

No. 706,957.

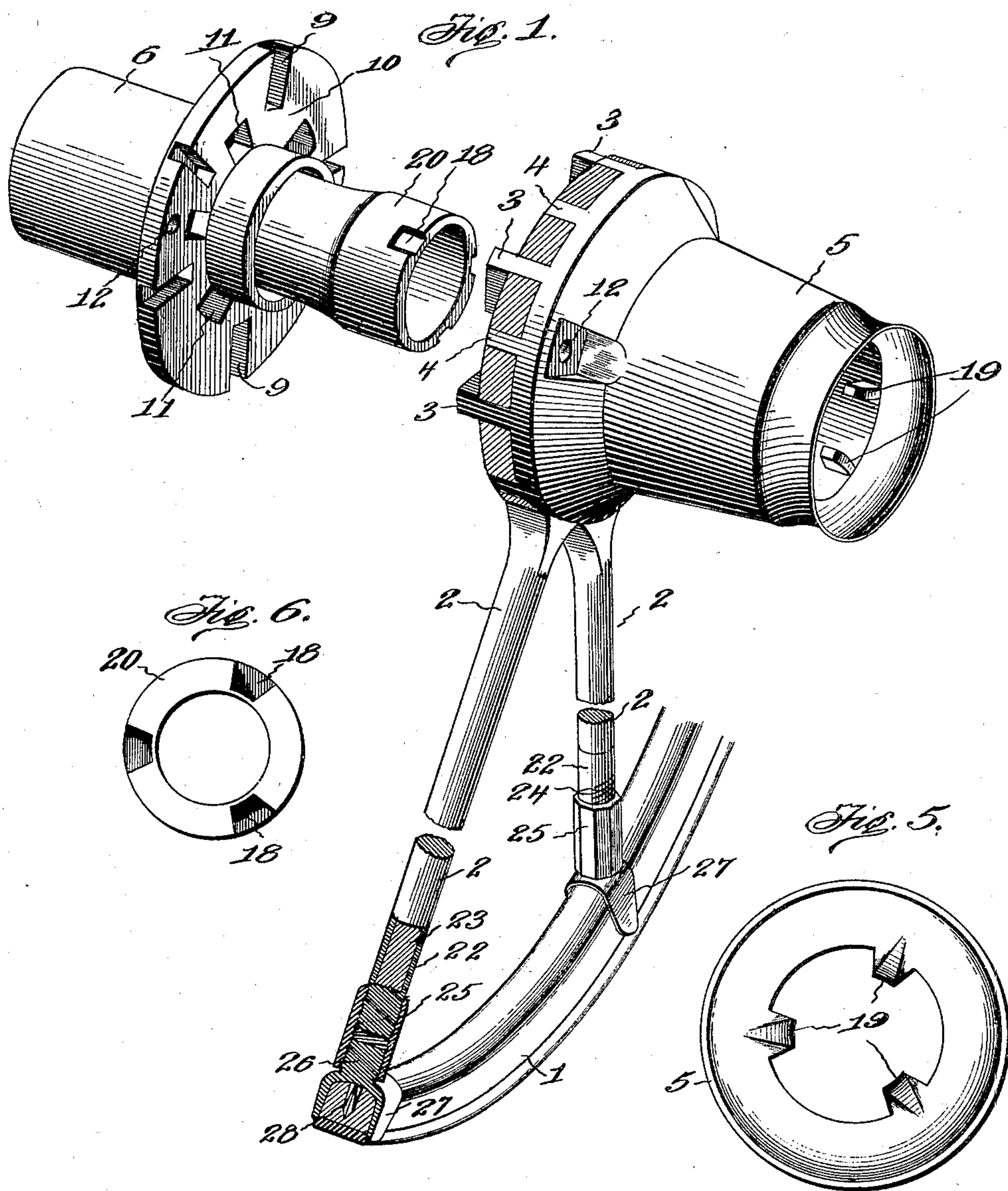
Patented Aug. 12, 1902.

E. KEEN.
VEHICLE HUB.

(Application filed Dec. 26, 1901.)

(No Model.)

2 Sheets—Sheet 1.



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2 Sheets—Sheet 2.

Fig. 2.

