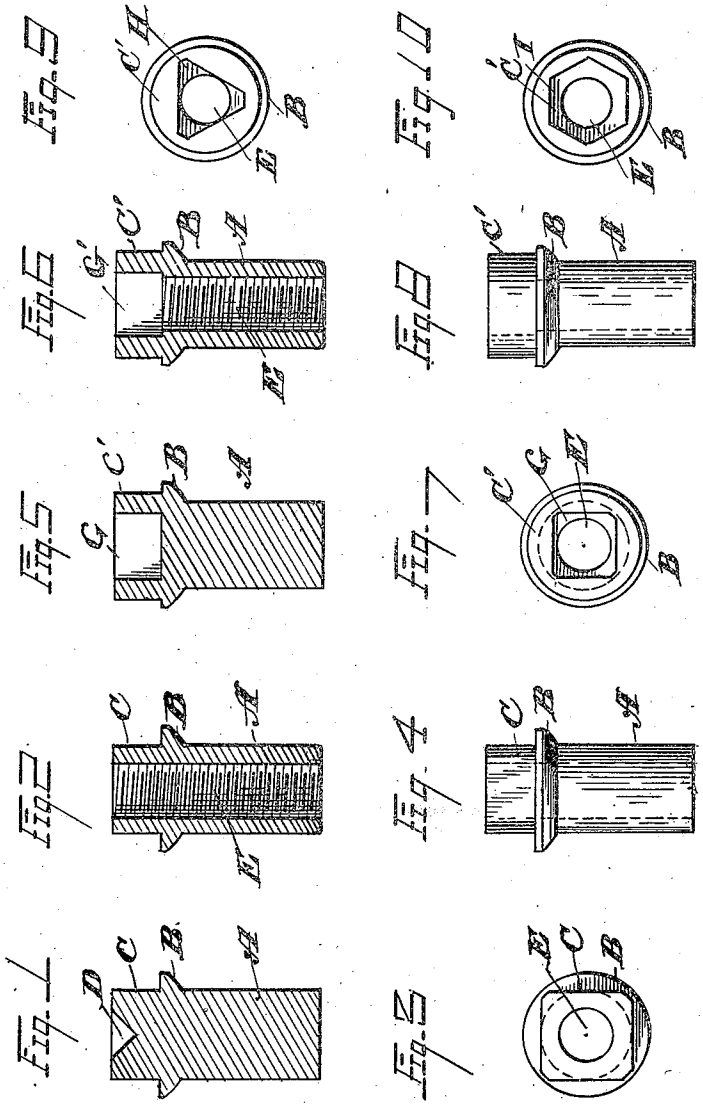
Nov. 5, 1929. E. W. STOLER 1,734,184

NIPPLE FOR WIRE SPOKES

Filed May 26, 1928 2 Sheets-Sheet 1



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Fig. 11

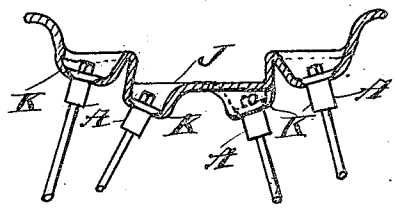


Fig. 12

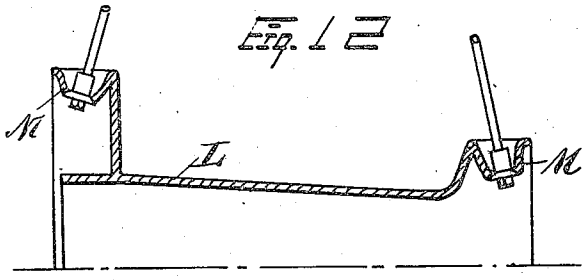
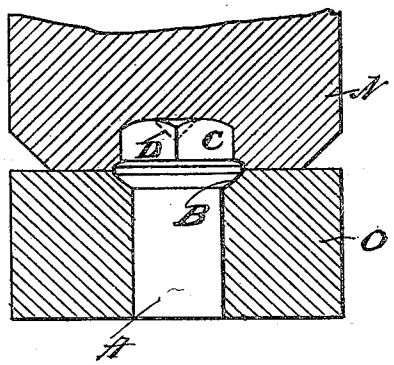


Fig. 13



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UNITED STATES PATENT OFFICE

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NIPPLE FOR WIRE SPOKES

Application filed May 26, 1928. Serial No. 280,777.

