No. 754,214. PATENTED MAR. 8, 1904.

W. E. HARRIS.

TRACTION WHEEL.

APPLICATION FILED JULY 18, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

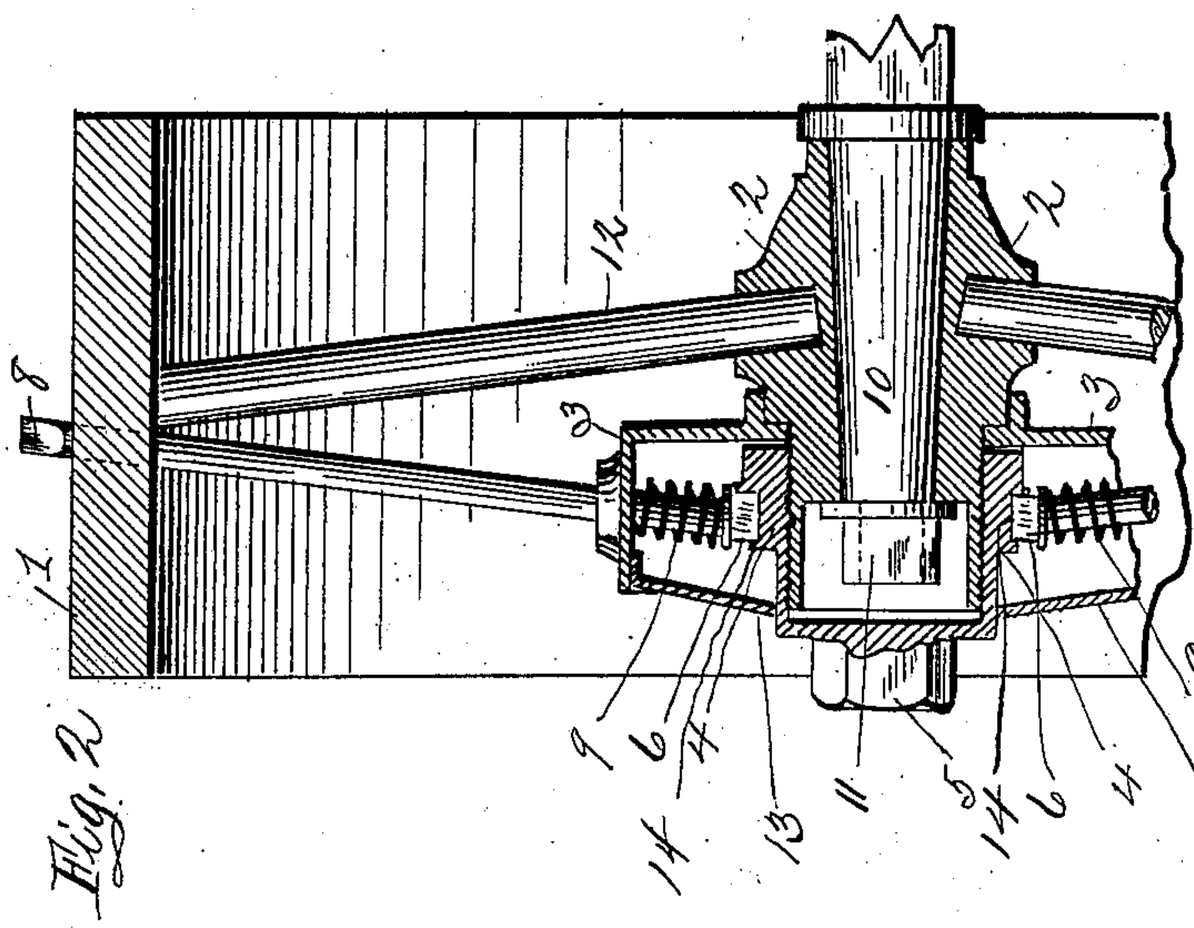

Fig. 2.

Fig. 3.

