No. 811,303. PATENTED JAN. 30, 1906.

L. S. LACHMAN.

HUB.

APPLICATION FILED NOV. 17, 1904.

Fig. 1.

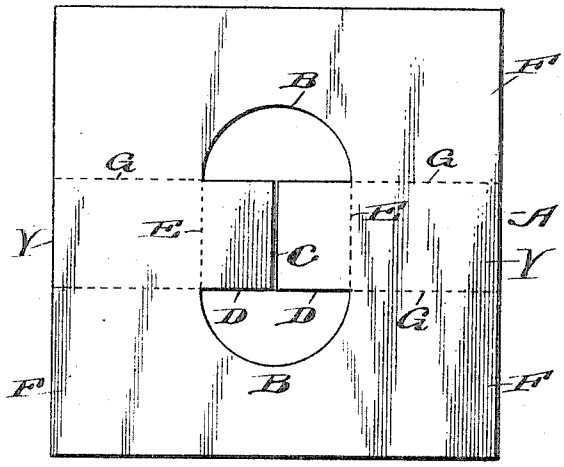


Fig. 2.

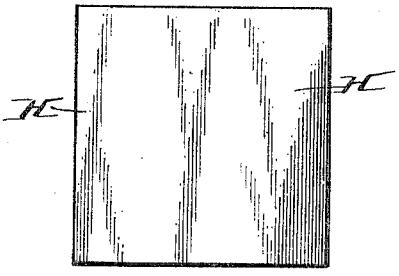


Fig. 3.

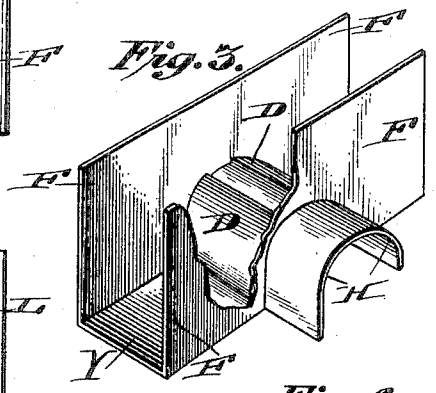


Fig. 4.

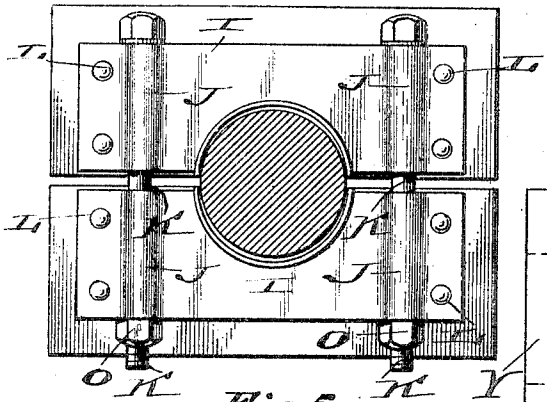


Fig. 5.

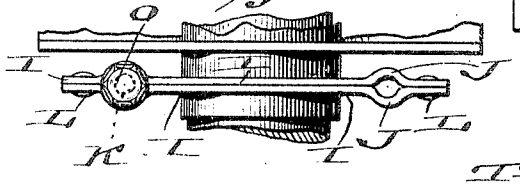


Fig. 6.

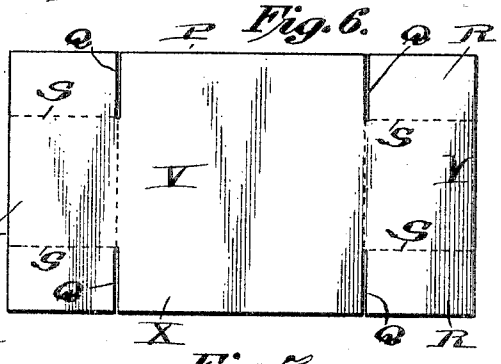
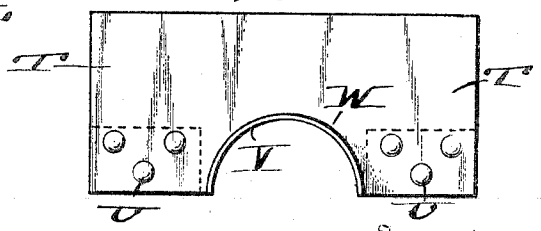


Fig. 7.



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UNITED STATES PATENT OFFICE.

LAURENCE S. LACHMAN, OF NEW YORK, N. Y.

HUB.

No. 811,303. Specification of Letters Patent. Patented Jan. 30, 1906.

Application filed November 17, 1904. Serial No. 233,108.

To all whom it may concern:

Be it known that I, LAURENCE S. LACHMAN, a citizen of the United States, and a resident of the borough of Manhattan, city, county, and State of New York, have invented certain new and useful Improvements in Hubs, of which the following is a specification, accompanied by drawings.

This invention relates to hubs for pulleys and wheels, more particularly to sheet-metal hubs.

The objects of the invention are to enable the hub to be made out of one or more pieces of sheet metal and secure lightness, strength, rigidity, and cheapness of manufacture.

Another object of the invention is to afford provision for securely fastening the spokes to the hub.

