

No. 763,582.

PATENTED JUNE 28, 1904.

F. E. WILCOX & W. A. HUNTER.

VEHICLE SHAFT AND CLIP.

APPLICATION FILED DEC. 19, 1903.

NO MODEL.

FIG. 1.

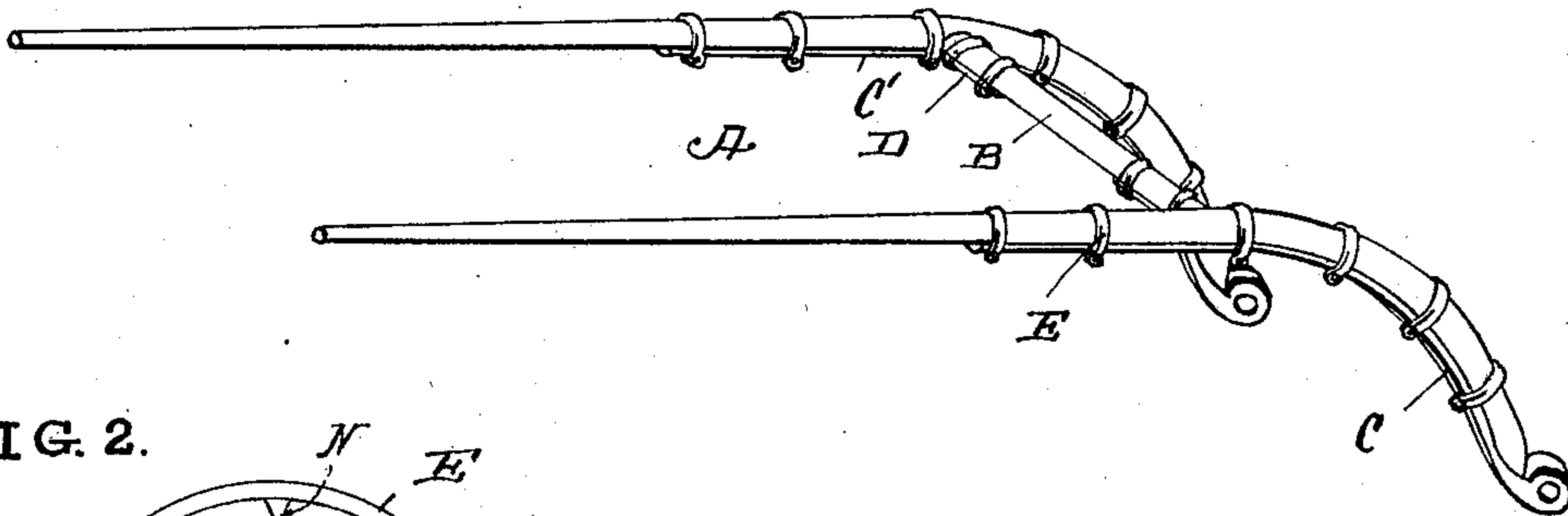


FIG. 2.

