No. 744,116. PATENTED NOV. 17, 1903.

C. SCHNEIDER, Sr.

AXLE BRACE.

APPLICATION FILED JULY 3, 1903.

NO MODEL.

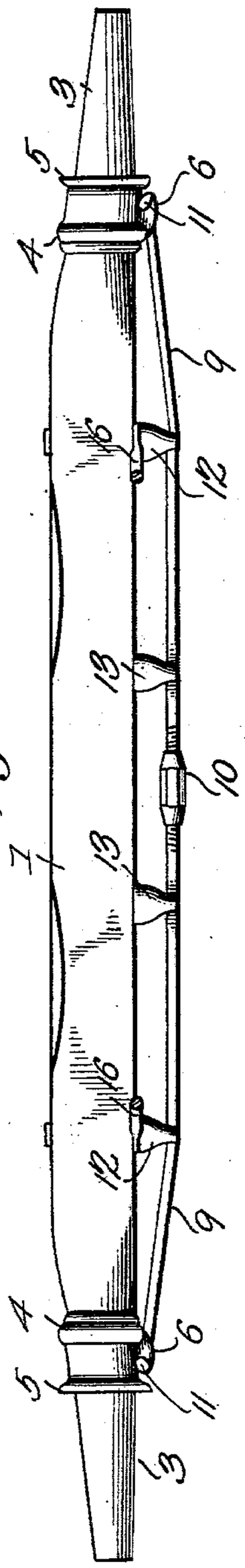

Fig. 1.

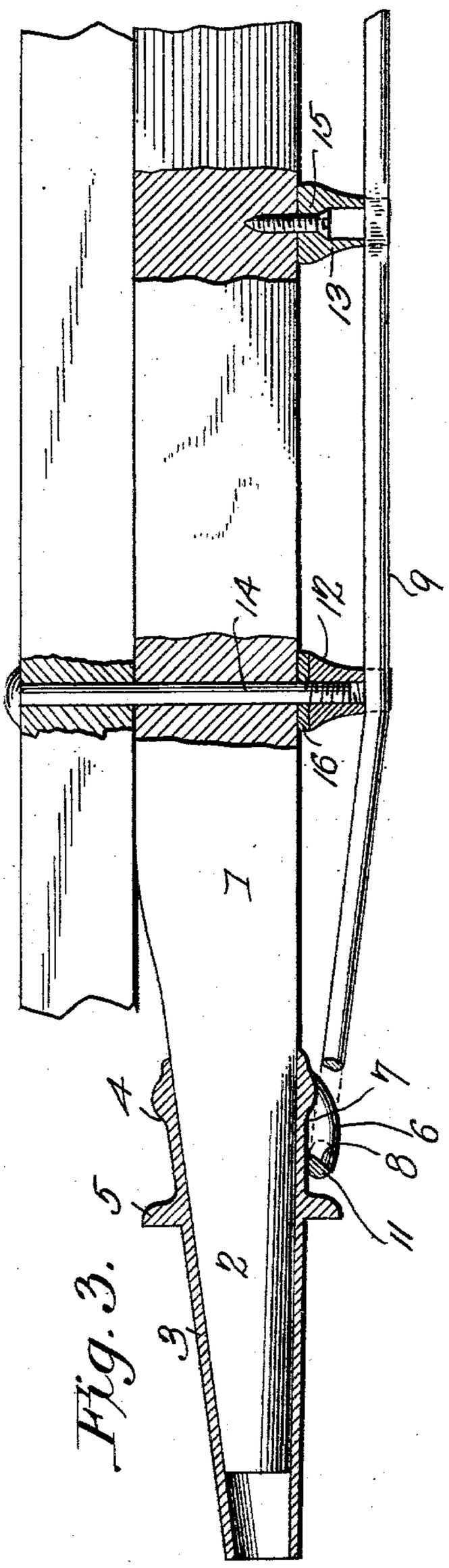

Fig. 3.

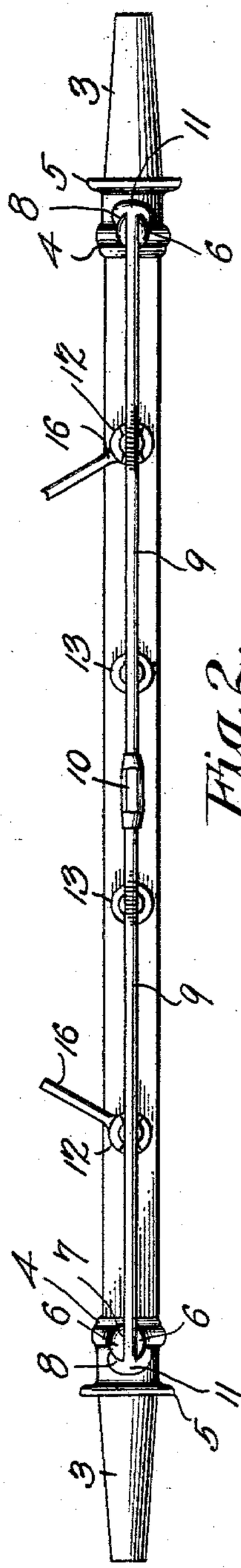

Fig. 2.

Witnesses
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No. 744,116. Patented November 17, 1903.

UNITED STATES PATENT OFFICE.

CHARLES SCHNEIDER, SR., OF NEW COMERSTOWN, OHIO.

AXLE-BRACE.

SPECIFICATION forming part of Letters Patent No. 744,116, dated November 17, 1903.

Application filed July 3, 1903. Serial No. 164,240. (No model.)

To all whom it may concern:

Be it known that I, CHARLES SCHNEIDER, Sr., a citizen of the United States, residing at New Comerstown, in the county of Tuscarawas and State of Ohio, have invented a new and useful Axle-Brace, of which the following is a specification.

