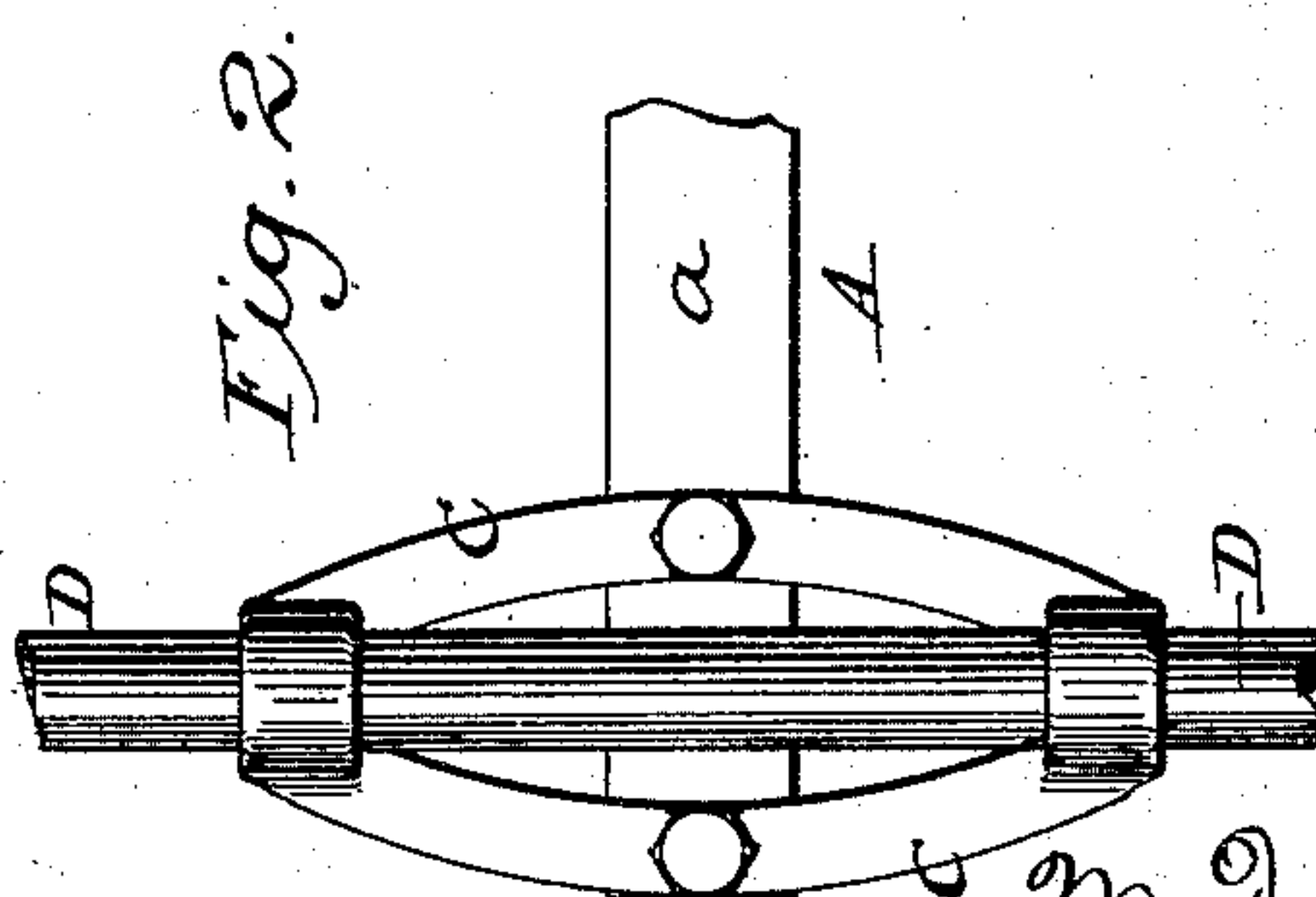
