

No. 713,998.

Patented Nov. 18, 1902.

H. D. LEFEBVRE.
WHEEL.

(Application filed July 29, 1902.)

(No Model.)

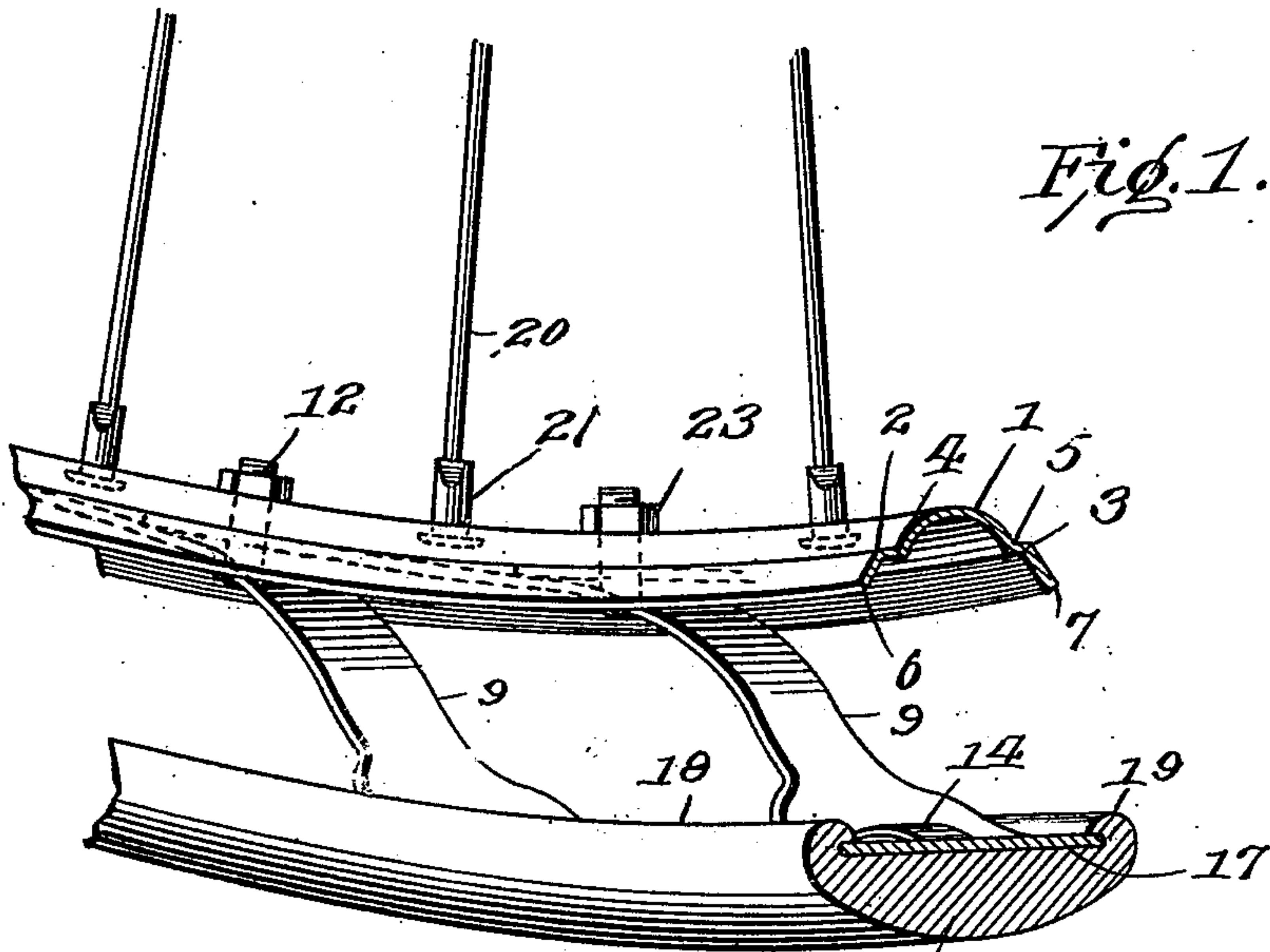


Fig. 1.

