

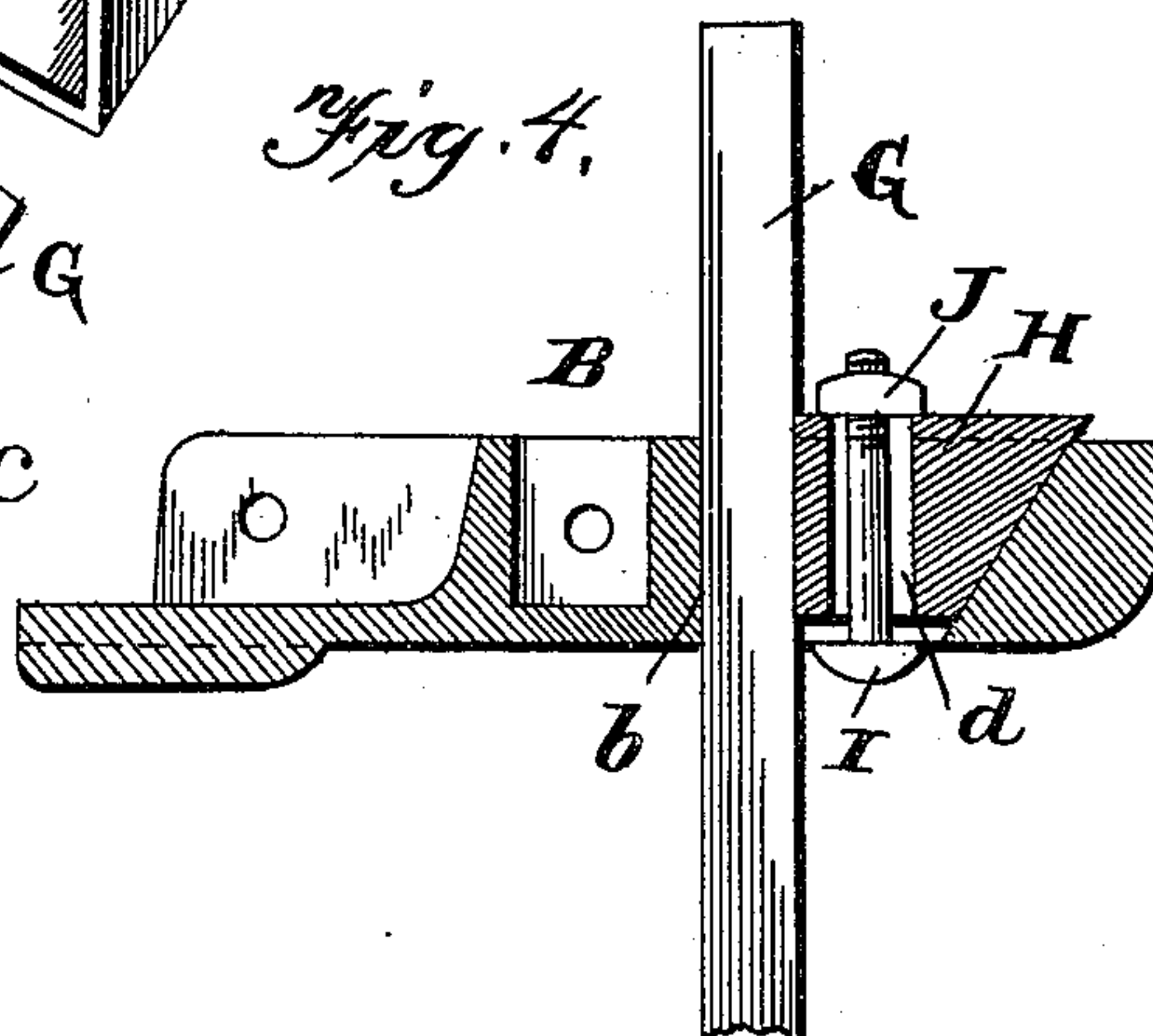
