

No. 686,160.

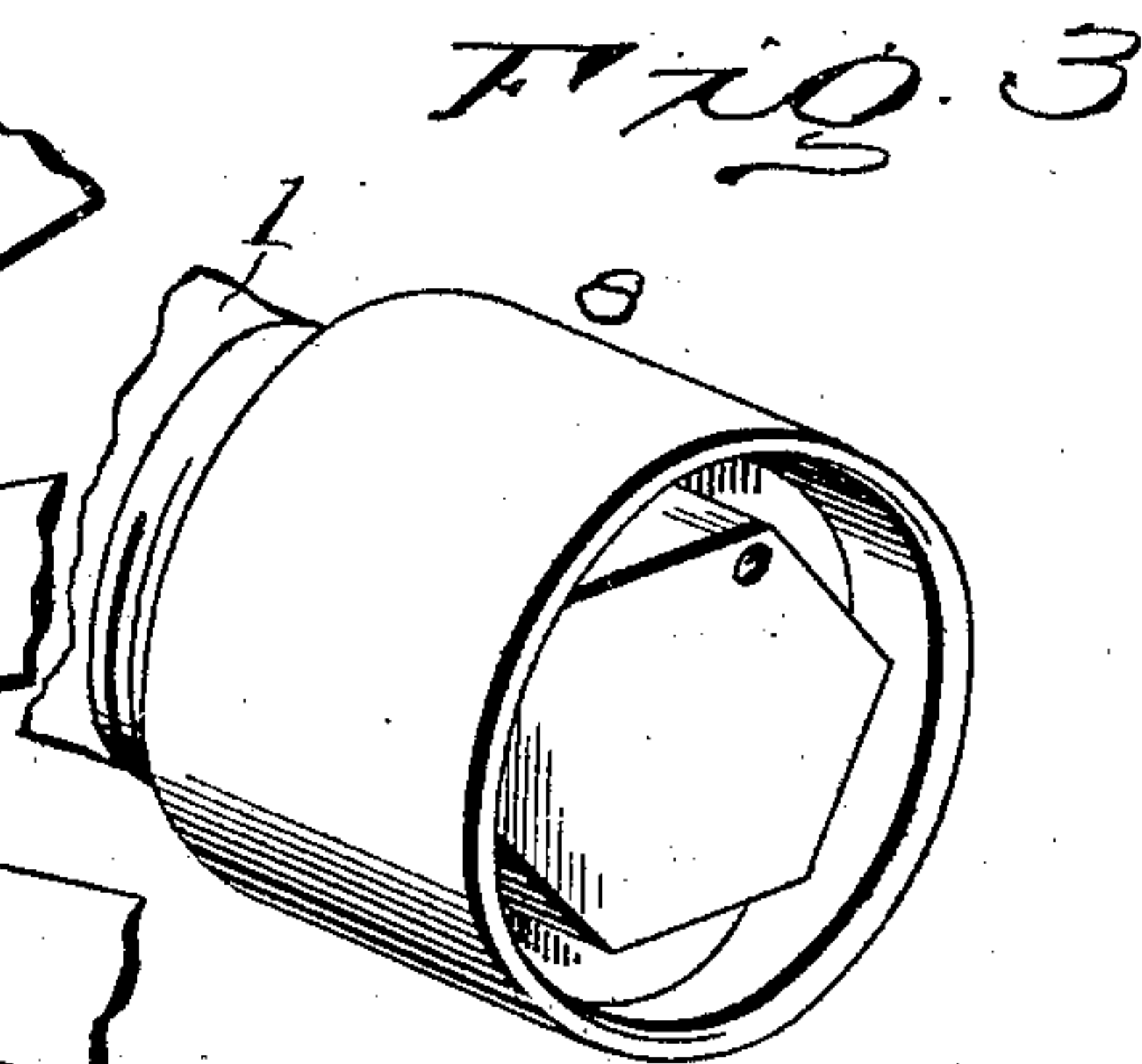
