

(No Model.)

W. B. DIXON.  
CAR WHEEL.

No. 286,183.

Patented Oct. 9, 1883.

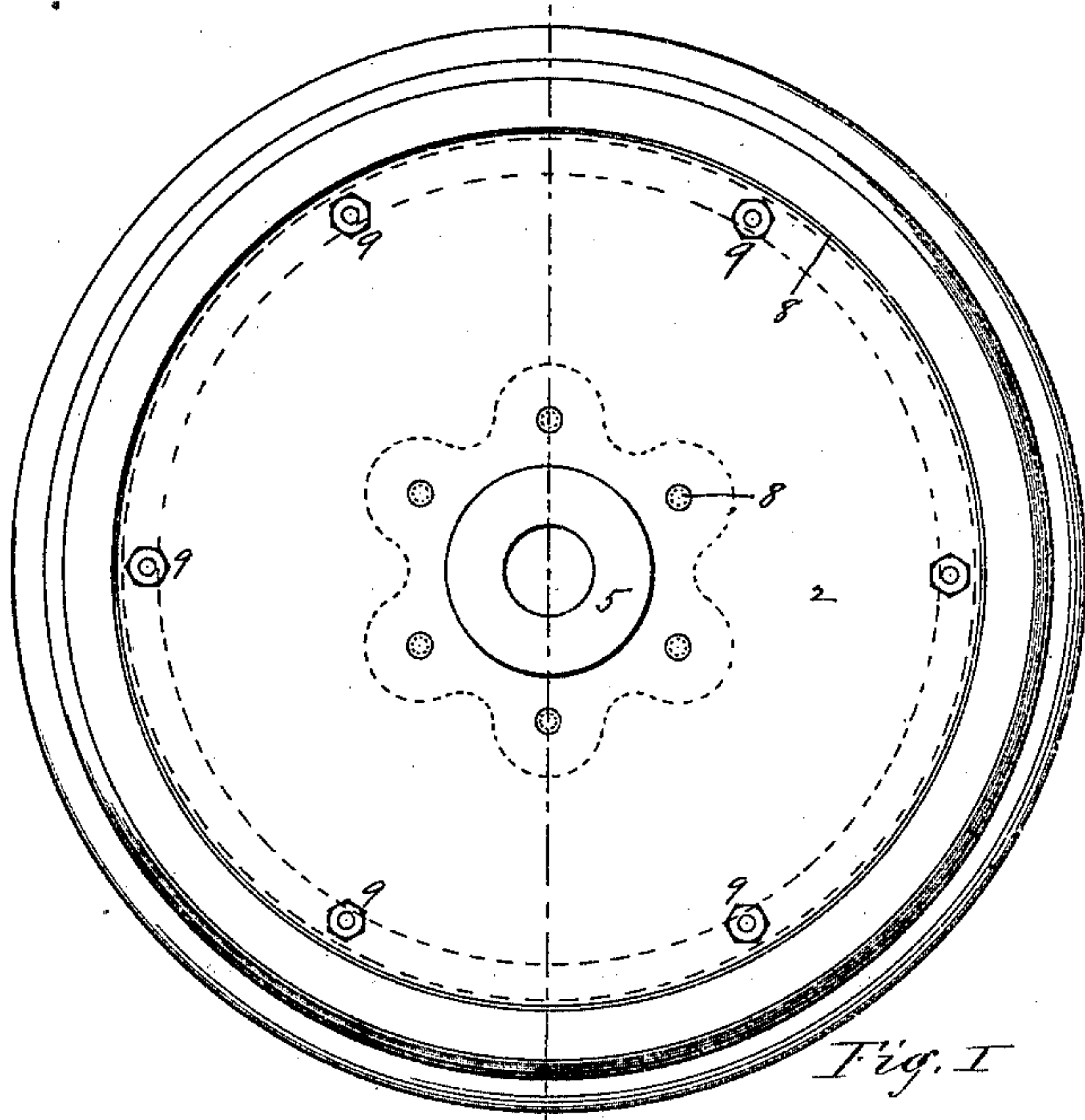


