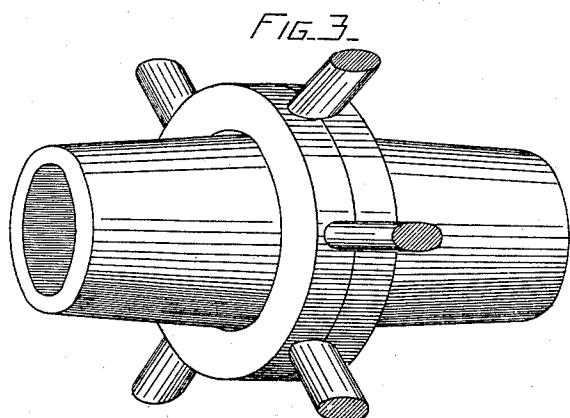
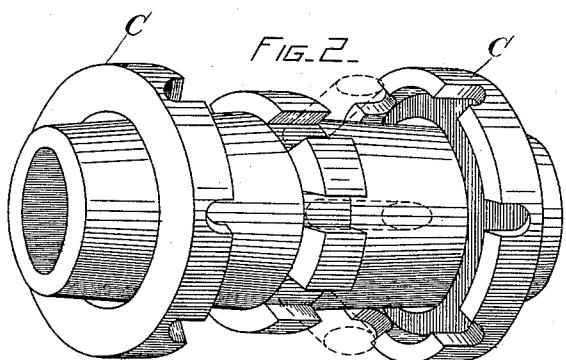
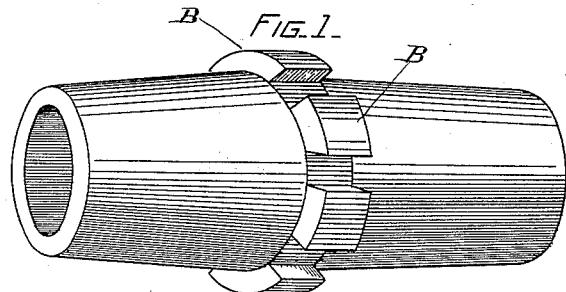


(No Model.)

O. C. HALL & E. RASMUSSEN.
METALLIC WHEEL.

No. 452,841.

Patented May 26, 1891.



WITNESSES

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UNITED STATES PATENT OFFICE.

ORLANDO C. HALL AND EINAR RASMUSSEN, OF LYNN, MASSACHUSETTS,
ASSIGNORS TO THE THOMSON ELECTRIC WELDING COMPANY, OF
MAINE.

METALLIC WHEEL.

SPECIFICATION forming part of Letters Patent No. 452,841, dated May 26, 1891.

Application filed January 28, 1891. Serial No. 379,359. (No model.)

To all whom it may concern:

Be it known that we, ORLANDO C. HALL, a citizen of the United States, and EINAR RASMUSSEN, subject of the King of Norway and Sweden, residents of Lynn, in the county of Essex and State of Massachusetts, have invented certain new and useful Metallic Wheels, of which the following is a specification.

10 Our invention relates to a novel construction of metallic wheel, the object being to secure strength, rigidity, and cheapness in manufacture.

The invention consists, essentially, in a metal hub-box having radial projections upon it, spokes the ends of which are received between the projections, and collars surrounding the hub-box and welded together and to the spokes secured in position between them.

20 In the accompanying drawings we have shown, in Figure 1, a perspective view of a wheel-hub box adapted for use in carrying out our invention. Fig. 2 illustrates the various parts of the wheel prior to their being 25 assembled in their final position. Fig. 3 is a perspective view of a finished wheel.

The wheel-hub box illustrated in Fig. 1 is provided with a number of radial projections or lugs B, arranged around its periphery, with 30 spaces between said lugs or projections adapted to receive the spokes, which are held partly by said spokes and partly by the collars, which are applied at opposite sides of the spokes and are welded together and to the 35 spokes. The box, with its radial projections, is preferably made of cast-iron for the sake of cheapness, although a forged box might be used, if desired.

40 C C, Fig. 2, indicate the collars, which fit over the hub-box and are adapted to be brought together, with their notched flanges abutting against one another over the radial projections. The notches in the collars correspond in number and position to the spaces 45 between the projections B and receive the spokes, which are placed in the spaces between such projections. It is preferable to so proportion the parts that the vertical faces of the collars shall come up snugly against 50 the projections on the hub. In order that they may fit snugly when the wheel is com-

pleted, a little play must be allowed to compensate for the metal taken up in the butt-welding operation.

In constructing the wheel the spokes are 55 abutted against the box radially, with their ends in the recesses or spaces between the adjacent lugs or projections B, and the collars are slipped over the ends of the box and abutted against one another in such way that 60 the spokes will enter the notches in the flanges of the collar C, as shown in Fig. 3. The parts, being assembled and abutted, as just described, are all firmly welded together, the collars being welded to one another and 65 to the spokes. This welding is preferably performed by the electric-welding process, inasmuch as the heat can be confined to proper limits and a good butt-weld made. In this operation the heating electric current is 70 passed through the parts from one collar C to the other and through the spokes, the result being a firm union of the collars edge to edge and a welding of said collars and spokes together.

75 What we claim as our invention is—

1. In a metallic wheel, a hub-box having radial projections between which the ends of the spokes are received, in combination with two collars upon said box welded together 80 and to the spokes grasped between them.

2. A metallic wheel consisting of a hub-box having radial projections, spokes resting in the spaces between said projections, and two collars upon said box and surrounding said 85 radial projections and welded together and to the spokes.

3. In a metallic wheel, a wheel-hub box having radial projections between which the spokes are received, in combination with collars upon said box abutting against the projections at opposite sides thereof and welded 90 together and to the spokes, as and for the purpose described.

Signed at Lynn, in the county of Essex and 95 State of Massachusetts, this 23d day of January, A. D. 1891.

ORLANDO C. HALL.
EINAR RASMUSSEN.

Witnesses:

WARREN B. LEWIS,
JOHN W. GIBBONEY.