

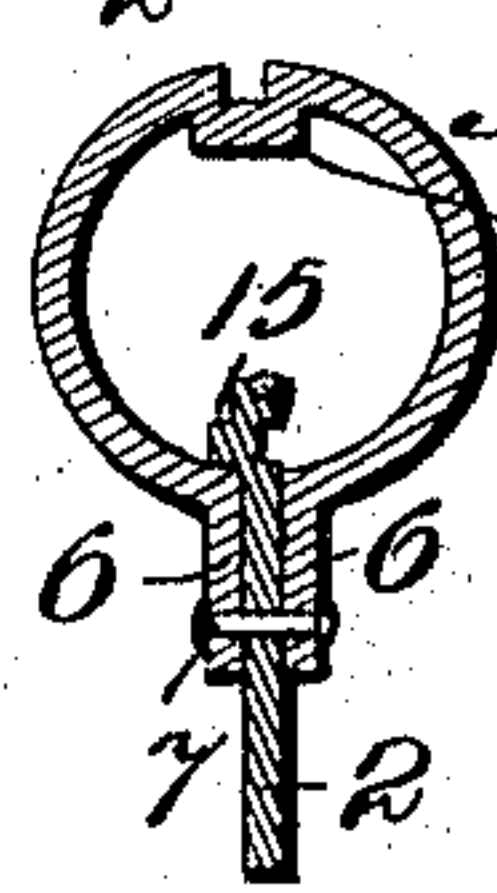
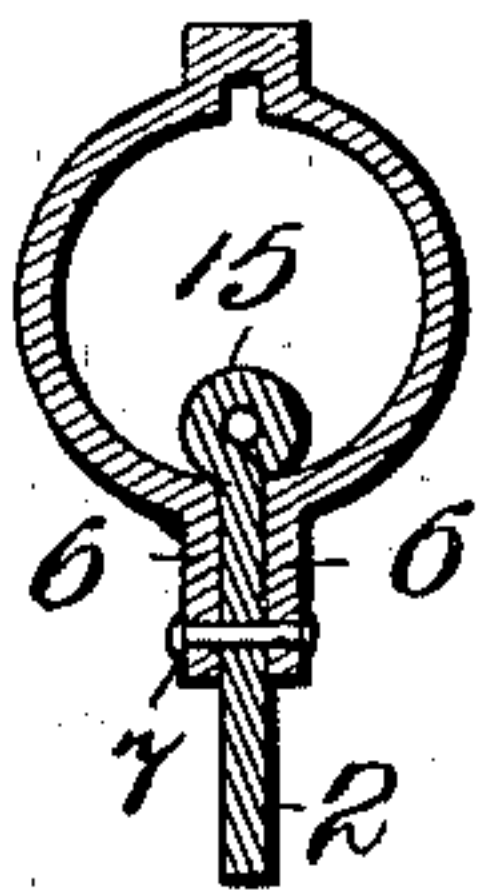
