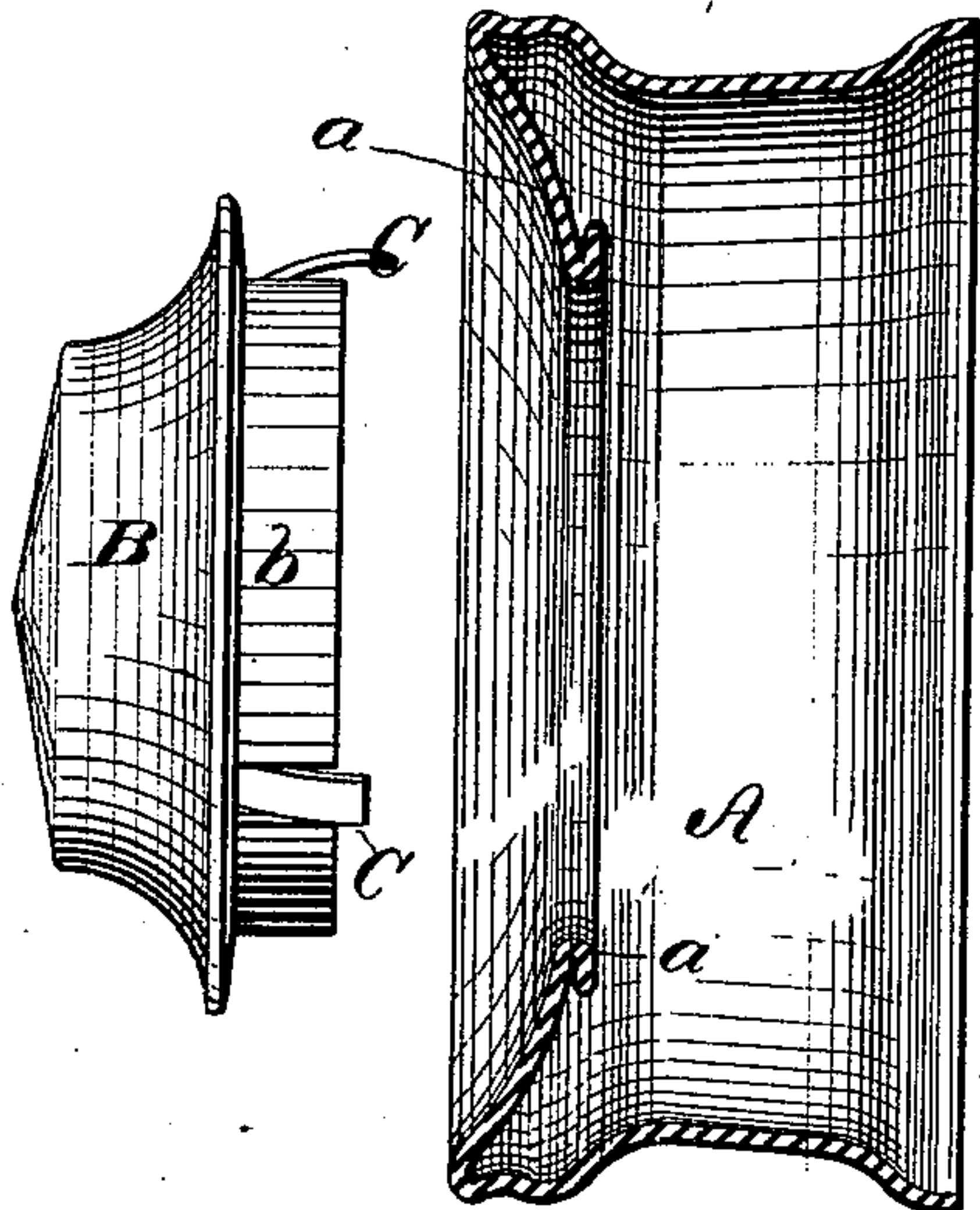


J. H. SANDERSON.  
HUB-CAPS FOR CARRIAGES.

