

(No Model.)

H. PRAY.
ICE PLOW.

No. 483,015.

Patented Sept. 20, 1892.

Fig: 1.

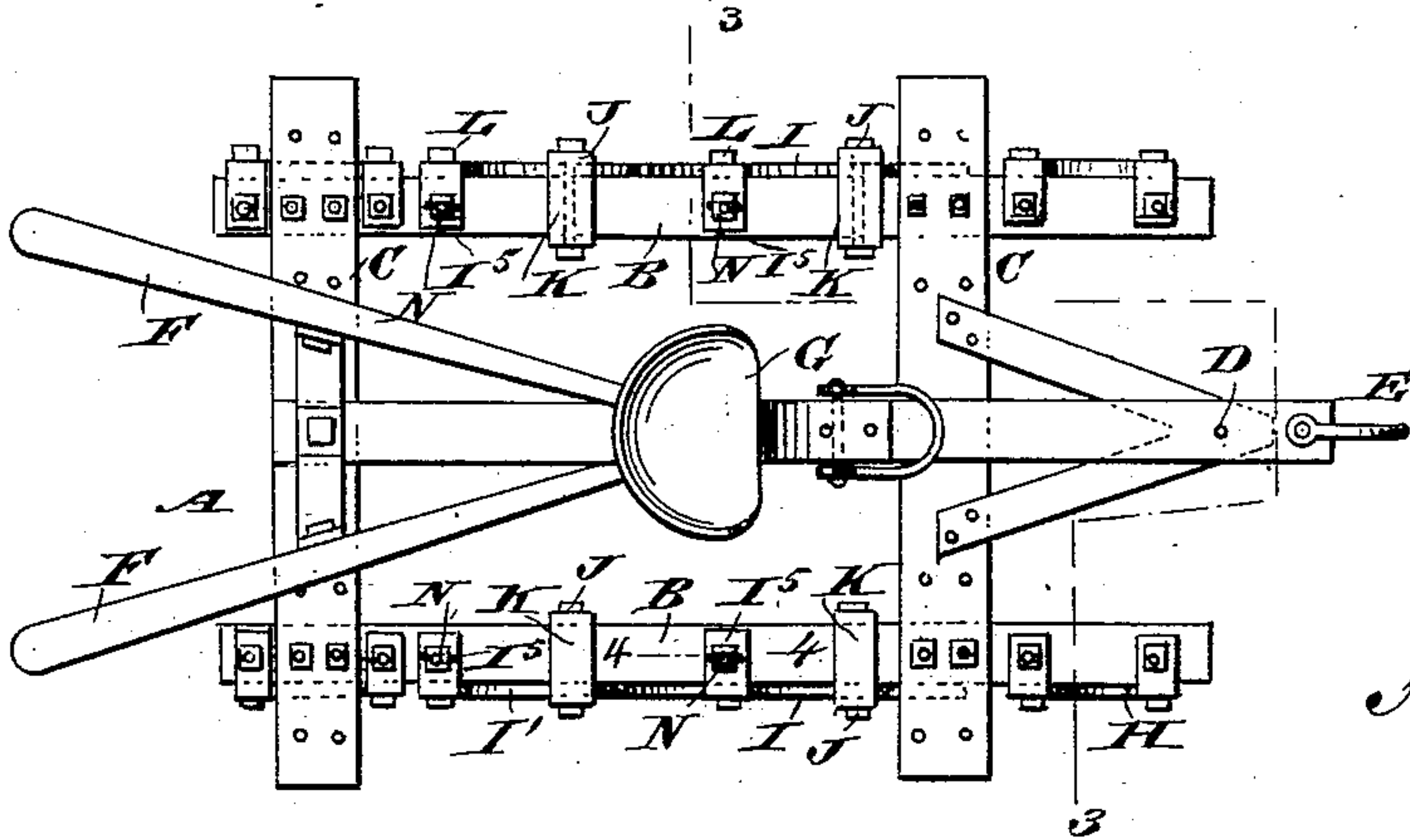


Fig: 4.