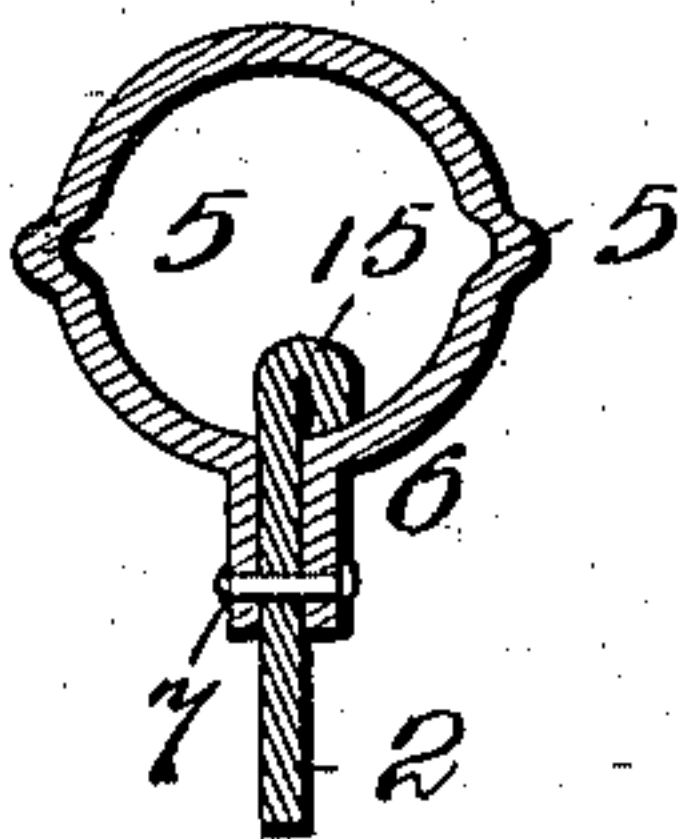
