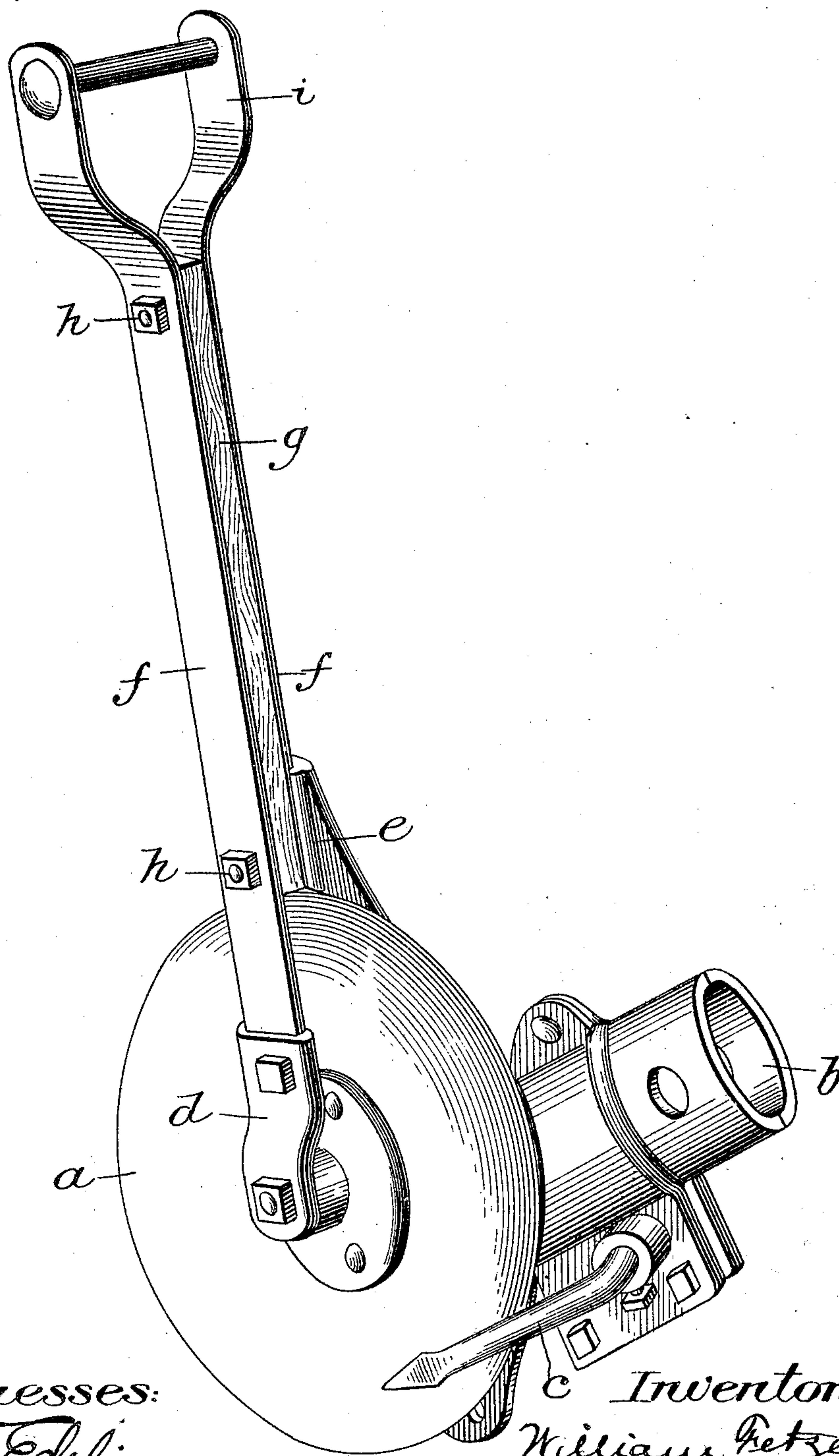


No. 695,713.

Patented Mar. 18, 1902.

W. FETZER.
DRAG BAR FOR DRILLS.
(Application filed Nov. 21, 1901.)

(No Model.)



Witnesses:

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UNITED STATES PATENT OFFICE.

WILLIAM FETZER, OF MIDDLETOWN, OHIO.

DRAG-BAR FOR DRILLS.

SPECIFICATION forming part of Letters Patent No. 695,713, dated March 18, 1902.

Application filed November 21, 1901. Serial No. 83,139. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM FETZER, a citizen of the United States, residing at Middletown, county of Butler, State of Ohio, have
5 invented certain new and useful Improvements in Drag-Bars for Drills; 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
10 it appertains to make and use the same.

The object of the invention is to improve the construction of the drag-bars by means of which the furrow-openers are pivotally connected to the machine-frame.

15 As herein disclosed the improvement is illustrated and described only as embodied in a machine where the disk-like type of hoes or furrow-openers are employed; but as the benefits of the new construction accrue to machines having trailing furrow-openers of any
20 kind the invention is not limited to any particular machine.