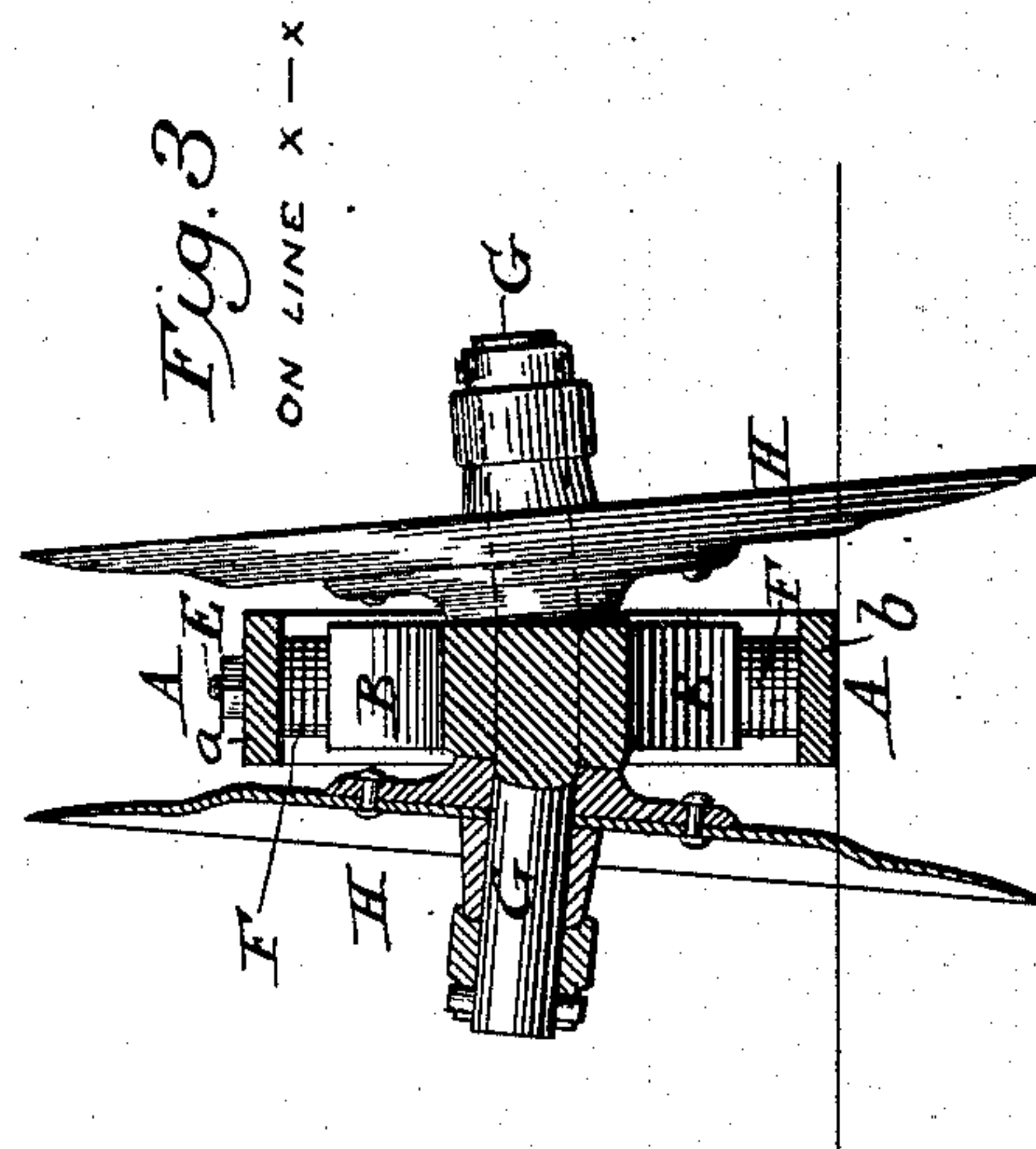