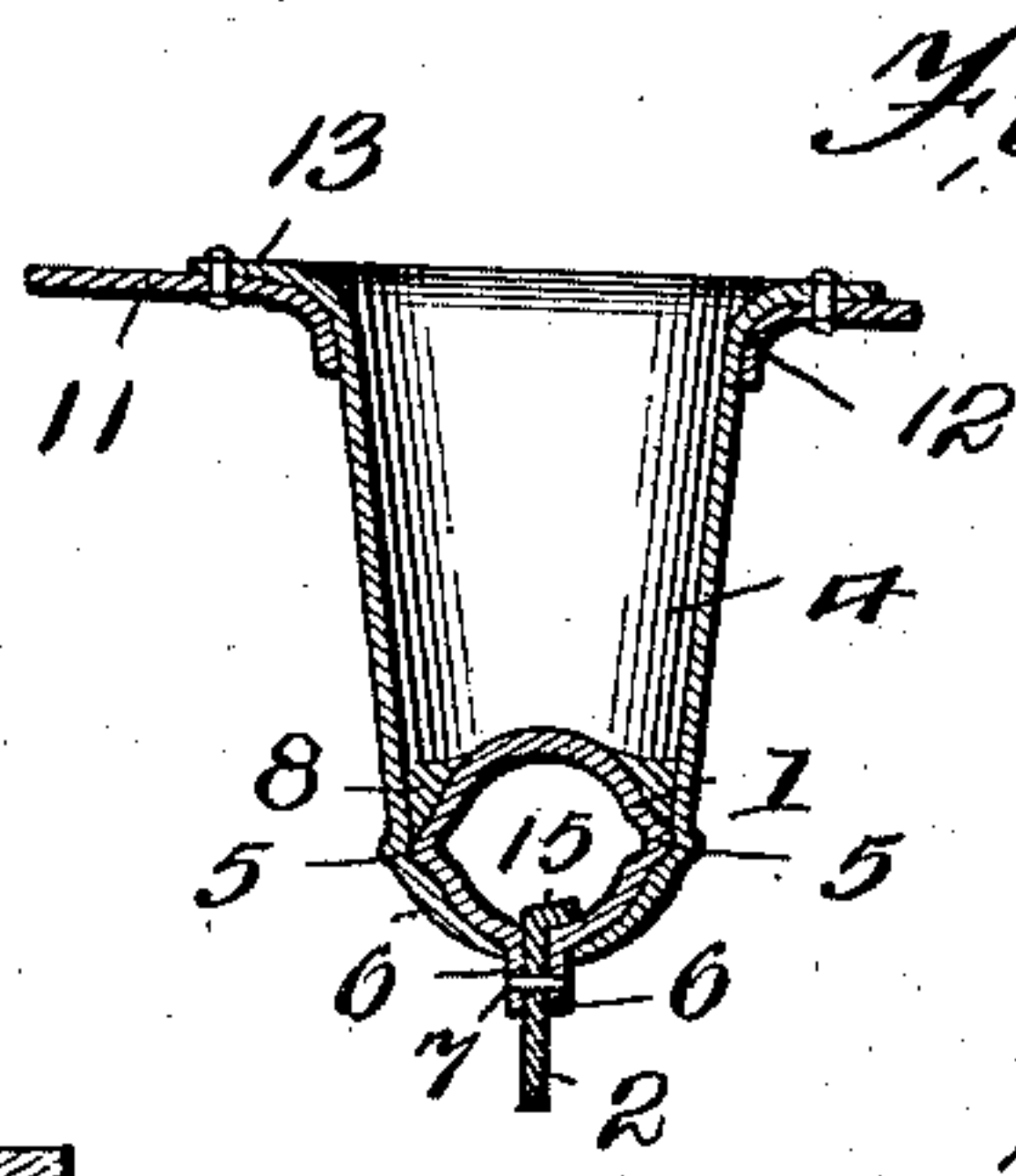
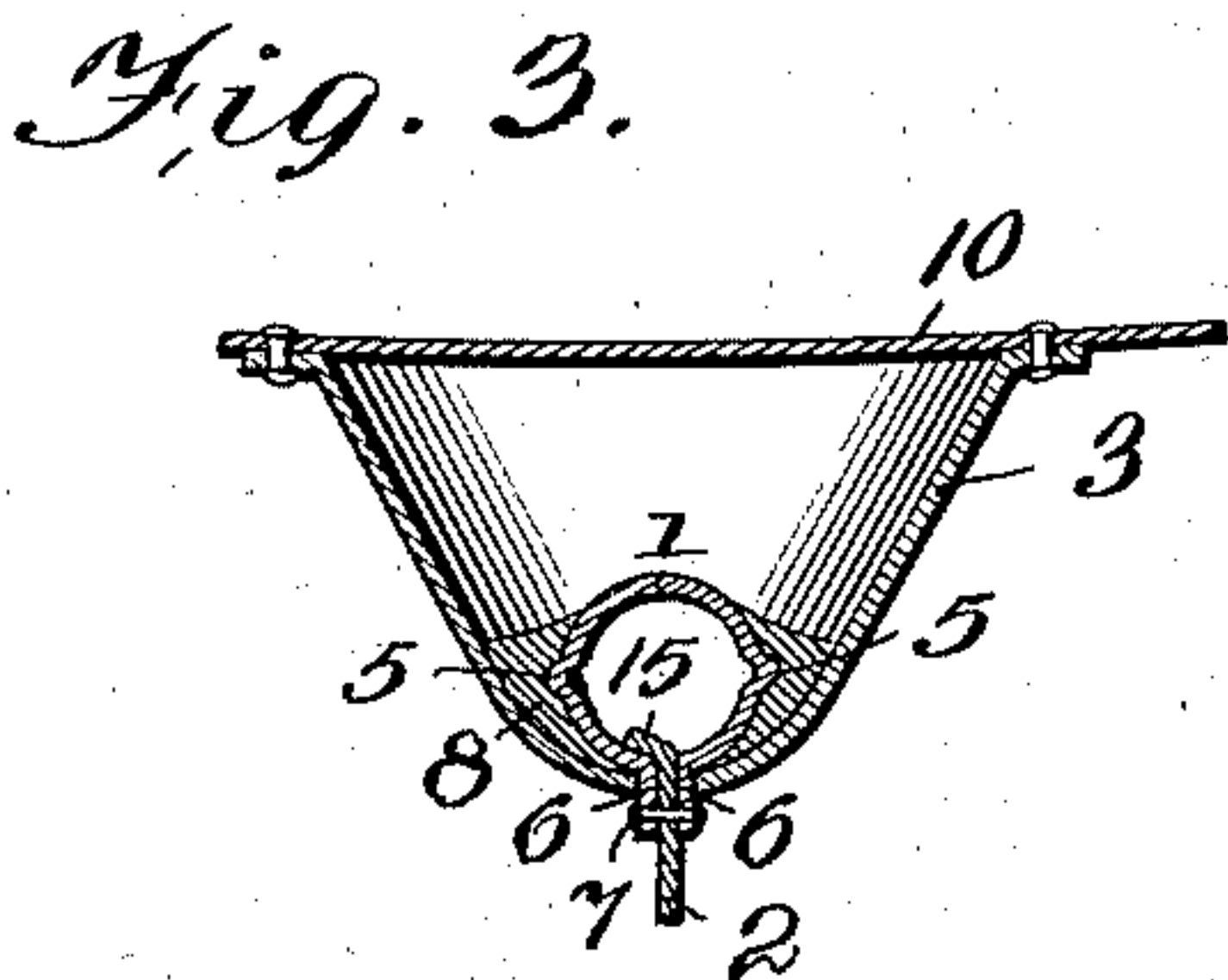
