

H. POTH.

Wheel.

No. 78,480.

Patented June 2, 1868.

Fig. 1.

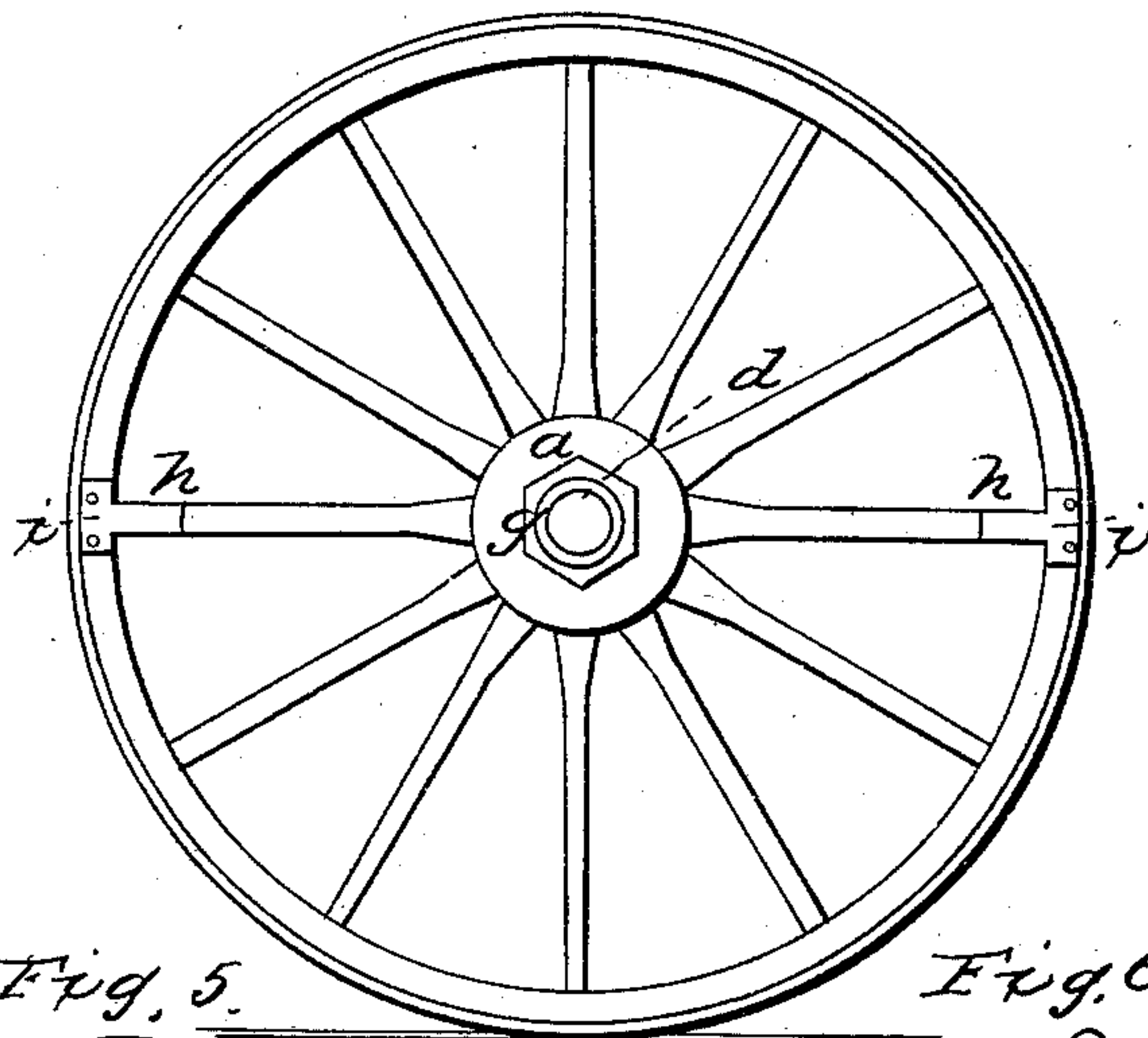


Fig. 5.

