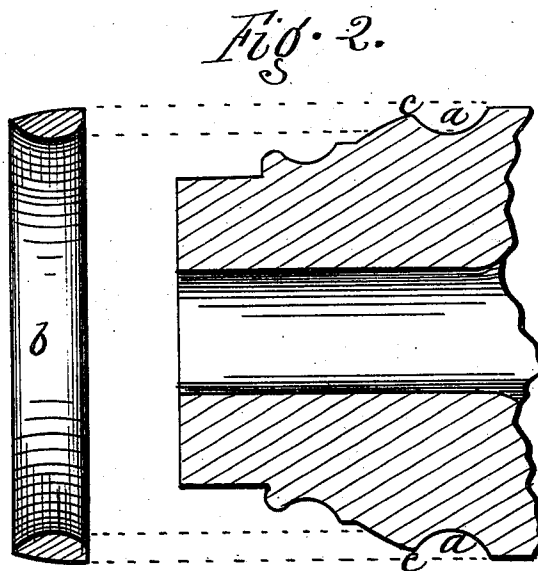
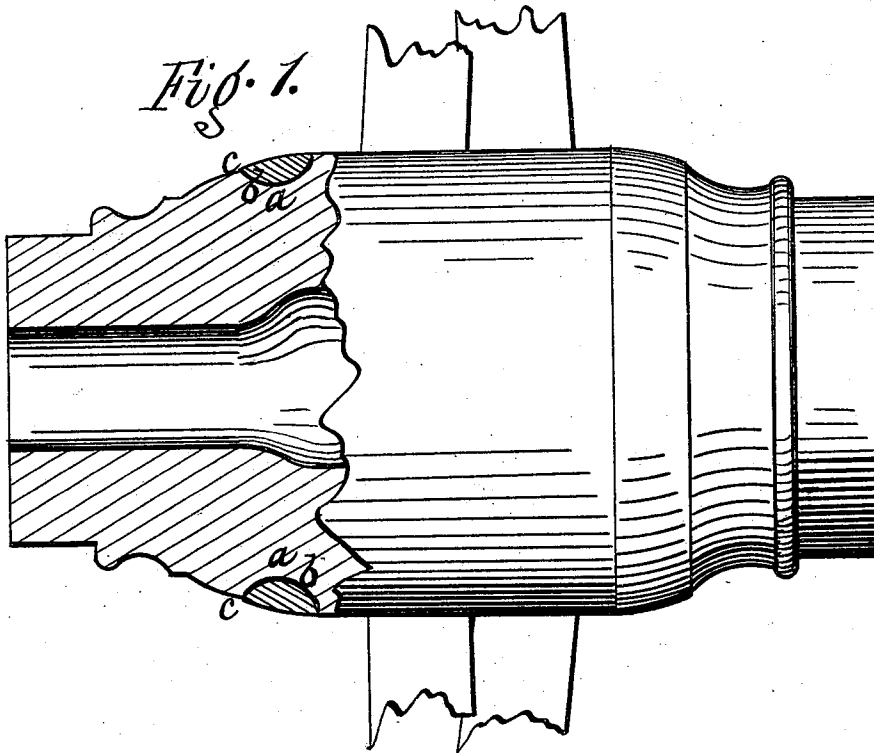


W. CORRIS.
BANDING WHEEL-HUBS.

No. 173,163.

Patented Feb. 8, 1876.



Witnesses.
E. B. Scott.
Louis Spahn.

Inventor.
Wm. Corris,
per R. L. Osgood,
Att'y.

UNITED STATES PATENT OFFICE.

WILLIAM CORRIS, OF ROCHESTER, NEW YORK.

IMPROVEMENT IN BANDING WHEEL-HUBS.

Specification forming part of Letters Patent No. **173,163**, dated February 8, 1876; application filed September 6, 1875.

To all whom it may concern:

Be it known that I, WILLIAM CORRIS, of the city of Rochester, in the county of Monroe and State of New York, have invented a certain new and Improved Process of Applying Bands on Hubs; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a section elevation, showing my improvement. Fig. 2 is a similar view, but showing the band or ring separated from the hub.

My improvement relates to bands applied around a carriage-hub for the purpose of strengthening the same, and preventing splitting when the spokes are driven in place. Various devices for this purpose are now in use, and, among others, a band, convex on its inner periphery, fitting in a corresponding concave groove of the hub. This form is most effective, but much difficulty has been experienced in applying it, the method in use being to slip it over the groove and force it into the groove by compression around the band. It has been found that this upsets and breaks the grain of the iron, and in thin bands, such as it is necessary to use, many of the bands are cracked and filled with flaws, which are not discovered till the band breaks in use. It is also difficult to so compress the band as to make a true fit, and they are frequently loose and present a bad appearance. To obviate these difficulties I prepare and apply the bands as follows:

The hub is turned with the usual grooves, *a a*. The bands are also formed with the usual inner surfaces, *b b*, to fit the grooves. The bands are now placed in a steam-chamber and subjected to boiler heat a sufficient length of time to become thoroughly heated, in which condition they expand to considerable extent. The hub is also placed in a steam-chamber, preferably of low temperature, and allowed to remain but a short time, just sufficient to allow the outer surface of the hub to become softened, but not long enough to ap-

preciably expand the wood, as would be the case if thoroughly soaked. This softens the shoulder *c*, over which the band must slip, so that the same will yield sufficiently to allow the heated band to pass. When the band is in place it is allowed to cool gradually, and as it cools it shrinks tightly in place, preserving a perfect round, and presenting a smooth and uniform external appearance. It may afterward be smoothed or polished with the wood, and is then in condition for painting.

The inner periphery of the band is made three-thirteenths of an inch smaller than the smallest diameter of the groove, so as to compress with great force upon the hub when it shrinks; and by my process, as above described, I found no difficulty in slipping the band over the hub, notwithstanding the considerable difference in size. I have found by experiment that fire heat will not answer for heating the band, not only for the reason that it injures the grain of the iron in the thin band used, but for the further reason that it burns the groove deeper in the wood, thereby preventing a close fit, and also throwing the band out of round.

By the process above described I am enabled to apply bands to hubs in an expeditious and perfect manner, and avoid the difficulties that have heretofore been experienced.

I do not claim, broadly, a band with a convex interior, fitting in a corresponding groove of the hub; but

I claim—

The process or method herein described of securing bands on hubs, consisting in subjecting the band to steam heat at boiler temperature, and applying the same over the hub steamed sufficiently to soften the surface without expanding it, as herein specified.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

WILLIAM CORRIS.

Witnesses:

R. F. OSGOOD,
E. B. SCOTT.