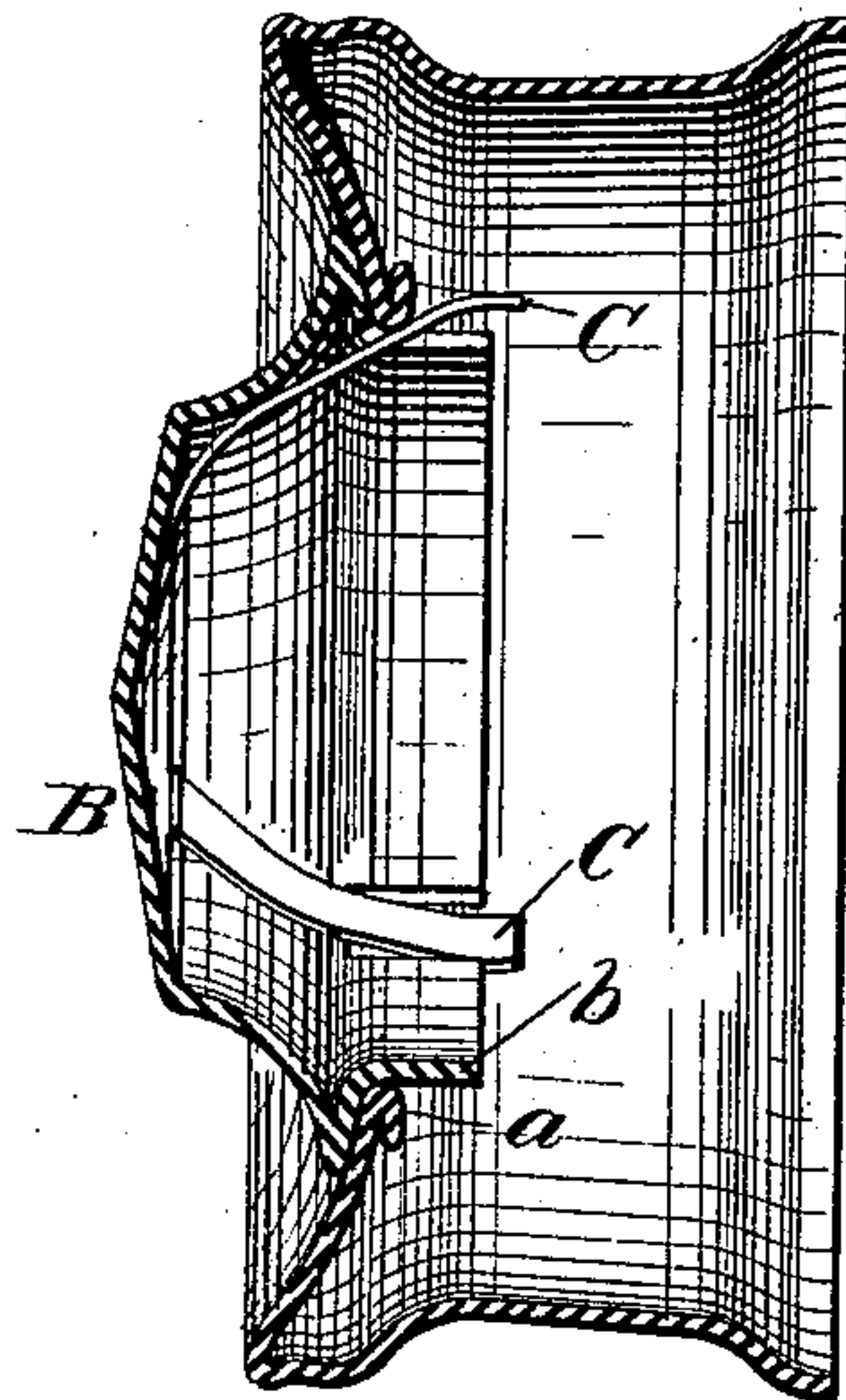
No. 181,541.

Patented Aug. 29, 1876.

