

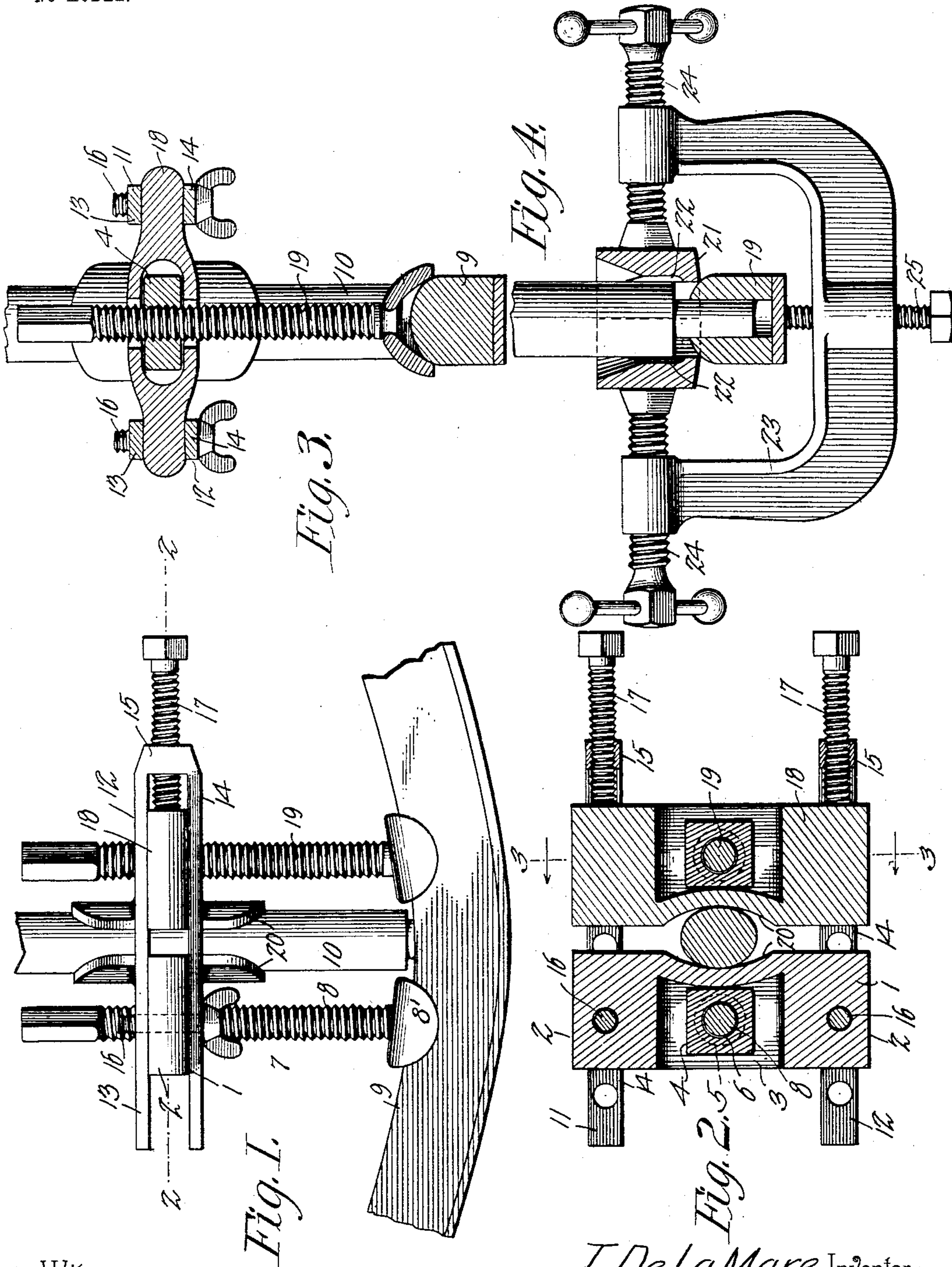
No. 751,721.

PATENTED FEB. 9, 1904.

T. DE LA MARE.
TIRE TIGHTENER.

APPLICATION FILED DEC. 20, 1902.

NO MODEL.



Witnesses
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T. De La Mare

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UNITED STATES PATENT OFFICE.

THOMAS DE LA MARE, OF TOOELE, UTAH, ASSIGNOR OF ONE-HALF TO
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TIRE-TIGHTENER.

SPECIFICATION forming part of Letters Patent No. 751,721, dated February 9, 1904.

Application filed December 20, 1902. Serial No. 136,028. (No model.)

To all whom it may concern:

Be it known that I, THOMAS DE LA MARE, a citizen of the United States, residing at Tooele, in the county of Tooele and State of Utah, have invented a new and useful Tire-Tightener, of which the following is a specification.

At the present day it is the practice to tighten wheel-rims by clamping a suitable device to the spoke of the wheel and operating pressure devices carried thereby to force the wheel-felly outward from the end of the spoke and fill the space so formed between the felly and spoke end with molten metal, which when set retains the parts in such position, thus tightening the tire.