Further objects of the invention will hereinafter appear; and to these ends the invention consists of a hub for carrying out the above objects embodying the features of construction, combinations of elements, and arrangement of parts having the general mode of operation substantially as hereinafter fully described and claimed in this specification and shown in the accompanying drawings, in which—

Figure 1 is a face view of a sheet-metal blank from which one form of the hub is constructed. Fig. 2 is a face view of a piece of sheet metal adapted to be bent into form to coöperate with the hub constructed from the blank shown in Fig. 1. Fig. 3 is a perspective view of one form of the hub, partly broken away. Fig. 4 is a side view of this form of the hub applied to a shaft and secured thereon by suitable clamps. Fig. 5 is a top plan view of a portion of Fig. 4. Fig. 6 is a face view of a sheet-metal blank for making a modified form of hub. Fig. 7 is a side elevation of the modified form of hub.

In accordance with this invention the hub is constructed of sheet metal by suitably cutting and bending the sheet-metal blank or member and then providing suitable sheet-metal parts which coöperate with the blank to form the complete hub. In the forms of the invention illustrated the complete hub is preferably made of two coöperating parts, which are suitably secured together upon the axle.

Referring to the drawings, in Fig. 1 a blank or metal member is illustrated, preferably of substantially rectangular form. This blank A is adapted to be cut and bent to form one-half of the completed hub. As shown, semicylindrical sections B are cut or otherwise removed from the central portion of the blank A, leaving a tongue or strip between the said semicircles. The tongue or strip is then slit centrally at C to form two tongues D, adapted to be bent into curved form, as shown in Fig. 3, along the dotted lines E. The sides or wings F of the blank are then bent upwardly along the dotted lines G, as shown in Fig. 1, the curves of the tongues D being made to correspond to the semicircular sections B of the wings. The tongues D are disposed between said wings F, and the piece of sheet metal H is bent into semicylindrical form and suitably secured, as by means of rivets, brazing, or otherwise, within the curved recessed portion provided by the blank A, as fully illustrated in Fig. 3. The piece of metal H is of such dimensions, as shown, that its ends project beyond the sides of the wings F and afford provision for clamping the two sections of the hub together, as shown in Fig. 4.

Any suitable clamping means may be provided; but a preferable construction is that shown in the figures, in which the clamps consist of sheet-metal strips I, provided with the curved or indented portions J, adapted to register one with the other and form apertures or seats for the securing-bolts K. The two portions I, forming a clamp, are suitably secured to each other, as by means of the rivets L, and the bolts are provided with nuts O, by means of which the clamps may be tightened upon the projecting portions of the body or base H of the hub. A clamp is to be provided at each end of the hub.

In Figs. 6 and 7 the blank or sheet-metal member is cut and bent in a somewhat different manner from that described, the result, however, being substantially the same. It will be seen that the blank P in this instance is first slit at four points Q, the slits being arranged in pairs at opposite sides of the blank. The portions R between the slits and the ends of the blank are then bent upwardly along the dotted lines S to form ears to which the sheet-metal sides T of the hub may be secured, as shown in Fig. 7, as by means of the rivets U. The central or body portion V of the blank P is suitably bent into semicylindrical form, and the sides T are provided with semicircular recesses W, which fit over the

body V to form the complete hub. Two portions of the hub, like that shown in Fig. 7, are then suitably clamped to the axle, as already described, the ends X of the body portion V, as shown, projecting beyond the sides or wings T to afford provision for securing the clamps thereto.

In both forms of the hub it will be seen that a box-like construction is secured having sides formed by the flaps or wings F, but with open ends. The bottom of the box-like hub, as will be seen, is partly formed by the portions Y of the blank.

The construction as described, it will be seen, is extremely light, strong, and efficient. The flaps or wings F afford provision for securing the spokes of the wheel thereto and by reason of their large surface enable the spokes to be very securely attached, preferably on the outside of the flaps.

Obviously, some features of this invention may be used without others, and the invention may be embodied in widely-varying form.

Therefore, without limiting the invention to the constructions shown and described nor enumerating equivalents, I claim, and desire to secure by Letters Patent, the following:

1. A sheet-metal hub, comprising metal members suitably cut and bent into box-like form, the sides and bottom of said box-like sections being adapted to conform to the axle, the sides of the box-like sections being bent at right angles to the axle, a piece of metal being provided for each section to fit over one-half of the axle, said pieces of metal being attached to the curved portions of the bottoms of the box-like sections and projecting beyond the sides of the sections affording provision for securing said sections together.

2. A sheet-metal hub, comprising metal members suitably cut and bent into box-like form, the sides and bottom of said box-like sections being adapted to conform to the curvature of the axle, a piece of metal being provided for each section to fit over one-half of the axle, said pieces of metal being attached to the curved portions of the bottoms of the box-like sections and projecting beyond the sides of the sections affording provision for securing said sections together.

3. A sheet-metal hub, comprising metal members suitably cut and bent into box-like form, the sides and bottom of said box-like sections being adapted to conform to the curvature of the axle, a piece of metal being provided for each section to fit over one-half of the axle, said pieces of metal being attached to the curved portions of the bottoms of the box-like sections and projecting beyond the sides of the sections affording provision for securing said sections together, and clamps for securing said sections together, comprising sheet-metal strips having curved or indented portions adapted to fit over the said pieces of metal of the sections projecting beyond the sides of the sections, and bolts for securing the parts of the clamps together.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

LAURENCE S. LACHMAN.

Witnesses:
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