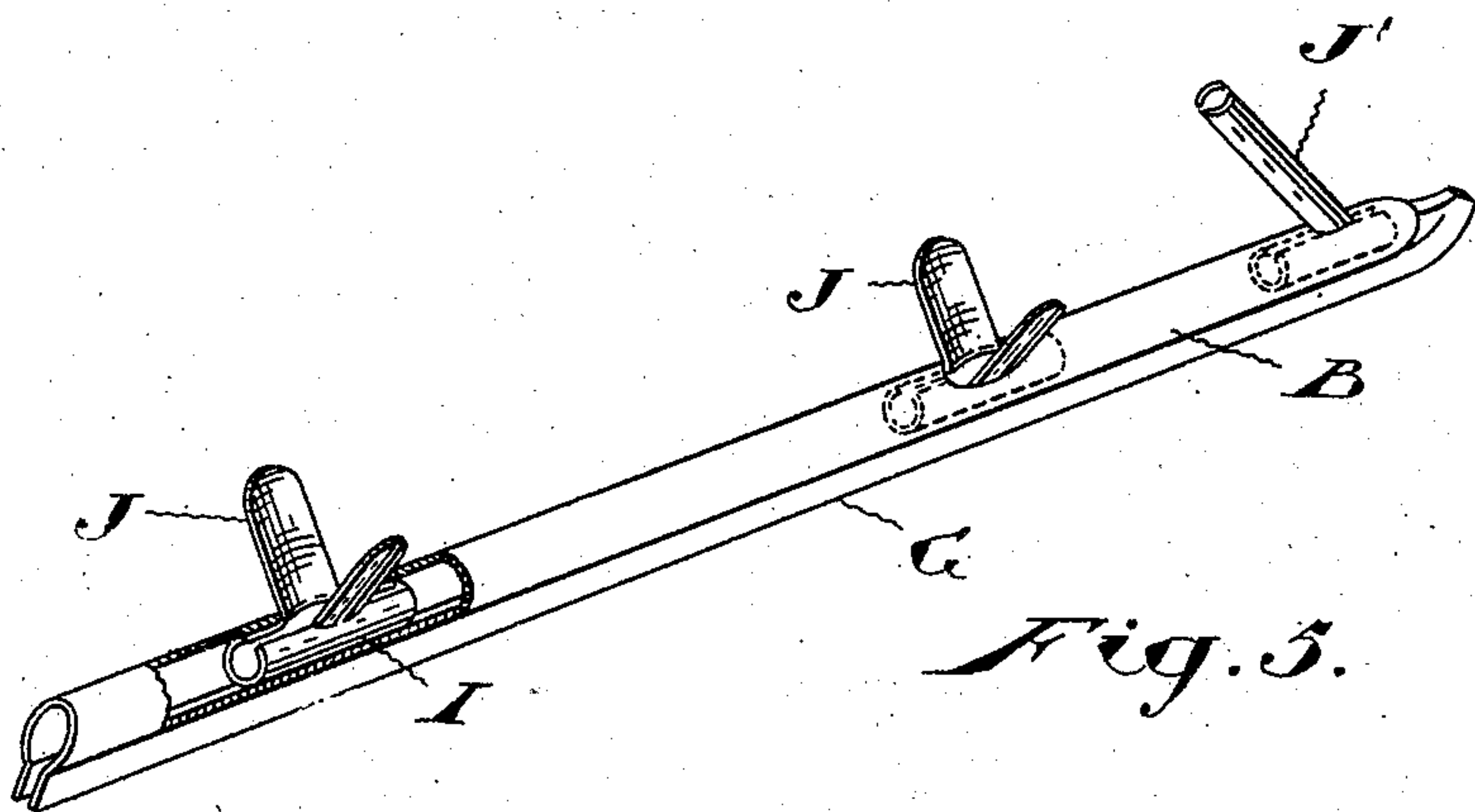
