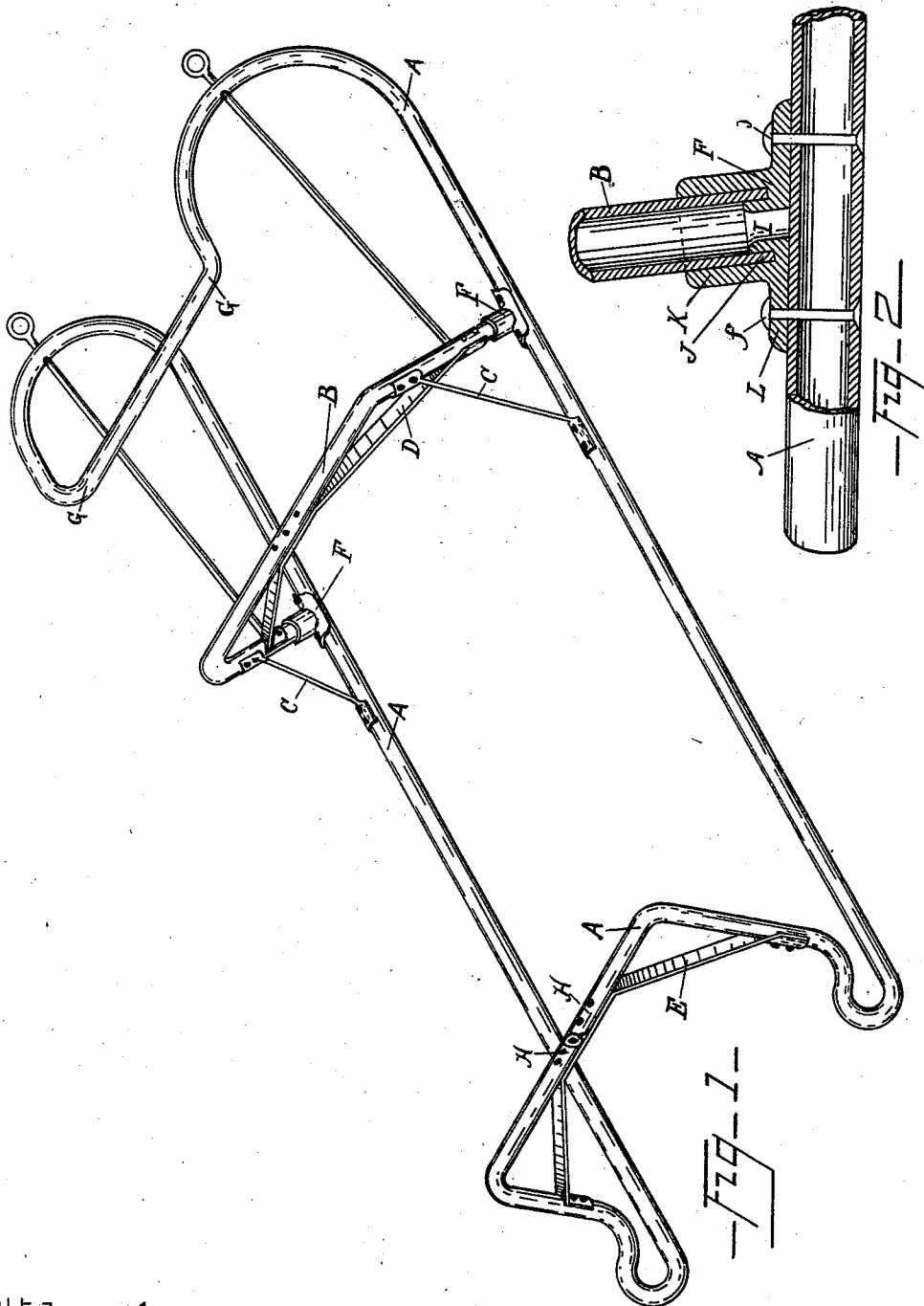


(No Model.)

J. S. JOHNSON.  
TUBULAR SLEIGH.

No. 521,717.

Patented June 19, 1894.



Witnesses  
*Alma L. Lathrop*  
*Amelia Williams*

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# UNITED STATES PATENT OFFICE.

JAMES S. JOHNSON, OF ALMONT, MICHIGAN.

## TUBULAR SLEIGH.

SPECIFICATION forming part of Letters Patent No. 521,717, dated June 19, 1894.

Application filed July 20, 1893. Serial No. 481,044. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES S. JOHNSON, of Almont, in the county of Lapeer and State of Michigan, have invented a new and useful  
5 Improvement in Tubular Sleighs, of which the following is a specification.

My invention consists in an improvement in tubular sleighs hereinafter fully described and claimed.

10 Figure 1 is a perspective of the complete sleigh, the box or board being omitted, and Fig. 2 is a central section through one of the couplings.

My improvement consists in making both  
15 runners and the back bench of a single piece of pipe, and in a peculiar form of couplings.

A represents a single piece of pipe which at the front of the sleigh between the points marked G G, forms a cross-bar which may be  
20 used as a foot rest, and which curves forward and downward to form the ends of the runners which lead backward and at the rear are given a reverse bend, and then bent upward, and whose ends H H approach each other and  
25 form the back bench of the sleigh. The ends H H may be either welded together, or may be butted together loosely and held in position by a brace E, which is riveted to the two ends and to the knee of the bench, or, if the  
30 pipe is of sufficient strength for the purpose for which it is to be used, may be simply bent into position, or may when bent into the form shown in the drawings, be simply held in position by the board of the sleigh or sled. The  
35 front bench B is formed in the usual manner out of pipe attached to the runner A, and

may, or may not have the braces D and C, as desired.

F represents a coupling to join bench B to runner A. Said coupling consists of a collar 40 K on which is formed a flange to fit on runner A, and secured thereto by rivets *ff*. Collar K has near its bottom an annular groove J formed by an inside circular flange I, and into this groove J the lower end of bench B fits. 45 Groove J may be made so small as to grip tightly the ends of bench B, or it may be made slightly flaring so as to expand the lower end of said bench, or bench B and collar K may be riveted together. This construction 50 makes a very strong and cheap sled, and avoids the work and joints necessitated in the ordinary manner of making the back bench of a separate piece of pipe attached to the runner. 55

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a tubular sleigh, the combination with the bench and runner, of a coupling composed of a collar K having the inner flange I and 60 annular groove J extending around the said flange and into which bench B extends, substantially as described.

2. In a tubular sleigh the combination with the bench and runner of a coupling consisting of a collar K having thereon a flange I, and provided with a groove J, substantially as shown and described.

JAMES S. JOHNSON.

Witnesses:

CHARLES B. LOTHROP,  
AMELIA WILLIAMS.