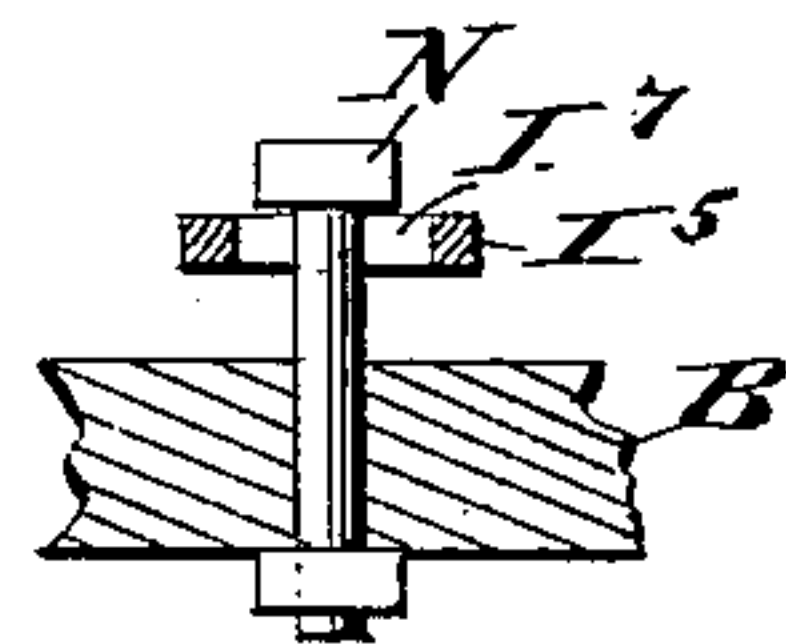


Fig: 2.