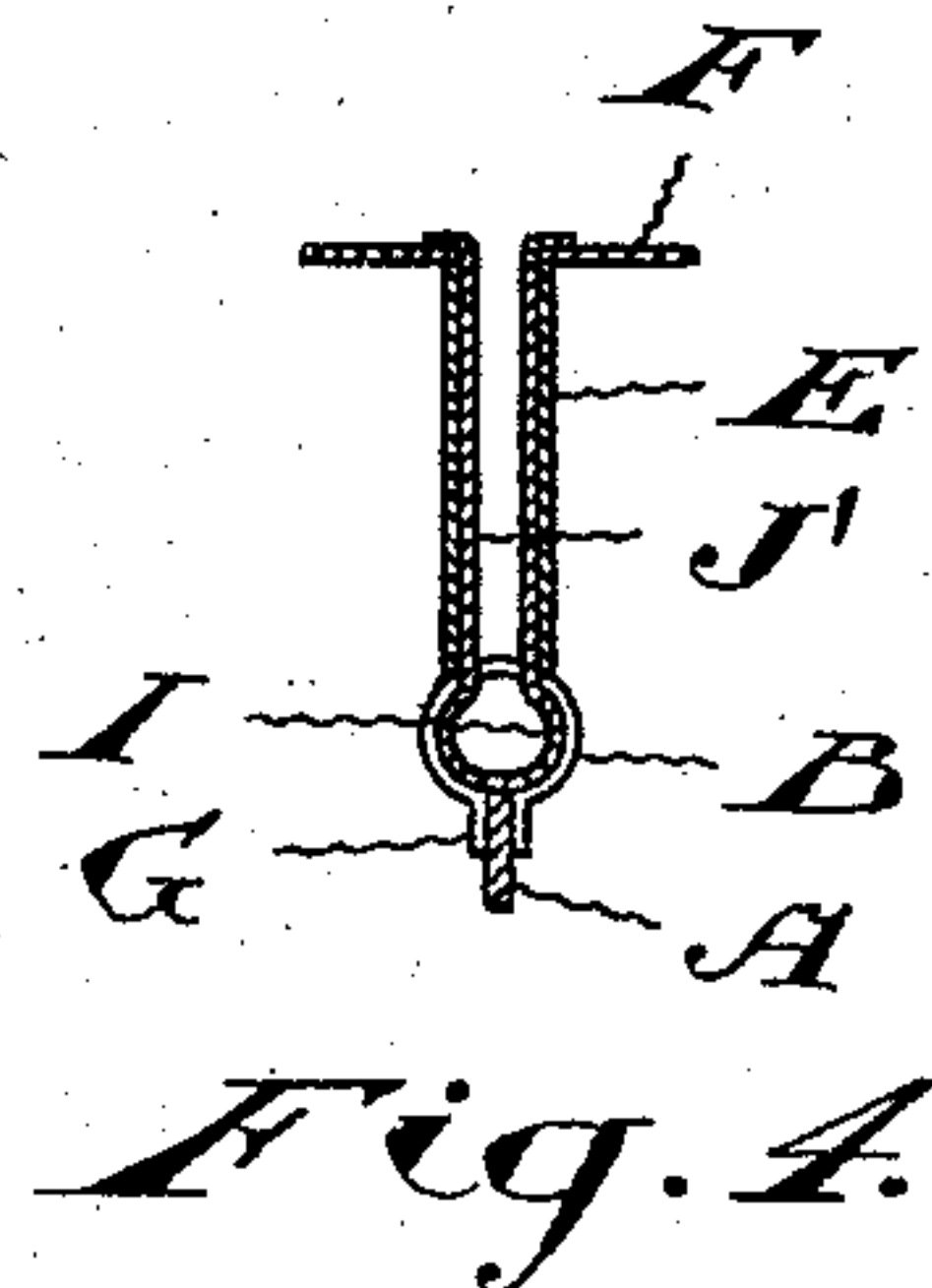
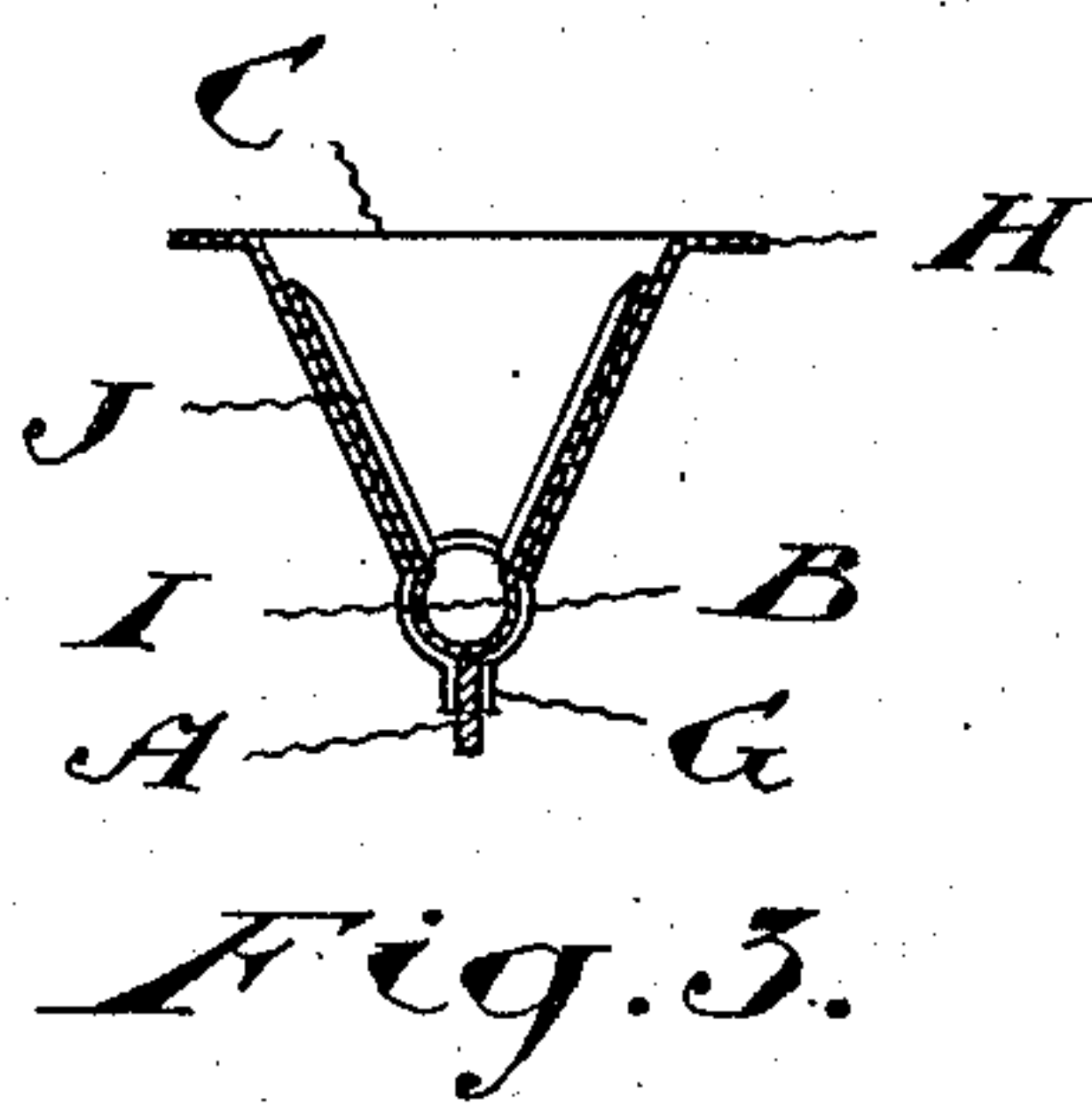
