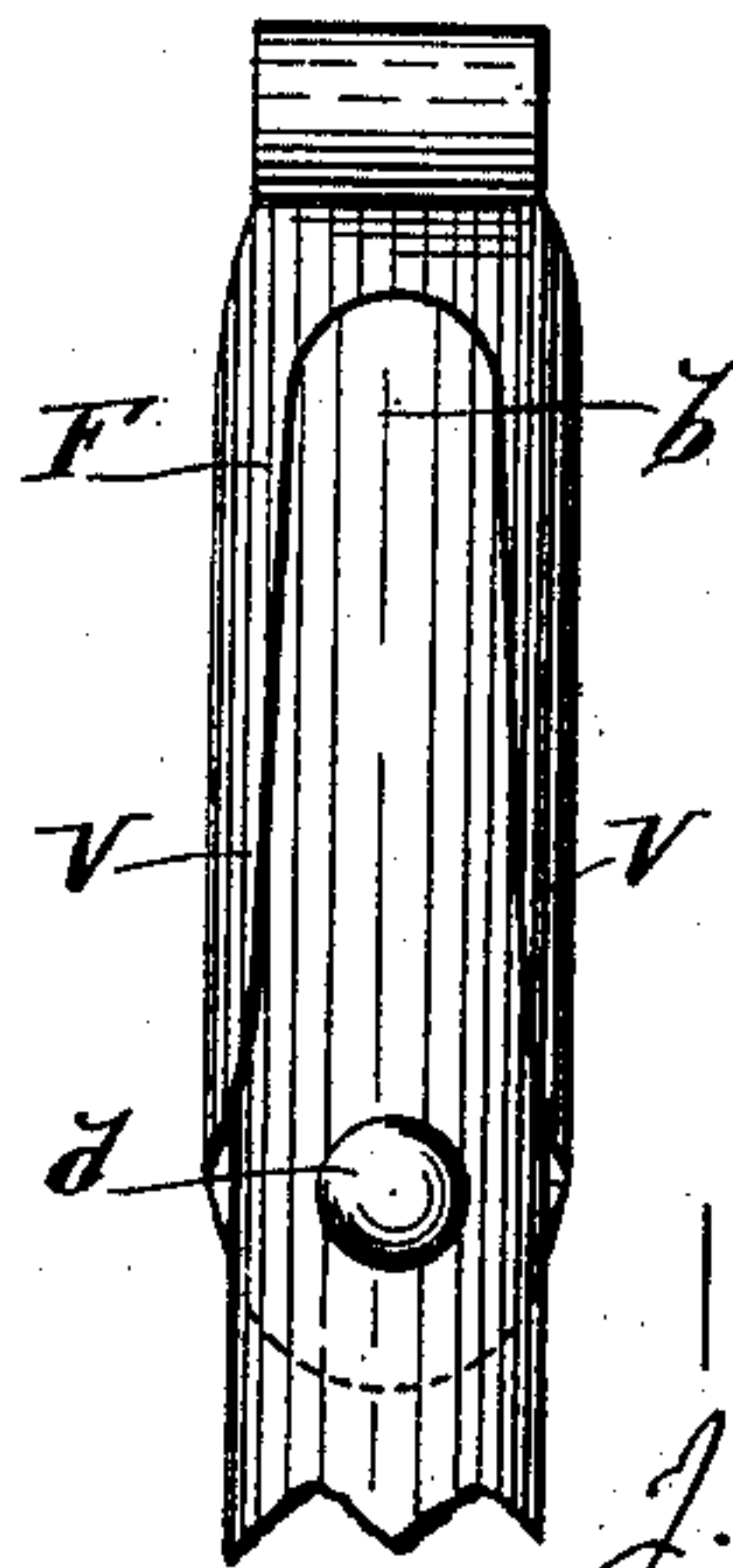