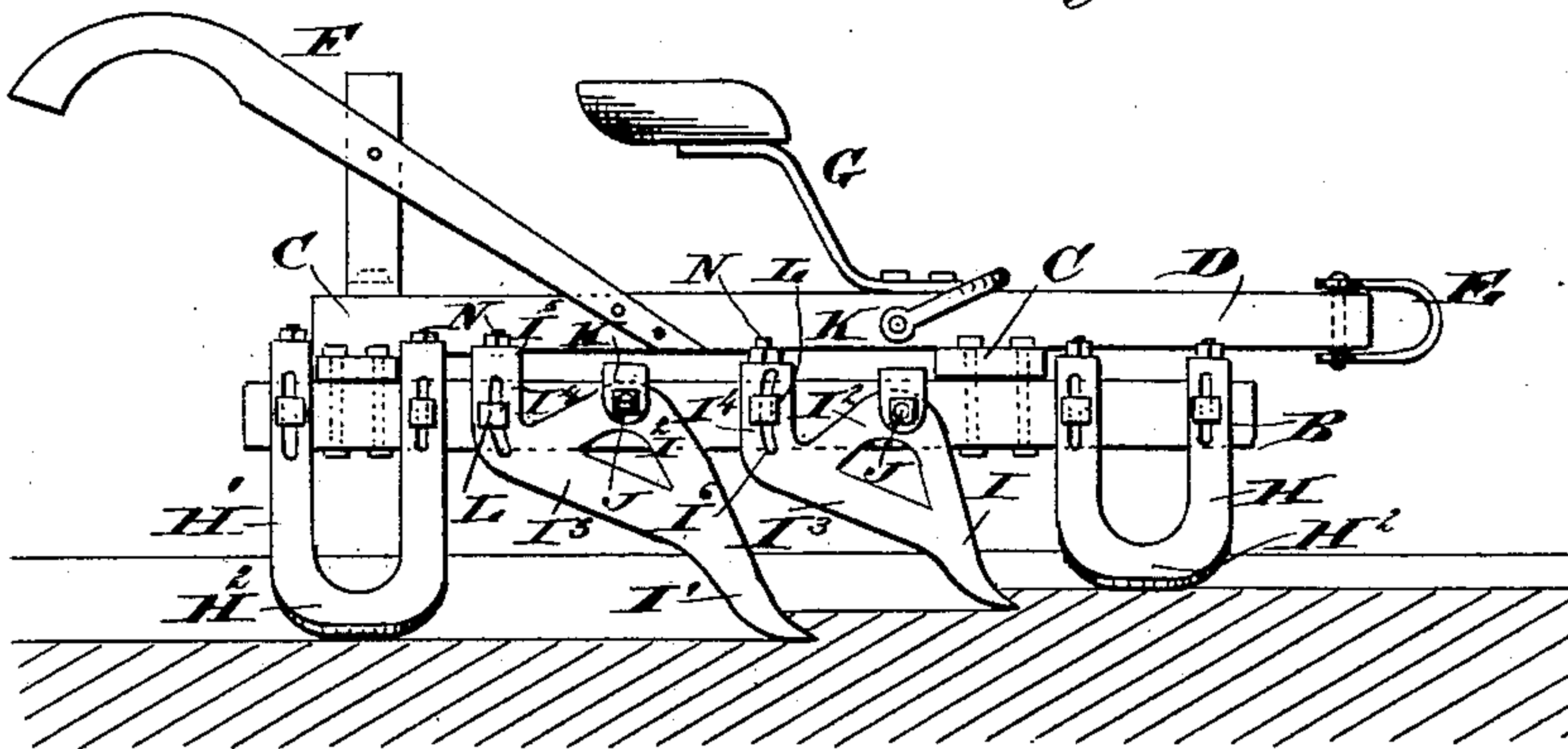
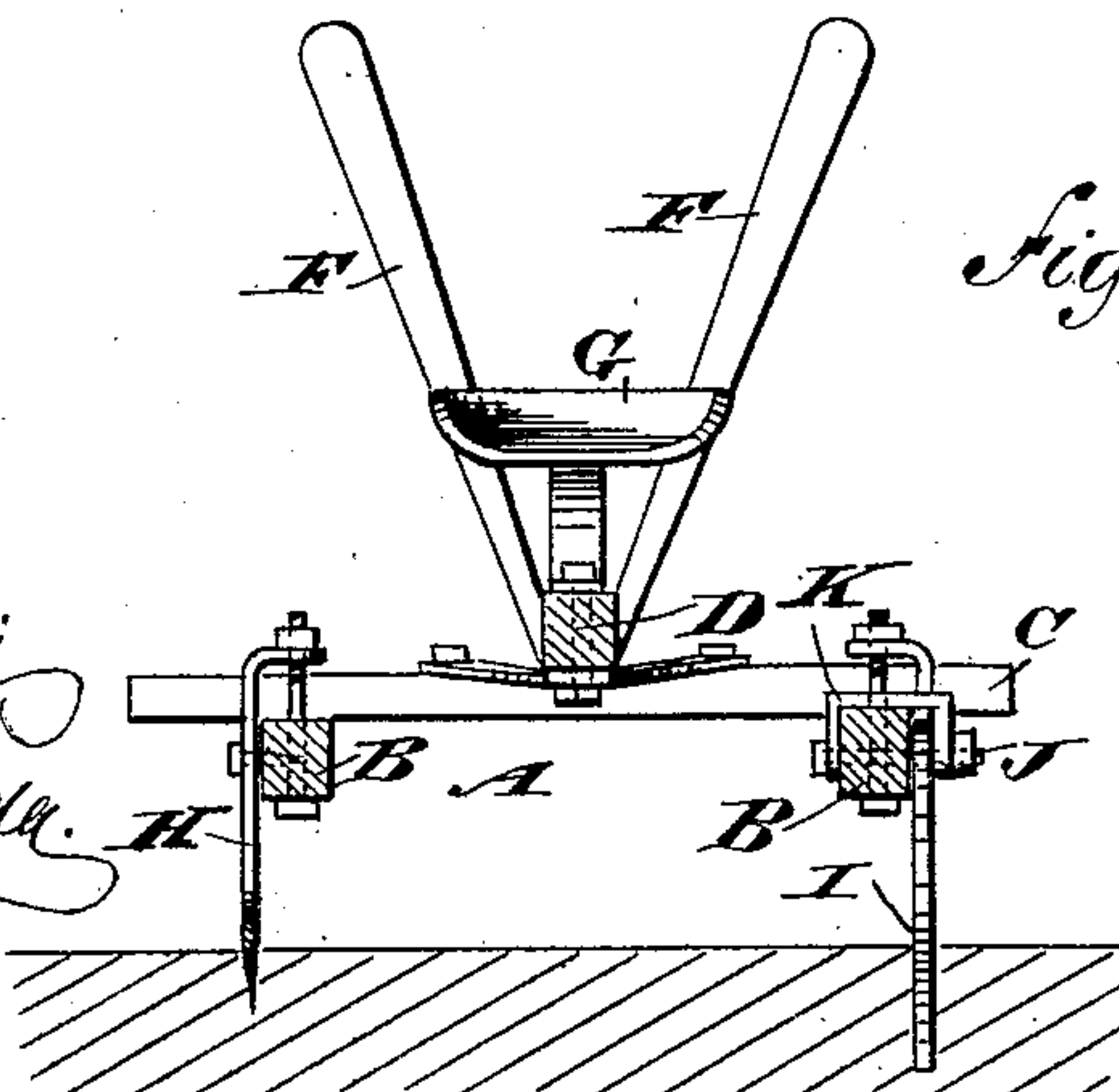