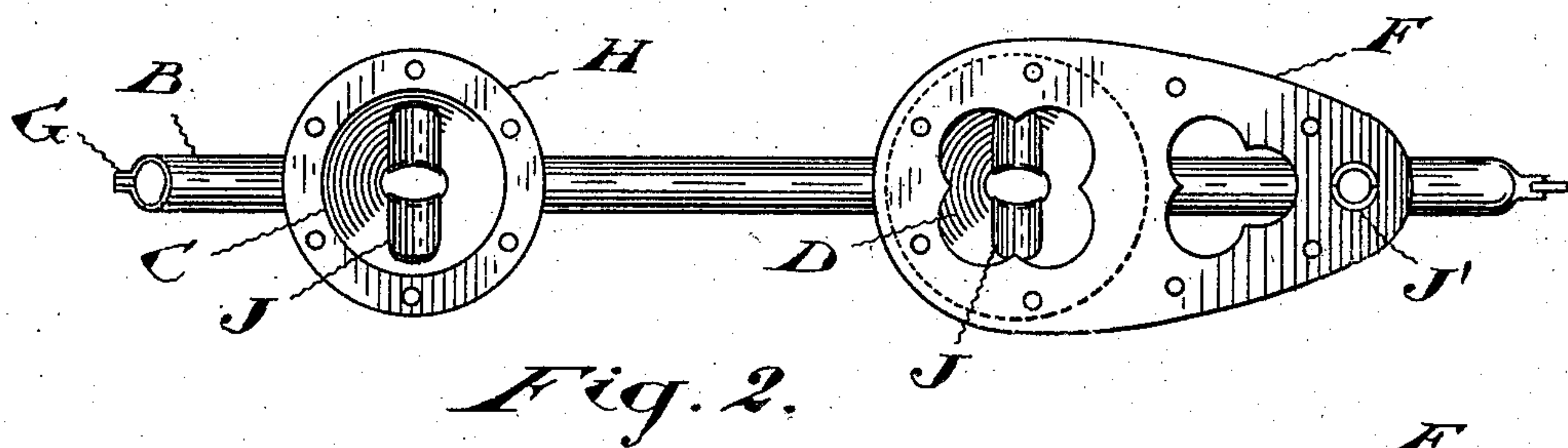