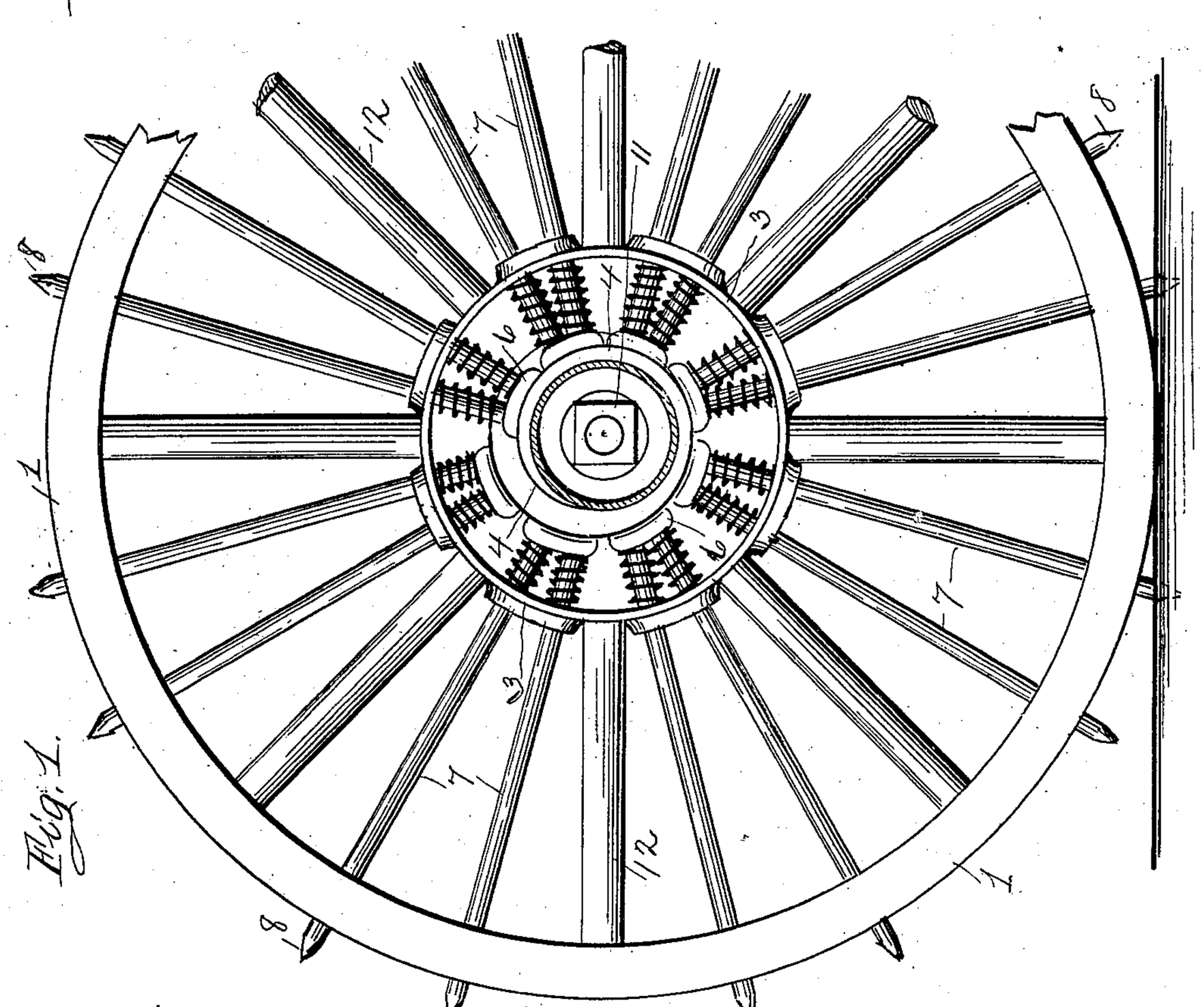

Fig. 1.

Witnesses:

Joseph F. Klapka

C. C. Lee

Inventor:

William E. Harris

per

H. E. Harrison,

Atty.

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NO MODEL. 2 SHEETS—SHEET 2.