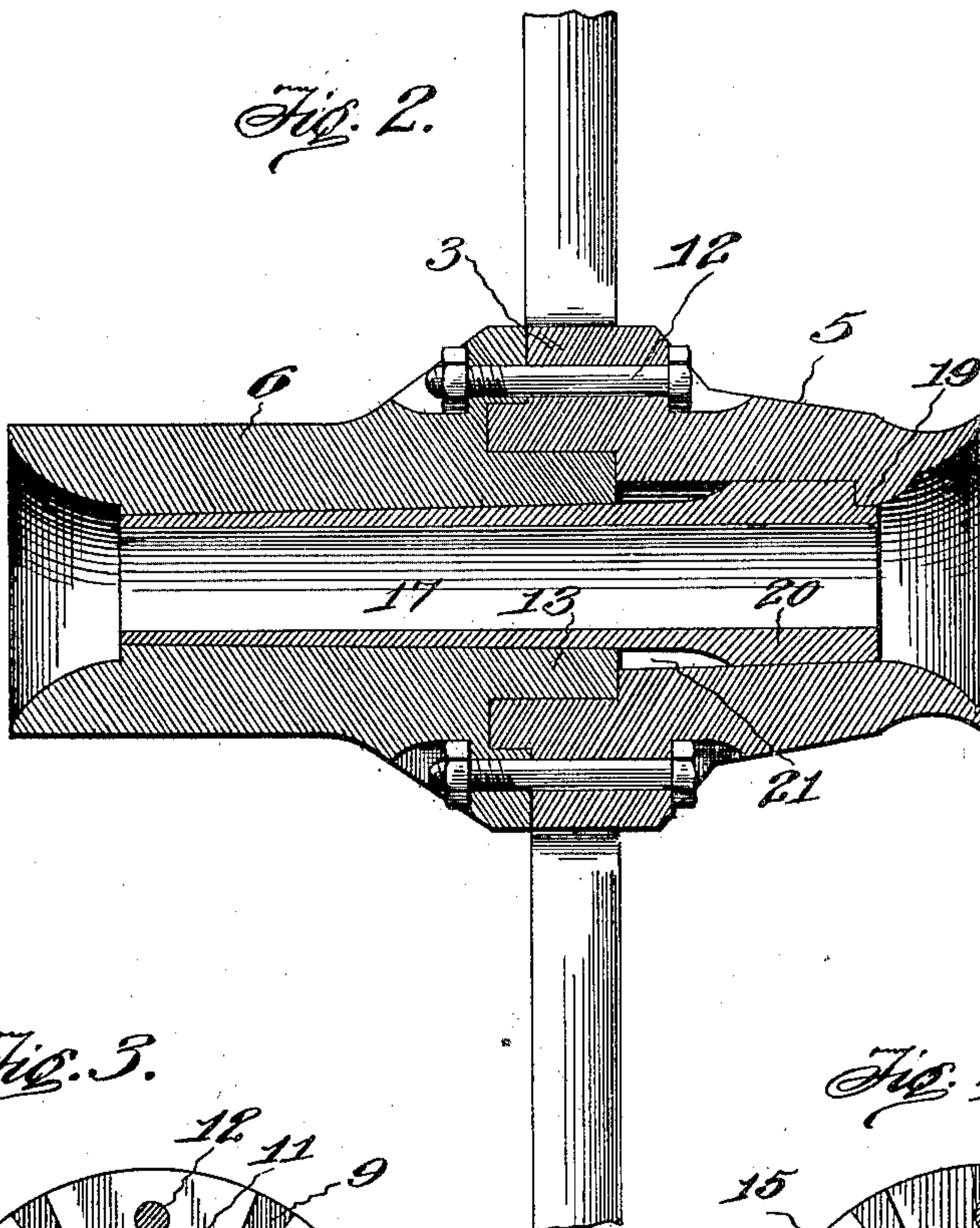


Fig. 3.