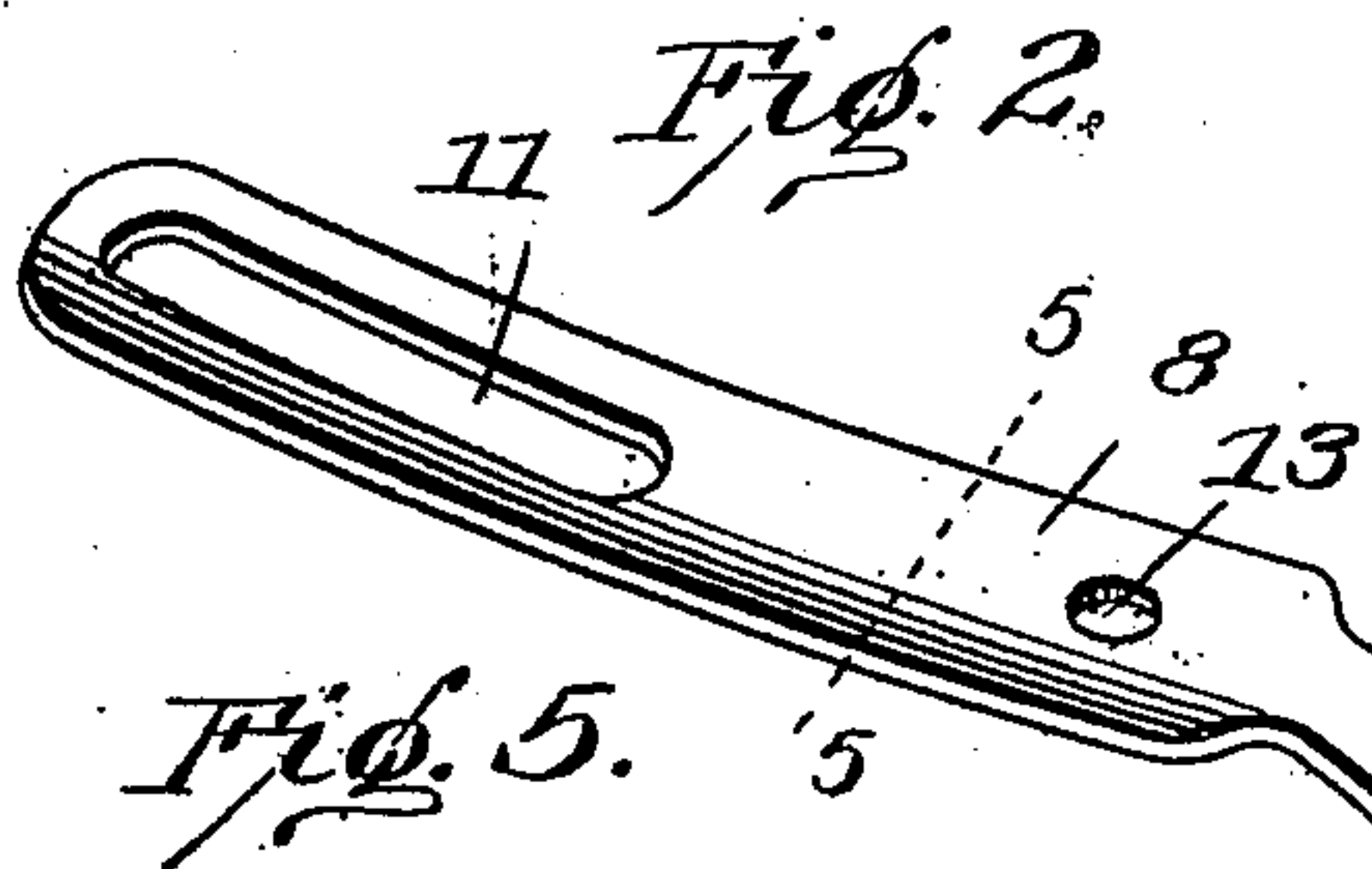


Fig. 2.