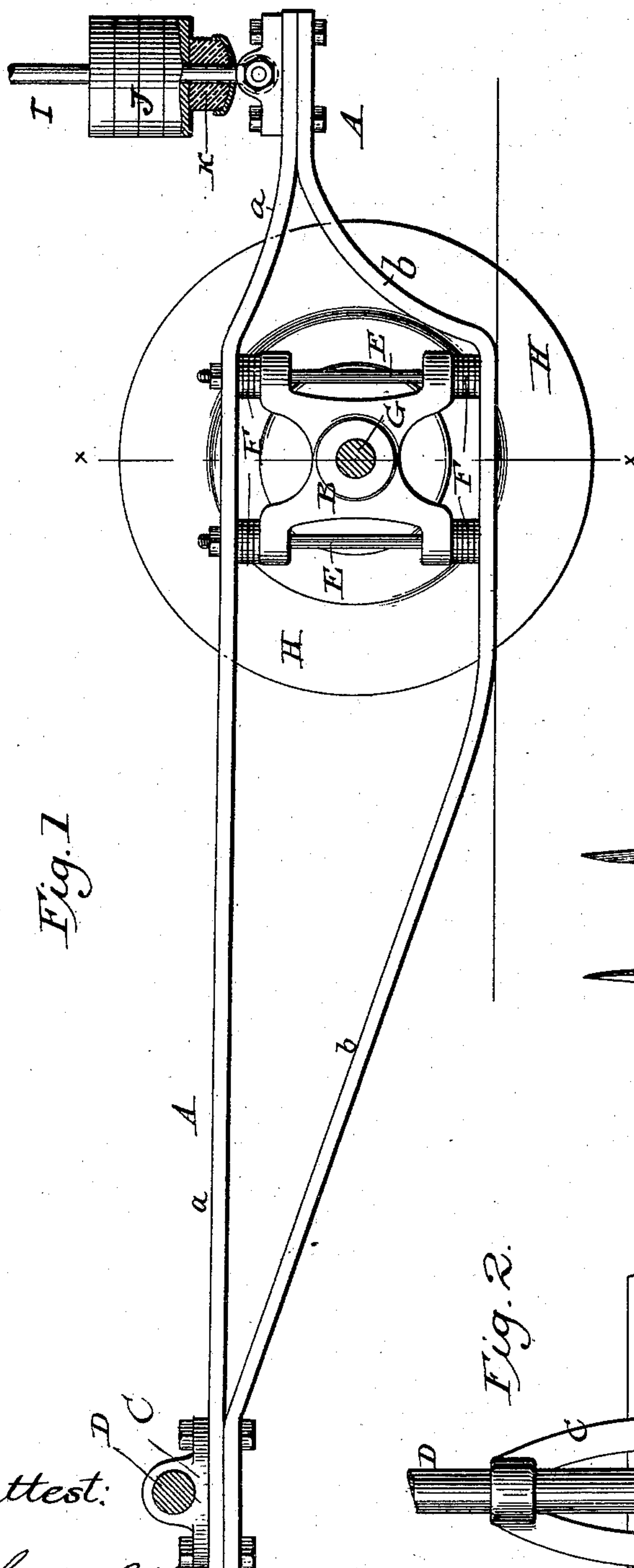