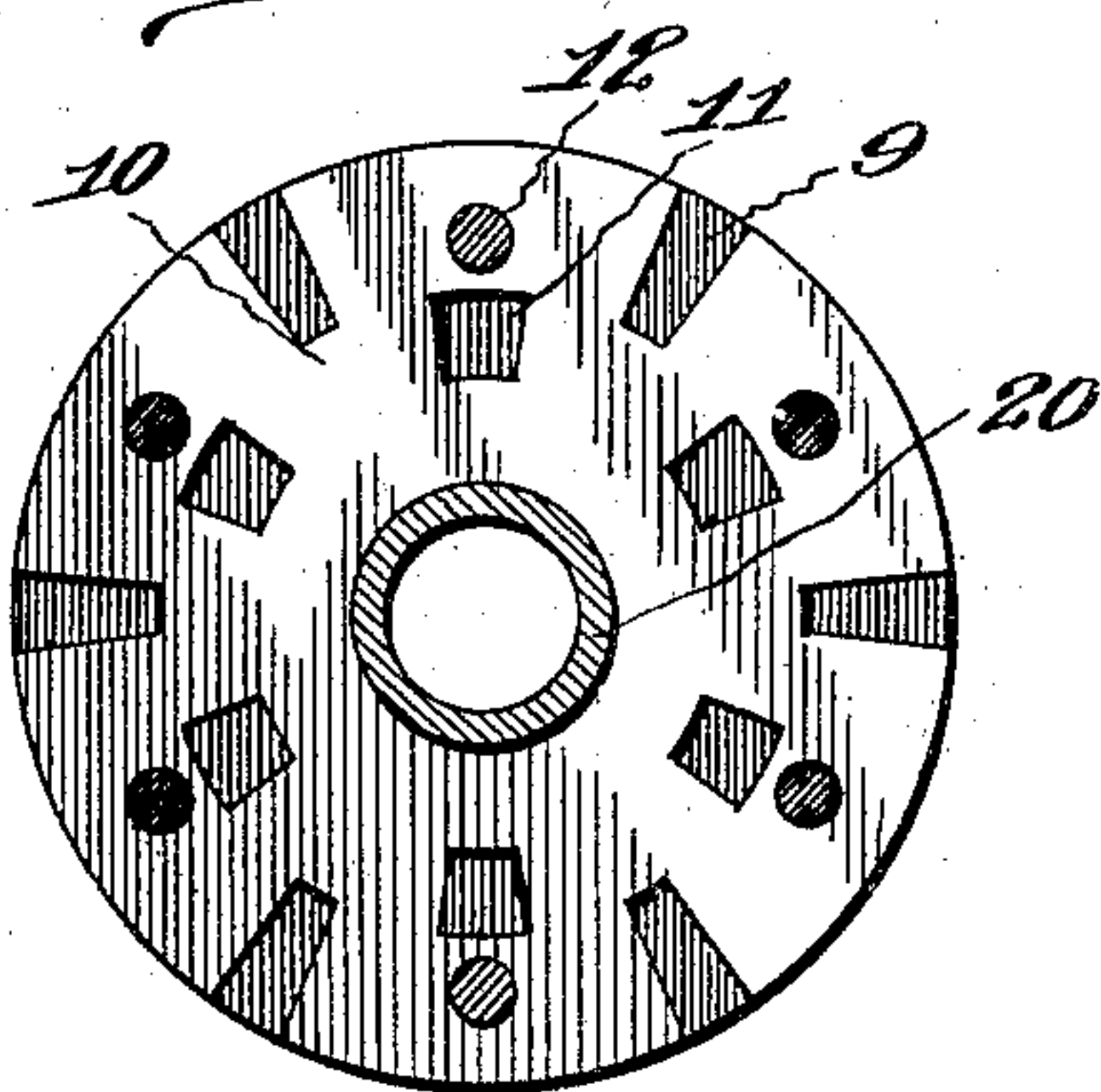