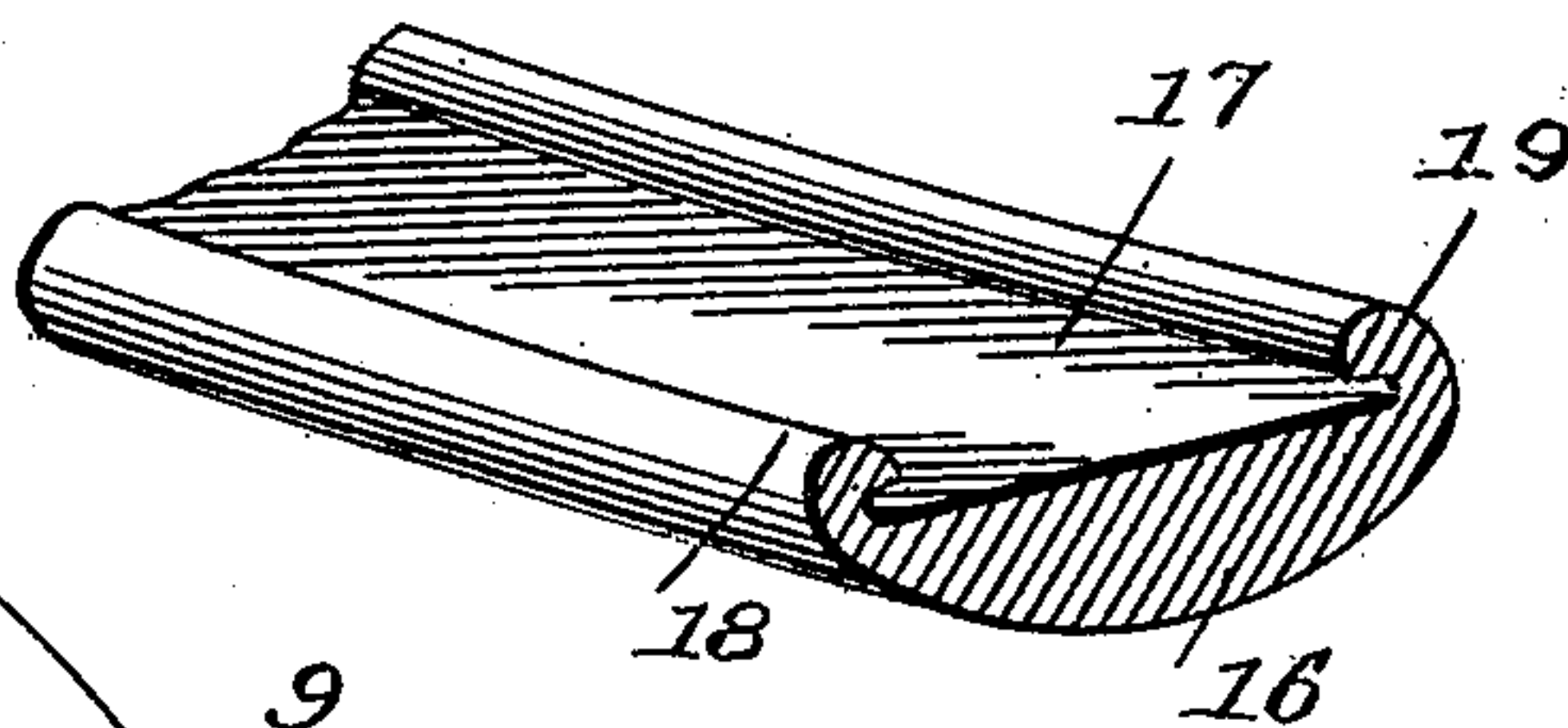