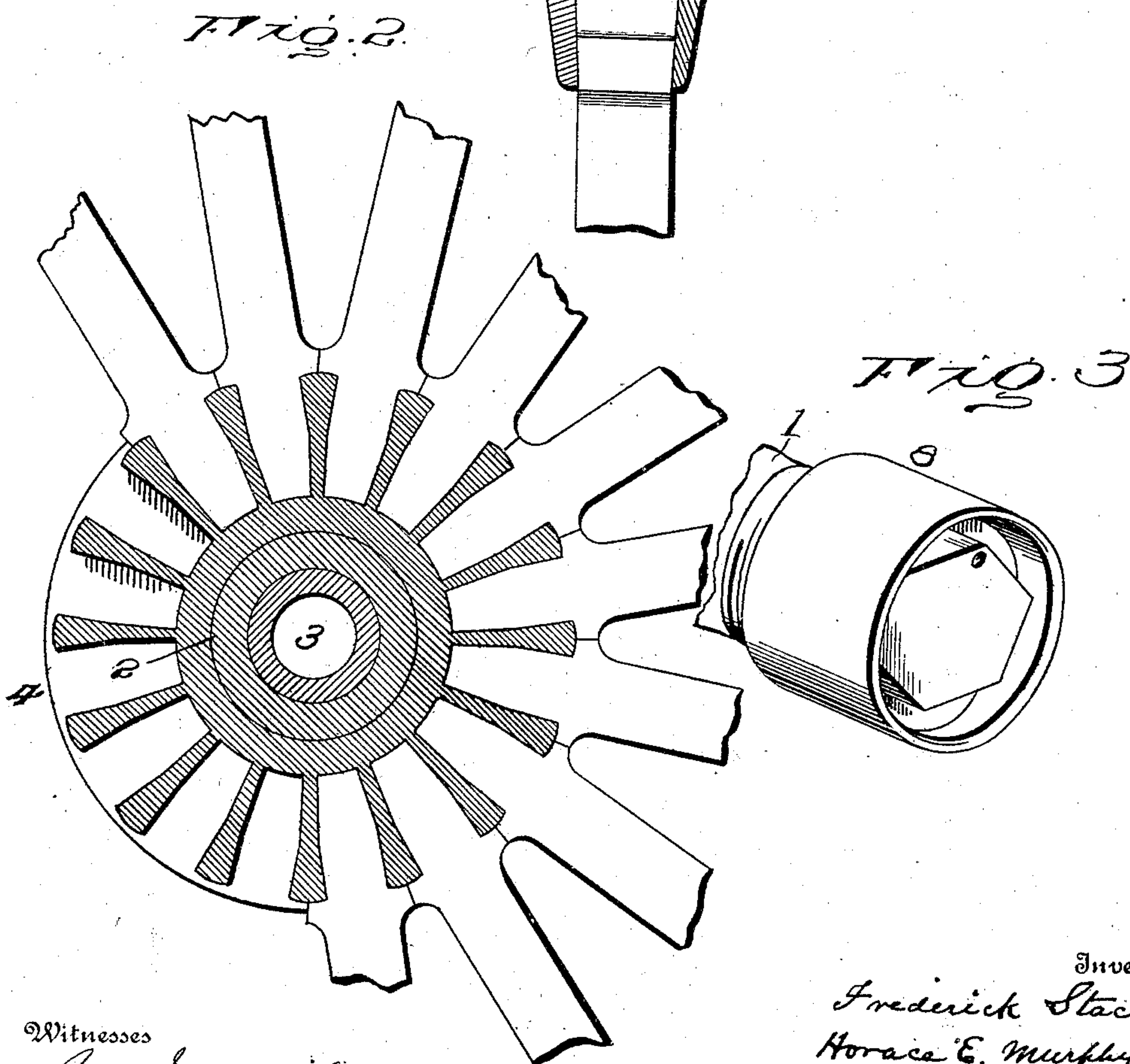