Fig. I

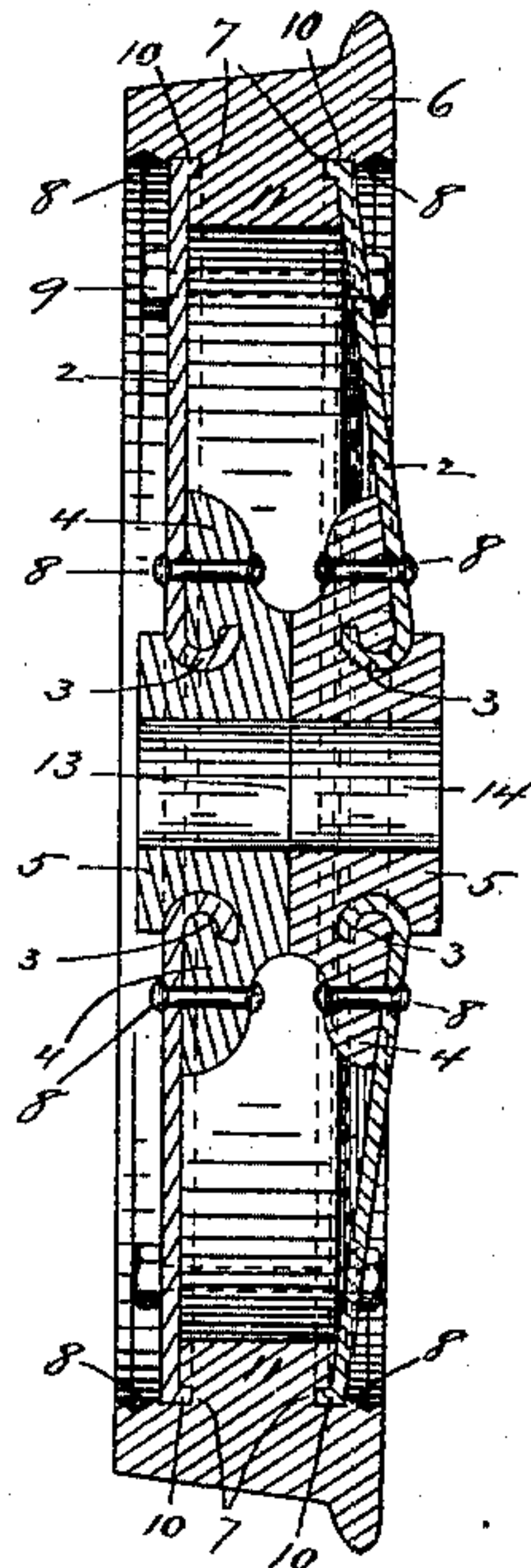
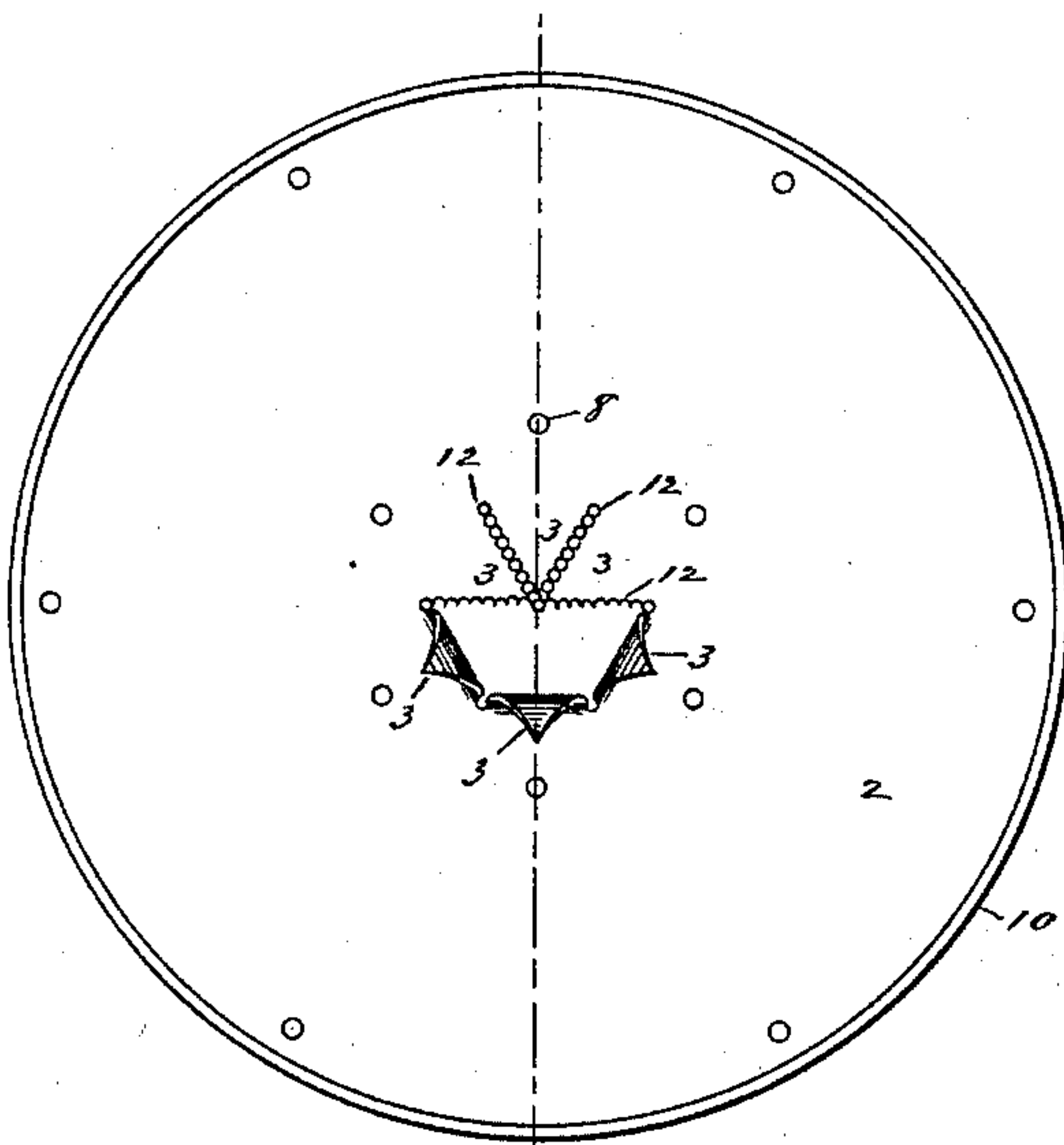