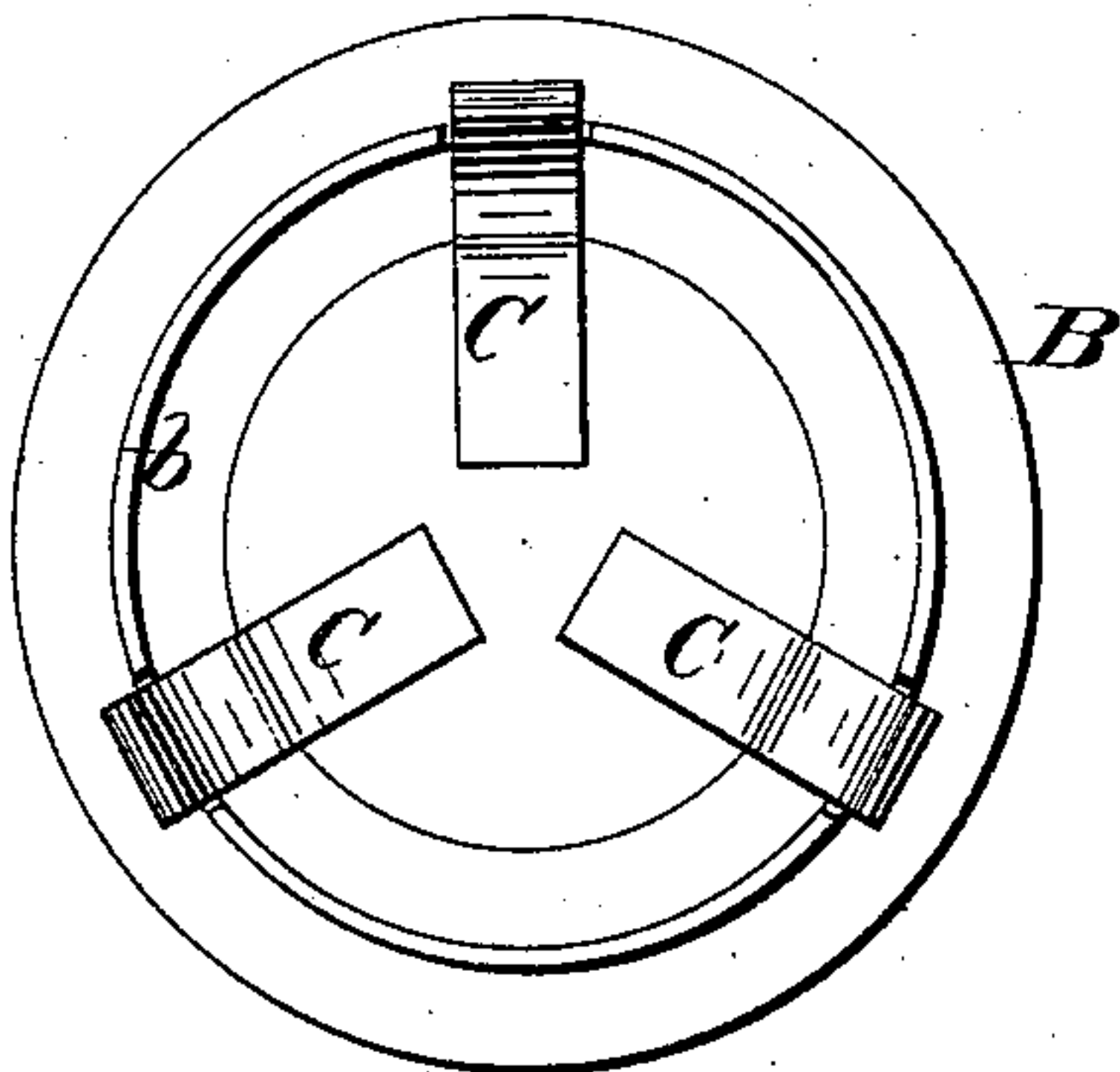
*Fig. 1.*



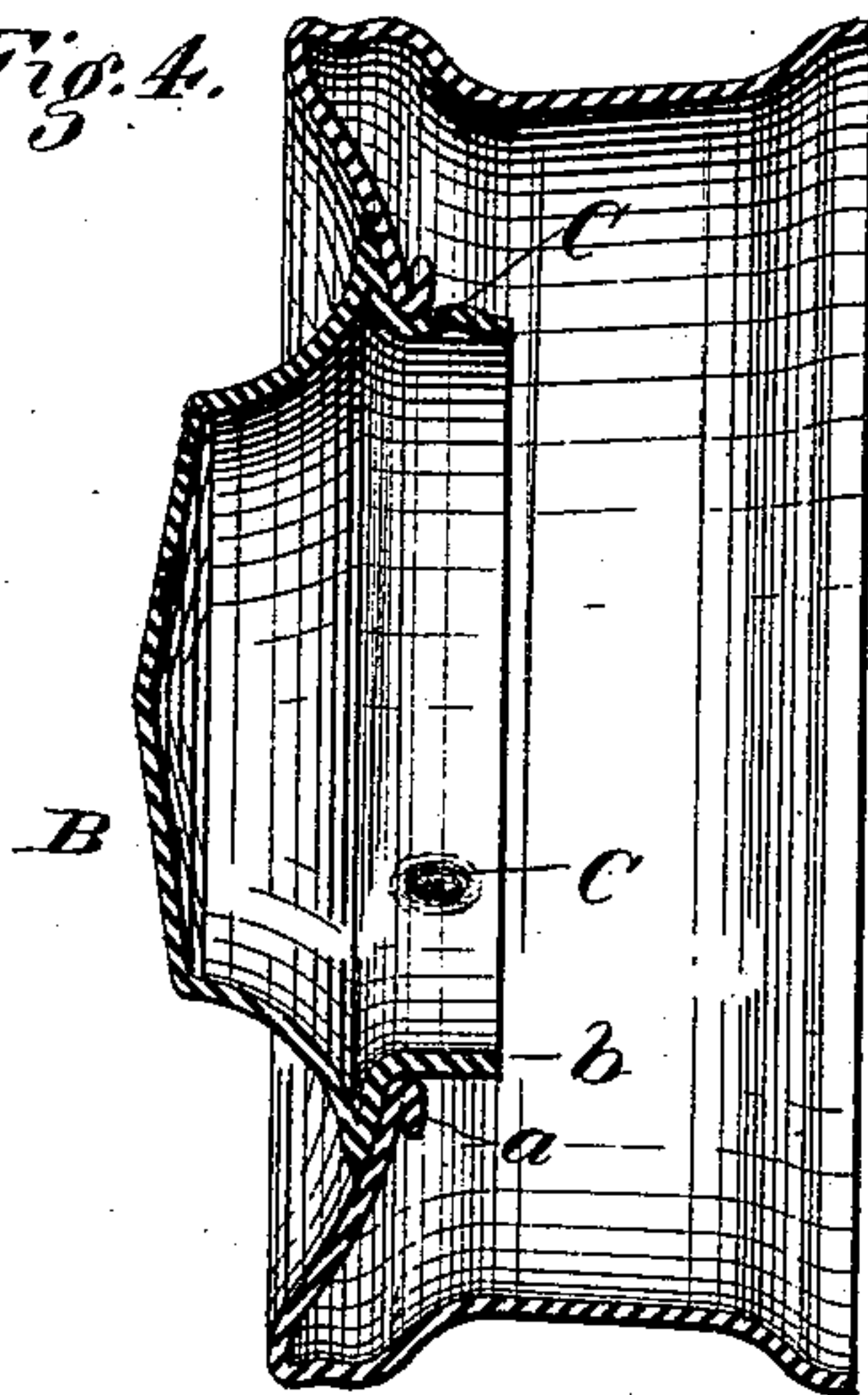
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