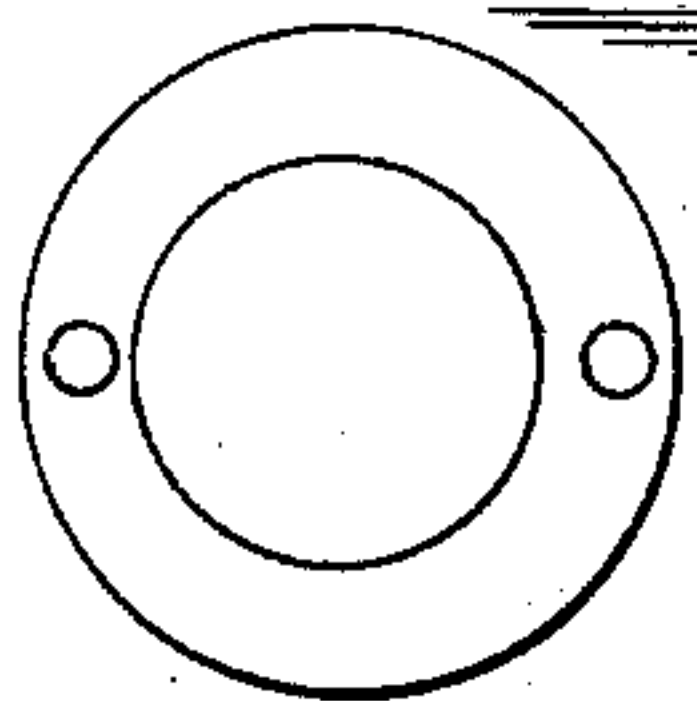


Fig. 6.

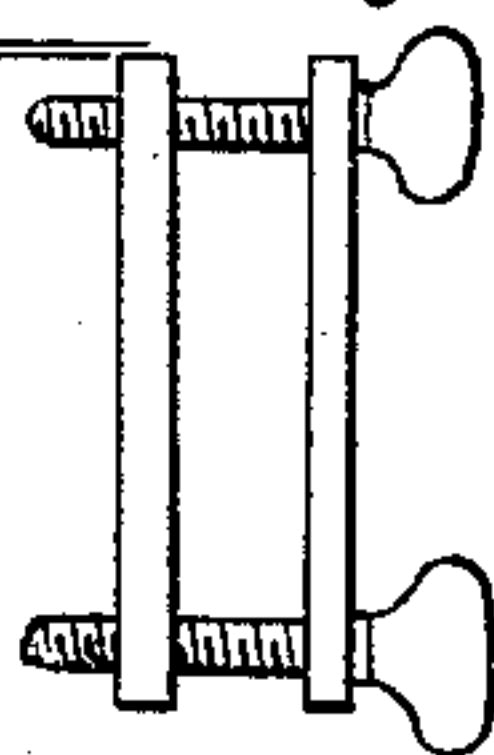


Fig. 2.

