

W. C. JOHNSON.
Vehicle-Wheels.

No. 155,092.

Patented Sept. 15, 1874.

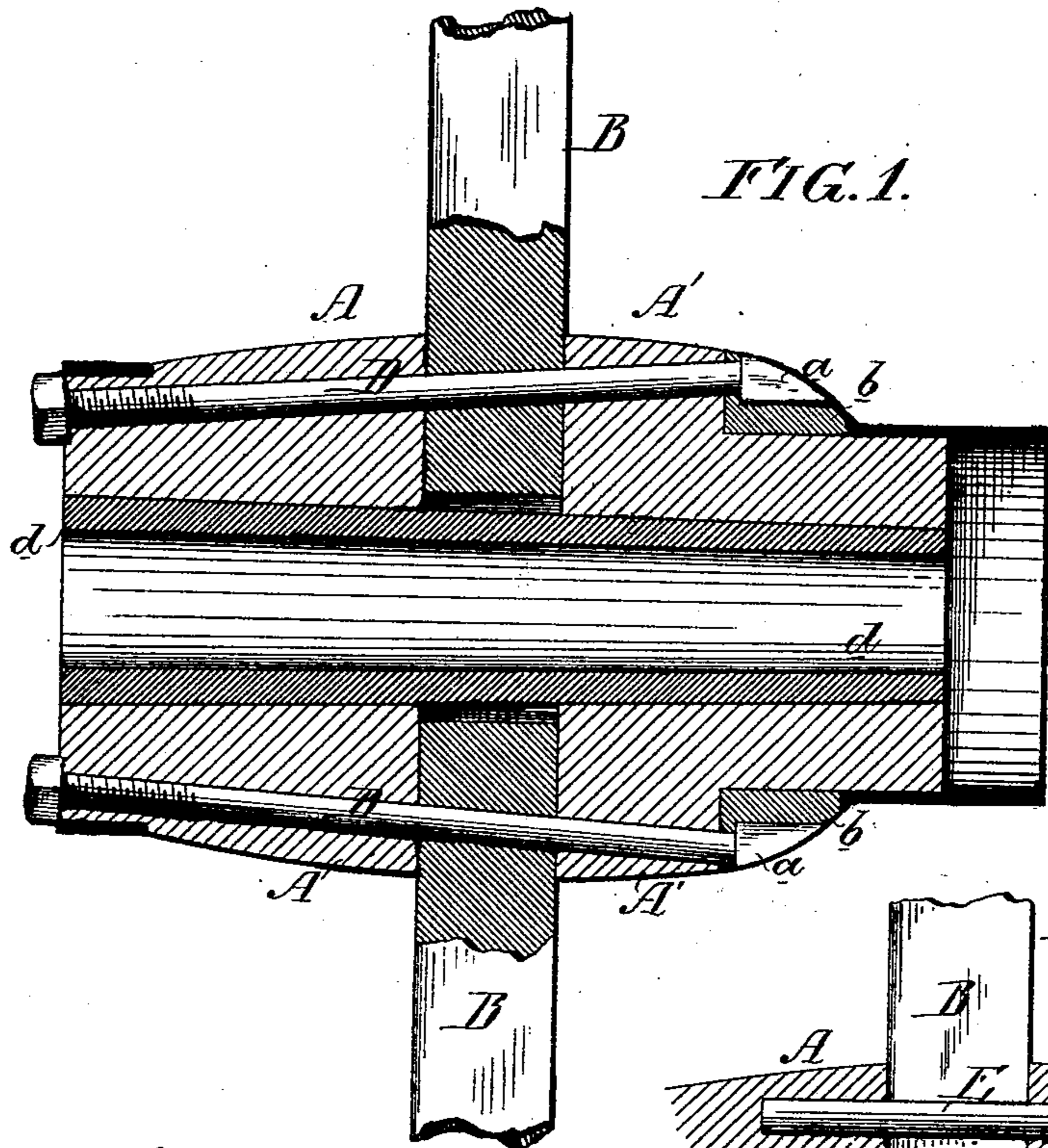


FIG. 1.