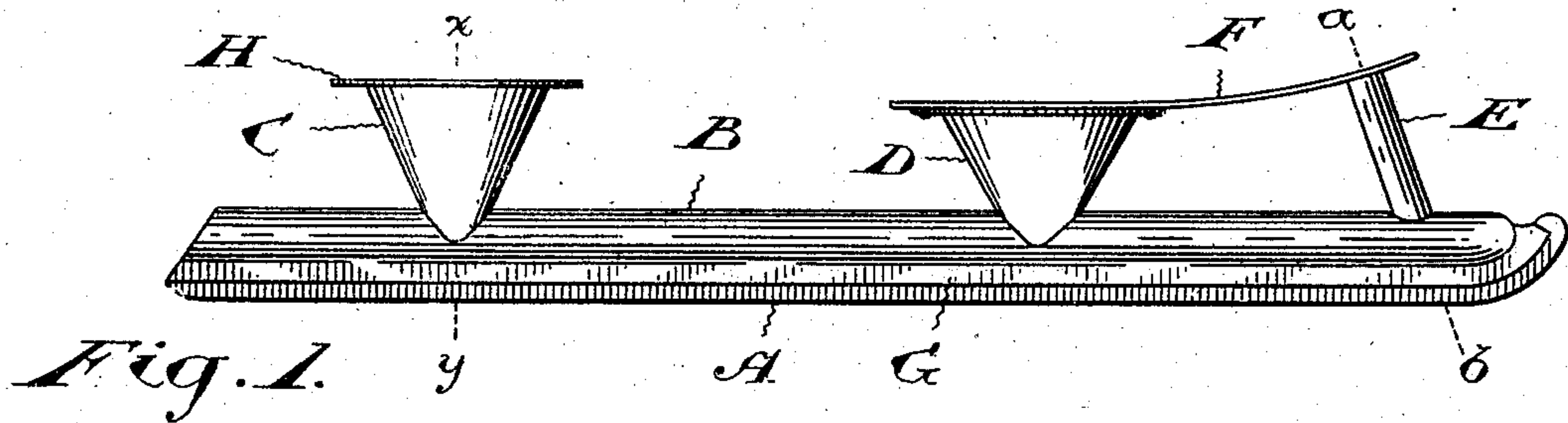