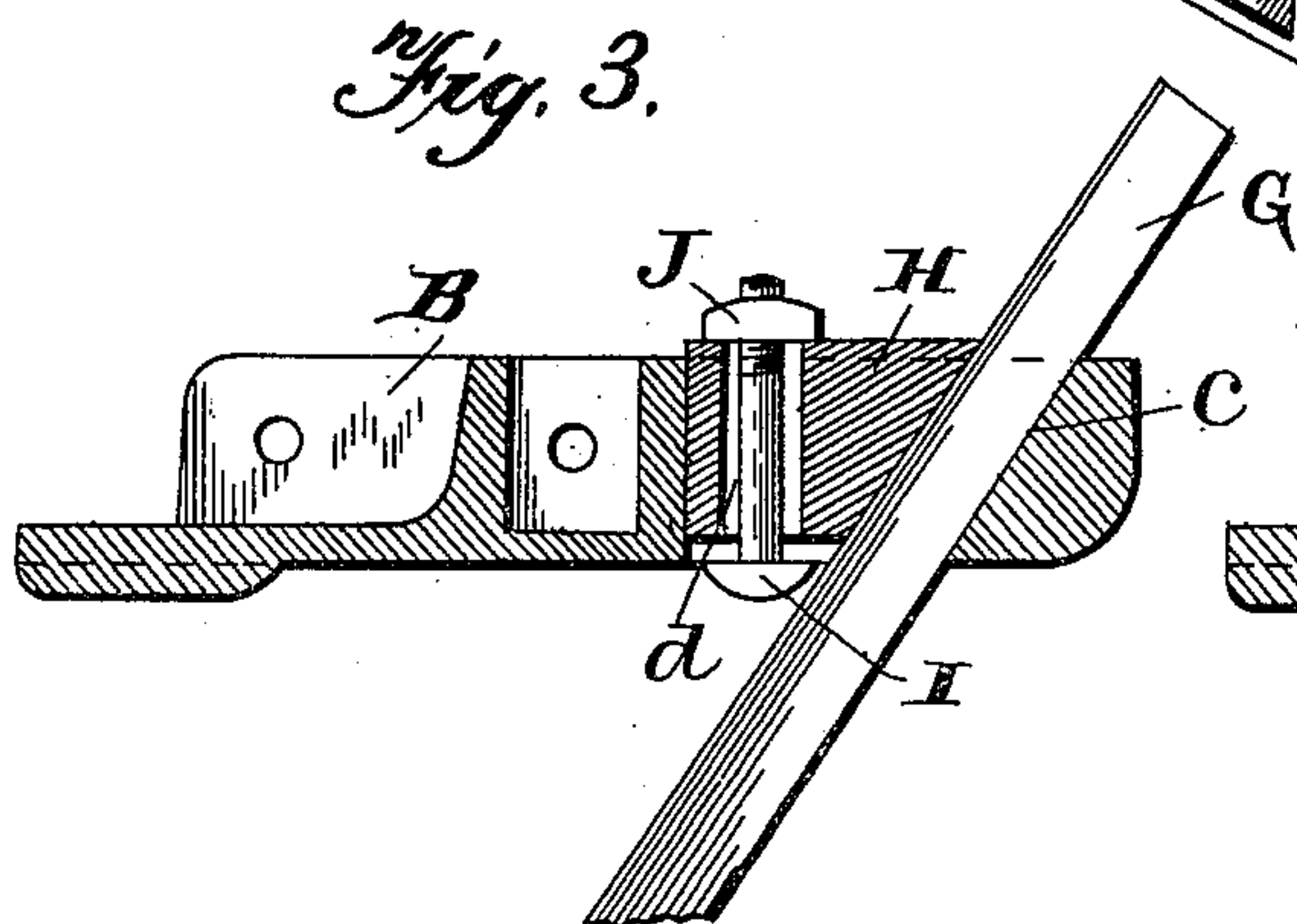