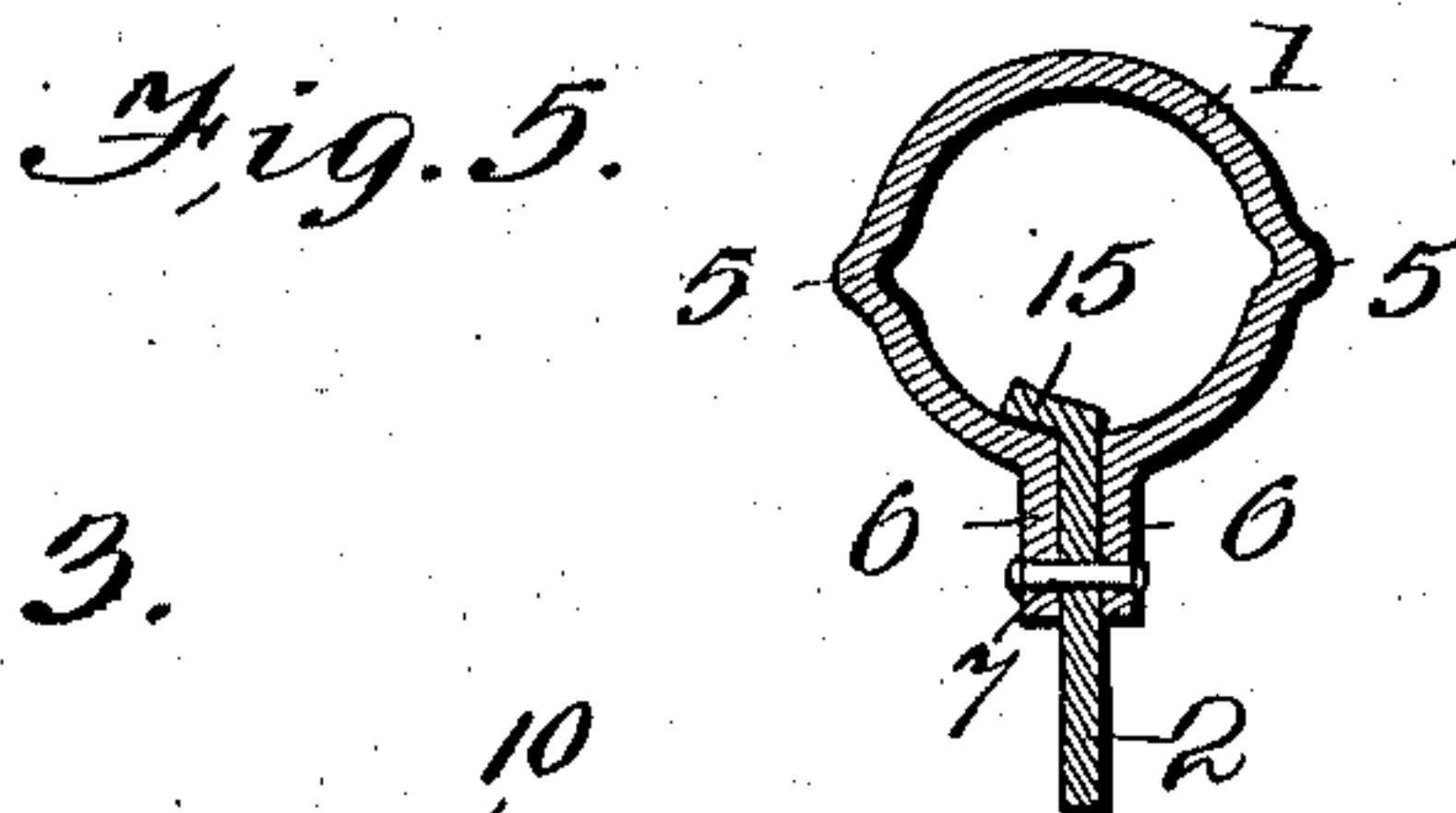
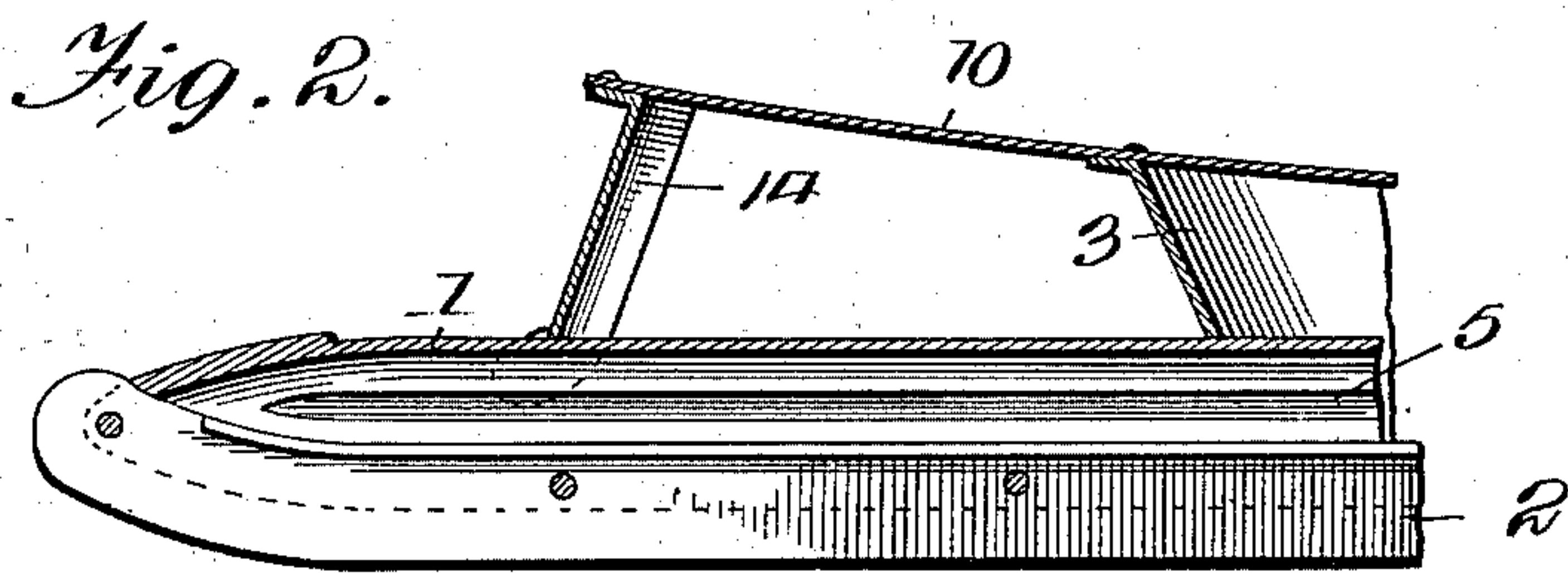
