

D. A. JOHNSON.

Spoke-Socket.

No. { 458. }
 { 31,462. }

Patented Feb. 19, 1861.

Fig. 1.

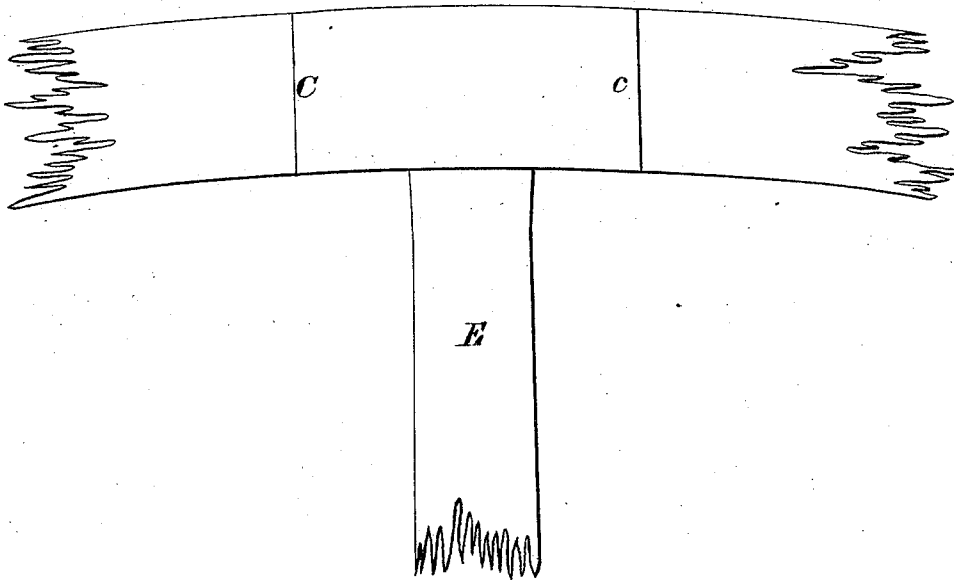
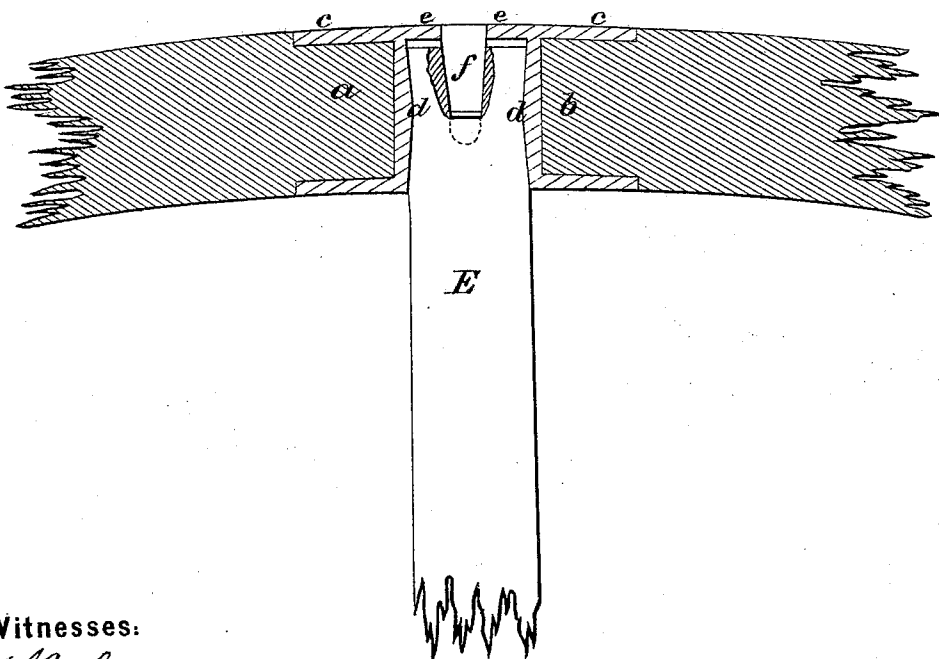


Fig. 2.



Witnesses:

J. B. Crosby
W. H. Cade

Inventor:

D. A. Johnson

UNITED STATES PATENT OFFICE.

D. A. JOHNSON, OF CHELSEA, MASSACHUSETTS.

MODE OF UNITING THE SPOKES AND FELLIES OF WOODEN WHEELS.

Specification of Letters Patent No. 31,462, dated February 19, 1861.

To all whom it may concern:

Be it known that I, D. A. JOHNSON, of Chelsea, in the county of Suffolk and State of Massachusetts, have invented a new and
5 useful Improvement in the Construction of Wooden Wheels for Carriages; and I do hereby declare that the following, taken in connection with the drawing which accom-
10 panies and forms part of this specification, is a description of my invention so full and exact as to enable those skilled in the art to practice it.

My invention is designed for an improve-
ment upon those which have for their object
15 the transfer of the joints in wheel fellies from the spaces between the spokes to a location directly over the spoke. The advantages of such a location of the felly joints are too well known to require comment here.
20 The nature of my invention consists in the means or the method which I employ in the union of the spokes to the felly at the joints.

By reference to the drawing it will be seen that the adjacent ends *a* and *b* of the felly
25 are inserted in and are incased by a metallic band *c*. The center of the band is occupied by a partition or division piece *d*, in which a circular cavity or socket is made, for the reception of the end of the spoke, with a
30 taper both ways from the center of the length of the cavity, which may be said to be of hour-glass shape. This cavity does not extend through the convex side of the band by the thickness of the piece *e*, in which, how-
35 ever, a hole is formed of size sufficient to admit the insertion of a conical pin, or wedge, for the purpose of expanding the extreme end of the spoke within the conical upper
40 portion of the hour-glass cavity. The spoke *g* is fitted near its end to the inner conical portion of the cavity, and that portion of the

extreme end of the spoke which occupies the outer conical part of the cavity is made cylindrical, and of a size which will just pass the contraction.

In fitting the wheel I do not bring the end
45 of the spoke quite against *e*, but let it fall short a little, so that when the parts of the wheel settle together, as they will do in actual use, the inner cone of the cavity will
50 be filled by the taper of the spoke, and the upper cone will be filled by the expansion of the end of the spoke, caused by its being driven upon the conical pin *f*, the end of
55 which bears upon the inner side of the tire.

In this construction it will be obvious that the end of the spoke cannot act as a lever to start the felly ends out from the band, or to strain upon and break the felly within the
60 band, and also that a projecting socket or thimble is not needed to give a bearing to the end of the spoke.

The metallic part herein described may be termed a spoke and felly coupling. It is
65 best made by casting, of malleable iron, or of brass, or composition.

I claim as new—

In coupling spokes with the parts of fel-
lies of wooden wheels by means of a met-
70 tallic band in the manner described at each or any of the spokes, and conical pin or wedge for expanding the end of the spoke, constructing said band with an hour glass
75 shaped cavity for reception of the spoke and making the band to cover or over-lap the outer end of the spoke, substantially as shown and described.

D. A. JOHNSON.

Witnesses:

T. B. CROSBY,
WM. H. PARLES.