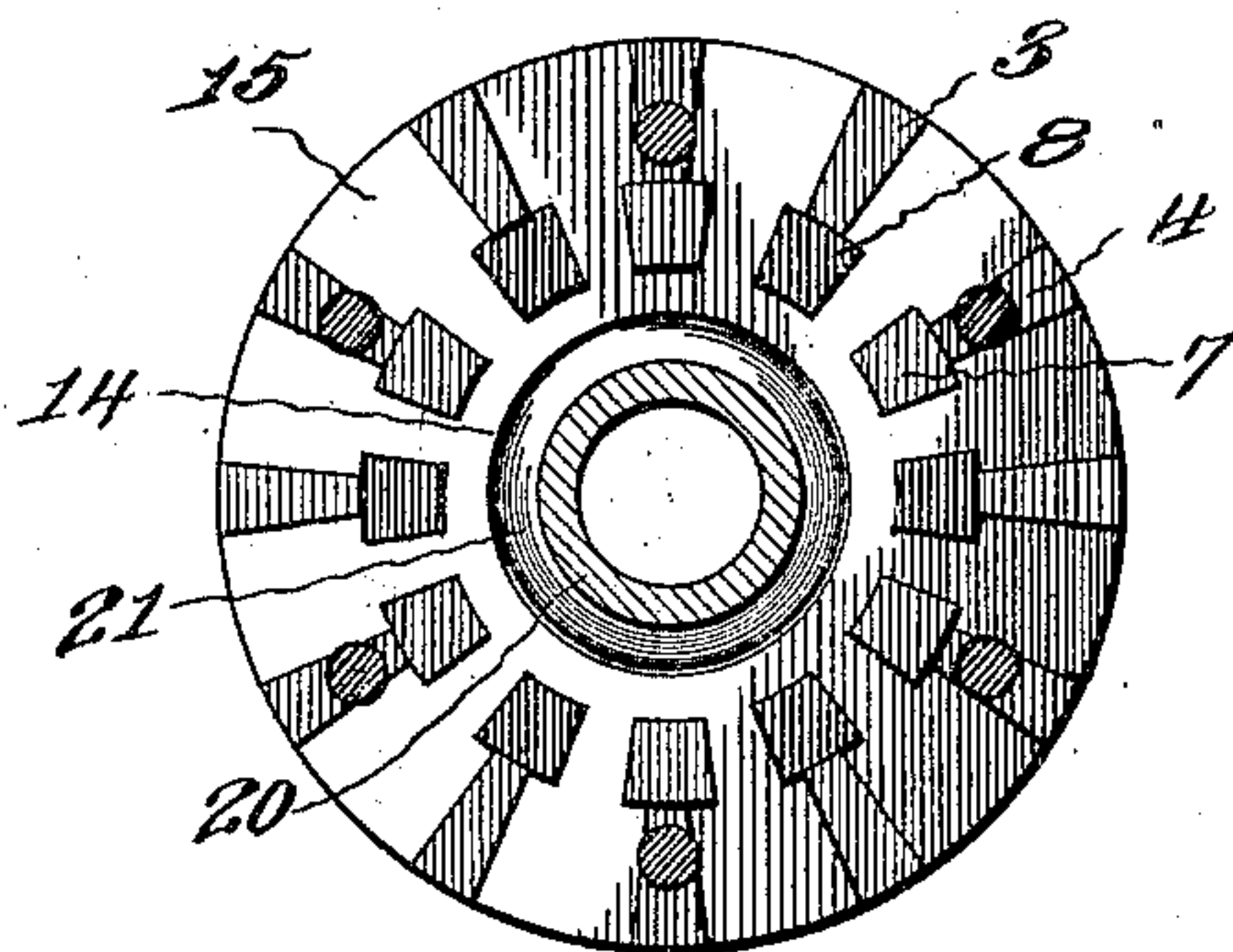