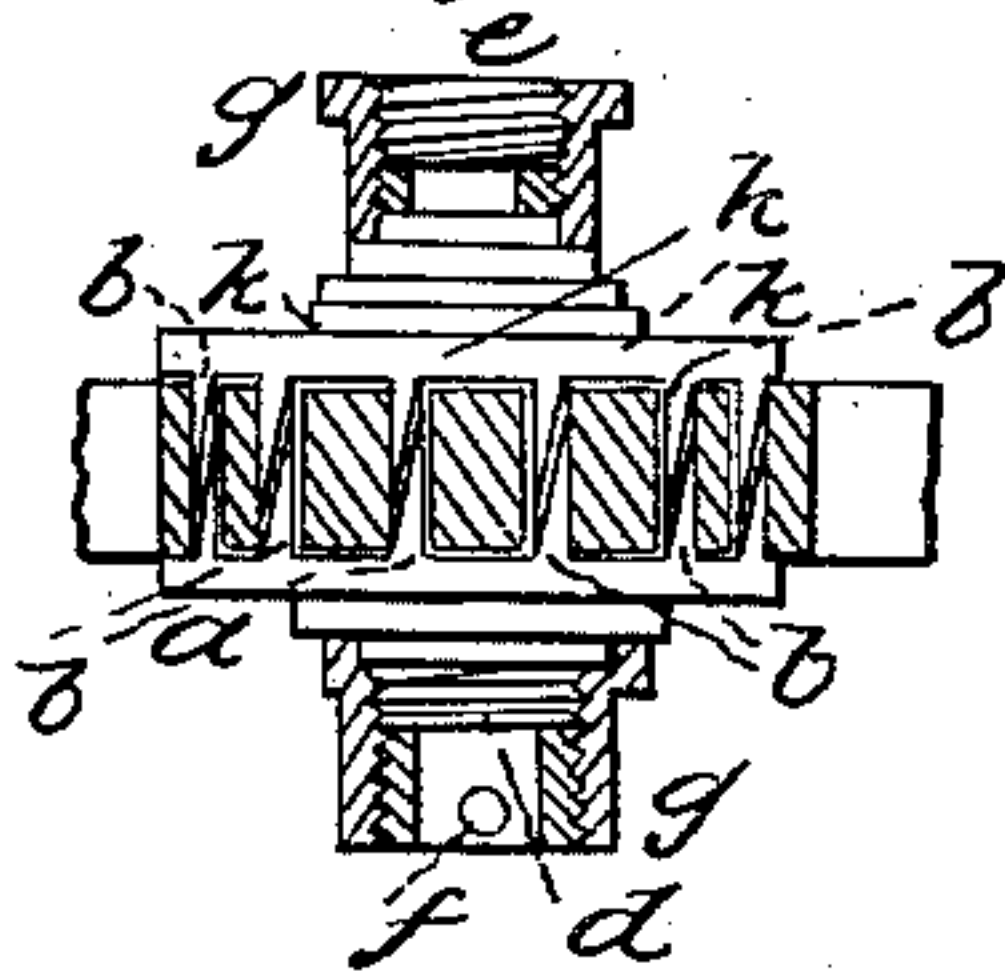


Fig. 3.

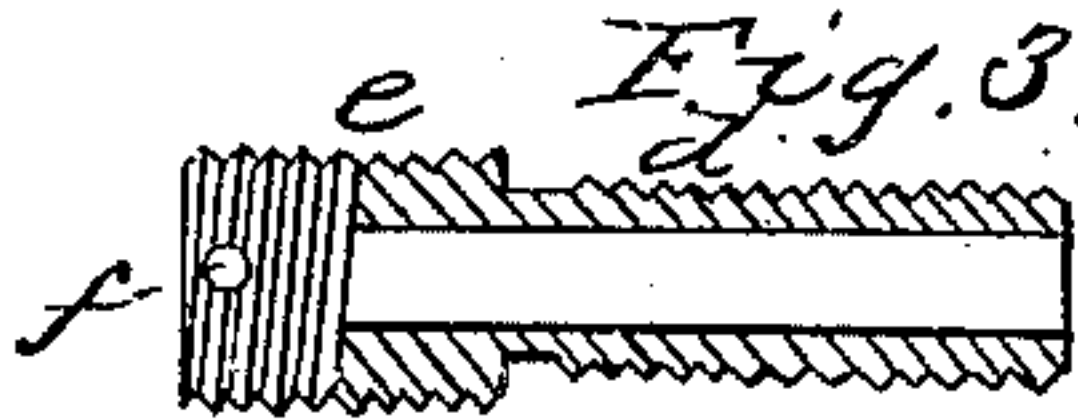
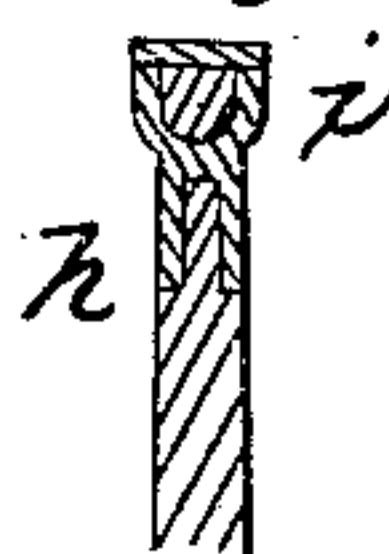


Fig. 4.