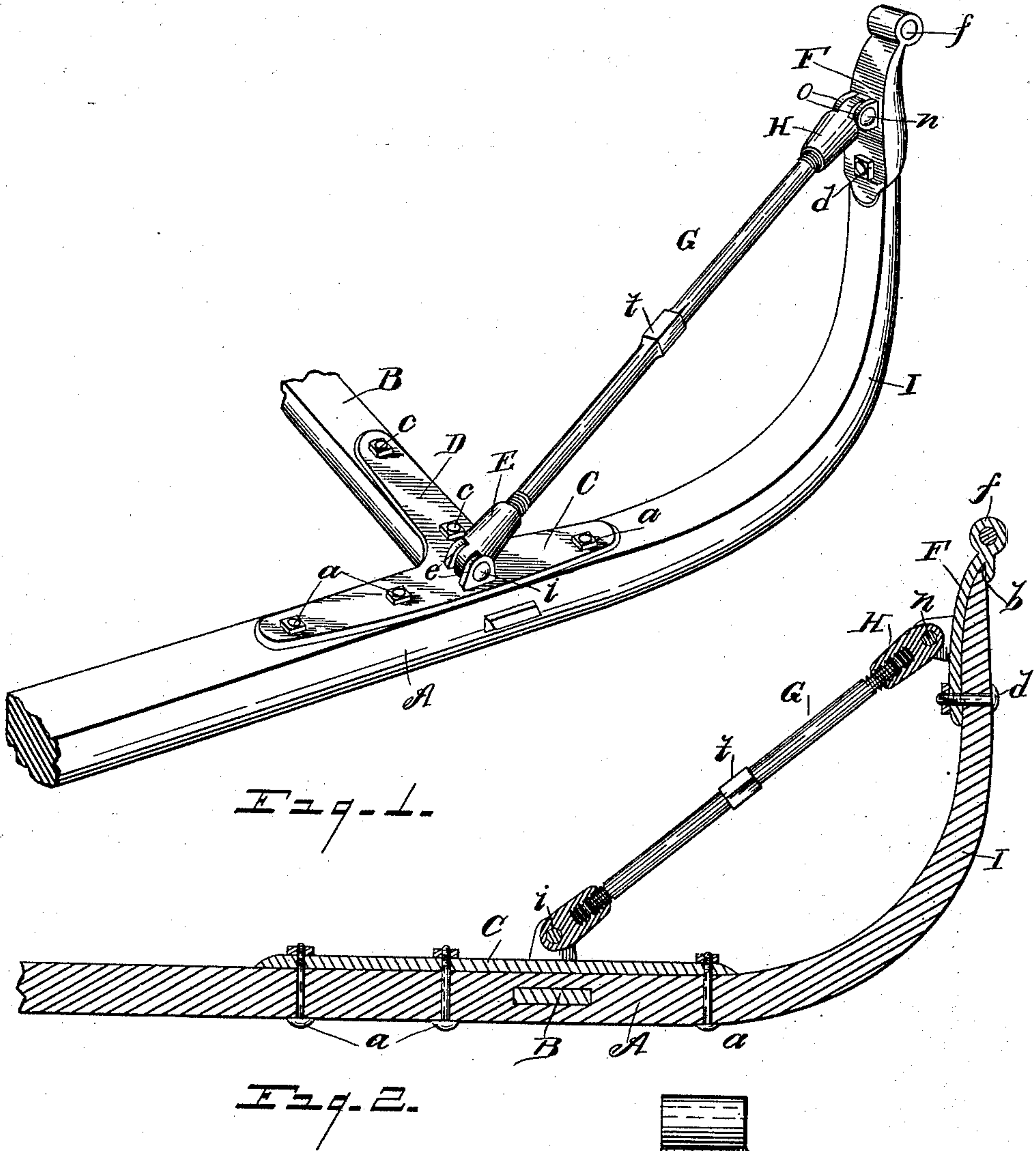