Referring to the accompanying drawing, forming a part of this specification, the figure
25 illustrates in perspective a complete drag-bar with furrow-opener and spout of the disk type.

No particular novelty is herein claimed for any part of this device except the construction of the drag-bar itself.
30

In the drawing, *a* denotes the disk-like furrow-opener; *b*, the grain-spout; *c*, the cleaner, and *d e* the clips by means of which the disk is journaled at the rear end of the bar.

35 The drag-bar itself is formed of two metallic bars *f f*, which are spraddled apart into a sort of yoke *i* at their upper ends where they are to be pivotally connected to the machine-frame, so as to secure as wide a bearing as
40 practicable to steady the bar and the trailing parts against lateral strains. From this spraddled part at the upper end the individual bars extend rearwardly parallel with each other to the clips, by means of which they are secured
45 to the disk-bearing and spout-casting, respectively. Heretofore they have either been widely separated at points intermediate between the yoke *i* and the disk *a*, leaving an open space between them, or have been secured together in actual contact between these
50 points and spraddled apart at their rear ends into another yoke-like bearing to straddle the

edges of the disk. The former arrangement is objectionable for the reason that the long open space between the bars is extremely liable to catch cornstalks, weeds, &c., and the
55 latter arrangement is objectionable because the spraddled lower ends afford an enlarged opening just in front of the disk into which all sorts of trash lodges and also because in
60 order to secure the necessary strength, rigidity, and resistance to torsional strains it is necessary to employ larger, heavier, and more expensive bars, as well as because the constant jarring and vibration to which the bars
65 are subjected in use tends to crystallize the metal, thus greatly shortening their lives.

In my improved construction the bars are straight and parallel from a point immediately in rear of the yoke-like bearing *i* all the
70 way to the clips *d e*, by means of which the disk *a* and the spout *b* and other parts are secured to them at their rear ends; but instead of being widely separated on the one hand or in actual contact on the other they are
75 spaced, preferably, about an inch apart, and between them and secured in place by the bolts *h h* or other means by which the bars are secured to each other is located a non-metallic filling-piece or cushion *g*. This fill-
80 ing-piece or cushion is preferably made of wood and extends all the way from the yoke *i* to the disk *a*, just clearing the edge of the disk, as shown in the drawing. The particular advantages of this arrangement are
85 threefold, viz: It permits the employment of thinner lighter bars without the necessity of separating them widely in order to secure the requisite strength and closes entirely the spaces between the bars midway
90 of their length and just in front of the disk, thereby preventing the catching and accumulation of stalks, weeds, and other trash, as before described. It also greatly stiffens the bars against torsional and lateral strains, and
95 in addition to these advantages the filling-pieces being of wood or some other non-metallic substance the bars *f f* are cushioned and crystallization of the metal is greatly diminished, if not altogether eliminated. The
100 drag-bar as a whole is therefore lighter and stronger than those heretofore employed, and the mere saving of weight in machines of this description where gangs of such bars,

disks, and spouts are employed is of great benefit both to the manufacturer and user. The freedom from liability to be warped out of shape by torsional strains is also of immense advantage where the heaviest parts of the machine trail upon the ground and have no support or brace at any intermediate point between their connection with the frame and the ground. The closing up of the spaces between the bars also lightens the draft of the machine by doing away with that constant "pull back" and strain on the team which comes from the stalks, weeds, and other trash catching between the bars, and, furthermore, the cushioning of the individuals comprising the bars with a substance softer than the material of the bars themselves increases the durability of the bars, as above described, and adds greatly to their appearance.

I am aware that it has been proposed to bolt metallic strips to the opposite sides of a wooden plow-beam near its rear end and also that such a beam has been formed throughout of metallic bars with a piece of wood between them. My invention is, however, clearly distinguished from each of these arrangements, both in the purpose for which it was especially designed and in the result accomplished, and I do not herein claim the making of plow-beams or analogous parts in such man-

ner. I am also aware of the patent to Field, No. 40,096, September 29, 1863, where a drag-bar for hoe-drills is made of a thin tapering plank that has strips of metal screwed to its edges and which is pivotally connected centrally to the hoes or drill-teeth. I do not, however, herein claim any of these arrangements; but

What I do claim, and desire to secure, is—

1. In a disk drill, the combination to form a drag-bar, of two metallic bars secured together in parallel relation, and a non-metallic filling-piece interposed between them so as to close the intermediate space between and clamp the filling-piece between them so as to form a cushion for the metallic bars, and also strengthen them against torsional strains.

2. In a disk drill, the combination to form a drag-bar, of two metallic bars secured together in parallel relation, and a wooden filling-piece interposed between them so as to close the intermediate space between and form a cushion for the metallic bars, and also to strengthen them against torsional strains.

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

WILLIAM FETZER.

Witnesses:

W. D. VORHIS,
ALONZO BREDE.