

No. 706,480.

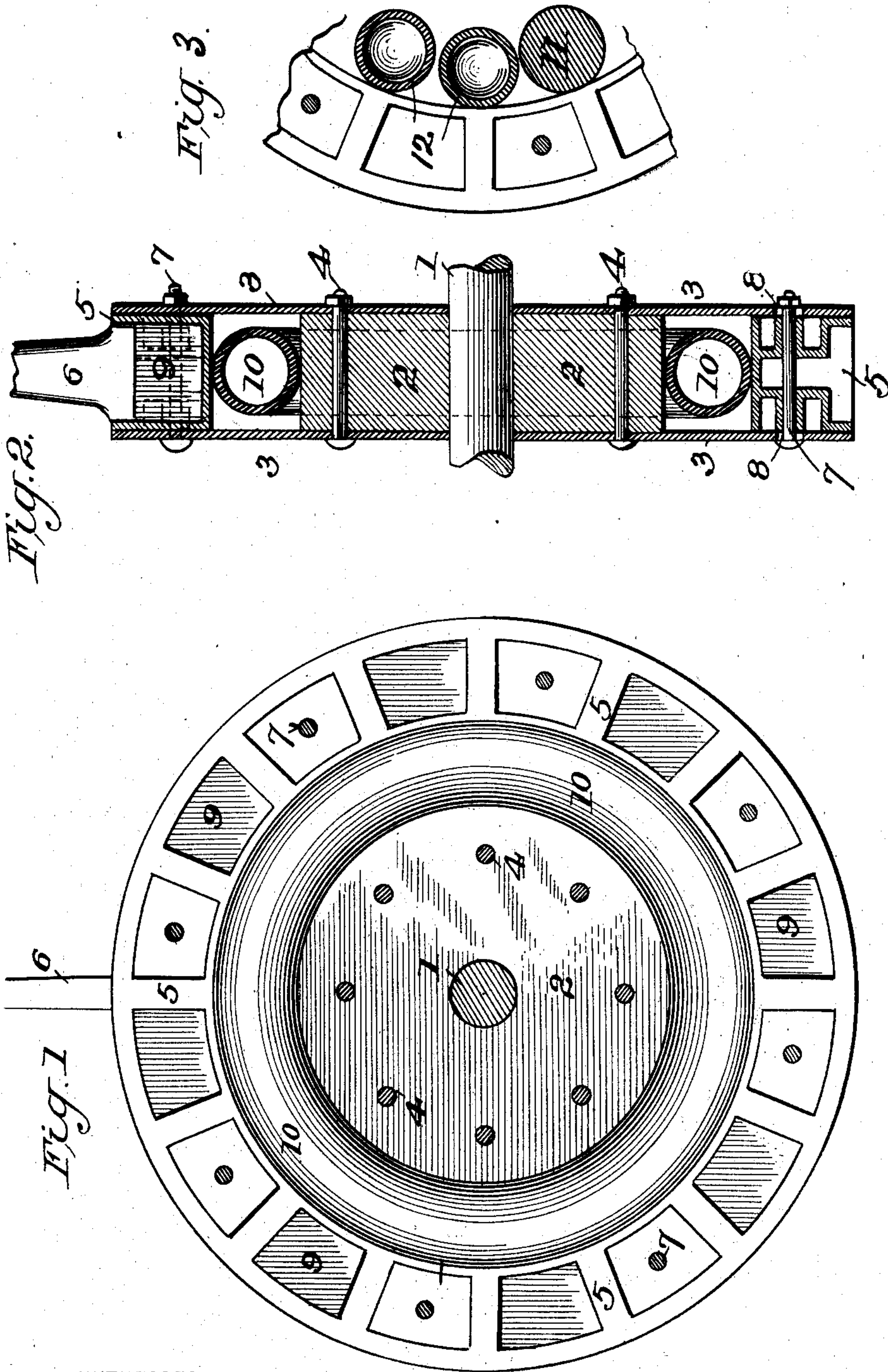
Patented Aug. 5, 1902.

A. A. VÉREL.
WHEEL.

(Application filed May 17, 1902.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:
Jos. A. Ryan
Amos W. Hart

