

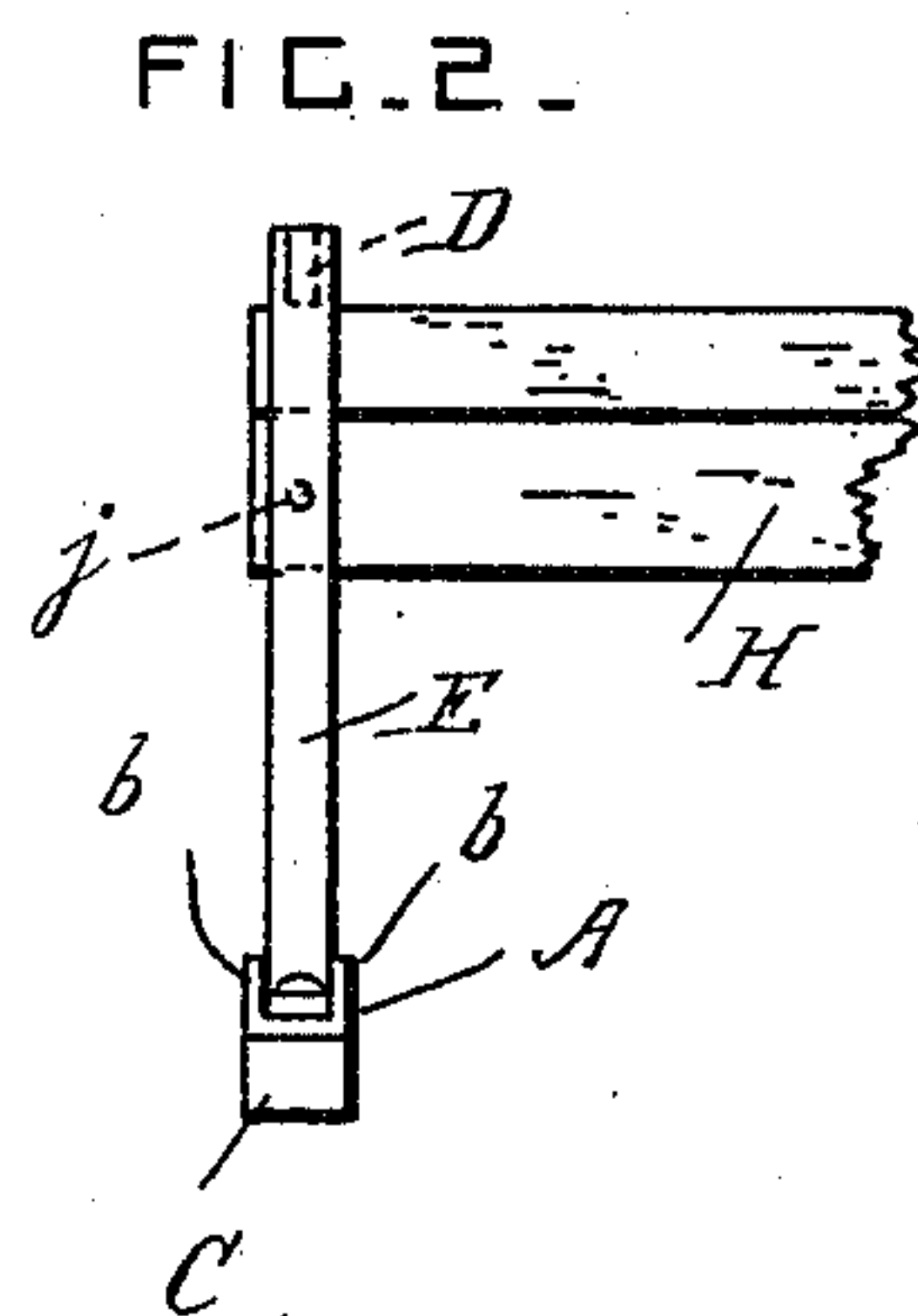
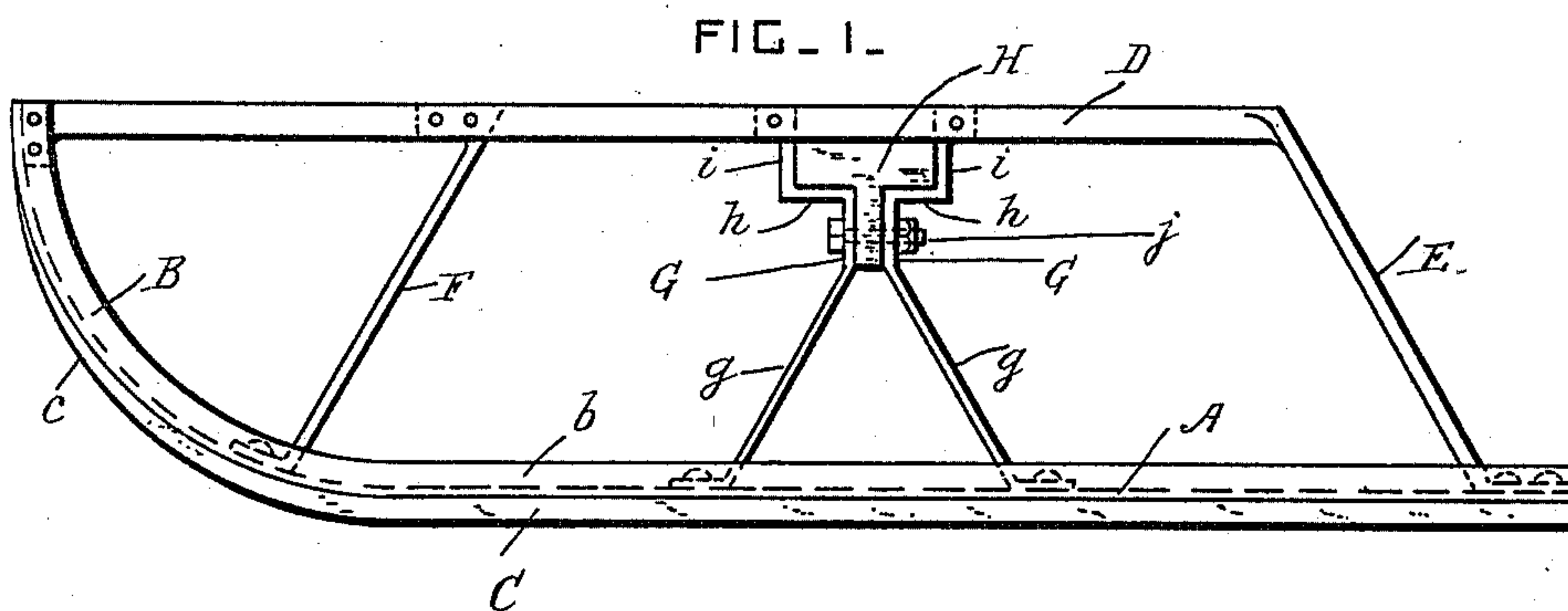
No. 719,211.