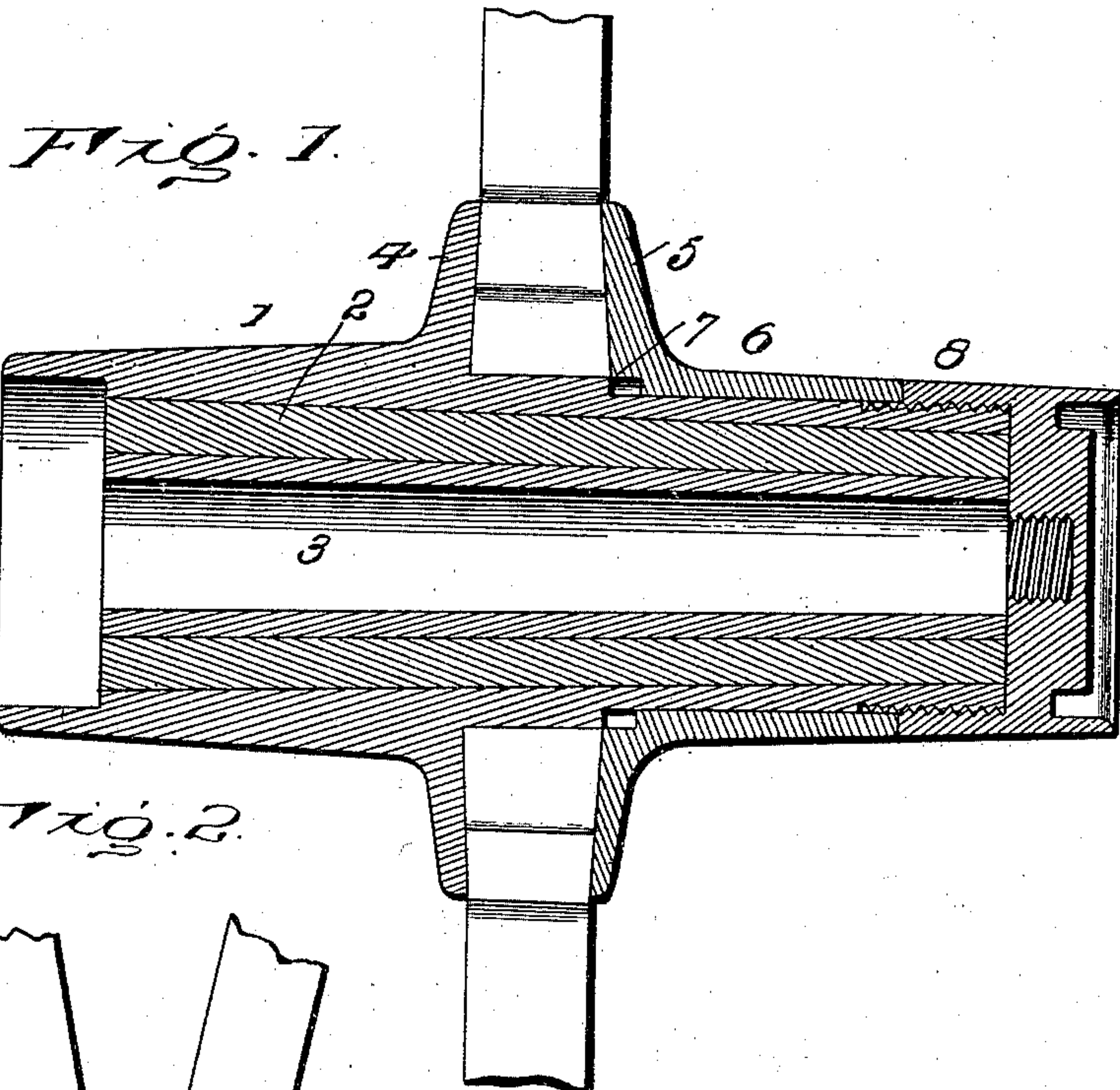
Patented Nov. 5, 1901.

