

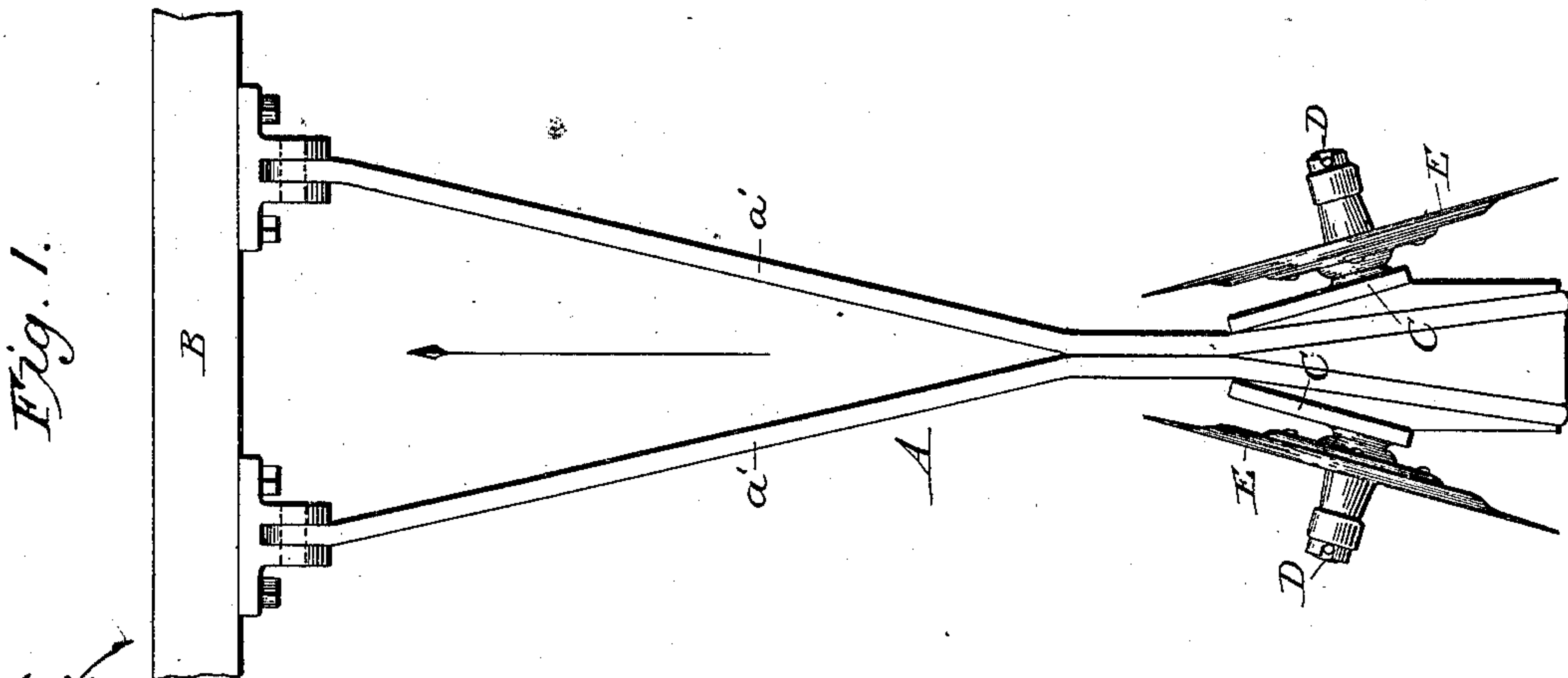
