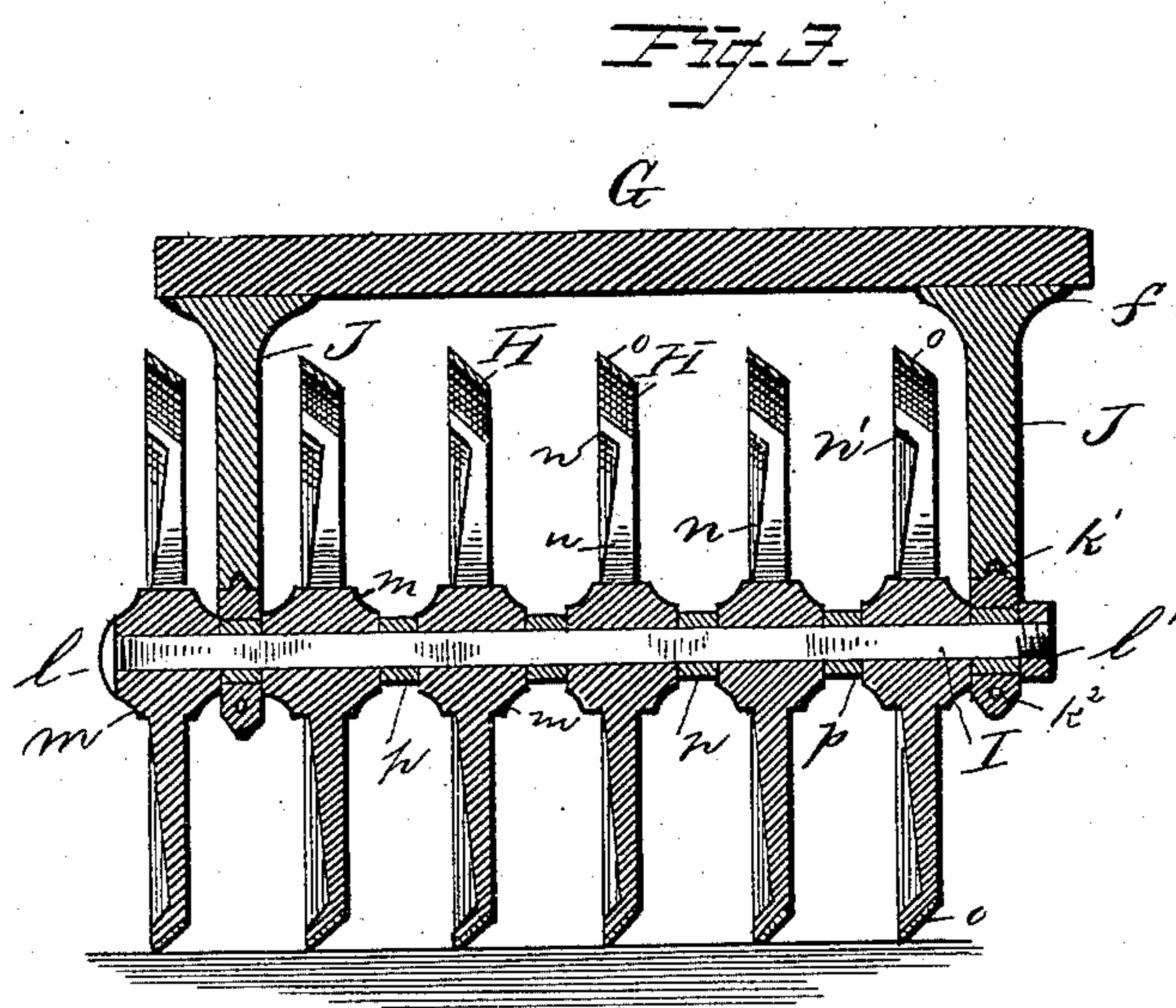
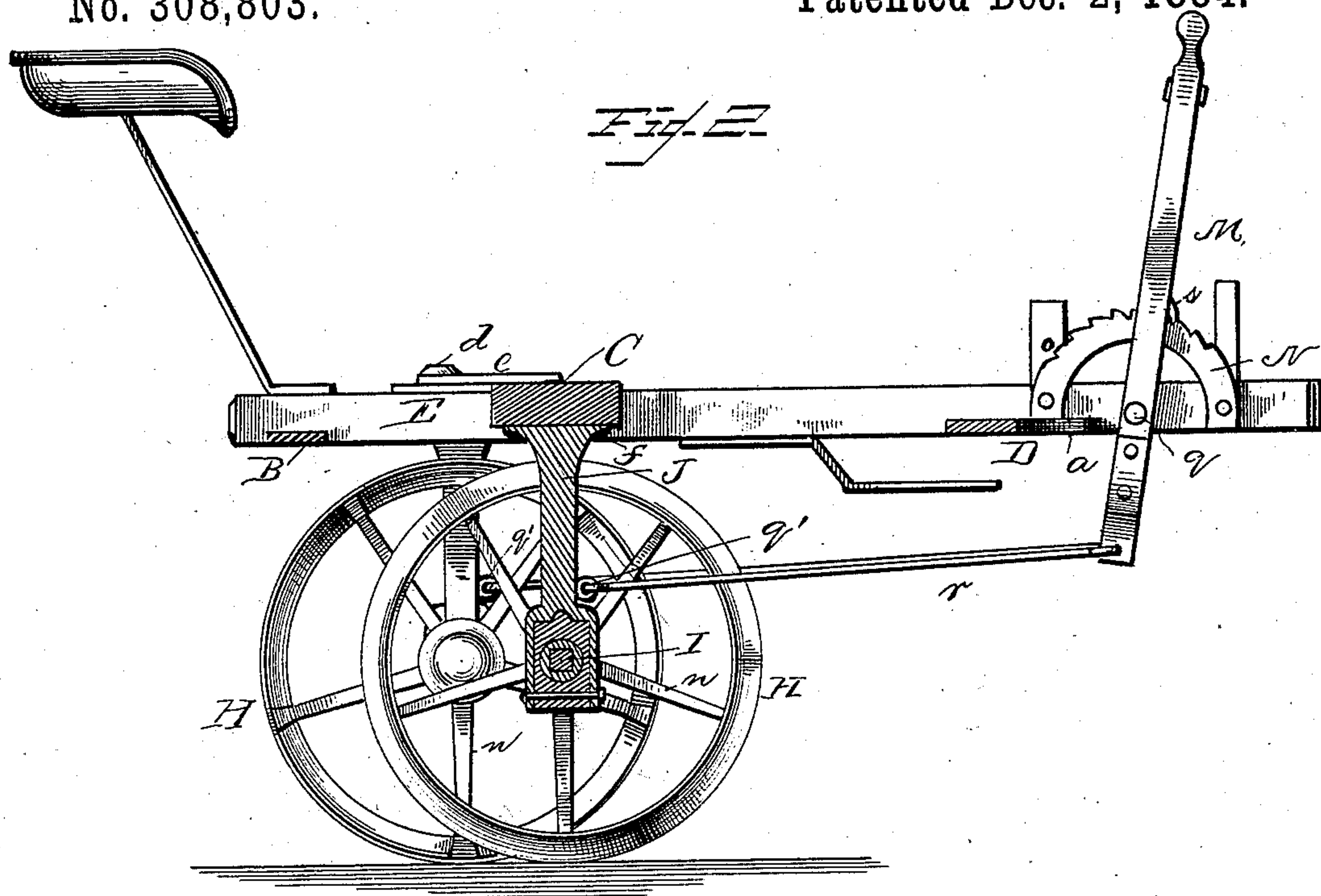
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UNITED STATES PATENT OFFICE.