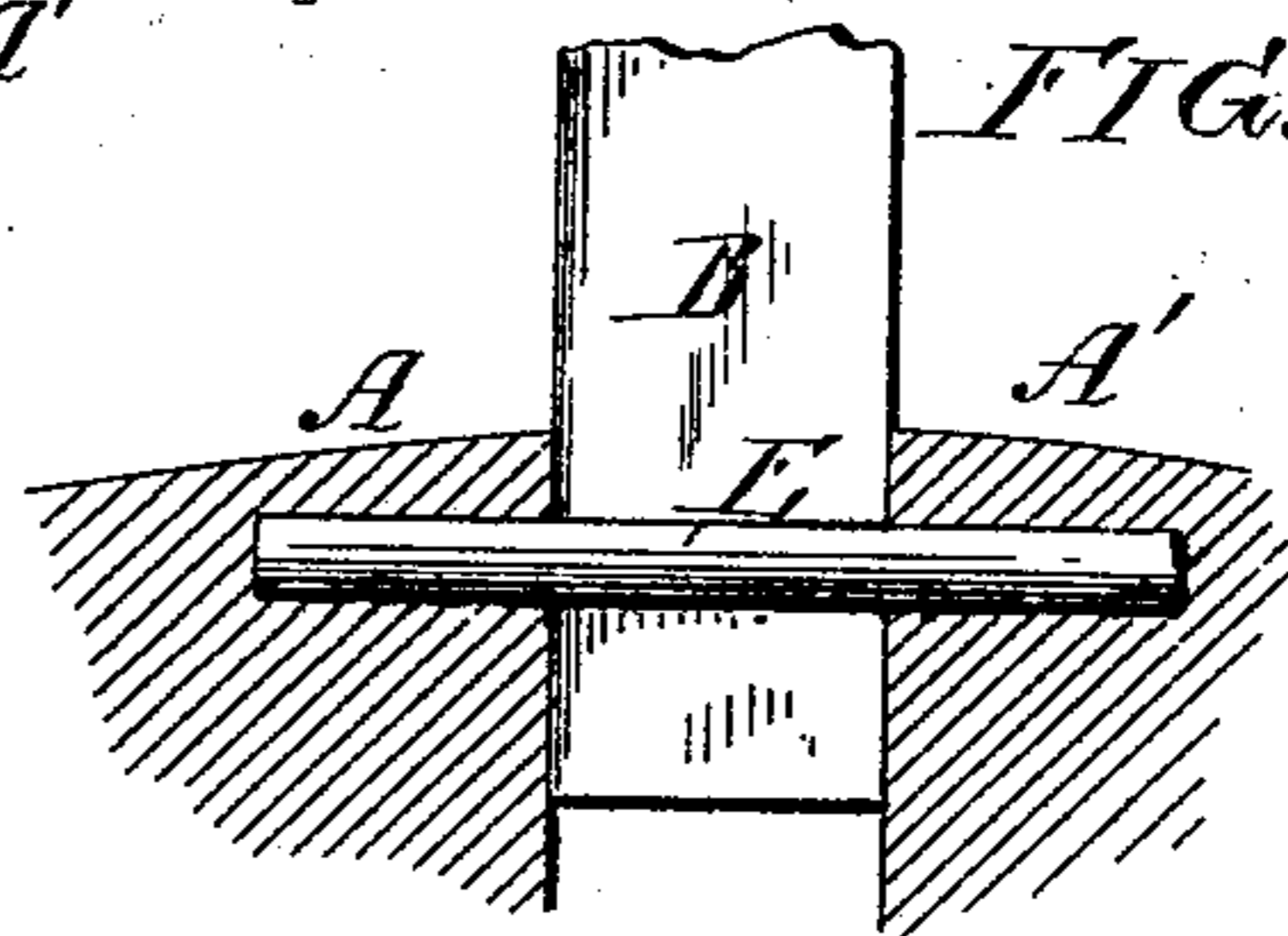


FIG. 2.

FIG. 3.