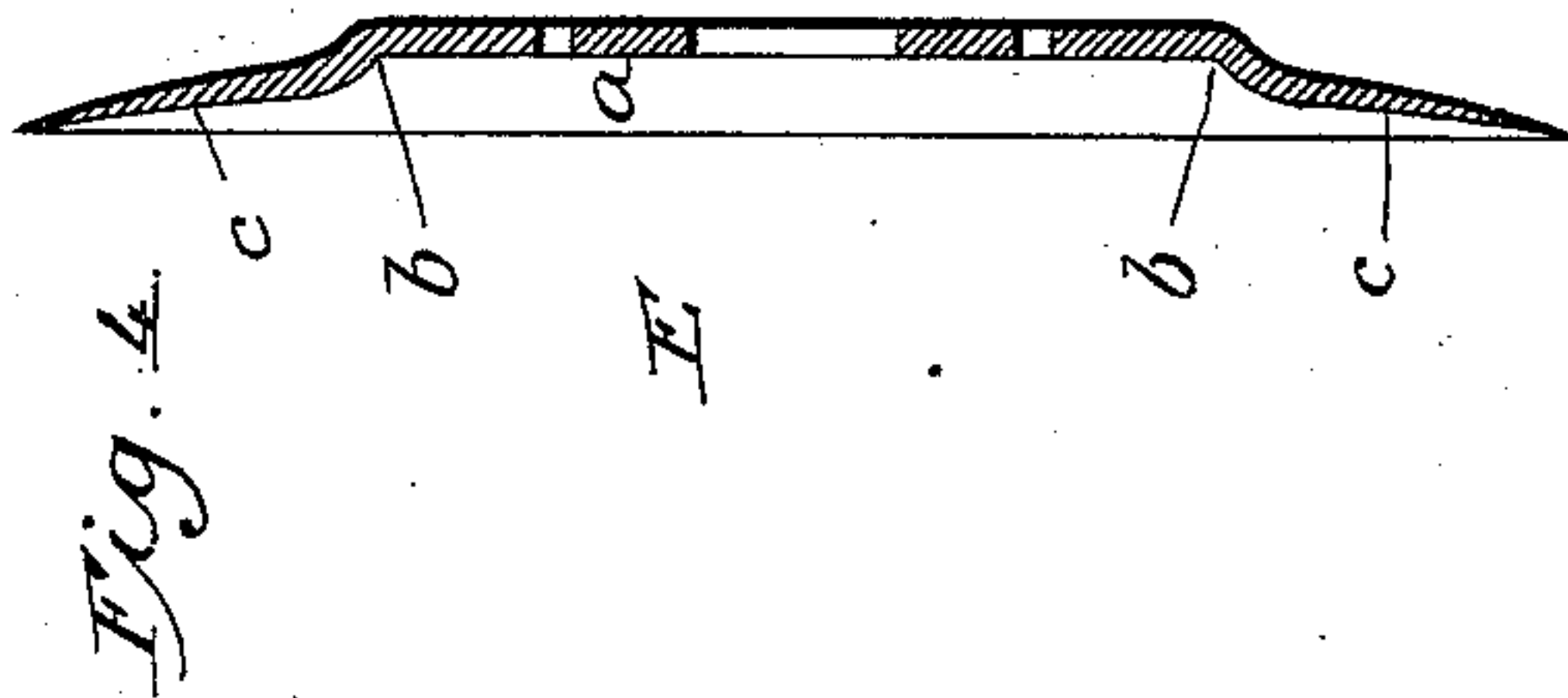
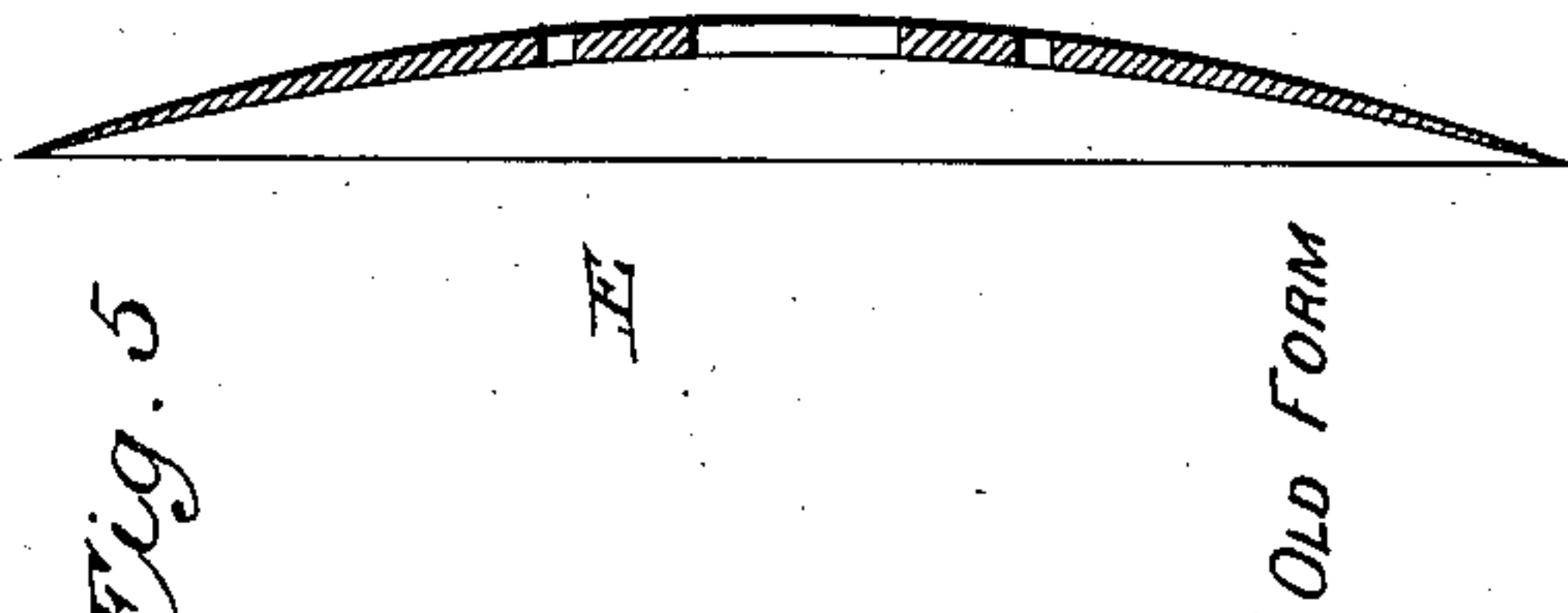