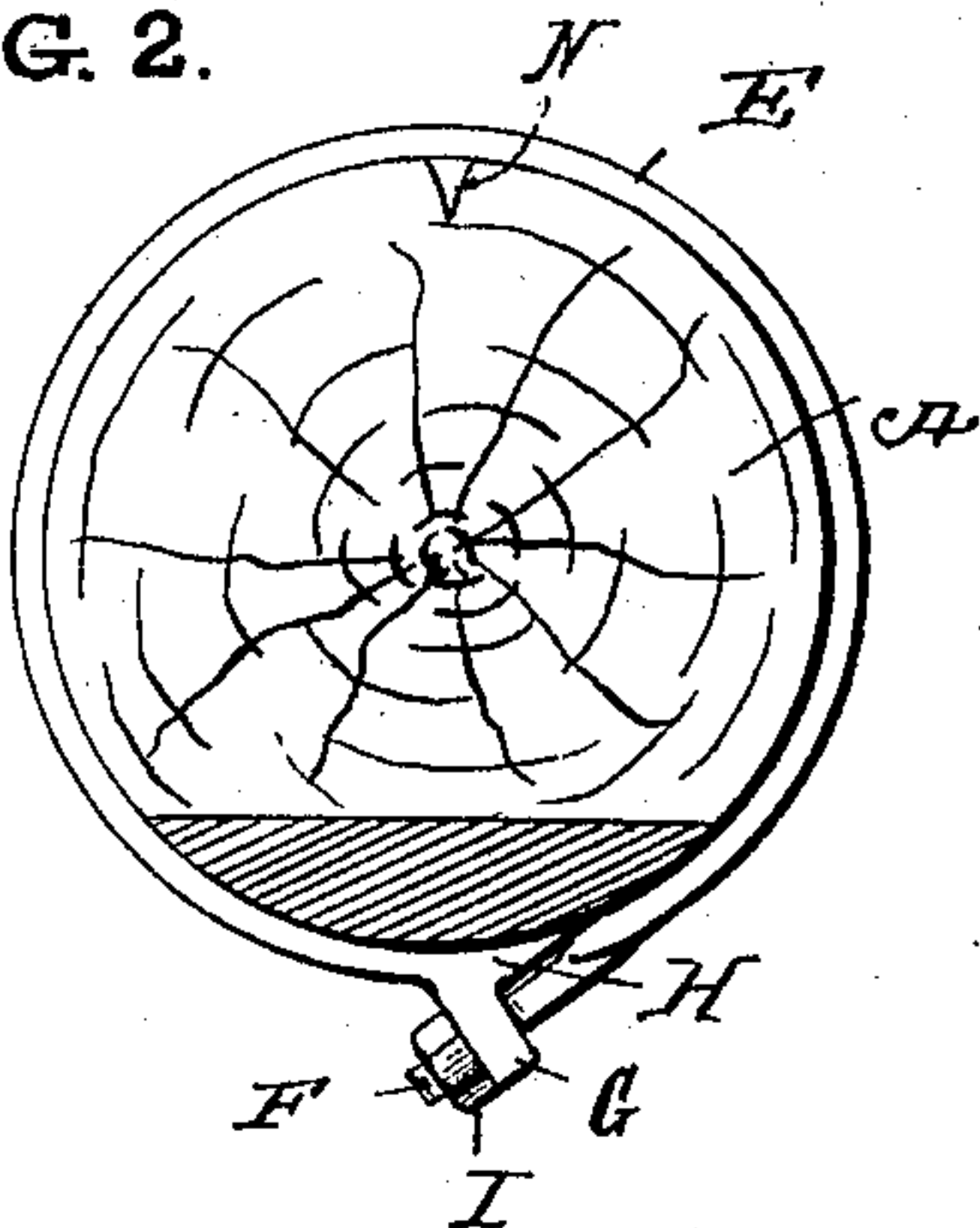


FIG. 5.



FIG. 3.



FIG. 4.

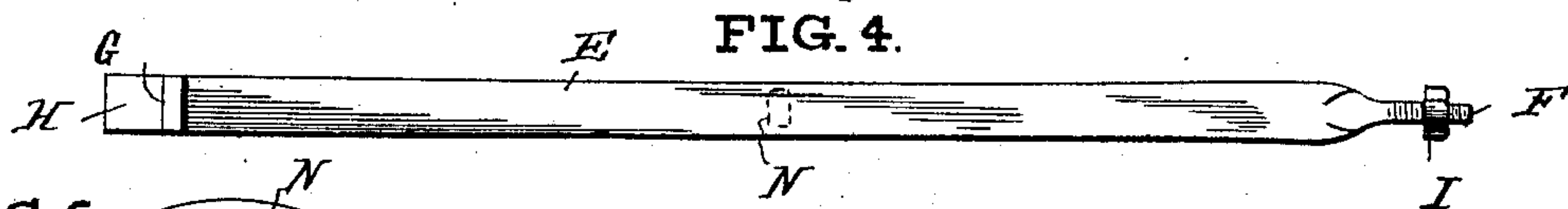


FIG. 6.