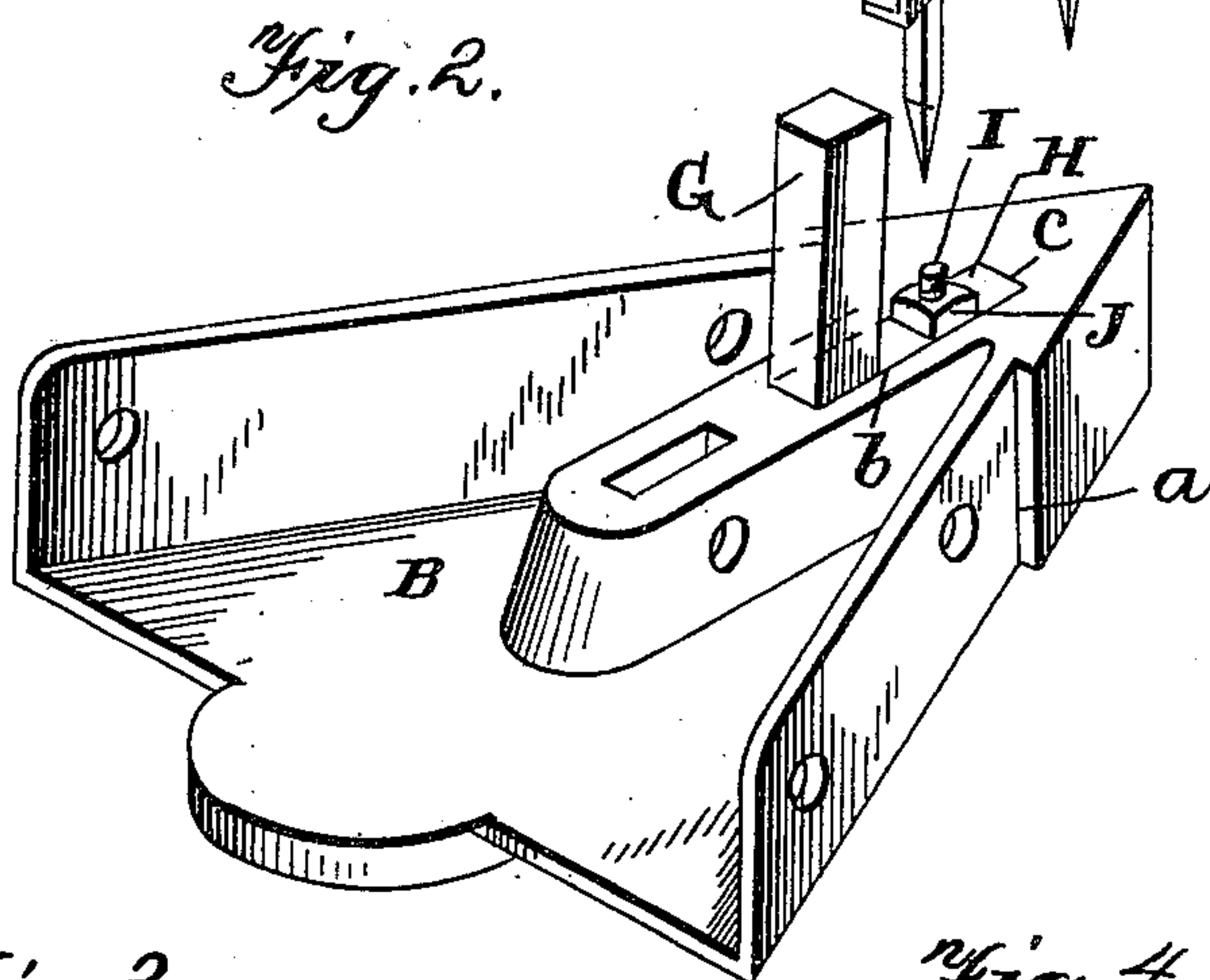