WEBSTER M. ROBERTS, OF BLOOMINGTON, KANSAS.

PULVERIZER.

SPECIFICATION forming part of Letters Patent No. 308,803, dated December 2, 1884.

Application filed March 3, 1884. (No model.)

To all whom it may concern:

Be it known that I, WEBSTER M. ROBERTS, a citizen of the United States of America, residing at Bloomington, in the county of Osborne and State of Kansas, have invented certain new and useful Improvements in Pulverizers; and I do hereby 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 letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to earth and clod pulverizers; and it consists in the improvements hereinafter described and set forth.

In the accompanying drawings, forming part of this specification, Figure 1 is a plan of a pulverizer constructed in accordance with my invention. Fig. 2 is a section on the line xx of Fig. 1. Fig. 3 is a transverse section through one of the gangs of cutters, and Fig. 4 is a detail.

The frame of the machine consists of a metal bar, preferably of a single piece and constructed to form the rear portion, B, parallel side bars, C, and inclined front bars, D, intersecting each other at their front ends. A central draft-bar, E, is secured to the said metal frame and centrally spans the same, so as to be bolted to said frame at the center of the bar B and at the point a , formed by the intersecting ends of the front bars. Braces F, arranged parallel with the side bars, C, connect the front bars, D, and rear bar, B, and are secured thereto by means of bolts b .