Witnesses:  
Alex. S. Roberts  
Wm. A. Morgan

Inventor:  
H. Poth  
per Mumford  
attorneys.

# United States Patent Office.

HENRY POTH, OF PITTSBURG, PENNSYLVANIA.

Letters Patent No. 78,480, dated June 2, 1868.

## IMPROVEMENT IN WHEELS.

The Schedule referred to in these Letters Patent and making part of the same.

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, HENRY POTH, of Pittsburg, in the county of Allegheny, and State of Pennsylvania, have invented a new and useful Improvement in Wheels for Vehicles; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side view of my improved wheel.

Figure 2 is a detail top view of the hub.

Figure 3 is a detail view of the threaded box.

Figure 4 is a detail view of the cap-plate.

Figures 5 and 6 are corresponding views of a clamp for holding the spokes in position while the hub is put together or taken apart.

Similar letters of reference indicate like parts.

The nature of this invention relates to construction of metallic hubs.

It consists in forming the hub-flanges with correspondent wedge-shaped feathers or projections, which, when the said plates are brought together, slide upon each other and form the mortises of the hub, and provide the means by which the tenons of the spokes are wedged or clamped firmly in place.

It consist in the employment of a differential threaded box, by which the flanges are drawn together upon the spoke-tenons with great power.

It consists of metallic tips, by which the spokes are affixed to the rim of the wheel.

The construction of all of which devices will be duly set forth in the following.

The hub flanges are shown at *a a*, and are formed with correspondent wedge-shaped projections or feathers, *b b b*, &c., upon the proximate faces of the said flanges.

These feathers are located radially around the faces of the flanges, and when the latter are brought together, the bevel or incline of each feather fits with finished contact upon the corresponding bevel or incline of the opposite feather, as shown, thus forming the mortise for the reception of the tenon-end of the spoke.

The hub-flanges are formed with a hollow screw, to fit on the box *d e*, shown in detail at fig. 3. This box is formed with two threads, *d* and *e*, of different pitch, forming what is generally known as a differential screw, the advantages of which for gaining a great increase of power is generally understood by mechanics.

The different threads, *d* and *e*, fit the hollow screws in the flanges, and draw them together when the box is turned. A hole, *f*, in the end of the box, serves for the insertion of a lever, by which the box is turned in screwing up the flanges.

Caps *g g* are screwed on to the ends of the box, and thus complete the hub. A portion of the spokes may be provided with metallic cap-plates *h*, having a terminal cross-head, *i*, formed to provide a continuation of the wooden rim, and to conform to the shape of the same.

The cross-head *i* is hollow, to admit the reduced ends of the rim, as shown at fig. 4, whereby a firm junction of the parts composing the rim is obtained.

The clamp-rings, shown at figs. 5 and 6, are for the purpose of clamping the spokes, and retaining them in the proper position when the hub-flanges are to be removed for any reason.

Thin plates, of canvas, leather, or other elastic material, are placed on one or both sides of the tenons of the spoke, to prevent the metal from cutting the wood, as shown at *k*.

The several parts of my invention are formed of cast metal or malleable iron, and may be cheaply produced and easily fitted to the wheel.

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

The hub-flanges *a a*, provided with corresponding wedge-feathers *b b*, when adapted to be drawn together by means of the differential screw-box *d e*, on which the screw-caps *g* are fitted, the tenons of the spokes being protected by elastic material *k*, all constructed and arranged as and for the purpose described.

The above specification of my invention signed by me, this                      day of                      , 1868.

HENRY POTH.

Witnesses:

AND. HUMBERT,  
G. A. KLAGES.