F. STACY, H. E. MURPHY & C. B. HUDSON.

WHEEL HUB.

(Application filed Oct. 30, 1900.)

(No Model.)



Witnesses

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UNITED STATES PATENT OFFICE.

FREDERICK STACY, HORACE E. MURPHY, AND CARL B. HUDSON, OF
WABASH, INDIANA.

WHEEL-HUB.

SPECIFICATION forming part of Letters Patent No. 686,160, dated November 5, 1901.

Application filed October 30, 1900. Serial No. 34,929. (No model.)

To all whom it may concern:

Be it known that we, FREDERICK STACY, HORACE E. MURPHY, and CARL B. HUDSON, residents of Wabash, in the county of Wabash and State of Indiana, have invented certain new and useful Improvements in Wheel-Hubs; and we 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 pertains to make and use the same.

The invention relates to vehicle-wheels, and has for its object to provide metal or composite hubs for wheels such that each wheel will run true and in which the spokes and box can be readily replaced when broken or worn. A suitably-true bore cannot be produced with reasonable certainty in cast-iron or composite hubs, because of the inevitable variations in their casting. Wheels with wooden hubs have been held in frames and the hubs bored to receive the boxes for the wheel-spindle. We have devised a method whereby a like result can be secured in hubs composed mainly of cast-iron.

The invention consists in the means for providing a true bore in composite wheel-hubs consisting mainly of metal.

In the accompanying drawings, Figure 1 is a longitudinal section of the improved hub. Fig. 2 is a transverse section. Fig. 3 is a perspective of a collar on the screw-threaded end of the hub, the latter being broken away.

Numeral 1 denotes a metal hub having a lining 2 of wood and an axle-box 3. The hub 1 has a circumferential flange 4, which coacts with a flange 5 on a sleeve 6, that slides on the hub. The sleeve has a circumferential groove 7, whereby it is adapted to be slid over a corresponding circumferential projection on the hub when the sleeve is forced by a collar 8, screwing on the threaded end of the hub 1, against spokes placed between the flanges 5 and 7. The collar 8 covers the end of the box 3 and holds it in place. To remove the box for the substitution of another, it is only necessary to remove the screw-collar 8 and drive out the box. The collar being removed, the spokes may one or more be removed and others substituted, or they

may be tightened longitudinally, if necessary, by driving wedges under their ends next the hub, and these operations can be performed by unskilled labor. The flanges inclose the spoke-sockets laterally, the bottom of said sockets and the hub-flange being cast integral with the hub. The wooden lining is tubular without side openings and fits the bore of the hub throughout. It also fits the box in like manner and in straight lines, having no shoulder or other projection. In wooden linings heretofore proposed sockets were provided in said lining to receive the foot of each spoke, and corresponding circumferential shoulders were formed on the lining and box whereby the shoulder of the latter abutted against a shoulder in the former to hold it in place. Such linings cannot be driven into the hub with as much force as a solid plug, and it is also difficult to form in them the spoke-sockets after they are driven, and if formed before they are driven it is difficult to secure proper registry with the spoke-sockets in the metal part of the hub. Further, the lining is weakened by the shoulder and sockets, and for this reason is liable to be split or broken.

It has been found impracticable in wheels having composite hubs of the character above noted to insure that the wheel shall run true. This difficulty results from unavoidable variations in the casting and the difficulty of inserting the tubular wooden linings so that they shall be and remain true with respect to the plane of rotation of the wheel. By the present method a metal hub receives a solid wooden core, driven into and thereby compressed therein. The other parts of the wheel, except the spindle-box, are then assembled. In this operation the rim is tightened on the spokes, and the latter are firmly bound in and upon the metal hub. Each wheel thus far constructed is centered and the wooden core bored to provide for the insertion of the box in its proper relation to the plane of rotation. By this means each wheel having a metal hub is made to run true on its spindle notwithstanding variations in casting the hub.

We do not claim hubs composed of metal

and wood nor the boring of wooden hubs. Our improvement is characterized by a wooden core of a metal hub bored out in proper relation to the plane of rotation of the wheel, such
5 core having been driven tightly into and thereby compressed in the hub and adapted when so bored to receive the spindle-box.

We are aware that wooden hubs have been bored and that cast hubs have been provided
10 with wooden linings. Our improvement provides for inserting in a metal hub a solid core which is subsequently bored to properly center the wheel and then provided with a spindle-box, and it is characterized by constructions particularly hereinafter pointed out.
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Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

In a wheel, the combination of the hub, the lining, the spindle-box, the sleeve, and the 20 nut screwing on the hub and bearing against the sleeve, all substantially as set forth, whereby the spokes are clamped laterally in the hub and the box held in place, and whereby when desired either a spoke or the box, or 25 both, may be removed and others substituted.

In testimony whereof we have signed this specification in the presence of two subscribing witnesses.

FREDERICK STACY.
HORACE E. MURPHY.
CARL B. HUDSON.

Witnesses:

OLIVER H. BOGUE,
SARAH HIPSKIND.