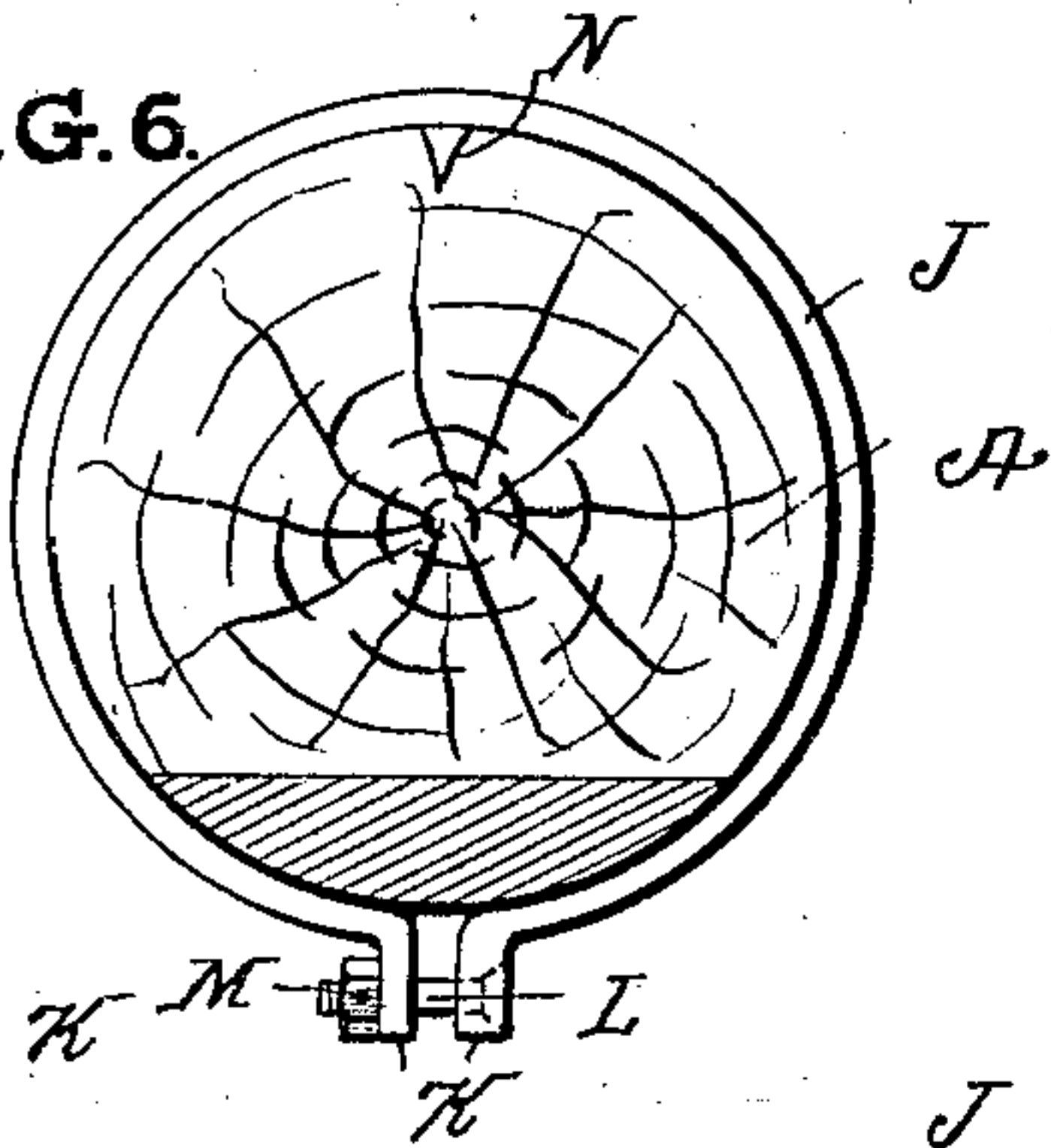


FIG. 8.

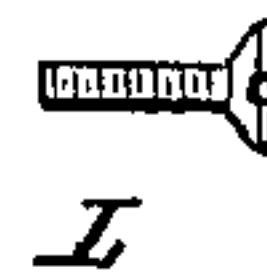
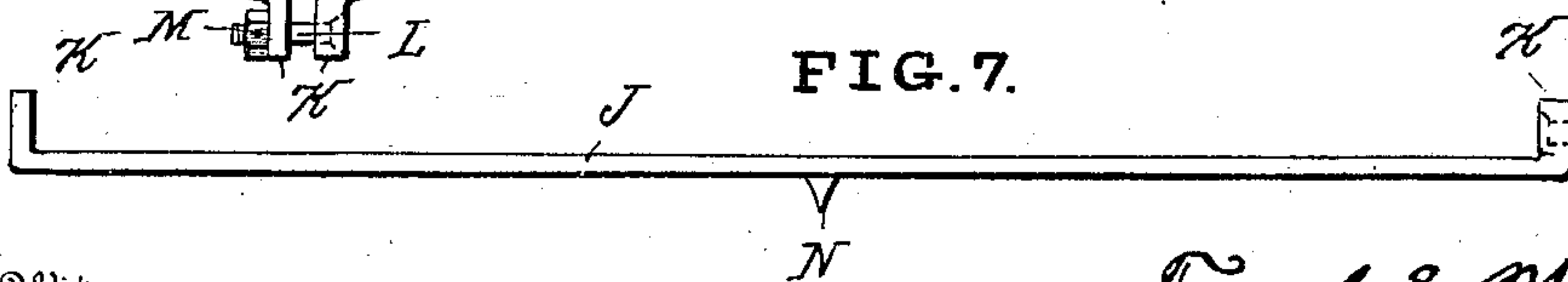


FIG. 7.