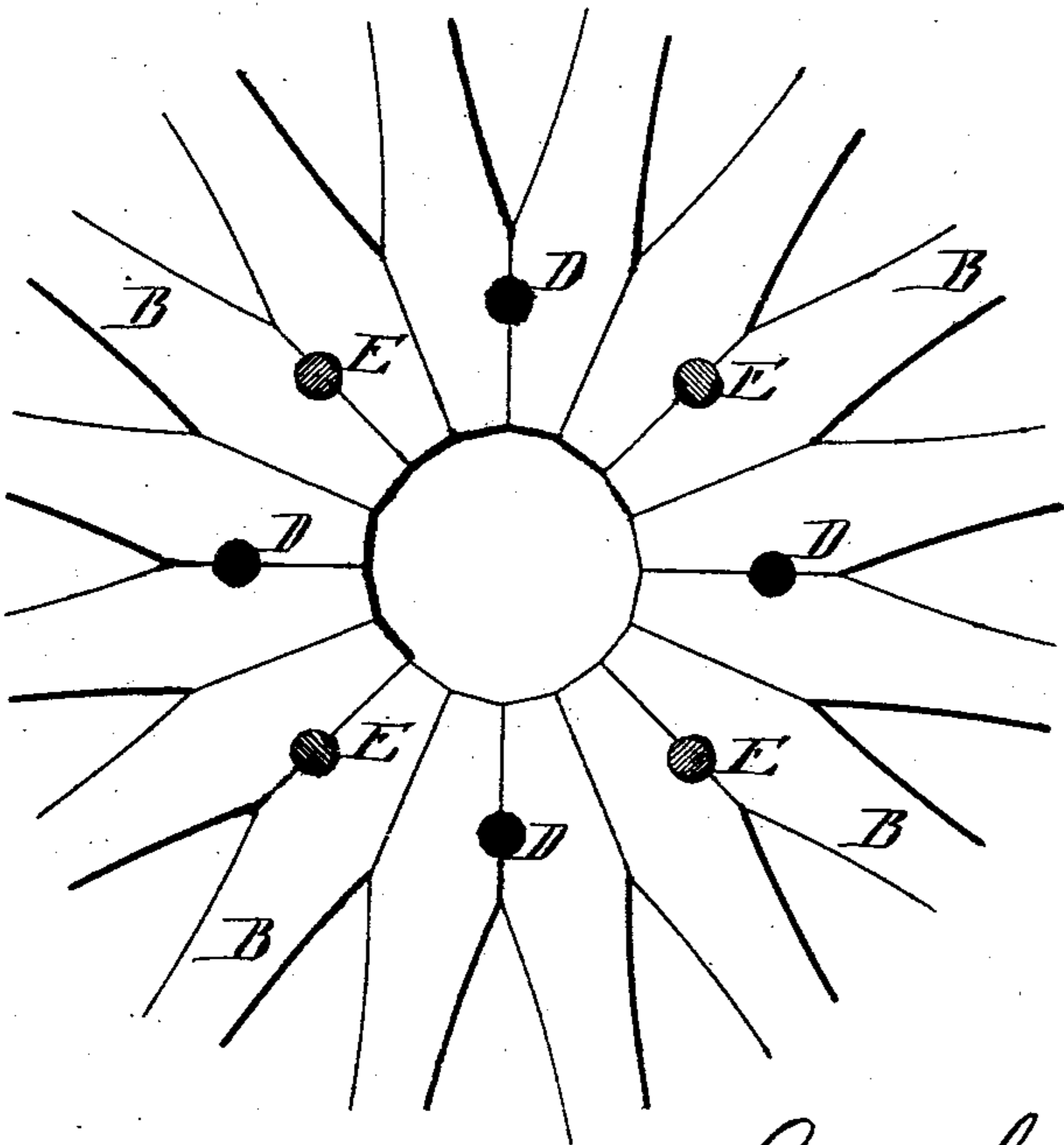
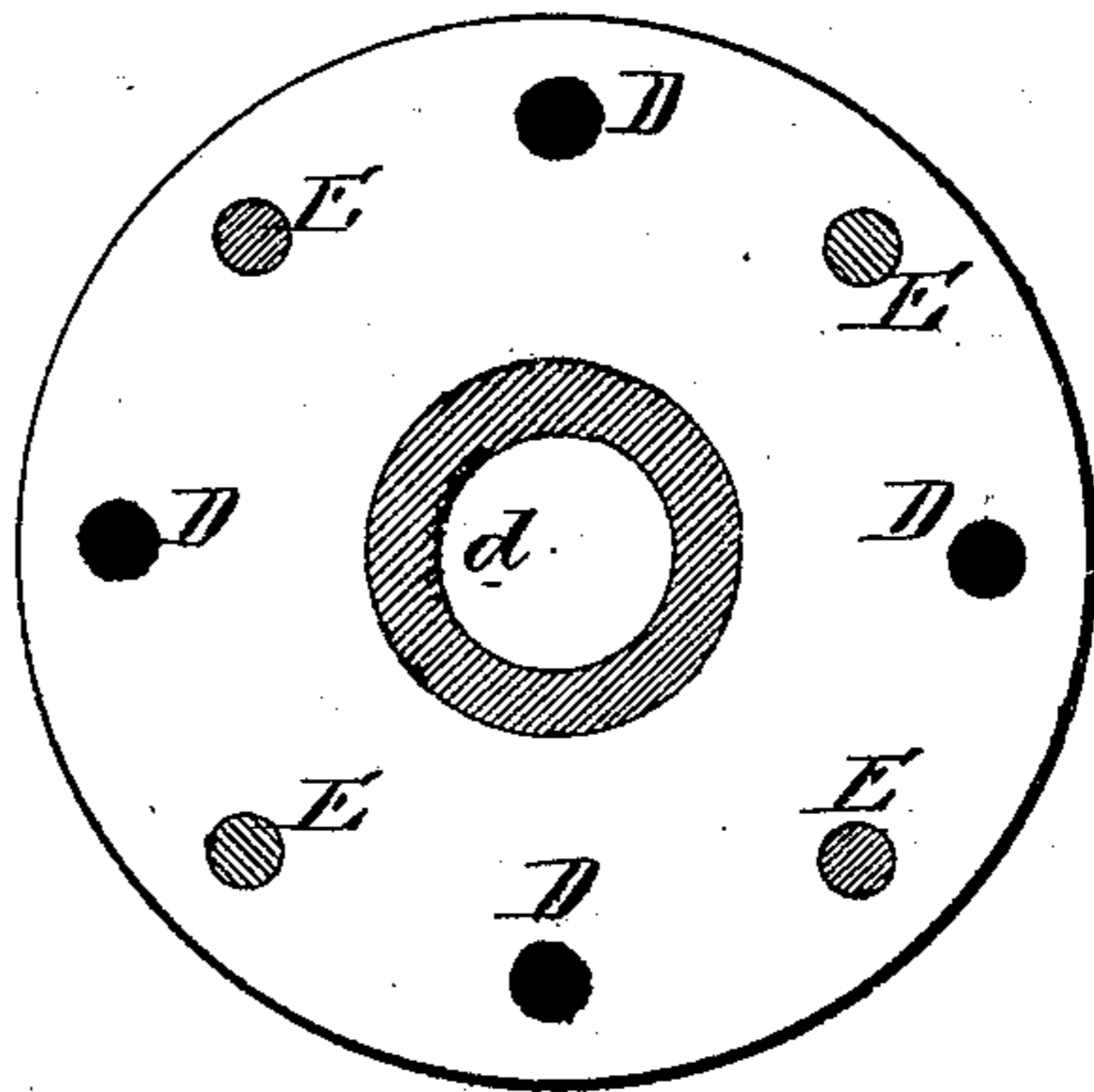