INVENTOR
Alphonso A. Vérel
BY *Munn & Co.*

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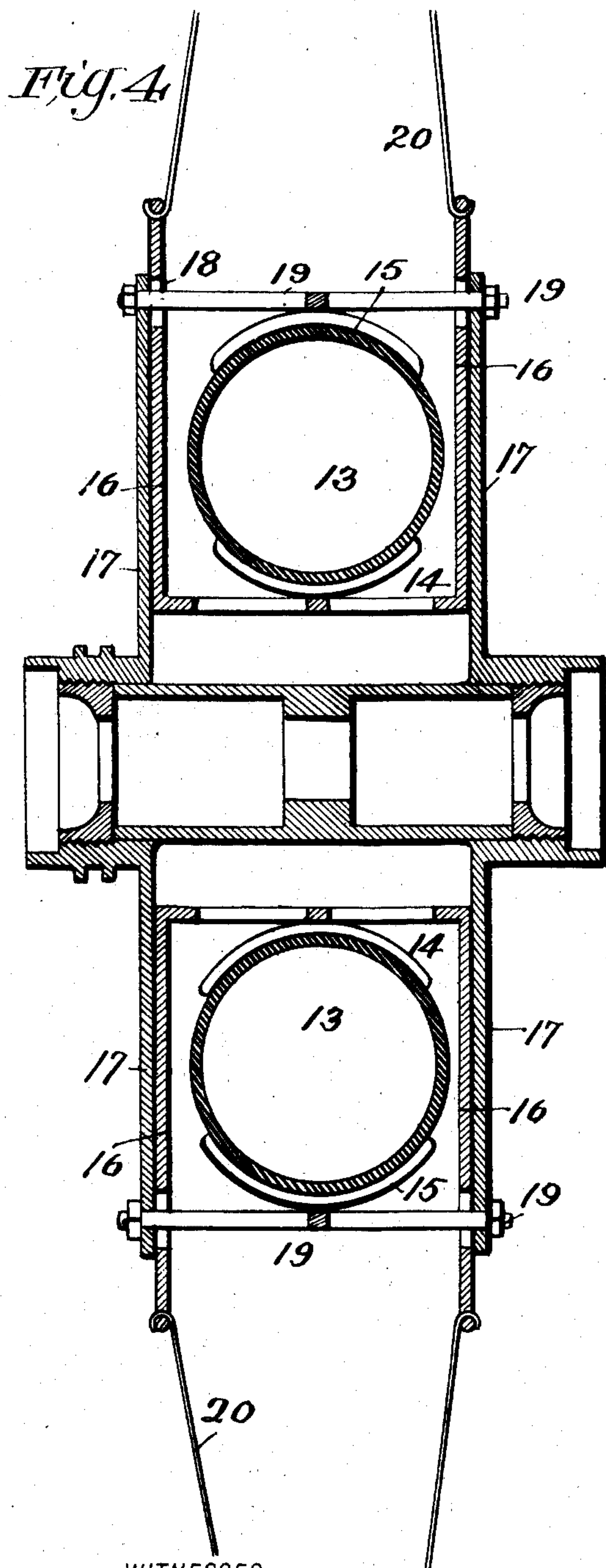
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UNITED STATES PATENT OFFICE.

ALPHONSO ANTHONY VÉREL, OF GLASGOW, SCOTLAND.

WHEEL.

SPECIFICATION forming part of Letters Patent No. 706,480, dated August 5, 1902.

Application filed May 17, 1902. Serial No. 107,751. (No model.)

To all whom it may concern:

Be it known that I, ALPHONSO ANTHONY VÉREL, a subject of the King of Great Britain, residing at Glasgow, in the county of Lanark, Scotland, have made certain new and useful Improvements in Wheels, of which the following is a specification.

My invention is an improvement in wheels especially adapted for carriages of various descriptions and cycles, but which may be used for other purposes. It is more especially an improvement in that class of wheels in which some form of springs is interposed between the center or hub and the spokes that extend to the rim or felly.

The invention consists in certain novel constructions and combinations of parts, as will be hereinafter described and claimed.

In the drawings, Figure 1 is a face view of one form of wheel-hub and connected parts, the face-plate of the hub being removed. Fig. 2 is a transverse section of the wheel-hub shown in Fig. 1. Fig. 3 is a view illustrating a modification of the spring employed in this form of hub. Fig. 4 is a transverse section of the hub and connected parts, constituting a modification.

Referring in the first instance to Figs. 1 and 2, 1 indicates the collar, and 2 a solid hub mounted thereon. Two flat face-plates 3 are applied on opposite sides of the hub 2 and secured thereto by bolts 4. Between the outer portions of said plates 4 is arranged an annulus 5, which is provided with a series of sockets to receive wooden or other spokes 6. This annulus or ring 5 is secured by bolts 7, which are adapted to play radially by means of slots 8. (See Fig. 2.) The said bolts 7 pass through spaces which are intermediate of the spokes 6, and in the spaces or sockets which are intermediate of the bolts is arranged a series of wooden blocks 9, which serve as filling and relieve friction between the multiple-spoke socket or annulus 5 and the hub-plates 3. Between the hub proper, 2, and the annulus 5 is arranged an elastic pneumatic ring 10. (See Fig. 2.) This ring will in practice be provided with a small

tube leading through an opening in one of the hub-plates 3 or through the annulus and provided with a valve adapting it to be used for inflating the ring to the required degree.

In Fig. 3 I illustrate a modification of the spring, the same consisting of solid rubber balls 11 or hollow balls 12. These will be arranged in the same space provided for the pneumatic tube 10.

In Fig. 4 is shown an elastic pneumatic tube 13, which is arranged between concavo-convex plates 14 and 15. The plate 14 is permanently attached to the inner end of a metal box 16, which is arranged between parallel hub-plates 17 and provided with slots 18, through which pass bolts 19, that secure the said box 16 to the hub-plates, as shown. Spokes 20, such as may be employed in constructing cycle and like wheels, are suitably secured to the outer edges of the box 16. The outer concave plate 15 abuts and is secured to the bolt 19.

What I claim is—

1. An improved wheel comprising the hub having radial plates arranged parallel and provided with radial slots, an annular spoke-socket arranged between said plates and provided with sockets to receive spokes and between said sockets with spaces for the cross-bolts and with spaces opening at the sides of the annular socket-piece and with wooden blocks therein fitting such spaces and relieving friction between the spoke-socket annulus and the parallel hub-plates, cushioning means between the hub and the annular spoke-socket and cross-bolts through the side plates of the hub and the spoke-socket annulus substantially as set forth.

2. An improved wheel comprising the parallel side plates, the annular spoke-socket between the same and having recesses opening at its sides facing said plates, and filling-blocks in said recesses and bearing against the side plates substantially as set forth.

ALPHONSO ANTHONY VÉREL.

Witnesses:

DAVID FERGUSON,
GEORGE PATTERSON.