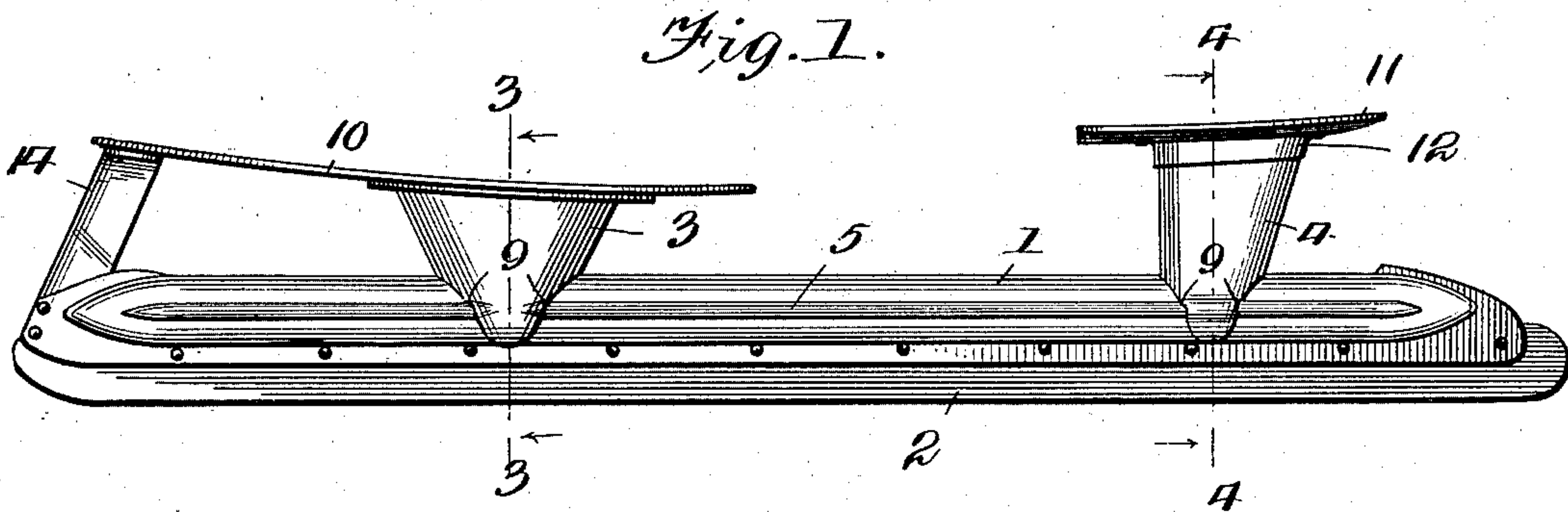
No. 750,542.