The machine preferably carries two series or gangs of cutters arranged on the respective sides of the machine; hence it will only be necessary to particularly set forth one series to comprehend both. A beam, G, is provided with a series of vertical perforations, c , through one of which passes a bolt, d , which passes through a curved bracket, e , secured at one end to the upper side of the frame. The lower end of the bolt d engages an opening therefor in the side bar, C, of the frame, and thus affords a pivotal bearing for said beam G. A hanger, J, preferably cast in a single piece of metal, is secured at each end of the beam G, at the under side thereof, so as to depend therefrom. This casting is of the form shown

in Fig. 4, and is provided with a platform, f , at one end, having perforations g for the passage of bolts h , which secure the casting to the beam G.

The casting further consists of a shank bifurcated at its lower end to form arms j , between which is located a journal-box, K, consisting of a block of wood having a journal-bearing, k , and retained in position by means of a tongue, k' , which rests in a recess therefor in the bifurcated portion of the casting, as clearly seen in Fig. 3. A transverse perforation through the lower portions of the arms and through the journal-box permits the passage of a bolt, k^2 , which secures the lower portion of the journal-box K in position. A series of circular cutters are mounted on a square shaft, I, having a head, l , at one end, and threaded at its other end to receive a nut, l' . The hubs of the said cutters have square perforations, through which the said shaft passes, so that said cutters and shaft shall revolve together. The end portions of said shaft rest in the journal-boxes K, a metal bushing having a square opening to receive said shaft being round on its outer face to rest in the bearing and revolve therein with the shaft. Each cutter H is independent of the others, and consists of a hub, m , having a square opening through which the shaft I passes, and each hub carries a series of radial spokes, n , which are bent at their outer extremities, n' , to afford a bearing for the annular blade o of the cutter, which is bolted to said extremities. The blades o and the extremities of the spokes are inclined, as shown in Fig. 3. A series of spacing-spools, p , interposed between the several hubs, maintain the several cutters in their proper horizontal position on said shaft. A metallic loop, q' , is formed on the inner casting, J, of each beam G, and is connected to the lower end of a lever, M, fulcrumed on a pivot, q , such connection being made by a rod, r . The draft-bar E carries a segmental rack, N, with the teeth of which engages a pawl, s , pivoted to the lever M. Each series of cutters are arranged so that the cutting-edges of one series face those of the other series and the center of the machine. By changing the bolt d from one perforation c in the beam G the said beam, with its series of cutters, can be adjusted toward or from the center of the machine. By moving the lever M the inner ends

of the bars G are moved rearward on the pivot
d, thus presenting each series of cutters ob-
liquely to the line of draft. The arrangement
of castings J and the journal-box therein of
5 wood affords an efficient, light, and durable
means for hanging each series of cutters.

The form and arrangement of the support-
ing-frame, consisting of a single piece of metal,
lends lightness and durability to the structure
10 and avoids a multiplicity of connections and
parts.

I claim—

1. In a revolving harrow or earth-pulverizer,
the frame consisting of a single piece of metal
15 supporting centrally a draft-pole and a seat,
in combination with the independent pivoted
beams G G, carrying pulverizing-disks or cut-
ters, said frame having braces F F and brack-
ets e e attached thereto, substantially as shown,
20 and for the purpose set forth.

2. In a revolving harrow or earth-pulverizer,
the frame consisting of a single piece of metal
supporting centrally a draft-pole and seat, in
combination with the independent pivoted

beams G G, carrying pulverizing-disks or cut- 25
ters, said frame having braces F F and brack-
ets e e, and rods connecting said beams G G
with an adjusting-lever attached to the draft-
pole, substantially as set forth.

3. In an agricultural implement of the class 30
described, a frame made of a single piece of
metal, having the parallel side portions, C C,
the attached braces F F, the central draft-beam,
and the pivoted frames G G, carrying a series
of cutters, said pivoted frames being attached 35
to the main frames on opposite sides thereof—
one in front of the other—and provided with
means for changing the angle of the cutters
with respect to the line of draft, the parts be-
ing combined and organized substantially as 40
shown, and for the purpose set forth.

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

WEBSTER M. ROBERTS.

Witnesses:

J. K. MITCHELL,
CARL E. ROBERTS.