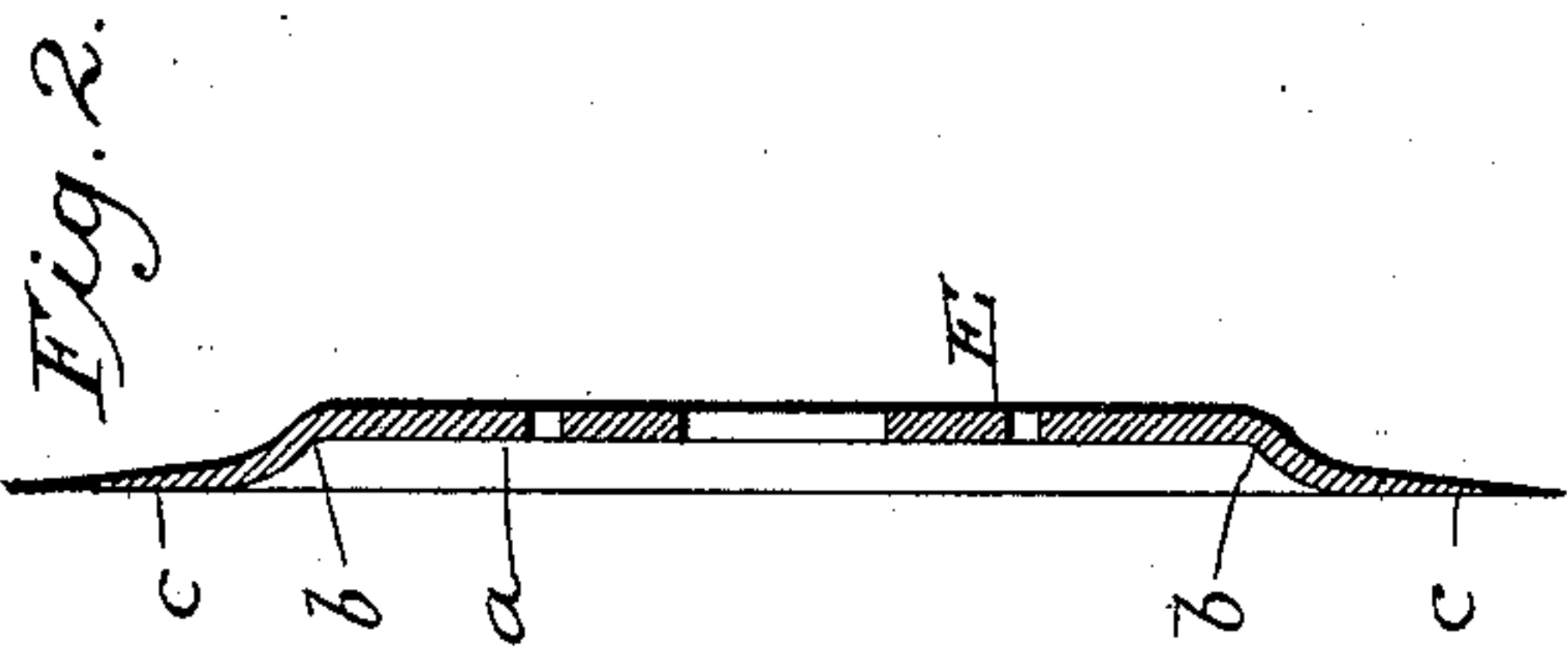