No. 785,325.

PATENTED MAR. 21, 1905.

W. G. NOTT.  
TUBULAR SKATE.  
APPLICATION FILED NOV. 10, 1903.



Witnesses

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# UNITED STATES PATENT OFFICE.

WILLIAM G. NOTT, OF TORONTO, CANADA.

## TUBULAR SKATE.

SPECIFICATION forming part of Letters Patent No. 785,325, dated March 21, 1905.

Application filed November 10, 1903. Serial No. 180,542.

*To all whom it may concern:*

Be it known that I, WILLIAM G. NOTT, of the city of Toronto, county of York, Province of Ontario, Canada, have invented certain new and useful Improvements in Tubular Skates, of which the following is a specification.

The object of my invention is to devise a simple, strong, and easily-manufactured tubular skate; and it consists, essentially, of a tube divided longitudinally at its lower side to embrace the skate-blade, of a heel-cone, sole-cone, and tubular toe-strut brazed to the top of the tube, a toe-plate secured to the sole-cone and toe-strut, and connections interiorly connecting the main tube with the said cones and strut, each connection comprising a tube brazed within the main tube and split longitudinally along the top, lugs being formed integral with the tube, passing through a hole in the main tube and brazed to the sides of the cone or strut above, substantially as hereinafter more specifically described and then definitely claimed.

Figure 1 is a side elevation of my improved skate. Fig. 2 is a plan view of the same. Fig. 3 is a cross-section on the line  $xy$  of Fig. 1. Fig. 4 is a cross-section along the line  $ab$  in Fig. 1. Fig. 5 is a perspective view of the main tube and the connections.

In the drawings like letters of reference indicate corresponding parts in the different figures.

On referring particularly to Fig. 1 it will be noticed that my skate comprises as its main features a blade A, a main tube B, a heel-cone C, a sole-cone D, a toe-strut E, and a toe-plate F. The blade is of the narrow form ordinarily employed for hockey and racing skates. The main tube B is split longitudinally along its lower edge, and flanges G are formed along the edges of the divisions. These flanges are preferably brazed or otherwise secured to the upper portion of the blade. Through the upper surface of the tube are formed apertures, and about these apertures are brazed the lower ends of the cones C and D and the toe-strut E. These cones, it will be noticed, are spun with flanges H at their upper ends, through which are formed screw-