Fig. II



B Fig. III

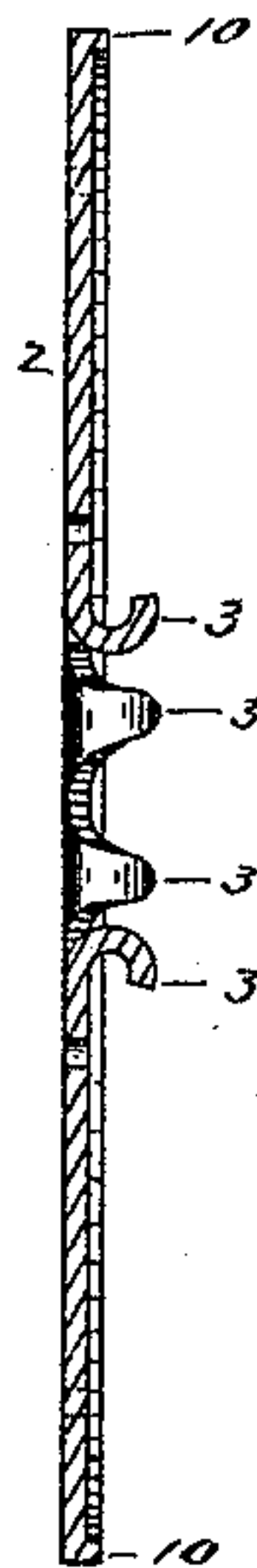


Fig. IV

Witnesses.

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# UNITED STATES PATENT OFFICE.

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## CAR-WHEEL.

