No. 713,455. Patented Nov. 11, 1902.

G. W. KRAMER.

AXLE SUPPORT.

(Application filed Mar. 6, 1902.)

(No Model.)

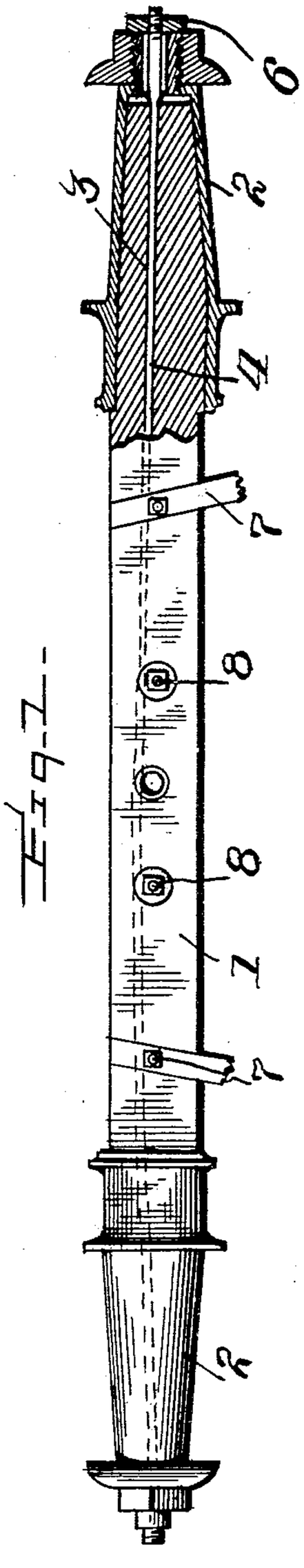

FIG. 1.

FIG. 2.

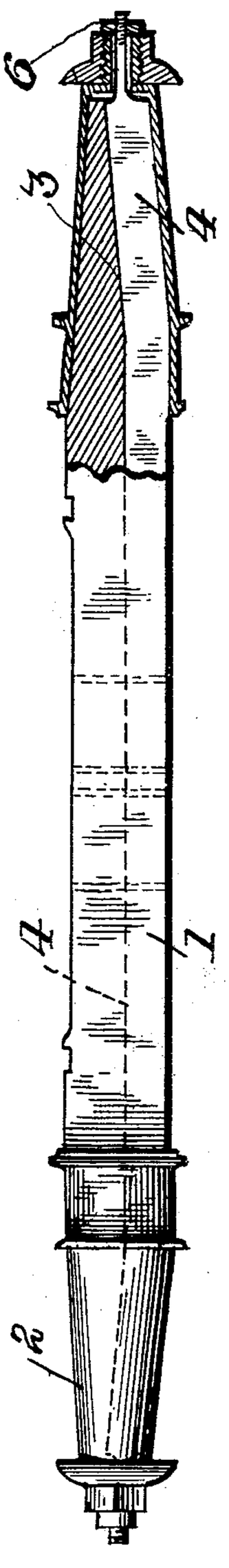

FIG. 3.

Witnesses:
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UNITED STATES PATENT OFFICE.

GEORGE W. KRAMER, OF OIL CITY, PENNSYLVANIA.

AXLE-SUPPORT.

SPECIFICATION forming part of Letters Patent No. 713,455, dated November 11, 1902.

Application filed March 6, 1902. Serial No. 96,938. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. KRAMER, a citizen of the United States of America, residing at Oil City, in the county of Venango and State of Pennsylvania, have invented certain new and useful Improvements in Axle-Supports, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in axle-supports, and has for its object the provision of novel means whereby an axle will be greatly strengthened at all its weak points and at the same time hold the skein or axle perfectly rigid.

The present invention consists in providing a groove in the axle, said groove extending from end to end toward the center and gradually extends in a line of an arc from the ends of the axle to the forward central portion thereof. In this groove is placed a flat bar of steel or iron, carrying reduced screw-threaded ends to receive fastening-nuts.

The invention further consists in providing brace-bolts at certain intervals and in the novel construction, combination, and arrangement of parts, to be hereinafter more fully described, and specifically pointed out in the claim.

In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, and wherein like numerals of reference indicate like parts throughout the several views, in which—

Figure 1 is a plan view of my improved axle, partially in longitudinal section. Fig. 2 is a side elevation of the strengthening brace or bar. Fig. 3 is a front elevation of the axle, partially in vertical section.

In the drawings the reference-numeral 1 indicates the axle and 2 the spindles upon which the wheels are mounted. 3 indicates a groove formed in the axle, said groove extending longitudinally in said axle, but the line of the groove is slightly bowed or arced, the lowest point of said bow or arc being in the central portion of the axle. In said groove 3 is placed a strengthening-truss 4, which is formed of flat steel or iron, the strengthening-truss also being bowed, as heretofore set forth, and seated within the said groove. This strengthening-truss is secured within the axle in a manner that all the strain and weight will rest upon the strengthening-truss edgewise. The truss 4 has its ends turned upwardly and reduced and threaded to form the shanks 5, which receive the securing-nuts 6, these shanks extending beyond the ends of the axle centrally of the latter. The axle is provided with apertures to receive bolts 7, which fasten the braces 7′ to the axle, these braces 7′ being attached to the hounds. (Not shown.) The axle is also apertured to receive the bolts 8 8, which pass through the axle and fasten the sand-board (not shown) to the axle. It will be observed that the truss-bar is placed in the axle by cutting a groove or kerf throughout the underneath face of the latter, this groove at each end of the axle being inclined upwardly to conform to the inclined ends of the truss-bar. The truss-bar is placed in the axle on a curved line, the bow of the same being toward the front of the axle, and the bolts 7 7 and 8 8 passed through the axle at a point where the truss-bar will lie against the same.

It will be seen that by the peculiar construction of my improved axle great advantages are obtained both by the tensile and bending strength. Furthermore, all the weak points of both the axle and skein are strengthened, breakage of both the axle and skein will be prevented, and the axle will be held perfectly rigid at all times, thereby constructing a superior running-gear.

The many other advantages obtained by the use of my improved axle will be readily apparent from the foregoing description, taken in connection with the accompanying drawings.

It will be noted that various changes may be made in the details of construction without departing from the general spirit of my invention.

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

The combination with the axle having a curved groove or kerf throughout its underneath face, of a truss-bar fitted in said groove, the ends of the bar being inclined upwardly and threaded to receive securing-nuts, said bar being bowed outwardly in a vertical

plane from points adjacent the inner ends of the said upwardly-inclined ends, whereby that portion of the truss-bar between the said upwardly-inclined ends will lie to one side of the center of the axle, braces on the upper face of the axle, bolts passing through the axle and braces in a vertical plane, for securing the braces, the bolts bearing against the one side of the bar, and bolts located between the braces and passing through the axle in a vertical plane and bearing against the said side of the bar, substantially as described.

In testimony whereof I affix my signature in the presence of two witnesses.

GEORGE W. KRAMER.

Witnesses:
FRANK BEVERIDGE,
BROOKS HASLETT.