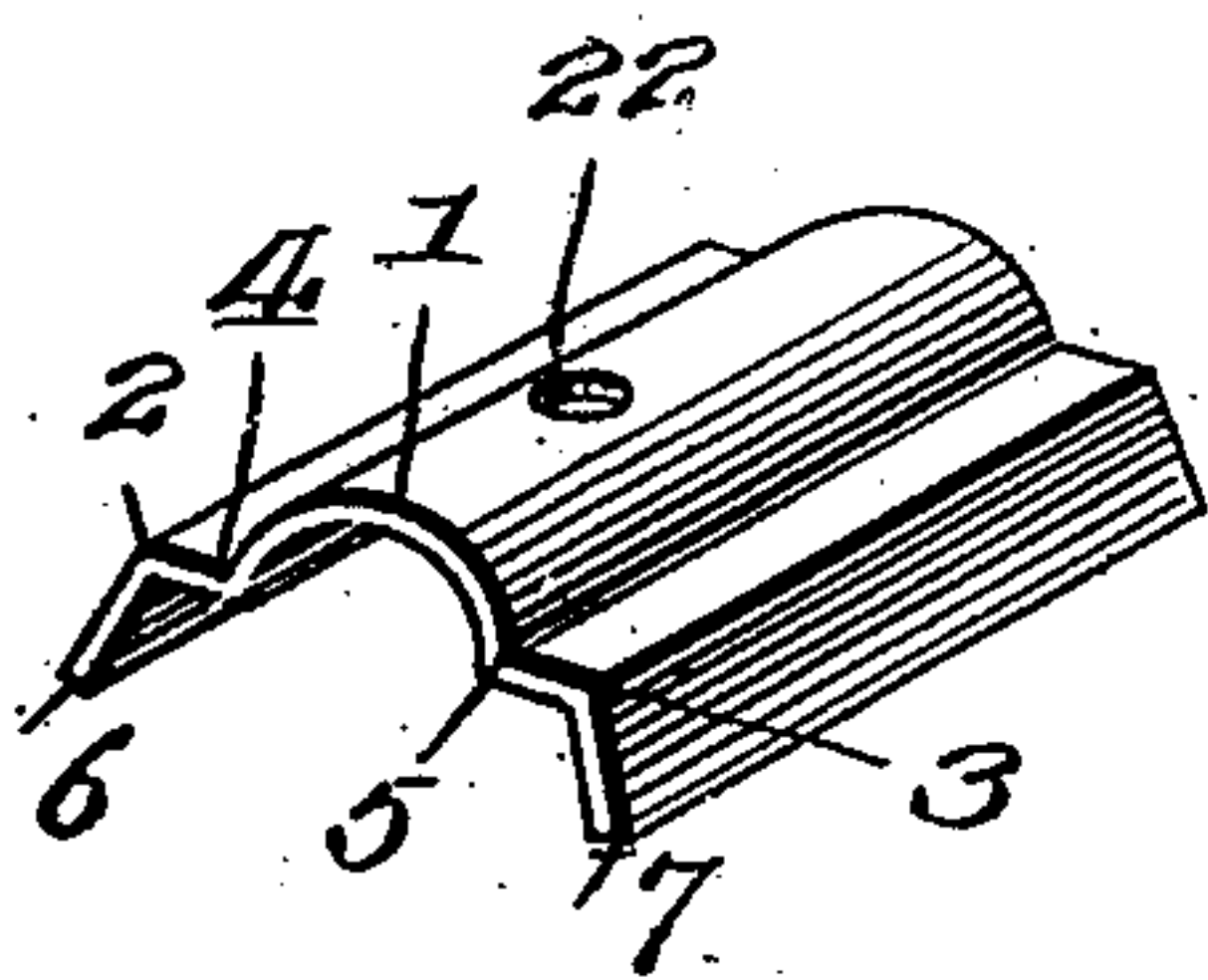