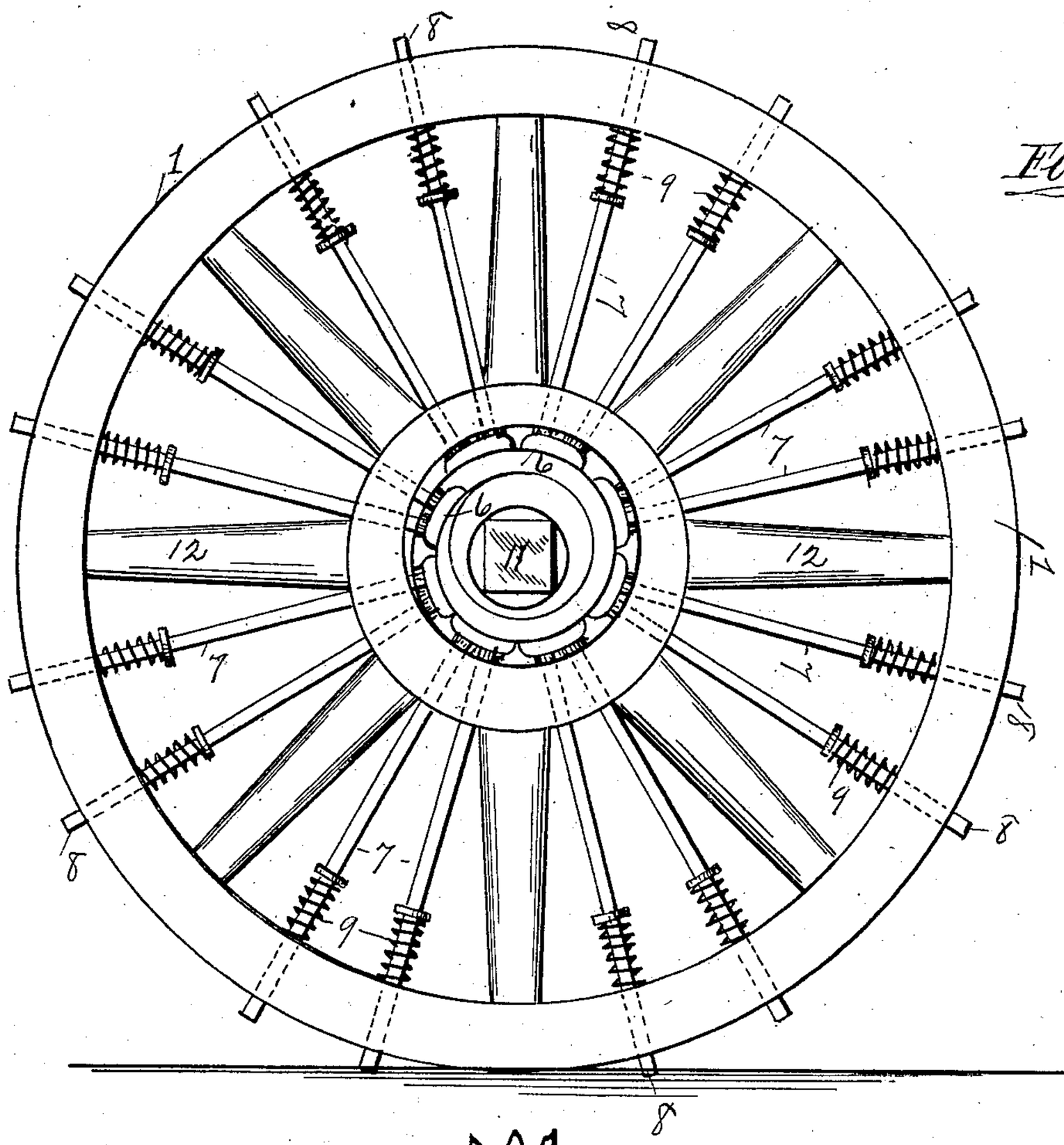

Fig. 4

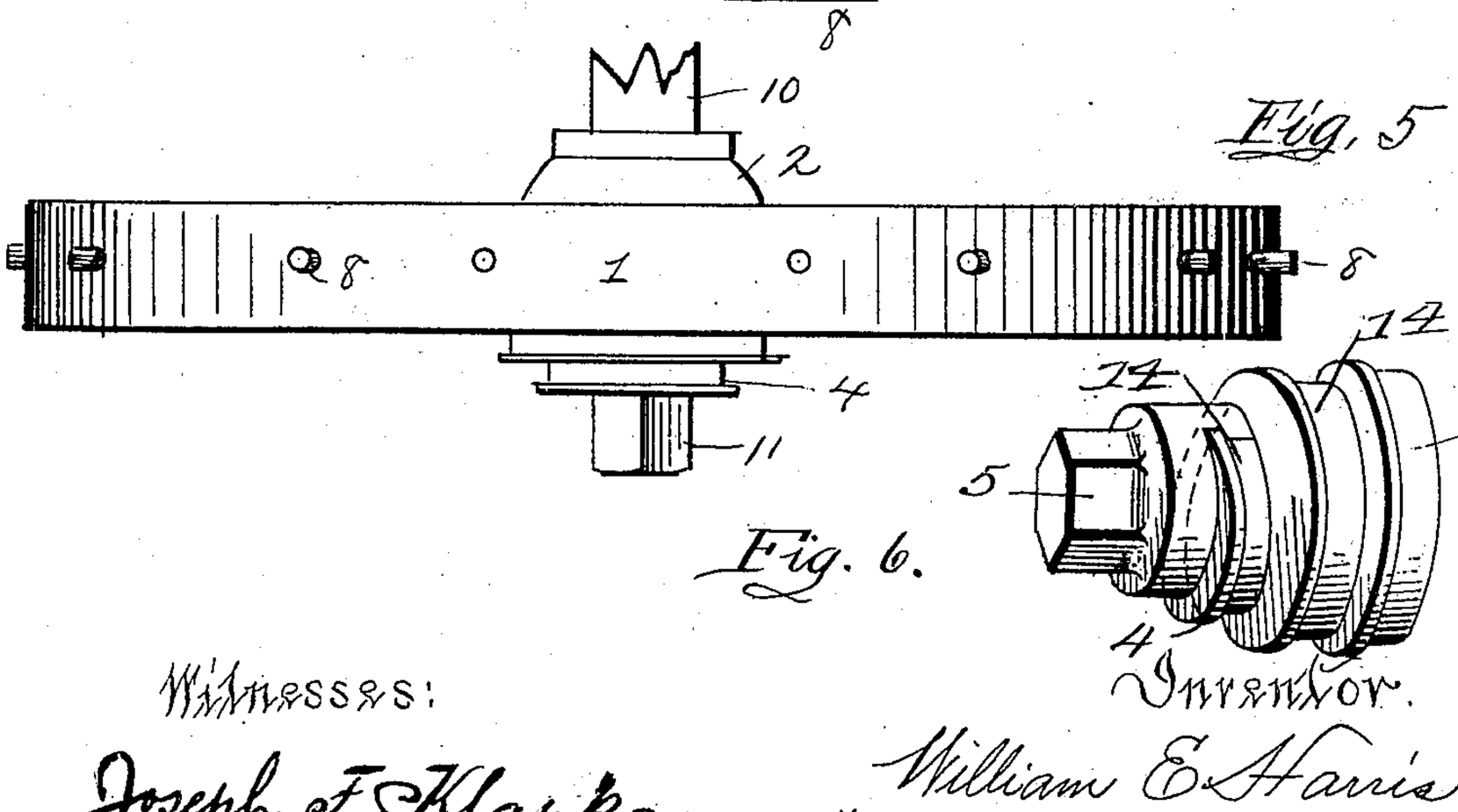

Fig. 5

Fig. 6.

Witnesses:

Joseph F. Klapka

Inventor.

William E. Harris

Per. A. E. Harrison,

Atty.

No. 754,214. Patented March 8, 1904.

UNITED STATES PATENT OFFICE.

WILLIAM E. HARRIS, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO JOSEPH F. KLAPKA, OF ALLEGHENY, PENNSYLVANIA.

TRACTION-WHEEL.

SPECIFICATION forming part of Letters Patent No. 754,214, dated March 8, 1904.

Application filed July 18, 1903. Serial No. 166,166. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. HARRIS, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Vehicle or Traction Wheels, of which improvement the following is a specification.

This invention relates to an improved vehicle-wheel; and it consists in the certain details of construction and combination of parts, as will be fully described hereinafter.