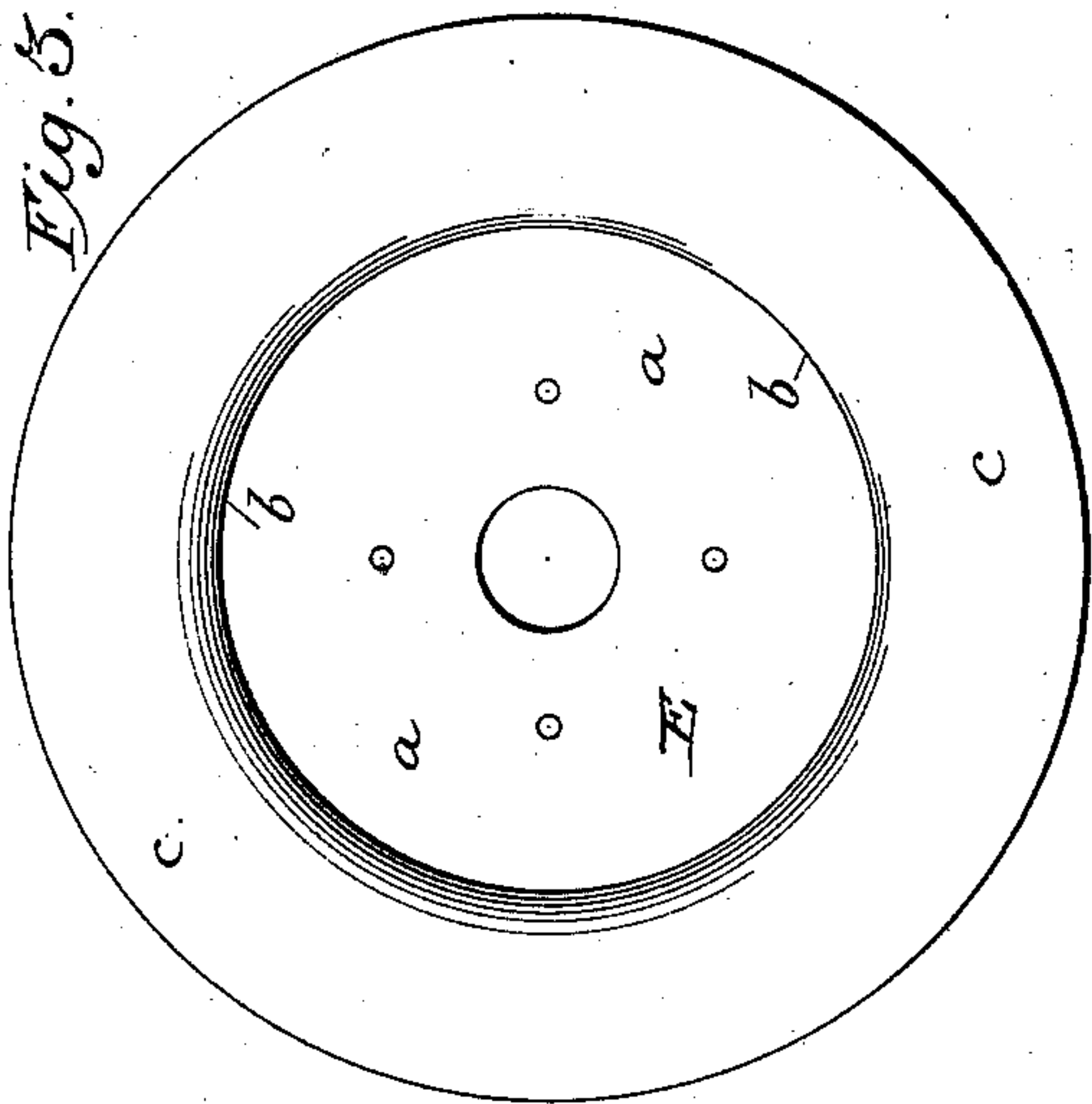
(No Model.)