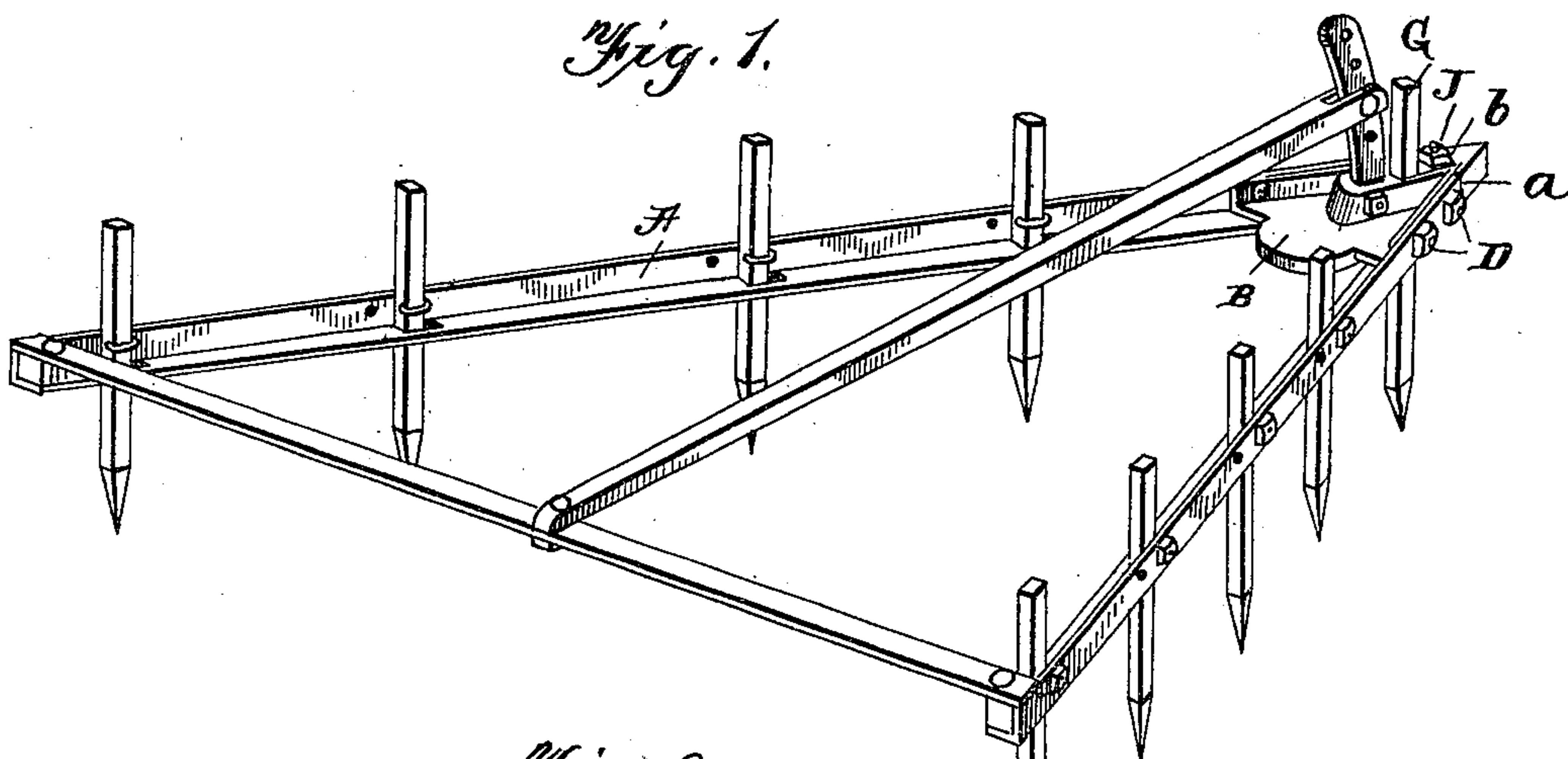
No. 640,008.