Inventors.

Witnesses

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# UNITED STATES PATENT OFFICE.

FRANK E. WILCOX, OF MECHANICSBURG, PENNSYLVANIA, AND WILLIAM  
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## VEHICLE-SHAFT AND CLIP.

SPECIFICATION forming part of Letters Patent No. 763,582, dated June 28, 1904.

Application filed December 19, 1903. Serial No. 185,801. (No model.)

*To all whom it may concern:*

Be it known that we, FRANK E. WILCOX, residing at Mechanicsburg, in the county of Cumberland and State of Pennsylvania, and  
5 WILLIAM A. HUNTER, residing at Terre Haute, county of Vigo, and State of Indiana, citizens of the United States, have invented new and useful Improvements in Vehicle-Shafts and Clips, of which the following is a specification.  
10

The object of our invention is the production of improved vehicle-shafts and a clip especially designed for securing the shaft iron or irons to the wooden parts of the said shafts.  
15 Heretofore it has been the practice with shaft makers and carriage builders to bolt the shaft-irons to the wooden portions thereof by bolts passed through the irons and the wood, or lag-screws have been used to unite the  
20 parts. The customary method of construction is objectionable in that the wood is weakened by the holes which receive the bolts, and the lag-screws sometimes become loose.

Our invention is designed to obviate the imperfections appertaining to the other known methods of construction and at the same time produce shafts which are strong and durable, easily constructed, and adapted to be repaired with facility when necessary.  
25

Our invention consists in shafts having the shaft-irons secured to the wooden portions thereof by clips which encircle both the irons and the wood and which clips are provided with nuts for clamping the same upon the constituent elements.  
30

It further consists in certain novelties of construction and combinations of parts, as hereinafter set forth and claimed.

The accompanying drawings illustrate an example of the physical embodiment of our invention and two forms of clips constructed according to the best modes we have so far devised for the practical embodiment of the principle.  
40

Figure 1 is a perspective view of shafts embodying our invention. Fig. 2 is an enlarged sectional view of one shaft. Figs. 3 and 4 are side and plan views of one form of the clip. Fig. 5 is a section of Fig. 4. Fig. 6 shows a modified form of the clip applied to a shaft.  
50 Fig. 7 is an edge view of the clip shown in Fig. 6, and Fig. 8 shows the screw which unites the free ends of the clip.

Referring to the first five figures, the letter A designates the shafts proper; B, the cross-bar which unites the two shafts; C, the shaft-irons; D, the arms of the irons at right angles to the longitudinal portions thereof; E, the clip; F, the threaded end of a clip; G, a perforated lug; H, the extended beveled end of the clip, and I the nut for clamping the clip about the shaft and shaft-iron. As shown in Fig. 5, the clip is preferably made plano-convex in cross-section, so that no sharp edge will be present when the clip is applied.  
55 60 65

Referring to Figs. 6, 7, and 8 and the modified form of clip, the letter J designates the body of the clip; K, the perforated ears at each end; L, the screw, and M a nut for clamping the clip about the wooden and iron elements.  
70

The letter N on both clips designates a raised lug or sharp projection which is driven into the wood of the shaft to prevent the slipping of the clip.  
75

From the foregoing specific description it becomes obvious that we have produced shafts which fulfil all the conditions set forth as the purpose and object of our invention.

The clips are simple in construction and adapted to be easily and quickly applied, and when applied the wooden and iron elements are securely united and not weakened by holes made in the same, as is the case when made in accordance with the usual practice.  
80 85

It should be understood that in physically embodying our invention changes and modifications in the location of the clips and in the



shape of the clips themselves may be introduced without constituting substantial departures.

What we claim as new, and desire to secure  
5 by Letters Patent, is—

1. The combination of the shafts proper, as  
A A; the cross-bar; the shaft-irons having  
arms, as D; and clips encircling the shafts  
and shaft-irons and the arms; said clips being  
10 provided with threaded ends and nuts for  
clamping the same in position.

2. A clip for the purpose specified having  
a body portion plano-convex in cross-section,  
a threaded end, a perforated lug at the oppo-  
15 site end, and an extension H adjacent the lug,

the threaded end being adapted to receive a nut.

In testimony whereof we affix our signatures  
in presence of witnesses.

FRANK E. WILCOX.

WILLIAM A. HUNTER.

Witnesses as to the signature of Frank E.  
Wilcox:

J. F. BRICKER,

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A. Hunter:

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JAMES H. KLEISER.