My invention relates to axle-braces, and has for its object to produce a device of this character which will be simple of construction, efficient in operation, one in which sagging or splitting of the axle will be obviated, and one in which the axle will be braced for withstanding transverse strain.

To these ends the invention comprises the novel details of construction and combination of parts more fully hereinafter described.

In the accompanying drawings, Figure 1 is a side elevation of an axle having my improved brace applied thereto. Fig. 2 is a bottom plan view of the same. Fig. 3 is a detail sectional view.

Referring to the drawings, 1 indicates a wooden axle of ordinary construction formed at its ends into spindles 2, onto which are slipped metal skeins 3. These latter are in accordance with my invention provided each with an integral collar 4, upon the outer end of which is formed a peripheral flange 5, constituting a bearing for the inner end of the wheel-hub, said collar having formed upon its normally under face in rear of the flange a pair of spaced lugs 6, the recess 7 between which extends in a longitudinal direction parallel with the longitudinal axis of the axle. The forward end faces of the lugs 6 are inclined backwardly and inwardly, as at 8, for a purpose which will hereinafter appear.

9 indicates a truss or brace rod formed in two sections united by a turnbuckle 10, the meeting ends of the rod-sections being oppositely threaded and engaged with the buckle, whereby the latter may be manipulated for placing the rod under tension in the well-known manner. The rod 9 extends centrally and longitudinally of the axle, beneath the same, and is provided at its opposite ends with T-heads 11, which engage each with a pair of the lugs 6, the rod adjacent to the head being when the parts are in engagement disposed in the recess 7 between the lugs and the inner face of the T-head beveled or inclined to coincide with the beveled or inclined faces 8 of the lugs, whereby the parts will be firmly interlocked to prevent accidental releasing of the heads. At this point it may be said that when the parts are in operative engagement, as above explained, and the rod 9 under tension for bracing and strengthening the axle the skeins 3 will be drawn onto and maintained in firm engagement with the spindles 2, and at the same time any transverse strain of the axle due to the shock of the vehicle-wheel contacting with an obstruction will, owing to the particular shape of the T-head and the fact that the same extends upon opposite sides of the central longitudinal axis of the axle, be borne by said head and transmitted to the rod 9. Thus it will be seen that the head 11 serves in effect as a transverse brace which is situated at one of the weakest points of the axle and serves to obviate liability of the latter breaking at said point, as frequently occurs owing to the above-mentioned cause.

In order that the rod 9 may when under tension exert the proper stress upon the axle to prevent sagging and breaking of the same at its longitudinal center, I sustain the rod distant from the under face of the axle preferably by means of a pair of primary struts 12, disposed one adjacent to each end of the axle, and a pair of secondary struts 13, which are arranged at suitable points between the primary struts and the longitudinal center of the axle. The primary struts are in the form of blocks or heads tapped onto the normally lower ends of bolts 14, which extend transversely through the axle and the overlying bolster, the struts being provided at their active ends with suitable recesses or seats for the rod 9, whereby the rod will be properly sustained against lateral movement and will at the same time serve to lock the blocks in position. The secondary struts are in the form of hollow castings provided at their inner ends with a wall or web 15, perforated for the reception of screws or the like, by means of which they are secured to the axle, and at their outer ends with suitable recesses or seats engaged by the truss-rod, the latter at the point of such engagement being flattened, whereby twisting of the rod when placing the same under tension is obviated. The bolts 14 serve as a bearing or means of attachment

for the ends of the usual brace-rods, as indicated at 16, which extend longitudinally beneath the vehicle, the ends of the rods being provided with suitable eyes, which encircle the bolt between the axle and the strut-bar 12, whereby the latter prevents escape of the engaging eyes from the bolt. At this point it is to be particularly noticed that the bolt serves the threefold function of a means for preventing splitting of the axle, of a means for attaching the struts 12, and of a means for connecting the axle, bolster, and brace-irons 16 and serving as a bearing for the ends of the latter.

It will be readily apparent that in operation when the nut 10 is turned in one direction the rod 9 will be placed under tension for bracing and strengthening the axle and for holding the skeins in position thereon, it being obvious that the skeins may by this means be tightened upon the spindles from time to time to compensate for shrinkage of the latter. When the nut is turned in the other direction, the heads of the rod may be readily disengaged from the lug 6 to permit of disassemblage of the parts.

From the foregoing it will be seen that I produce a device of simple construction which will be strong, durable, and efficient in operation and one which is admirably adapted for the attainment of the ends in view. It is to be understood that I do not limit myself to the precise details herein set forth, inasmuch as minor changes may be made therein without departing from the spirit of the invention.

Having thus described my invention, what I claim is—

1. The combination with an axle, of skeins mounted upon the ends thereof, a pair of spaced lugs associated with each skein, the front faces of the lugs being inwardly and backwardly inclined, a truss-rod having T-heads engaging each a pair of the lugs, the engaging faces of the heads being beveled to coincide with the inclined faces of the lugs, means for placing the rod under tension, and one or more struts disposed between the axle and rod.

2. The combination with an axle, of skeins mounted upon the ends thereof, a truss-rod operatively engaging the skeins, means for placing the rod under tension, a bolt extending through the axle, and a strut member tapped onto the bolt and provided with a seat for the rod.

3. The combination with an axle, of skeins mounted upon ends thereof, a truss-rod operatively engaging the skeins, means for placing the rod under tension, a bolt extending through the axle, a brace-rod engaging the bolt, and a strut member tapped onto the bolt for securing the brace thereon and provided with a seat for the truss-rod.

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

CHARLES SCHNEIDER, Sr.

Witnesses:
J. H. Jochum, Jr.,
J. Ross Colhoun.