It is the object of the present invention to produce a device to be employed for the above purpose which in its general organization and operation will be simplified and rendered more efficient, which will be strong and durable, and may be readily applied to or removed from the wheel-spoke.

The invention comprises the details of construction and combination of parts more fully hereinafter described.

In the accompanying drawings, Figure 1 is a side elevation illustrating the device applied to a wheel. Fig. 2 is a horizontal sectional elevation on the line 2 2 of Fig. 1. Fig. 3 is a transverse sectional elevation on the line 3 3 of Fig. 2. Fig. 4 is a detail view of the supplemental clamp.

Referring to the drawings, 1 indicates the body portion of a relatively fixed clamping member having integral ears or lugs 2 projecting laterally therefrom. The body portion of the member is provided with an internal cavity or recess 3, in which is seated a nut 4, the transverse upper and lower walls of the member being provided each with an orifice 5, which registers with a central screw-threaded orifice 6, formed through the nut. 7 is a pressure device mounted in and carried by this clamping member 1. This pressure device, which in practice stands in a vertical position, comprises a body portion, preferably in the form of an elongated screw-threaded bolt 8, squared at one end for the reception of a turning wrench, and an enlarged concaved

head or shoe 8', which is mounted upon the outer end of the bolt for engagement with the felly 9 when the device is applied to the spoke 10, as illustrated in Fig. 1. This pressure device has its screw-threaded body portion 8 extended through the orifice 5 in the walls of the member and engaged with the screw-threaded orifice 6 of the nut carried thereby.

11 and 12 are two frame members mounted at opposite sides of the clamping member 1 and secured thereto in the manner to be presently explained. Each of these side members comprises an upper and lower bar 13 and 14, which are parallel and are spaced apart to receive the ear 2 of the member between them. These bars are united at one end by means of a connecting-wall 15, and at their opposite free ends are connected to the ear of the member by means of a thumb-screw 16. The upper and lower bars of the frame member and also the ear of the clamping member are provided with a plurality of holes for the reception of the thumb-screw to permit the adjustment of the member toward and from the end of the frame member. The frame member has tapped through the connecting-wall of its closed end a set-screw 17, adapted to be moved back and forth parallel between the upper and lower bars of the member 11 for the purpose hereinafter described.

18 indicates the movable clamping member, which is provided with a pressure device 19 for engaging the felly of the wheel, the construction, operation, and assemblage of the parts being identical with those described above except that the clamping member 18 is not attached to the frame members, but simply has its ears mounted loosely between the bars of the side members, adapting it to slide freely toward and from the relatively fixed clamping member.

Each of the clamping members is provided with an enlarged concaved clamping face or shoe 20, adapted in practice to receive the wheel-spoke between them.

In operation to apply the device to a wheel the clamping member 18 is removed and the shoe 20 of the member 1 is held against the side of the spoke at a suitable distance from

its end. The member 18 is then again seated in place with its ears projecting between the spaced bars of the side members and is moved to a position for its clamping-face to bear against the other side of the spoke. The set-screws 17 are then tightened to force the movable member toward the fixed member and securely clamp the spoke between them. The pressure devices 7 and 19 are then operated to force the felly away from the end of the spoke. When the parts are in the position above described, with the pressure devices forcing the felly away from the end of the spoke, I apply to the spoke at its end the mold 21. This mold comprises two sections, each having a semicircular opening formed longitudinally therethrough and adapted conjointly to embrace the spoke, the mold being provided at opposite sides of the spoke with grooves 22, which permit the molten metal when poured into the mold to flow into the space between the end of the spoke and the felly, thus wedging them apart and tightening the tire. 23 is a supplemental clamp which is employed for clamping the two sections of the mold together. This supplemental clamp in practice is applied over the rim of the wheel and is provided with two set-screws 24, adapted to engage the respective sections of the mold, and with a set-screw 25, which engages the outer face of the tire and is operated to draw the mold tightly down against the felly after the mold has been clamped between the screws 24.

The various parts of the above device may be composed of any suitable metal; but I prefer to employ brass for the mold and for the clamping members and wrought-iron for the remaining parts.

It is to be understood that I do not limit or confine myself to the precise details of construction herein shown and described, inasmuch as various changes may be made therein without departing from the spirit or scope of my invention.

Having thus described the invention, what is claimed is—

In a device of the class described, the combination with a pair of frame members each comprising two bars spaced apart and provided near one end with a series of transverse openings and connected at the other end by an end wall, of a clamping member having lateral ears projecting between the bars of the frame members and provided with transverse openings adapted to register with the openings in the frame-bars and to receive a thumb-screw for adjustably connecting the clamping member to the frame member, a movable clamping member sustained by the frame members and having lateral ears projecting and slidable between the spaced bars thereon, set-screws tapped into the end walls of the frame members and adapted to be operated to force the movable toward the relatively fixed member, each clamping member having a cavity formed therein, a nut mounted in the cavity, a pressure-bolt threaded through the nut and provided with a head adapted to engage the felly when the pressure device is operated to apply pressure thereto.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

THOMAS DE LA MARE.

Witnesses:

J. H. JOCHUM, Jr.,
W. C. PARKER.