FIG. 4.



Witnesses, Harry Smith
Thomas M. Thrain

Wm C. Johnson
By his Atty.
Howson and Son.

UNITED STATES PATENT OFFICE

WILLIAM C. JOHNSON, OF DOWNINGTOWN, PA., ASSIGNOR TO THE CHESTER VALLEY WHEEL AND AXLE COMPANY, OF SAME PLACE.

IMPROVEMENT IN VEHICLE-WHEELS.

Specification forming part of Letters Patent No. **155,092**, dated September 15, 1874; application filed July 10, 1874.

To all whom it may concern:

Be it known that I, WILLIAM C. JOHNSON, of Downingtown, Chester county, Pennsylvania, have invented an Improvement in Wheels for Vehicles, of which the following is a specification:

The object of my invention is to produce a wooden-hubbed wheel for vehicles, which can be more readily and accurately fitted together than those of ordinary construction, and which shall be cheaper, lighter, and more elastic than wheels having hubs of metal. I attain this object by constructing the wooden hub in two separate sections, A and A', secured together and to the spokes B by screw-bolts D, as shown in the sectional view, Figure 1, of the accompanying drawing, the said spokes being also held in place by dowel-pins E, extending between them and into the opposite sections of the hubs, as shown in the detached view, Fig. 2.

In ordinary wooden wheels the hub is made in one piece, having radial mortises at about the center of its length, into which the spokes are driven separately.

The mortising of the hub and the driving of the spokes are both operations requiring considerable time and the employment of skilled labor, for the greatest care must be exercised in lining and spacing the spokes for attachment to the felloes. These difficulties have been overcome in a measure by constructing the hub of metal, and in two or more sections, between which the spokes are clamped, but such metal hubs are heavy and expensive, and detract from the elasticity of the wheel.

In building up my improved wheel, I bind the spokes together, as shown in Fig. 3, in their proper relative positions, and then simply clamp them between the wooden sections A and A' of the hub, the inner faces of which

are turned perfectly smooth and true, as shown in Figs. 1 and 4, so that they may bear equally against the opposite edges of the spokes, the latter and the sections of the hub being held in place partly by the clamping-screws D and partly by the dowel-pins E, which extend between the said spokes, in the manner best observed in Fig. 3.

By this method of construction I combine the advantages and do away with the disadvantages of both the wooden and metal wheels. In the present instance the heads *a* of the clamping-bolts are let into a metal ring, *b*, which encircles the section A' of the hub, but this ring may, if desired, be dispensed with, and the said bolts be continued out quite to the end of the section. Rivets may, if desired, be substituted for the screw-bolts D, but I prefer the latter.

Any suitable form of axle-box may be driven through the sections of the wooden hub. In the present instance I have illustrated an ordinary tapering box, *d*.

I do not desire to claim, broadly, a wheel having a wooden hub made in two sections confined to the spokes; but

I claim as my invention—

In a vehicle-wheel, the combination of a wooden hub, made in two separate sections, A and A', a series of spokes, B, and clamping-bolts D, passing longitudinally through the said sections and between the spokes, all substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WM. C. JOHNSON.

Witnesses:

WM. A. STEEL,
HARRY SMITH.