The objects of the invention are to p o-vide an improved nipple adapted for use with either end of a wire spoke, and a mechanical process of constructing the same from a solid cylindrical metal blank by cold forging between punching dies.

In this nipple the slot in the head is dispensed with, and a projection adjacent to the laterally extended seating portion is formed with angular edges, which may be square or hexagonal, so that the nipple can be engaged by means of an ordinary wrench of any suitable character.

The nipple is constructed with the wrench hold for tightening the same, adjacent to the bearing seat or head end, and is reversibly attachable to the hub end or rim end of the spoke, and is adapted for use in hubs where the nipples of adjoining spokes are so closely brought together that it would not be possible to employ the old method of construction in which the wrench holds are upon an elongated skirt portion, at the inner end of the nipple, projecting from the body of the nipple.

Other features of importance, making the nipple more efficient and practical in use, may be enumerated as follows:

The length of the nipple at the head permits a wrench hold upon the head when it is used with a drop base rim, and the amount of metal required is greatly economized, and the nipple shortened, since the wrench hold or skirt now employed upon the inner end of the nipple is eliminated.

It might also be said that in the well known form of nipple having a slot for screw driver in the head, it is impossible to obtain sufficient pressure or hold from the sides of the slot or kerf, as the pressure in tightening or trueing up the wheel will tear or break out the slot.

The improved nipple can be used in the hub or rim to greater advantage than the present forms, since when a heavy strain or load is put on the slotted nipple head the sides of the slot will fold together, so that the head can be pulled through the rim or hub, but with the improved construction this cannot occur, and the head will be much strengthened.

Also with the improved spoke nipple, the wheels can be trued much faster, since there will be no interference between the spokes, and the heads are more accessible for the use of the wrench or friction nipple tightener.

Further with the present forms of the nipples the body must be made much longer to pass the spoke crossings, so the operator can apply his wrench to the squared body portions, thus wasting both material and the time employed in finishing the same.

I obtain these advantages by means of the forms of construction and arrangement of parts hereinafter described, illustrated in the accompanying drawings, and specifically pointed out in the claim.

In the accompanying drawings, Fig. 1 is a vertical section showing the cold forged blank, and shortened nipple with a squared head produced thereby, also showing the center produced in the head at the time of forging.

Fig. 2 is a similar section of the finished nipple,

Fig. 3 is a plan of Fig. 2,

Fig. 4 is a side elevation of the finished nipple,

Fig. 5 is a vertical section of the forged blank showing a squared recess in lieu of an external square,

Fig. 6 is a similar view of the finished nipple,

Fig. 7 is a plan of Fig. 6, and

Fig. 8 is an elevation thereof,

Fig. 9 is a plan showing a triangular recess in the head, and

Fig. 10 shows a hexagonal recess in the head,

Fig. 11 is a transverse section of a drop base tire rim showing the manner of use of the nipple, Fig. 12 is a similar section of a hub,

Fig. 13 is a vertical section illustrating the use of forming dies.

In these views, in Fig. 1, A is the cylindrical body of the blank before the central opening is formed therein.

B is a laterally extended and outwardly

curved annular shoulder having outwardly curved sides forming a bearing surface, and C is a squared head projecting beyond the bearing for engagement with a wrench or nipple tightener and provided with the center point D which is formed by the die, at the same time that the other parts are formed.

In Figs. 2, 3, and 4, the central opening E has been bored through the blank, and provided with screw threads in the usual manner.

In Fig. 5 the head portion C′ is constructed of larger diameter, and a square recess G is formed therein for engagement with a square headed tool.

In Figs. 6, 7, and 8 the central opening has been bored therethrough and screw threaded.

In Fig. 9 the opening H is triangular and in Fig. 10 is hexagonal at 1.

In Fig. 11, J is the drop base rim, and K, K, are the spaced hollow bosses in which the nipples A are seated.

In Fig. 13, N is the upper forming die and O the lower forming die. The parting line is in the periphery of the laterally extended bearing portion of the head.

Having described the invention what I claim as new and desire to secure by Letters Patent is—

In a nipple for a wire spoke, a cylindrical centrally screw threaded body, having a polygonal wrench engaging means at one end thereof and having an annularly and laterally extended seating portion provided with a spherical convex bearing surface, said seating portion being intermediate of said body and wrench engaging means.

In testimony whereof I hereunto affix my signature.

EDWARD W. STOLER.