PATENTED JAN. 26, 1904.

N. G. JOHNSON.  
SKATE.

APPLICATION FILED FEB. 3, 1903.

NO MODEL.



Witnesses:  
G. C. Barry  
J. C. Lee

*Fig. 7.*

*Fig. 8.*

Inventor  
Nestor G. Johnson.  
by A. Miller Bayfield  
Attorney.



# UNITED STATES PATENT OFFICE.

NESTOR G. JOHNSON, OF CHICAGO, ILLINOIS.

## SKATE.

SPECIFICATION forming part of Letters Patent No. 750,542, dated January 26, 1904.

Application filed February 3, 1903. Serial No. 141,639. (No model.)

*To all whom it may concern:*

Be it known that I, NESTOR G. JOHNSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Skates, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to ice-skates, and particularly to a form of hockey or racing skate having a hollow framework provided with a thin runner.

Prominent objects of my invention are to improve the construction of such skates, to strengthen the same and thereby insure their more readily standing the severe strains put upon them, and to secure these results in a simple, practical, and inexpensive manner.

In the accompanying drawings, Figure 1 is a side elevation of a skate embodying my invention. Fig. 2 is a longitudinal vertical section of a portion of a slightly-modified form of a skate. Figs. 3 and 4 are views on lines 3 3 and 4 4, respectively, in Fig. 1. Fig. 5 is a transverse section of the runner; and Figs. 6, 7, 8, and 9 are views similar to Fig. 5 of modified forms.

The skate shown in the drawings consists of a straight tubular runner-support 1, provided with a straight runner 2 and also with foot and heel supports 3 and 4, respectively. The tubular runner-support 1 is desirably constructed with longitudinally-extending beads 5 5 on its opposite sides, which beads greatly strengthen said support and add materially to the resistance offered to strain tending to bend the runner. The support 1 is made of any suitable sheet metal, preferably steel, which has much strength and is very light. The runner 2 is secured to the lower part of the support 1, the latter being desirably split and made with edges 6 6, between which the runner is placed and secured by rivets 7 7. The lower part of the runner is steel and the upper part iron.