(No Model.)

J. McCRUDDEN.
THILL IRON.

No. 464,983.

Patented Dec. 15, 1891.



WITNESSES.
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UNITED STATES PATENT OFFICE.

JAMES MCCRUDDEN, OF FLINT, MICHIGAN.

THILL-IRON.

SPECIFICATION forming part of Letters Patent No. 464,983, dated December 15, 1891.

Application filed March 30, 1891. Serial No. 386,940. (No model.)

To all whom it may concern:

Be it known that I, JAMES MCCRUDDEN, a citizen of the United States, residing at Flint, in the county of Genesee and State of Michigan, have invented certain new and useful Improvements in Thill-Irons; and I do 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 it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in thill-irons; and it consists in a certain construction and arrangement of parts, as fully hereinafter set forth, the essential features of which being pointed out, particularly, in the claim.

The object of the invention is to provide an iron for vehicle-thills that is light, cheap, and strong, that may be readily attached to thills generally, and by means of which the bend in the rear end of the thills may be securely retained in any desired curve. This object is attained by the construction illustrated in the accompanying drawings, in which—

Figure 1 is an inverted perspective view of the rear portion of a thill provided with my improved thill-iron, like parts being broken away. Fig. 2 is a central longitudinal section through Fig. 1, the brace-rod being in elevation. Fig. 3 is an enlarged elevation of the rear end of the thill.

Referring to the letters of reference, A indicates a thill-shaft, and B the cross-bar of the thills.

C indicates a T-shaped plate, that is secured to the under face of the thill, at the junction of the cross-bar therewith, by means of the bolts *a*. The right-angle portion D of said plate extends onto the cross-bar B and is secured by the bolts *c*. (More clearly shown in Fig. 1.) The under face of the plate C is provided with the depending lugs *e*, between the adjacent faces of which is secured one end of the coupling link or shackle E by

means of the bolt or rivet *i*. In the opposite end of said shackle is a socket having a right-hand screw-thread.

F indicates a plate attached to the under face of the thill-shaft at its rear end, said plate having a socket that receives the end *b* of the thill, as clearly shown in Figs. 2 and 3, and also having the curved flange *v*, that extends onto the upper face of the thill, said plate F being secured to the thill by one or more bolts *d* and is provided on its outer end with an eye *f*, by means of which it may be coupled to the draw-clip on the axle of the vehicle. Projecting from the face of the plate F are the lugs *o*, between the adjacent faces of which is secured one end of the coupling link or shackle H by means the bolt or rivet *n*, the opposite end having a socket provided with a left-hand screw-thread.

G indicates a brace or truss-rod, whose ends are provided, respectively, with a right and left hand screw-thread adapted to screw into the threaded sockets of the shackles E and H, whereby the thills are securely braced and the form of the bend I at the rear portion of the thills is perfectly retained. The brace-rod G, near its longitudinal center, is provided with a square portion *t*, to which a wrench may be applied for the purpose of turning said rod to increase or decrease the tension thereon.

In the ordinary manner of ironing thills the iron plate extends along the under face of the entire bent portion, adding weight to the thills and cost to their construction, and said plate often becomes sprung, causing the thills at the bent portion to lose their form. By using my improved iron the thills are made lighter and may be more cheaply constructed and are much stronger, the brace-rod preventing their springing at the bent portion and losing their form, and by turning said rod the heel of the thills may be drawn toward the cross-bar to give any desired bend to the thills, in which position they are securely retained.

Having thus fully set forth my invention, what I claim as new, and desire to secure by Letters Patent, is—

In combination with the curved thill-shaft and its cross-bar, the T-shaped metal plate secured to the under face of said parts, the socket-plate fitting over the rear end of the shaft, the truss-rod, and the right and left hand screw-threaded couplings uniting the truss-rod to said metal plates, substantially as set forth.

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

JAMES MCCRUDDEN.

Witnesses:

GEO. E. TAYLOR,
RALPH L. ALDRICH.