Fig. 4.



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UNITED STATES PATENT OFFICE.

ELIAS KEEN, OF MULBERRY, FLORIDA.

VEHICLE-HUB.

SPECIFICATION forming part of Letters Patent No. 706,957, dated August 12, 1902.

Application filed December 26, 1901. Serial No. 87,208. (No model.)

To all whom it may concern:

Be it known that I, ELIAS KEEN, a citizen of the United States, residing at Mulberry, in the county of Polk and State of Florida, have invented certain new and useful Improvements in Hub Constructions; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to wheel construction; and it consists of certain novel features of combination and construction of parts, the preferred form whereof will be fully set forth in the following specification and illustrated in the accompanying drawings, which are made a part of this application.

The object of my invention is to provide a wheel the parts whereof may be very cheaply constructed and reliably held in their respective operative positions.

A further object is to enable any of the spokes to be quickly removed and replaced if for any reason it should become desirable to do so.

A further object of my invention is to provide simple though reliably-efficient means for tightening the spokes and rim of the wheel without the necessity of removing the tire and cutting the same, as is common to accomplish this same result.

Other objects and advantages will be made clearly apparent in the following specification.

Referring to the drawings, Figure 1 is a perspective view of my invention complete, showing the several parts slightly separated from each other. Fig. 2 is a central longitudinal section of the hub of my improved wheel. Fig. 3 is a plan view of the inner face of the inner half of my improved hub. Fig. 4 is a similar view of the outer half of my improved hub. Fig. 5 is an end view of the outer end of my hub, showing the retaining devices for holding the boxing against rotation when disposed therein. Fig. 6 is a view showing the outer end of the boxing provided with recesses to cooperate with the retaining devices illustrated in Fig. 5.

In order to conveniently designate the several features of my invention and the coöper-

ating accessories, numerals will be employed, of which—

1 indicates the rim of the wheel, which may be of the usual or any preferred construction, while 2 indicates the spokes thereof, which are provided with a suitable head to be received between the tenons or extensions 3 and 4, constituting an integral part of the outer half of the hub 5, the inner half 6 of the hub being properly formed, as will be hereinafter clearly set forth, to complement the outer half and fit snugly therewith. The extensions or tenons 4, as will be seen by reference to Fig. 1, are of less extent or length than the tenons 3, inasmuch as each alternate tenon is shorter than the succeeding one. It will be observed by reference to Figs. 2 and 4 that the tenons 4 are each shorter in extent than the tenons 3 only upon its outer edge, as the inner edge thereof is extended to provide the auxiliary tenon 7, while the reverse is true with respect to the inner edge of the long tenons 3, inasmuch as it will be observed that the inner edge of each of said tenons 3 is shortened, thereby providing the offset, as indicated by the numeral 8, and by reference to Figs. 1 and 3 the utility of this construction for said tenons will be fully appreciated. When the hub-sections 5 and 6 are placed in complementary relationship with each other, the long tenons 3 will each be received by and snugly fit within its respective recess 9, while the offset or shortened edge, as indicated by the numeral 8, will abut against that part of the inner face of the hub-section 6 designated by the numeral 10. The extension 7 upon the inner edge of the short tenons 4 will be received by and snugly fit within its individual aperture 11. It will therefore be seen that the said parts intimately intermesh and engage each other, to the end that the members 6 and 7 will be securely held against relative movement after suitable locking devices, as bolts or rivets, are extended through the apertures 12, it being understood that any preferred number of said bolts or the equivalent may be employed as deemed necessary to subserve the best results.

While the foregoing devices and peculiarities of construction of the inner faces of the

shortened cooperating members 5 and 6 will, it is thought, amply meet the requirements of reliably uniting said members together, I have provided in addition to said devices the

5 integral extension or collar-section 13, formed upon one or the other of said members and designed to be received by a corresponding recess formed in the opposite member, thereby disposing the outer surface of said collar-

10 section 13 into close contact with the inner edges of the tenons 3 and 4 and disposing the extreme outer end of said collar directly against the annular shoulder, as indicated by the numeral 14. It will be understood that

15 the said shoulder 14 is preferably disposed so as to be on a line parallel with the outer face of the spokes, as indicated in Fig. 2, though it is obvious that the extent or length of the collar 13 will determine the location of said

20 shoulder. After the complementing members 5 and 6 have thus been united together it is obvious that the space between the members 3 and 4, as indicated by the numeral 15, is adapted to receive the contiguous end of the

25 spoke, which should be shaped to neatly fit within said space and provided with a suitable offset or shoulder upon each side in order that said shoulder will abut against the offset 16, formed by making the members 7 and

30 8 of greater thickness than the members 3 and 4, sufficient space being left between the members 7 and 8 to receive the extreme inner end of the spoke, inasmuch as said extreme inner end is designed to reach into en-

35 gagement with the outer face of the boxing 17, which is of proper size to snugly fit within the bore provided in the members 5 and 6, as clearly shown in Fig. 2. The boxing 17 is of sufficient length to extend throughout

40 the length of the bore in the hub-sections 5 and 6, as is common, while its outer end is slightly enlarged to fit snugly within the enlarged diameter of the bore of the member 5, and in order to insure that the boxing will

45 rotate in sympathy with the movement of the hub I provide upon the outer end thereof a plurality of recesses 18, adapted to receive the integral inwardly-extending anchoring devices 19, formed upon a contiguous part of

50 the bore of the member 5. The bore of the member 6 may be slightly conical and the boxing 17 correspondingly shaped to fit said bore, thus compensating for any wear that may come to said parts.