SPECIFICATION forming part of Letters Patent No. 286,183, dated October 9, 1883.

Application filed March 31, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM B. DIXON, of Springfield, in the county of Hampden and State of Massachusetts, have invented a new and useful Improvement in Railway - Car Wheels, of which the following is a specification and description.

The object of my invention is to provide a strong and durable railway-car wheel, whose side plates are made of wrought metal and are firmly secured to the hub, which is made in two parts, and of cast metal, and with the outer rims of the said plates properly secured to the tire; and I accomplish this by the mechanism, substantially as hereinafter described, and illustrated in the accompanying drawings, in which—

Figure I is a side view of a railway-car wheel constructed according to my invention. Fig. II is a transverse section of the same at line A of Fig. I. Fig. III is a side view of one of the side plates, showing the method of forming the webs by which the plate is secured to the hub; and Fig. IV is a transverse section of the same at line B of Fig. III.

In the drawings, 2 represents one of the side plates, made of wrought sheet metal of suitable quality—good iron being preferable—and at the center I punch a series of rows of small holes, which intersect each other at the center of the plate, and thereby form a series of webs, 3, arranged around the center of the plate, and these webs I turn outward, as shown clearly in Figs. III and IV. I make a flange, 10, at the rim of the plate 2, and this plate I place in a molding-flask, in which a pattern of one half or part of the hub 5 has been molded, and molten iron or metal is then poured into the mold and runs all around on both sides of these webs in the form shown in Fig. II and in dotted lines in Fig. IV. The shrinkage of the cast metal in cooling causes it to have a very firm hold upon the webs 3 of the plates, and the latter are thereby very firmly held to the hub.

To prevent any jar of the metal plate against the flat side of either part of the hub, holes may be cast or made in the hub at suitable intervals, and corresponding holes made in the plates, through which to insert rivets or bolts 8.

I make the tire of any suitable metal and with an inwardly-projecting flange, 15, with an annular groove or channel, 7, made in each side, and one of the side plates, 2, having the half-hub 5 secured thereto, as above described, is placed with its annular flange 10 in said annular groove 7, and the metal of the tire is upset or forced inward all around at the point 8, against the outside of the plate, all around the rim, which secures the plate firmly to the tire. Both plates being secured in this manner, each with its half-hub 5 secured thereto, the wheel is placed in a machine and the hole 14 is bored out true through both parts of the hub, and the wheel is finished.

It is evident that the plates, with the half-hubs secured thereto, may be used without the annular flange 10 around the rim of each, and with no groove 7 in the tire; but the plates and tire may be used made otherwise in the same way, and firmly secured together by bolts 9, inserted through the plates and flange 15, without departing from the invention. The plates may also be used with the annular flange 10 fitted to the groove 7 on each side of the tire, and the latter secured to the plates by the bolts, as before mentioned, but without upsetting the metal of the tire against the outside of the plates, if desired.

The hub 5 may be circular in form, as shown in dotted lines in Fig. 1, or it may be of the form shown by the dotted serpentine line, (also shown in Fig. 1,) as desired. By making the hub in two parts vertically and divided, as at the line 13, much of the vibration of the wheel is obviated, and the latter is believed to be much stronger than when the wrought-metal side plates are secured to a cast-metal hub by any other means, and the wheel will possess a certain degree of elasticity which will relieve it of much of the shock, which is often very perceptible in the use of ordinary wheels.

Having thus described my invention, what I claim as new is—

1. In a railway-car wheel, two wrought-metal side plates having a central portion thereof formed into webs and turned outward and backward, in combination with a hub made in two parts, one of which is cast to one of said plates around its web, and the other cast to the other

plate, and a tire secured to and between the rims of said side plates, substantially as described.

5 2. In a railway-car wheel, two wrought-metal plates whose central portions are formed into webs turned outward and backward, and each provided at its rim with an annular flange, in combination with a hub made in two parts, one of which is cast to one of said plates around

its webs, and the other to the other plate, and to a tire provided on each side, with an annular groove or channel to receive the annular flange on the said plates, and secured to said plates, substantially as described.

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Witnesses:

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