D. CAMP.

DEVICE FOR STRAIGHTENING BENT OR IRREGULAR AXLE HOUSINGS.

APPLICATION FILED MAR. 12, 1919.

1,314,945. Patented Sept. 2, 1919.

Fig. 1.

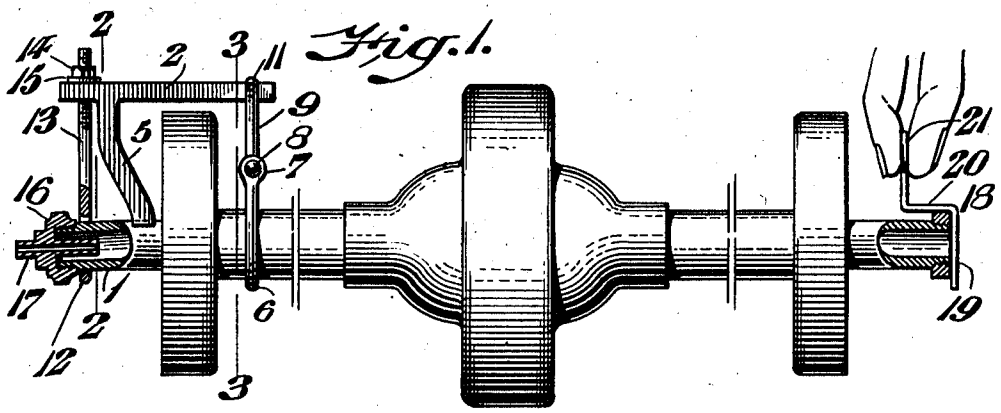


Fig. 2.

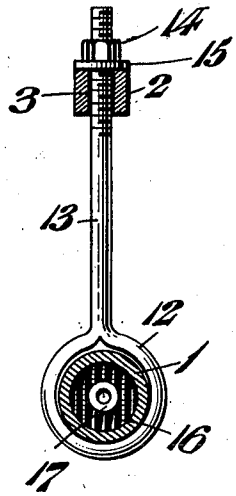


Fig. 3.

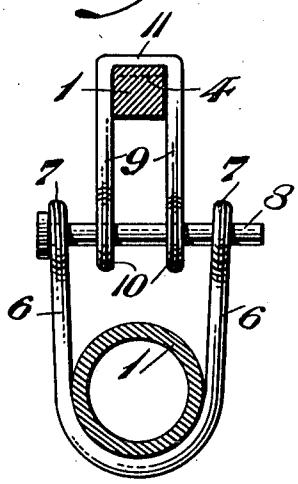


Fig. 7.

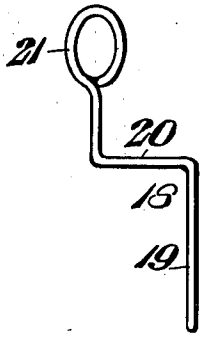


Fig. 4.

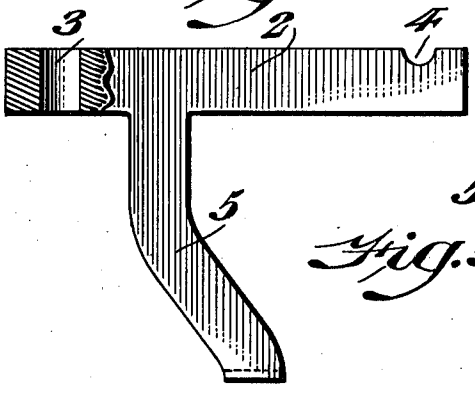
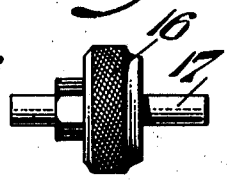


Fig. 5.



Fig. 6.



INVENTOR:
David Camp.
BY Wiederhein & Fairbanks.
ATTORNEYS.

UNITED STATES PATENT OFFICE.

DAVID CAMP, OF PHILADELPHIA, PENNSYLVANIA.

DEVICE FOR STRAIGHTENING BENT OR IRREGULAR AXLE-HOUSINGS.

1,314,945. Specification of Letters Patent. Patented Sept. 2, 1919.

Application filed March 12, 1919. Serial No. 282,107.

To all whom it may concern:

Be it known that I, DAVID CAMP, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Device for Straightening Bent or Irregular Axle-Housings, of which the following is a specification.

My invention consists of a device for straightening axle housings that have been bent or become irregular, the same embodying a beam that may be seated on and secured to a straight or regular part of said housing, and a member adapted to be engaged with the bent portion of the housing, and means for operating said member to exert a pull or draft on said portion so as to restore it to proper shape.

The invention is satisfactorily illustrated in the accompanying drawing, but the important instrumentalities thereof may be varied, and so it is to be understood that the invention is not limited to the specific details shown and described, as long as they are within the spirit or scope of the claim.

Figure 1 represents a partial side elevation and a partial section of a device for straightening axle housings embodying my invention.

Fig. 2 represents a section thereof on line 2—2 Fig. 1.

Fig. 3 represents a section thereof on line 3—3 Fig. 1.