Fig. 3.

Fig. 5.



Fig. 4.



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UNITED STATES PATENT OFFICE.

HENRY DAY LEFEBVRE, OF ALPENA, MICHIGAN.

WHEEL.

SPECIFICATION forming part of Letters Patent No. 713,998, dated November 18, 1902.

Application filed July 29, 1902. Serial No. 117,551. (No model.)

To all whom it may concern:

Be it known that I, HENRY DAY LEFEBVRE, a citizen of the United States, residing at Alpena, in the county of Alpena and State of Michigan, have invented certain new and useful Improvements in Wheels, of which the following is a specification.

This invention relates to the general class of wheels, but more particularly to a rim therefor, the object being to provide a light, durable, and efficient rim which will take up vibration and compensate for the inequality of the ground, thereby adding comfort to the occupant of the vehicle provided with the rims constructed in accordance with this invention.

The peculiar construction and novel features embodied in this invention will be specifically described hereinafter, reference being had to the accompanying drawings, in which—

Figure 1 is a fragmentary perspective view of a portion of a rim constructed in accordance with my invention. Fig. 2 is an enlarged detail perspective view of one of the springs. Fig. 3 is a detail perspective view of a portion of the tire or tread. Fig. 4 is fragmentary detail perspective view of a portion of the rim. Fig. 5 is a cross-sectional view of one of the springs on the line 5 5 of Fig. 2.

The rim comprises a ring having a concavo-convex central portion 1 formed in the longitudinal center of the contour of the ring and from the edges of which project laterally-extending side flanges 2 and 3, forming shoulders 4 and 5, to be referred to hereinafter. Extending from the edges of the flanges 2 and 3 are diverging edge flanges 6 and 7, which prevent a lateral play of the springs, which are secured to the rim. The springs are arranged at suitable points, and each spring comprises an elongated portion 8, provided with a downwardly and forwardly curved restricted intermediate portion 9, on the end of which is a blade or straight portion 10, which is wider than the portions 8 or 9. At or adjacent the rear extremity of the portion 8 is an elongated slot 11, through which one of the bolts 12 passes in securing the preceding spring to the rim through the medium of one of the openings 13, near the forward end of

the portion 8 and intermediate the ends of the spring. Adjacent the point of connection between the blade 10 and the restricted portion 9 is a struck-up portion 14, which forms a recess or seat in the lower face of the blade, while on the extreme end of the blade 10 is an upwardly-extending lug or projection 15, which is designed to be inserted into one of the seats 14 of the succeeding spring, whereby the blades will be held in proper operative position. In order to provide against noise and to enhance the resiliency of the tire, I provide a tread of resilient material, preferably rubber, which is designated by the reference numeral 16. This tread is slightly greater in width than the blade 10 and is provided at its upper face with an inverted-T-shaped groove 17, formed by the overlapping edge flanges 18 and 19, so that the edges of the blades 10 will be tightly embraced by the groove, thereby securely fastening the tread thereto. The spokes 20 are interposed between the bolts 12, and the nipples 21 thereof extend through the rim 1, the heads being seated in the concave portion, so that the nipple may readily turn during the process of tightening the spokes.

In assembling the springs the slotted part of the portion 8 of each spring will overlap and bear upon the portion 8, so that the slot 11 will come in alinement with the perforation 13. Both bolts can then be forced through the openings 13 and the slot 11 and then into one of the openings 22 in the rim and then secured by a nut 23. After the parts are thus assembled the projections 15 of each spring will be inserted in the recess formed by the struck-up portion 14, and the tread 16 will then be secured in place, completing the tire.

By this construction it will be seen that any of the parts may be readily removed or replaced in the event of breakage.

By employing a device of this character a wheel is obtained which is faster than those employed with the ordinary resilient tire, inasmuch as the wheel will be forced forward when the springs are depressed, and thereby compensate for any loss in the diameter of the wheel.

I do not limit myself to the exact details of construction shown, but reserve the right to make such slight changes and alterations as

would suggest themselves from time to time and come within the scope of the following claims.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. A tire comprising similar spring members secured at their upper ends to a rim, the free end of each spring being provided with a recess and a projection, the projections on one section engaging the recess in the other, and a tread comprising a ring having edge flanges fitting over the outer ends of the spring members.

2. A wheel comprising similar members, each member having a slot at one end, an opening adjacent thereto, a lug at the opposite end, and a recess intermediate the ends of the spring, said springs overlapping each other, the slot of one spring fitting over the

opening of the other spring, and the seat thereof being engaged by the lug of the other spring, and means for securing the springs at their upper ends.

3. As a new article of manufacture, a metallic tire-section formed in one piece, and comprising a flat end provided with an elongated slot, a downwardly-curved intermediate restricted portion at one extremity thereof, and a straight blade on the end of the restricted portion provided with a recess intermediate its ends and having a lug on its outer extremity.

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

HENRY DAY LEFEBVRE.

Witnesses:

JOHN BARKER,
WILLIAM KREBS.