Fig: 3.



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UNITED STATES PATENT OFFICE.

HAMILTON PRAY, OF CLOVE, NEW YORK.

ICE-PLOW.

SPECIFICATION forming part of Letters Patent No. 483,015, dated September 20, 1892.

Application filed March 26, 1892. Serial No. 426,557. (No model.)

To all whom it may concern:

Be it known that I, HAMILTON PRAY, of Clove, in the county of Dutchess and State of New York, have invented a new and Improved Ice-Plow, of which the following is a full, clear, and exact description.

The invention relates to ice-plows such as shown and described in the Letters Patent of the United States No. 419,354, granted to me January 14, 1890.

The object of the present invention is to provide a new and improved ice-pLOW which is simple and durable in construction and arranged to prevent breaking of the cutting-blades and beams.

The invention consists of a longitudinal beam, a clip held on said beam and carrying a bolt extending transversely through the beam, and a cutting-blade pivoted on the said bolt and formed with an extension adapted to be secured to the beam.

The invention also consists of certain parts and details and combinations of the same, as will be hereinafter described, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of the improvement. Fig. 2 is a side elevation of the same. Fig. 3 is a transverse section of the same on the line 3 3 of Fig. 1, and Fig. 4 is an enlarged longitudinal section of part of the improvement on the line 4 4 of Fig. 1.

The improved ice-pLOW is provided with a main frame A, comprising principally two longitudinal beams B, connected with each other on top by transverse beams C, arranged to permit of moving the longitudinal beams nearer together or farther apart, as desired, according to the width of the ice-blocks to be cut.

On top and in the middle of the transverse-ly-extending beams C is secured a draft-beam D, provided at its front end with a clevis E, to which the horse or other animal which is to pull the ice-pLOW is attached. On the longitudinal beam D and on the rear transverse beam C are secured the handles F, and on the draft-beam is also secured the seat G.

The construction thus far described is the same as in the patent above referred to.

On each of the longitudinal beams B and near the front and rear ends of the same are arranged the runners H and H', of which the runner H' is somewhat longer than the runner H, and both are held vertically adjustable on the beams similarly to the runners shown in the patent referred to. The middle portion H² of each of the runners H is not semicircular, as shown in the said patent, but is straight for a short distance and then curved upwardly, as plainly illustrated in Fig. 2. This is done to permit the runners to readily pass over the transverse cut in the ice without the front runner dropping down and causing a deeper cut of the cutting-blades, as will be readily understood by reference to Fig. 2.