Fig. 4 represents a side elevation partly broken away of a member thereof on an enlarged scale.

Fig. 5 represents an end elevation of the member shown in Fig. 4.

Fig. 6 represents a side elevation of a member employed for viewing the interior of the housing, on an enlarged scale.

Fig. 7 represents a perspective view of a sight gage employed with the device.

Similar numerals of reference indicate corresponding parts in the figures.

Referring to the drawings—

1 designates the bent or irregular portion of an axle housing. 2 designates a horizontally-extending beam having therein the vertically-extending opening 3 and in its upper edge is the recess 4 and having thereon the leg 5 which latter depends from the underside of said beam.

6 designates a yoke which is adapted to embrace the straight or regular portion of said housing, the upper ends of its side or limbs being provided with eyes 7 which are mounted on the bolt 8, thus supporting said yoke. 9 designates a clevis of inverted U-shape, having on the lower ends of its side limbs the eyes 10 in which are received the bolt 8 thus supporting said yoke from said clevis, the latter being adapted to embrace the beam 2 and having its crown 11 seated on the recess 4 of said beam, thus retaining the clevis on said beam, while the yoke as is evident depends from the beam and is connected therewith. Owing to the mechanism of the housing and of that below the same, the vehicle being evidently as illustrated in Fig. 1 that of an auto, it would be impossible to apply the yoke and clevis in position unless made as above stated, hence said clevis and yoke are made separate and so the yoke is fitted over the housing and said clevis is suspended from the beam 2. Then the eyes 7 and 10 are in register and so the bolt 8 is passed through said eyes whereby the clevis and yoke are connected and so they retain their positions.

When the device is to be removed the bolt 8 is driven out of the eyes and so the clevis and yoke are dismembered when they can be slipped from the housing and beam when the other members may be dismembered and removed.

12 designates a ring which is adapted to embrace the bent portion 1 of the housing, it being formed on the lower end of the shank 13 whose upper end is threaded and passed upwardly through the opening 3 of the beam, said end having fitted thereon the nut 14 which is seated on the washer 15, the latter resting on the upper side of the beam, the nut being readily accessible above the beam where it may be rotated and so raise the ring 12, as will be hereinafter further explained, it being seen that the ring 12 is suspended from the beam 2 on the outer end of the latter, and so opposite to the clevis 6.

The operation is as follows:—

The yoke 6 is placed around a straight or regular portion of the housing, and the leg 5 fitted on the upper side of said portion adjacent to said yoke, thus supporting the beam steadily in adjusted position on said portion and connecting the beam with the latter preventing the beam from rising at the clevis end and from lowering at the

leg end, and so the beam remains immovable.

The ring 12 is fitted on the bent portion of the housing when the nut 14 is rotated whereby it raises the shank 13 and consequently said ring. The latter thus exerts an upper draft or pull on the bent portion of the housing and so draws it upwardly to straightness, and consequently in a right line with the straight or regular portion of the housing in condition for further use. The nut 14, in tightening, imparts an axial motion to the beam owing to the leg 5 serving as a fulcrum, so a slight rocking motion will be imparted to the clevis 9, and this will turn on the bolt 8, avoiding shifting of the yoke 6 on the straight part of the housing.

In order to examine the bent portion of the housing, the interior of the same is looked through. To assist this operation I employ the head 16 which has centered in it the tubular barrel 17 as an eye piece, said head being screwed to the outer end of the bent portion 1, and said barrel entering the latter.

On the end of the straight or regular portion of the housing I place what I term the centering sight gage 18, this consisting of an elbow, the vertical limb 19 of which may be bridged centrally across the bore of said portion, while the horizontal limb 20 is rested on said portion, the elbow being provided with the handle 21.

Now the human eye is placed at the outer end of the barrel and the latter looked through, as is also the bore of the housing when if the gage appears to the eye, centered at the opposite end of the housing it proves that the bent portion of the housing is mechanically straight, but if not, the nut 14 is further operated to effect the complete straightening of the portion of the housing in question.

It is to be noted that the leg 5 is rigid with the beam in close proximity to the end of the shank 13, making the rest of the beam up to the clevis a long leverage for working the shank and ring.

When the bolt 8 is withdrawn the yoke is disconnected from the clevis and consequently from the housing and the beam. The nut is unscrewed and the ring released from its clamping action on the axle housing, and the leg 5 is removed from the latter, the device thus being displaced from the housing.

The device will be found serviceable for straightening the housings of float and other axles.

I claim—

In a device for straightening bent or irregular portions of axle housings, a beam having near one end a vertical opening, with a depending leg rigid with said beam adjacent said end, the beam having in its upper edge adjacent the other end a recess, said leg being adapted to bear against the housing and form a fulcrum, a yoke, a clevis supporting said yoke and having its crown received in said recess, a ring adapted to receive the axle housing and provided with a shank extended upwardly through the opening in the beam, and means on said shank engaging the upper face of the beam and adapted to draw said shank toward the beam.

DAVID CAMP.

Witnesses:
JOHN A. WIEDERSHEIM,
N. BUSSINGER.