Patented Dec. 26, 1899.

U. D. MILLER.
HARROW.

(Application filed Jan. 16, 1899.)

(No Model.)



WITNESSES

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UPSURE D. MILLER, OF NEW PHILADELPHIA, OHIO, ASSIGNOR TO JOHN H. BROWN, OF RURAL RETREAT, VIRGINIA.

HARROW.

SPECIFICATION forming part of Letters Patent No. 640,008, dated December 26, 1899.

Application filed January 16, 1899. Serial No. 702,340. (No model.)

To all whom it may concern:

Be it known that I, UPSURE D. MILLER, a citizen of the United States, residing at New Philadelphia, in the county of Tuscarawas and State of Ohio, have invented new and useful Improvements in Harrows, of which the following is a specification.

My invention relates to improvements in harrows, and pertains to an improved manner of holding the tooth at the point of the harrow in a vertical or an inclined position.

The object of my present invention is to provide the nose or point of a harrow with an elongated slot and a clamping-wedge adapted to be placed in front of or behind the tooth for holding it in a vertical or an inclined position.

In the accompanying drawings, Figure 1 is a perspective view of a harrow embodying my invention. Fig. 2 is a detached perspective view of the nose-piece. Fig. 3 is a longitudinal sectional view through the nose-piece, showing the tooth in the rearwardly-inclined position. Fig. 4 is a similar view showing the tooth clamped in a vertical position.

Referring now to the drawings, A indicates the side bars of the harrow, which are constructed of L-shaped angle-irons, as shown, and B is the nose-piece. This nose-piece is provided at its side with the longitudinal recesses *a*, which receive the vertical flanges of the angle-irons A, as shown, and the bolts D passed transversely through these vertical flanges of the nose-piece and the side bars, thus clamping them securely and firmly together. The nose-piece is provided with the elongated opening *b*, the front wall of which is inclined rearwardly, as shown at *c*, and the tooth G passes through this vertical elongated opening and when held in a rearwardly-inclined position rests against the forwardly-inclined wall of the opening. A clamping-block H is placed in the elongated opening behind the tooth G, the forward end of this clamping block or wedge H being correspondingly inclined to fit against the inclined rear face of the tooth, the rear wall of the said block or wedge being straight to fit against the rear straight wall of the elongated opening, as clearly illustrated. A vertical opening *d* is

made through the block H, and a clamping-bolt I passes through this opening and preferably has its head underneath the nose-piece and extending beyond the slot to engage the opposite walls thereof. A clamping-nut J is placed upon the upper end of this bolt and serves to force the wedge-shaped block downward, and to thus clamp the tooth in a rearwardly-inclined position.

When it is desired to clamp the tooth in a vertical position, the wedge-block is removed and the tooth carried to the rear straight wall of the elongated opening in the nose-piece and the block transferred in front of the tooth and drawn downward in the same manner by means of the nut on the upper end of the bolt, and thus clamping the tooth in position by the block being forced rearward owing to the engaging inclined faces of the front wall of the elongated opening and the front edge of the block, as will be readily understood.

From the above description it will be noted that I am enabled to readily and quickly change the tooth in the nose-piece from a vertical to a rearwardly-inclined position, or vice versa, by simply shifting the wedge-block from the front to the rear, or vice versa, of the tooth, the construction being simple yet effective and durable.

The tooth in the nose-piece has but the rearward inclination; but when the machine is used for the plowing process I find it best to have the front tooth inclined rearward or to be straight rather than to incline forward for the reason that if inclined rearward it tends to keep the harrow to some extent from digging into the ground, and the depth at which the forwardly-inclined teeth enter the ground can be regulated by the vertical adjustment of the front tooth, which inclines rearward. The front tooth inclining rearwardly also serves to shed the trash rather than to pick it up, as would otherwise be the case if it extended in a forward inclination. It will thus be seen that by having the front tooth to incline rearwardly and to be vertically adjustable it serves as a means to regulate the depth at which the nose of the harrow shall enter the ground, and therefore to that extent

regulate the depth the teeth shall cut into the ground, which is found to be a decided advantage in harrows of this type.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A harrow comprising L-shaped side bars, a V-shaped nose-piece having vertical recesses in its sides to receive the vertical flanges of the L-shaped side bars, and clamping-bolts passing through the vertical flanges of the side bars and the nose-piece, substantially as described.

2. A nose-piece for harrows having a vertical horizontally - elongated tooth - opening adapted to receive a tooth, and a wedge placed in said opening and adapted to abut against the tooth and one end wall of the opening, and a clamping member for said wedge-shaped block, substantially as described.

3. A nose-piece for harrows having a vertical horizontally-elongated opening, one end wall of the opening being inclined, a tooth within said opening, and a block having one

edge inclined to fit against the inclined face of the tooth and the clamping member for the block, substantially as described.

4. A nose-piece for harrows having a vertical and horizontally-elongated opening adapted to receive a tooth, a tooth situated therein, and a wedge-block situated in the opening, one end of the block engaging one end of the opening and the opposite end engaging the adjacent face of the tooth, the block having a vertical opening and a bolt passing through said opening with its head engaging the walls of the said opening and a nut situated upon the opposite end of the bolt and engaging the block for forcing it downward and wedging it to position therein, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

UPSURE D. MILLER.

Witnesses:

P. S. OLMSTEAD,
WM. R. SHARP.