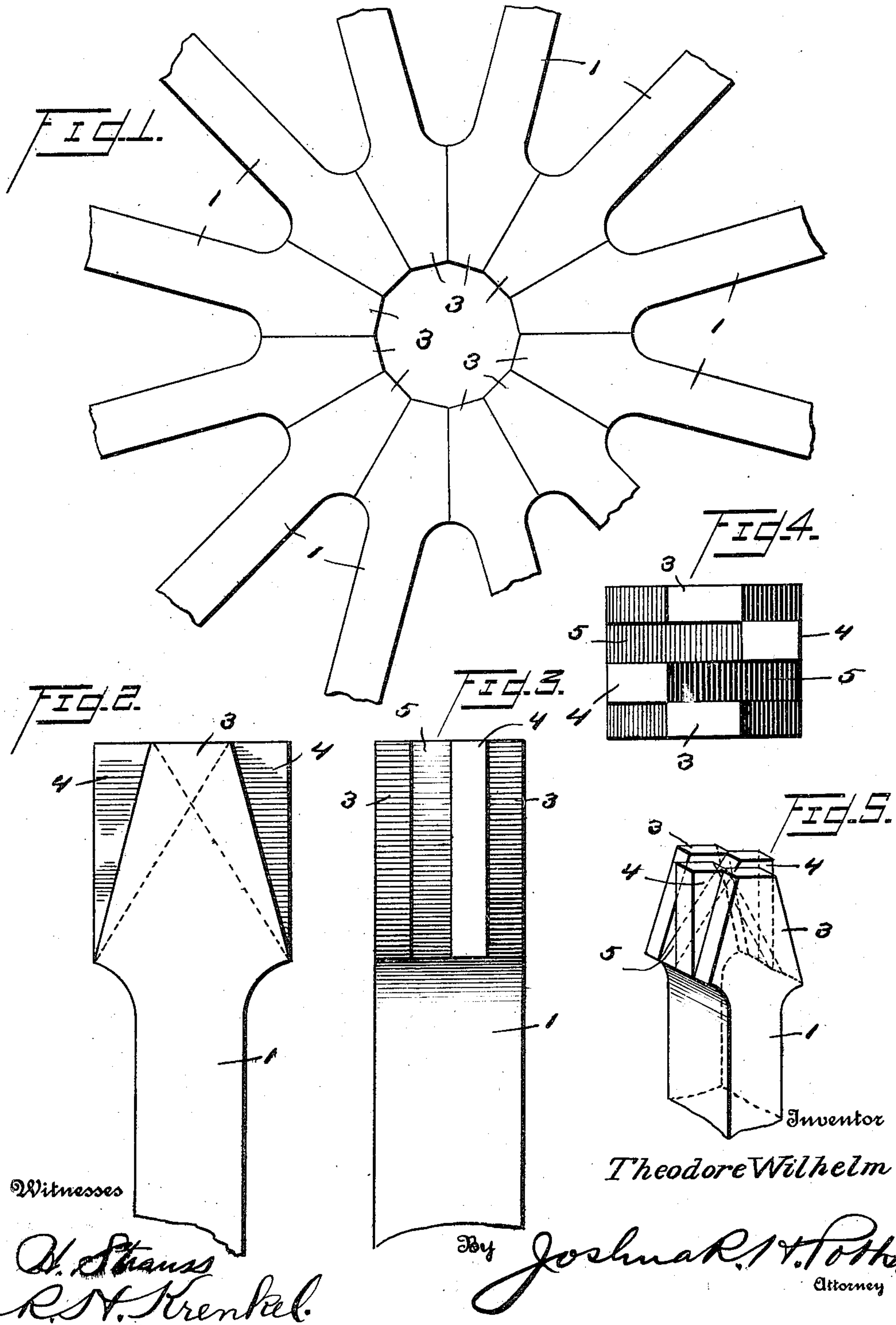


T. WILHELM.  
WHEEL.

APPLICATION FILED JAN. 31, 1911.

993,486.

Patented May 30, 1911.