In the accompanying drawings, Figure 1 is a side elevation of my improved traction-wheel, a part of which is broken away, the said wheel being constructed and arranged in accordance with my invention. Fig. 2 is an end sectional elevation of the same. Fig. 3 is a perspective view of a portion of the outer end of one of the radial bars or moving pieces adapted to be thrust through and beyond the tire of the wheel or brought back inside the periphery of the same. Fig. 4 is a similar view such as shown at Fig. 1 of the drawings, it being a modified form of my invention. Fig. 5 is a plan view of the same. Fig. 6 is a perspective view of the spiral casting.

To put my invention into practice, and thereby provide a traction-wheel in which a series of radially-projecting arms may be thrust through the apertures 15, formed in the tire 1 of the wheel, or brought back beneath the surface of the same, I attach to the hub 2 of the said wheel an annular shell or casing 3, the said shell or casing being rigidly secured thereon. Arranged upon the forward end of the hub 2 by means of a screw-thread connection is a spiral casting 4, the larger portion of the same being at the rear and the said casting formed with an integral portion 5 adapted to receive a wrench, whereby the said spiral may be turned upon the hub. Operating upon this spiral 4 are a series of shoes 6, which ride in a groove 14, formed upon the outer face of the said spiral, each shoe carrying two radial arms 7, which have bearings in the annular shell 3 and also in the felly 1, each of the said arms being fitted with a spring 9, the same tending to withdraw or bring the arms back to their normal position. A cap or cover is provided to keep the parts free from dust.

In practical use the above-described wheel is fitted to the axle 10 and held by the nut 11 in the usual manner. As has been hereinbefore stated, the portion 5 is formed integral with the spiral 4. The said spiral is provided with the groove 14, in which ride the retaining-shoes 6. When it is desired to use the radial arms 7 and 8, and thereby to increase the traction of the wheel, the portion 5, formed integral with the spiral, is screwed upon the hub until the arms 7 8 project through the apertures 15, formed in the tire. These arms are caused to project in the manner described, because the upward curve of the groove 14 upon the spiral will force the shoes 6, upon which the arms are mounted, farther out from the hub and nearer to the tire of the wheel. When it is desired to have the ends of the arms 7 8 on a level with the outer periphery of the tire, the wrench-engaging portion of the spiral 4 is turned in the reverse direction until the desired result is retained, the shoes in the latter operation riding in the downward slope of the groove.

At Figs. 4 and 5 of the drawings I have shown a modified form of my invention, in which the springs 9 are arranged to contact with the felly of the wheel and bear against a collar formed integral with the arms 7. Therefore I do not wish to confine myself to the exact construction shown and described, as other modified forms may be made without departing from the spirit of the invention.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The herein-described traction-wheel, consisting of a hub, a spiral casting arranged thereon, said casting being provided with a groove, a wrench-engaging portion formed integral with the said casting, shoes adapted to ride in the said groove, each of said shoes being provided with a plurality of radial bars, and means formed thereon for retaining the same in a set position, substantially as and for the purpose specified.

2. The herein-described traction-wheel, consisting of a hub, a spiral casting arranged thereon, said casting being provided with a groove, a wrench-engaging portion formed integral with the said casting, shoes adapted to ride in the said groove, each of said shoes being provided with a plurality of radial bars, said bars being provided with springs, substantially as and for the purpose specified.

3. The herein-described traction-wheel, consisting of a hub, a spiral casting arranged thereon, said casting being provided with a groove, a wrench-engaging portion formed integral with the said casting, shoes adapted to ride in the said groove, each of said shoes being provided with a plurality of radial bars, a casing surrounding the casting, a flange formed upon each of the said bars near the lower end thereof, and a spring interposed between the said flange and the casing, substantially as and for the purpose specified.

4. The herein-described traction-wheel, consisting of a hub, a spiral casting arranged thereon with rods supported thereby and extending through the felly of the wheel, an annular casing arranged about the said casting, and a dust-guard formed on the said casing, substantially as and for the purpose specified.

In testimony whereof I have hereunto signed my name in the presence of two subscribing witnesses.

WILLIAM E. HARRIS.

In presence of—
JOSEPH F. KLAPKA,
C. C. LEE.