*Witnesses:*

*Donn J. Twitchell.*  
*Will H. Dodge.*

*Inventor:*

*J. H. Sanderson.*  
*By his Atty.*  
*Dodge & Son.*

# UNITED STATES PATENT OFFICE.

JOHN H. SANDERSON, OF GREENFIELD, MASSACHUSETTS.

## IMPROVEMENT IN HUB-CAPS FOR CARRIAGES.

Specification forming part of Letters Patent No. **181,541**, dated August 29, 1876; application filed August 5, 1876.

*To all whom it may concern:*

Be it known that I, JOHN H. SANDERSON, of Greenfield, in the county of Franklin and State of Massachusetts, have invented certain Improvements in Hub-Caps for Carriages, of which the following is a specification:

My invention consists in the combination of an internally-flanged hub-band and a cap, provided with a flange to fit within the band, and with spring-arms or protuberances to retain it in place, as hereinafter fully explained.

The object of my invention is to provide a cheap and simple method of securing hub-caps in place, which will admit of their being distantly removed and replaced, and which will overcome the usual difficulty of their being rattled loose by the vibration of the wheels. This end I accomplish by providing the hub-band at its outer end with a narrow internal flange, and then providing the hub-cap on its inner face with an annular flange of the proper diameter to enter within the flange of the cap, and with yielding arms or protuberances, which, being crowded within the flange of the band by the act of pressing the cap to its place, hold the latter from falling out, while, at the same time, they permit its removal by the application of a moderate force.

Figure 1 represents a central sectional view of the hub-band, and a side view of the cap in position to be applied thereto; Fig. 2, a central sectional view of the band and cap united; Fig. 3, an inside face view of the cap provided with the flange and spring-arms, as in the preceding figures; Fig. 4, a central sectional view, showing a cap of modified form applied to the hub-band.

A represents the hub-band, provided at its outer end with an internal annular flange, *a*. B represents the hub-cap, provided on its inner side or face with an annular flange, *b*, adapted to fit snugly within the flange *a* of the band. C represents the yielding projections, adapted to engage over the inside of the band-flange *a*, and retain the cap in place. These yielding projections may consist of spring-arms secured to the inside of the cap, and extending out through notches in its flange, as shown in Figs. 1, 2, and 3; or they may be protuberances, formed on the flange by indenting the same from the inside, as shown in Fig. 4; or they may be spring-arms, formed by cutting slits in the flange *b* and bending the intermediate portion of the flange outward. In either case, however, their action and purpose will be the same—that is to say, as the cap is pressed home they will yield and pass inside of the flange *a* of the band, and then spring outward inside of the same, and thereby retain the cap tightly and securely in place, as represented in Figs. 2 and 4, while, at the same time, they allow it to be removed by the application of a moderate force outward under its edge.

Having thus described my invention, what I claim is—

The combination of an internally-flanged hub-band, A, and a flanged cap, B, provided with yielding arms or protuberances C, substantially as shown and described.

JOHN H. SANDERSON.

Witnesses:

HENRY WELLS,

HENRY W. WARNER.