Between the front and rear runners H and H' on each of the longitudinal beams B are arranged a series of cutting-blades I I', of which the blade I extends below the lower edge of the runner H, while the second blade I' extends below the blade I, so as to form a second or deeper cut. The cutting-blades I and I' are both alike in construction, and each is formed at its upper end with an inverted-U-shaped extension I², the ends of which are connected with each other by a brace I³, arranged diagonally—that is, extending upward and rearward from the blade, as plainly shown in Fig. 2. From the brace I³ extends upwardly the part I⁴, held against the side of the beam B, and from the part I⁴ extends transversely across the top of the beam B the arm I⁵. The extension I² is hung on a bolt J, extending transversely through the beam B and held at its ends in a clip K, made U-shaped and engaging and resting on top of the beam B, the ends of the said clip K extending downwardly at the sides of the beam, as will be readily understood by reference to Fig. 3. The clip K by resting on top of the beam B supports the bolt J, so as to prevent the bolt from tearing through the beam and breaking the same when the blade I cuts in the ice. Thus the strain on the cutting-blade is transmitted to the bolt J, and as the latter is supported in the clip K the beam B is not liable to break, as has been fre-

quently the case in plows constructed according to my former patent above mentioned.

The part I⁴ of each cutting-blade I or I' is formed with a segmental slot I⁶, the center of which is in the center of the bolt J. This segmental slot I⁶ is engaged by a bolt L, extending transversely through the beam B. By loosening the bolt L the blade can be swung on the bolt J, so as to increase or decrease the depth of the cut to be made. The transverse extension-arm I⁵ is provided with a longitudinally-extending slot I⁷, through which passes a bolt N, extending longitudinally through the beam B, as plainly illustrated in Fig. 4. The slot I⁷ permits of swinging the blade I or I' on the bolt J, as above described, and the bolt N limits the upward swinging motion and forms a stop, according to the desired depth of cut to be made. It will further be seen that the cutting-blade I or I' is very durable and is not liable to break, on account of the strengthening-brace I³ and the extension I², which forms with the said brace a triangular support or frame for the blade.

The ice-plow is used in the same way and manner, as described in the patent above referred to, so that further description is not deemed necessary.

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

1. In an ice-plow, the combination, with a frame provided with longitudinal beams, of cutting-blades held on each of the said beams, clips resting on top of each beam, and a bolt supported in the ends of the said clip and extending transversely through the said beam, the said bolt forming a pivot for the cutting-blade, substantially as shown and described.

2. In an ice-plow, the combination, with a frame having longitudinal beams, of a U-shaped clip resting with its middle part on

top of the said beam, a bolt held in the ends of the said clip and extending transversely through the said beam, and a cutting-blade pivoted on the said bolt and adapted to be vertically adjusted at its free upper end on the said beam, substantially as shown and described.

3. An ice-plow provided with a cutting-blade having an extension and a brace connecting the ends of the extension with each other, so as to form a triangular frame for the point of the cutting-blade, substantially as shown and described.

4. In an ice-plow, the combination, with a clip held on the top of a longitudinal beam and a bolt extending transversely and supported in the ends of the said clip, of a cutting-blade provided with a point, a triangular frame supporting the said point and pivoted on the said bolt, an upward-slotted extension supported on the said triangular frame, and a transverse arm extending from the upper end of the said extension, substantially as shown and described.

5. In an ice-plow, the combination, with a clip held on the top of a longitudinal beam and a bolt extending transversely and supported in the ends of the said clip, of a cutting-blade provided with a point, a triangular frame supporting the said point and pivoted on the said bolt, an upward-slotted extension supported on the said triangular frame, a transverse arm extending from the upper end of the said extension, and means, substantially as described, for vertically adjusting the said extension of the triangular frame, as set forth.

HAMILTON PRAY.

Witnesses:

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