(No Model.)

W. D. ARNETT.
SEEDER.

No. 410,064.

Patented Aug. 27, 1889.



Attest:

Sidney P. Hockingworth
Ch. R. Kennedy.

Inventor:

Mr. D. Arnett.
By his Atty
Phil. T. Dodge

UNITED STATES PATENT OFFICE.

WILLIAM D. ARNETT, OF SPRINGFIELD, OHIO.

SEEDER.

SPECIFICATION forming part of Letters Patent No. 410,064, dated August 27, 1889.

Application filed February 28, 1888. Renewed February 16, 1889. Serial No. 300,210. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM D. ARNETT, of Springfield, in the county of Clark and State of Ohio, have invented certain Improvements in Seeders, of which the following is a specification.

This invention relates to that class of seeding-machines in which drag-bars are provided with upright disks arranged in planes oblique to the line of travel for the purpose of opening the seed-receiving furrows; and the invention consists in an improved manner of constructing the drag-bars and adjustably attaching the disk or disks thereto, and in combining with the drag-bar and its depressing-weight an intermediate spring.

In the accompanying drawings, Figure 1 represents a side elevation of a drag-bar having my improvement applied thereto, one of the disks being removed to expose other parts to view. Fig. 2 is a top plan view of the forward end of the bar. Fig. 3 is a cross-section on the line *x x* of Fig. 1.

Referring to the drawings, A represents the drag-bar consisting of two longitudinal metallic straps *a* and *b*, arranged one over the other, their ends being united but their middle portions separated to permit the introduction of a disk-carrying plate B.

I commonly make the bars or straps *a* and *b* of iron two and a quarter by one-quarter of an inch in cross-section. They may be bent or curved vertically in any suitable manner provided they are adapted to admit the plate B between them, and provided the lower member *b* is adapted to ride on the surface of the ground and serve as a runner to regulate the depth of the furrows. At their forward ends the members *a* and *b* are riveted or bolted to a plate C, having ears to receive the horizontal supporting-shaft D, this arrangement serving to draw the bar forward and to prevent its lateral play at the rear end while allowing it to swing freely in a vertical direction.

The plate B is entirely made of cast-iron and is mounted at its front and rear edges on vertical guide-rods or bolts E, which connect the upper and lower members of the drag-bar. The plate B is preferably formed with perforated ears, as shown, to receive the guide-

bars; but it may be given any marginal form desired, provided only it is adapted to slide vertically upon the guides.

In order to hold the plate firmly in position and to provide for its vertical adjustment at will I mount on the guide-rods a series of washers F, any of which may be placed at will above or below the plate, the guide-rods being first withdrawn to permit their transposition. It will thus be seen that by changing the position of the washers so as to increase the number below and decrease the number above, or vice versa, the position of the plate may be regulated as desired.

The plate is provided with an axle G, projected on two sides and adapted to carry the disks H. This axle is commonly placed in position in the mold and the plate cast around the same; but the axle may be secured to the plate in any other suitable manner, and when required it may be projected on one side only to receive a single disk. For the purpose of forcing the disk into the soil I propose to provide the drag-bars with weights in essentially the same manner as represented in Letters Patent No. 345,403, issued to me on the 13th day of July, 1886.

In practice I have found that in traveling over irregular ground these weights have a tendency to vibrate vertically in an objectionable manner. To overcome this difficulty I now introduce between the drag-bar and weight a spring, which may be constructed and applied in any suitable manner. In the drawings I represents a rod rising from the rear end of the drag-bar and carrying the series of weights J, and K represents a rubber spring inserted between the lowermost weight and the top of the drag-bar, which latter is provided with a plate or bearing to sustain the lower end of the spring. A spiral spring or a spring of other suitable form may be applied in place of the rubber spring shown in the drawings.

While I prefer to construct the drag-bar in the particular manner represented it will be understood that the plate B may be applied to and adjusted by the washers within a cast-metal drag-bar or a drag-bar otherwise formed with an opening for the admission of the plate.

Having thus described my invention, what I claim is—

1. The drag-bar consisting of the upper and lower members *a* and *b*, in combination with the intermediate disk-supporting plate B, the guide-rods E, and the movable washers F.
2. In combination with a drag-bar having an opening therein, a plate located in said opening and provided with an axle, a furrow-opening disk mounted on said axle, and a series of plates or washers adapted to be applied above or below the plate at will, whereby the plate and disk may be adjusted vertically in relation to the drag-bar.
3. In combination with a drag-bar having

a furrow-opening device attached thereto, a weight to depress said bar, and a spring interposed between the weight and drag-bar.

4. The drag-bar, the rod I, rising therefrom, and the weights J, applied to said rod, in combination with the intermediate springs K, also mounted on the rod between the weight and the drag-bar.

In testimony whereof I hereunto set my hand, this 26th day of October, 1887, in the presence of two attesting witnesses.

WILLIAM D. ARNETT.

Witnesses:

H. S. SHOWERS,
F. C. SCHMAHL.