# UNITED STATES PATENT OFFICE.

THEODORE WILHELM, OF PHILADELPHIA, PENNSYLVANIA.

WHEEL.

993,486.

Specification of Letters Patent.

Patented May 30, 1911.

Application filed January 31, 1911. Serial No. 605,695.

*To all whom it may concern:*

Be it known that I, THEODORE WILHELM, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Wheels, of which the following is a specification.

My invention relates to improvements in wheels, and more particularly to an improved construction of spoke, which enables the spokes to be securely interlocked at the hub portion of the wheel.

A further object is to so construct the spoke at the hub end that it will effectually interlock when the spokes are placed together, regardless of which way the spokes are turned, as there is no such thing as rights and lefts, each spoke locking as well with one side as with the other.

A further object is to provide improvements of this character which may be manufactured at a comparatively low price, in which the several spokes will be keyed together, and which enables their ready assemblage and insures a strong and durable structure.

With these and other objects in view, the invention consists in certain novel features of construction and combinations and arrangements of parts, as will be more fully hereinafter described and pointed out in the claims.

In the accompanying drawings: Figure 1, is a broken view in side elevation illustrating the spoke assembled at the hub. Fig. 2, is a view on an enlarged scale in side elevation of one of the spokes. Fig. 3, is an edge view of Fig. 2. Fig. 4, is an end view of Fig. 2, and Fig. 5, is an isometrical perspective view of one of the spokes on a reduced scale.

All of the spokes 1, at their hub ends, are cut precisely alike, and the description of one will apply alike to all.

The general form of the spoke at its inner and outer face is that of a keystone, and these side sections 3, 3, as I shall term them, are in perfect alinement, and between them at both sides the spoke is made with a tenon 4 and a mortise 5. The sections 3, 3, and the tenons 4, 4, are of approximately the same thickness and the mortises 5, 5, are of slightly greater thickness than are the tenons 4, so as to receive the tenons 4 of adjacent

spokes. Tenons 4, on their outer faces, are straight and the outer face of one tenon is in parallelism with the outer face of the tenon on the opposite side of the spoke. The inner faces of said tenons, which form the bases of the mortises, are inclined as shown clearly in dotted lines in Fig. 2, so that when the tenon of the adjacent spoke is positioned in said mortise, the spokes will be angularly positioned relative to each other and the keystone shaped sections 3, 3, will snugly fit against each other and form a perfect joint.

It will be noted that there are no such things as rights and lefts in this spoke, for when it is reversed, its several tenons and mortises occupy the same relative positions. This is one of the essentials of the case, as it requires no care in assembling the spokes, and the keystone shape of the sections 3 insure a perfect assemblage, each spoke wedging between two others and the interlocking mortises and tenons preventing any possibility of lateral displacement.

Various slight changes might be made in the general form and arrangement of parts described without departing from my invention, and hence I do not limit myself to the precise details set forth, but consider myself at liberty to make such changes and alterations as fairly fall within the spirit and scope of the appended claims.

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

1. A spoke shaped at its hub end forming inner and outer sections of keystone shape, a mortise and a tenon at each side of said spoke, the outer edges of the respective tenons parallel with each other, substantially as described.

2. A spoke shaped at its hub end forming inner and outer sections of keystone shape, a mortise and a tenon at each side of said spoke, the outer edges of the respective tenons parallel with each other, the inner edges of said tenons which constitute the inner walls of said mortises inclined at an angle greater than the angle of incline of the side edges of the keystone shaped portions, substantially as described.

3. A wheel comprising a circular series of spokes, each spoke shaped at its hub end forming inner and outer sections of keystone



shape, a tenon and a mortise at each side of each spoke, the outer edges of said tenons of each spoke parallel, and the inner edges of said tenons which constitute the inner walls of the recesses disposed at an angle, substantially as described.

In testimony whereof I have signed my

name to this specification in the presence of two subscribing witnesses.

THEODORE WILHELM.

Witnesses:

R. H. KRENKEL,  
C. E. POTTS.