The supports 3 and 4 are made hollow or cup-shaped, as shown in Figs. 3 and 4, and are extended down to the lower edge or sur-

face of the runner-tube 1, as shown in said Figs. 3 and 4. They are properly secured to the runner-tube, as by brazing or soldering, in which latter case a small bed or mass of solder 8 partially fills their lower portions. By extending the sides of these supports down to the lower portion of the runner-tube and causing them to substantially inclose the same the connection is made better and stronger, the grip of the supports on the tube is firmer, and the liability of turning or wrenching is reduced to a minimum. Each of these supports 3 and 4 is provided with grooves or cut-away portions 9 9 on their edges to embrace and fit the beads 5 5. A foot-plate 10 is secured to the top of the support 3 and a heel-plate 11 to the top of the support 4. These plates 10 and 11 are desirably riveted and soldered to their respective supports. The heel-plate 11 is desirably provided with a downwardly-extending flange 12, which incloses the upper portion of the support 4, which portion is itself provided with a flange 13, extending on top of the inner portion of the plate 11, whereby a strong, rigid, and solid construction is provided. A supplemental or toe support 14 is extended between the forward end of the plate 10 and the runner-tube 1 and secured to the same. This support 14 is conveniently made in the form of a V-shaped strip, whereof the sides are separated and spread out at the top and bottom to allow easy securement to the plate 10 and tube 1. The runner 2 is bent laterally at its upper edge, as at 15, Figs. 3 and 5, whereby it is greatly strengthened against lateral bending strain.

In Fig. 6 the runner-tube 1 is provided with inwardly-extending beads 5' 5' instead of outwardly-extending beads 5 5, and in this figure the top of the runner 2 is shown bent over more squarely to the opposite side from the bend in Figs. 3 and 5.

In Fig. 7 the outwardly-extending beads 5 5 are shown; but in this figure the upper edge of the runner 2 is bent or curved over to secure the strengthening effect.

In Fig. 8 a top bead 5'' is shown to secure the strengthening effect, and the top of the runner 2 is bent clear around to form an eye.



In Fig. 9 an inwardly-extending top bead 5''' is shown, and the runner 2 is made with an irregularity at its upper end.

Other modifications to secure the various advantages above set forth could be made and the construction shown could be changed or modified in other ways without departing from the spirit of my invention.

What I claim is—

10 1. In a skate, the combination with a runner support or holder, of a foot-support arranged above the same and having its lower end secured thereto and extended down completely underneath the bottom thereof, substantially as described.

15 2. In a skate, the combination of a tubular runner-support, and a cup-shaped foot-support having its lower end extended completely underneath and secured to the bottom of the tubular runner-support, substantially as described.

20 3. In a skate, the combination with a runner-tube, of a cup-shaped foot-support having its lower end soldered to the runner-tube and extended down completely underneath the bottom of the same, substantially as described.

4. The combination with a runner-tube lon-

gitudinally split along its under side and having downwardly-extending side extensions, of a runner secured between the split portion of said tube and the side extensions thereof and having its portion within the interior of the tube laterally bent, substantially as described. 30

5. In a skate, the combination of a cylindric tubular runner-support provided with longitudinally-extending beads, and a foot-support secured to said tube and extended down and over said beads, the sides of said foot-support being constructed to fit over said beads, substantially as described. 40

6. In a skate, the combination of a cylindric tubular runner-holder provided with outwardly-projecting longitudinally-extending beads, and a foot-support secured to said runner-holder and extended down underneath the bottom thereof, the sides of said foot-support being cut away to provide recesses for said beads, substantially as described. 45

In witness whereof I hereunto subscribe my name this 31st day of January, A. D. 1903. 50

NESTOR G. JOHNSON.

Witnesses:

A. MILLER BELFIELD,  
I. C. LEE.