55 In assembling the shortened devices of the hub and the boxing the parts are disposed substantially as shown in Fig. 1, wherein it will be observed that the smaller end of the boxing is entered within the bore provided in the

60 member 6 when the member 5 is slipped over the large end of the head 20 of the boxing, so as to insure that the long tenons 3 will enter their respective recesses and that the extensions 8 will be similarly received by the apertures 11, the position of the boxing being

65 such that the recesses 18 will receive the lugs or anchoring devices 19, when the bolts or

rivets relied upon to hold the members 5 and 6 in operative union may be entered in the apertures 12, as will be readily understood. 70

It is obvious that the boxing 17 will prevent all leakage of oil into the line of separation between the members 5 and 6 and that my improved hub will possess great wearing qualities measured by the durability of the boxing 17, which latter, it is obvious, may be easily replaced from time to time as it becomes worn or otherwise impaired. 75

By reference to Fig. 2 it will be seen that the opening or annular recess 21 is left immediately adjacent to the outer end of the collar 13, and said recess, if desired, may be filled with or occupied by an annular packing, of rubber or the like, thereby positively preventing any oil from entering between the line of separation of the members 5 and 6. 80 85

By reference to Fig. 1 it will be seen that I have provided means for tightening the rim of the wheel without the necessity of removing and cutting the tire, as is common, said means consisting of the member 22, having a suitable socket to receive a tenon 23, provided upon the outer end of the spoke 2. The extreme outer end of the member 22 is threaded, as indicated by the numeral 24, said threaded end being adapted to be received by the contiguous end of the thimble 25, which is internally threaded, as clearly shown in said view, while the outer end thereof is also threaded to receive the threaded terminal 26, forming an integral part of the preferably U-shaped body portion 27. The said body portion 27 is designed to receive between its branches a contiguous part of the rim or felly of the wheel and is provided with the centrally-disposed anchoring-point or metallic tenon 28, adapted to take into a suitable aperture in the felly, and thereby securely hold said body portion against casual movement. Inasmuch as the threads upon the ends of the thimble 25 are oppositely disposed with respect to each other, it is obvious that when said thimble is rotated the spoke may be tightened or loosened, as desired. The outer surface of the thimble 25 is preferably so shaped as to enable it to be readily engaged by the wrench; whereby it may be easily turned in either direction to loosen or tighten the spoke, as may be desirable. 90 95 100 105 110 115

It will be seen that the various parts of my invention are so constructed that they are rendered interchangeable, thereby making it possible to readily remove any one of the parts and replace the same as desired. While I have shown in Fig. 1 but one bolt-aperture, it will be understood, as above set forth, that any preferred number of bolts or rivets may be employed to hold the members 5 and 6 together. 120 125

The various parts of my invention may be made of any preferred material and of any desired size to render the hub suitable for all of the various uses, as upon wagons, carriages, and other forms of vehicles, and while I have 130

described the preferred combination and construction of parts I desire to comprehend in this application all equivalents and substitutes thereof as may be considered as falling
5 fairly within the scope of my invention.

Believing that the construction and manner of using my invention have been made fully apparent, further reference to the details is deemed unnecessary.

10 What I claim as new, and desire to secure by Letters Patent, is—

The herein-described hub construction comprising the members 5 and 6 having intercooperating members whereby when said mem-
15 bers are brought together they will be held against relative movement, in combination

with the boxing 17 having means upon its outer end to engage cooperating devices upon the outer hub-section that said boxing may be held against rotation, and spoke-tighteners 20 cooperating with said hub and the spokes carried thereby comprising the thimble 25, the members 22 and 27, all operatively combined substantially as specified and for the purpose set forth. 25

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

ELIAS KEEN.

Witnesses:

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