holes whereby the skate may be attached to a boot. It thus becomes unnecessary to peen or otherwise connect special plates to the cones through which to form the holes, as is now generally the case. If the two cones and toe-strut were simply brazed to the tube, the joints would not possess sufficient strength and, furthermore, the weight of the skater would collapse the tube at these points. I therefore employ special connections at each of these points, as particularly shown in Fig. 5, each of which connections comprises a short tube I, longitudinally split along its upper edge, though the tubes might in some cases be completely divided. Integral with the tube at the edges I form lugs J. These lugs extend up within the cones and are brazed or otherwise secured to their inner surfaces. (See Figs. 2 and 3.) The connection for the toe-strut is substantially similar, with the exception that as the toe-strut is tubular rather than conical the lugs are not spread, as is the case with the lugs for the cones. It will be noticed also that on reference to Figs. 2 and 4 the upper ends of the lugs J' of the toe-strut connection pass through the toe-plate F and are peened outwardly to securely hold the toe-plate against the upper end of the toe-strut. The toe-plate is also riveted or otherwise secured to the sole-cone D. The lugs J, it will be noticed, are suitably curved in cross-section so that they conform accurately to the configuration of the inner surfaces of the cones, so that when brazed thereto they form practically a portion of the said cones. These connections thus not only securely tie the cones and toe-strut to the tube of the skate, but as the tubes I substantially fill the main tube and contact with the top of the blade they effectually resist the crushing strain applied to the tube through the medium of the cones and toe-strut. Of course the construction described is most material with the heel and sole cones, as the greatest strain comes upon them. The ends of the tube may be finished off as shown in Figs. 1 and 2 or in any other desired manner.

The tubes I are shown as disconnected. I might, if it were so desired, form them all



from one piece, so that they would be all integrally connected, or the connections for the heel and sole cones alone might be so treated.

5 A skate constructed in accordance with my invention is not only very strong, but is easily constructed, and different sizes of skates may be formed with the one set of dies, the blade and main tube being cut of  
10 any desired length and the holes for the connections of the toe and heel cones punched through at any desired positions for the size of skate to be made.

What I claim as my invention is—

15 1. In a tubular skate the combination of a blade; a main tube divided longitudinally to embrace the blade and connected to the upper part of the same, an aperture being formed in its upper surface; a cone brazed  
20 to the tube about the aperture; and a connection comprising a split tubular portion brazed within the main tube and lugs formed integral with the tubular portion extending up through the aperture and se-  
25 cured to the sides of the cone, substantially as described.

2. In a tubular skate the combination of a blade; a main tube divided longitudinally to embrace the blade and connected to the  
30 upper part of the same, an aperture being formed in its upper surface; a cone brazed to the tube about the aperture; and a connection comprising a tubular portion split longitudinally along its upper side and brazed  
35 within the main tube in contact with the upper edge of the blade, and lugs formed integral with the tubular portion extending up through the aperture and secured to the sides of the cone, substantially as described.

40 3. In a tubular skate the combination of a blade; a main tube divided longitudinally and having an aperture formed in its upper surface; flanges formed at the divided edges of the tube and secured to the upper part of  
45 the blade; a cone brazed to the tube about

the aperture; and a connection comprising a tubular portion split longitudinally along its upper side and brazed within the main tube in contact with the upper edge of the blade, and lugs formed integral with the tubular  
50 portion extending up through the aperture and secured to the sides of the cone, substantially as described.

4. In a tubular skate the combination of a blade; a main tube divided longitudinally  
55 to embrace the blade and connected to the upper part of the same, an aperture being formed in its upper surface; a tubular toe-strut brazed to the tube about the aperture; a connection comprising a split tubular por-  
60 tion brazed within the main tube, and lugs formed integral with the tubular portion and extending up through the tubular strut and peened over at the ends; and a toe-plate held  
65 between the end of the strut and the peened-over ends of the said lugs, substantially as described.

5. In a tubular skate the combination of a blade; a main tube divided longitudinally at its under side only to embrace the blade  
70 and connected to the upper part of the same; and one or more tubes brazed within the main tube above and in contact with the upper edge of the blade, substantially as de-  
75 scribed.

6. In a tubular skate the combination of a blade; a main tube divided longitudinally at its under side only to embrace the blade and connected to the upper part of the same; sole and heel cones connected with the main  
80 tube; and a tube brazed within the main tube beneath the point of connection of each cone above and in contact with the upper edge of the blade, substantially as described.

Toronto, Ontario, November 6, 1903.

WILLIAM G. NOTT.

In presence of—

JOHN G. RIDOUT,  
J. EDW. MAYBEE.