PATENTED JAN. 27, 1903.

D. D. GRANT.
SLEIGH RUNNER.

APPLICATION FILED AUG. 9, 1902.

NO MODEL.



WITNESSES

Walter Allen
James M. Shar

INVENTOR

Daniel D. Grant.
by Herbert W. Jenner.
Attorney

UNITED STATES PATENT OFFICE.

DANIEL D. GRANT, OF PITTSFIELD, MASSACHUSETTS.

SLEIGH-RUNNER.

SPECIFICATION forming part of Letters Patent No. 719,211, dated January 27, 1903.

Application filed August 9, 1902. Serial No. 119,068. (No model.)

To all whom it may concern:

Be it known that I, DANIEL D. GRANT, a citizen of the United States, residing at Pittsfield, in the county of Berkshire and State of Massachusetts, have invented certain new and useful Improvements in Sleigh-Runners; 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 it appertains to make and use the same.

This invention relates to runners for all kinds of sleighs; and it consists in the novel construction and combination of the parts hereinafter fully described and claimed.

In the drawings, Figure 1 is a side view of the runner. Fig. 2 is an end view of the runner.

A is a lower rail or bar, of steel, which is channel-shaped in cross-section, being provided with the integrally-formed flanges *b*, which project upward. The front end portion of this bar is provided with an upwardly-curved portion B.

C is a wearing shoe or bar, of hard steel, preferably square in cross-section and secured by any approved means to the under side of the bar A. The bar C is provided with a tapering and upwardly-curved portion *c* at its front end under the curved portion B.

D is a top rail or rave arranged parallel to the bar A and secured at one end to the top of the curved portion B. The rear end of the rave D is provided with a downwardly and rearwardly inclined stay or brace E, which is secured to the rear end portion of the bar A.

F is an inclined brace secured to the rave D and to the lower part of the curved portion B, where it joins onto the horizontal portion of the bar A.

G G are two resilient beam-braces secured between the bar A and the rave D at the middle part of the runner.

The middle parts of the braces G are parallel and vertical, and they have diverging lower portions *g*, which are secured to the bar A.

The upper portions of the braces G consist

of horizontal portions *h* and vertical portions *i*, which are secured to the rave D.

H is the sleigh-beam, which is secured between the middle and upper portions of the braces G and which rests on the horizontal portions *h*. The beam is secured to the braces by one or more bolts *j*, which pass through the braces and clamp the end portion of the beam tightly between them.

This runner is made wholly of metal and is very light, rigid, and strong, besides being easily constructed, owing principally to the channel-shaped cross-section of the bar of which the lower rail is formed.

What I claim is—

1. A sleigh-runner constructed wholly of metal and comprising a lower rail channel-shaped in cross-section, an upper rail secured to the lower rail, opposed braces for supporting the beam secured between the said rails and having vertical middle and upper portions, diverging portions joining the said middle and upper portions, and lower portions inclined in opposite directions and secured in the channel of the said lower rail, in combination with a beam having an end which is T-shaped in cross-section, and means for clamping the end of the beam between the vertical portions of the said braces, substantially as set forth.

2. In a sleigh-runner, the combination, with upper and lower rails, of opposed braces for supporting the beam secured between the said rails and having vertical middle and upper portions, diverging horizontal portions connecting the said middle and upper portions, and lower portions inclined in opposite directions, a beam having an end which is T-shaped in cross-section, and means for clamping the end of the beam between the said vertical portions of the braces, substantially as set forth.

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

DANIEL D. GRANT.

Witnesses:

MICHAEL L. EISNER,
JOHN C. CROSBY.