W. D. ARNETT.

CUTTING DISK FOR SEEDING MACHINES.

No. 358,246.

Patented Feb. 22, 1887.



Attest
Sidney P. Hollingsworth
(Wm. L. Kennedy,)

Inventor.
W. D. Arnett.
By his Attorney
P. T. Dodge.

UNITED STATES PATENT OFFICE.

WILLIAM D. ARNETT, OF DENVER, COLORADO.

CUTTING-DISK FOR SEEDING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 358,246, dated February 22, 1887.

Application filed April 16, 1886. Serial No. 199,137. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM D. ARNETT, a citizen of the United States, residing at Denver, in the county of Arapahoe and State of Colorado, have invented a new and useful Improvement in Cutting-Disks for Seeding-Machines, of which the following is a specification.

In Letters Patent of the United States No. 312,791, issued to me February 24, 1885, is illustrated a seeding-machine in which the ordinary hoes or drilling-teeth are replaced by vertical disks arranged obliquely to the line of travel, their lower edges entering the ground and opening the furrows for the reception of the seed.

This invention relates to an improvement in the form of these furrow-opening disks, whereby they are adapted to scour and keep their surfaces free from adhering earth, and also adapted to be operated with less power than heretofore; and the improvement consists, essentially, in forming their outer or operative faces with an abrupt or sudden depression at the center.

As my improvements may be used in connection with machines in other respects of ordinary construction, I have deemed it sufficient to show herein my improved disk and the parts immediately connected therewith.

In the accompanying drawings, Figure 1 represents a top plan view of a double drag-bar having two of my disks attached to its rear end. Fig. 2 is a central cross-section of my disk in its approved form. Fig. 3 is a side or face view of the same. Fig. 4 is a transverse section of the same in a modified form. Fig. 5 is a transverse section of the disk heretofore in use.

Referring to the drawings, A represents a drag bar or beam jointed at its forward end to the frame B, which may be constructed and provided with supporting-wheels in the ordinary manner. In the present instance the drag-bar consists of two bars, *a'*, converging toward their rear ends, where they are united and provided with faces C, having on their outer sides journals or axles D, which support the furrow-opening disks E. The general construction and arrangement of these parts is substantially the same as in my preceding patent above referred to.

Heretofore the disks have been commonly constructed, as shown in Fig. 5, of a concave form on the outer side and with a smooth unbroken surface throughout. The result was that as the disk advanced the earth bore thereon continuously and uninterruptedly from one edge to the other.

In constructing my improved disk I form the same with a circular central depression, *a*. This depressed portion is sunk suddenly or abruptly away from the plane of the outer portion of the disk in such manner as to form an annular shoulder, *b*, at the junction of the two surfaces. The outer annular face, *c*, by which the furrow is formed, is made of a width of three inches, more or less, as occasion may require. I prefer to construct the disk with the outer portion, *c*, of a flat form in an outer plane, as represented in Fig. 2, it being found in practice that a disk of this form adjusted in the proper position will give the best attainable results; but, if preferred, the portion *c* may be made of a curved or convex form in cross-section, as shown in Fig. 4.

The essence of the invention consists in depressing the central portion of the face suddenly below the level of the periphery of the operative portion. The result of this construction is that when the disk is in action the earth, passing the shoulder *b* toward the center of the disk, is suddenly relieved from pressure or resistance, and that on again meeting the shoulder at the opposite side of the disk it is thrown outward with a curving or turning action in such manner that the earth is disintegrated and directed across the peripheral portion of the disk in a manner which effects a very thorough scouring action. Disks having the depressed center will run easily and cleanly in all soils.

The disks are preferably constructed of a single plate of steel forged or otherwise fashioned into shape. They will be provided with the ordinary supporting-hub at the center, or otherwise supported, the only requirement being that there shall be a break in the continuity of their operative surfaces, as described.

Having thus described my invention, what I claim is—

1. A furrow-opening disk having a central portion abruptly depressed below the plane of the periphery, as described and shown, to

form an abrupt shoulder on the working-face thereof.

2. A furrow-opening disk having an annular face, *c*, of a true flat form, a central depressed portion, and an abrupt shoulder between the flat face and the central depressed portion, substantially as described.

3. A furrow-opening disk having its outer face provided with an abrupt annular shoulder, *b*.

4. In combination with a drag-bar, a fur-

row-opening disk carried thereby in a position oblique to the line of travel, said disk having its working-face formed with a central depression and an abrupt annular shoulder as distinguished from a disk having a smooth concave surface. 15

WILLIAM D. ARNETT.

Witnesses:

P. J. CLEVINGER,
GEO. W. EMERY.