No. 884,429. PATENTED APR. 14, 1908.

J. Q. TAYLOR.

AXLE STRAIGHTENER.

APPLICATION FILED SEPT. 27, 1907.

2 SHEETS—SHEET 1.

Fig. 1.

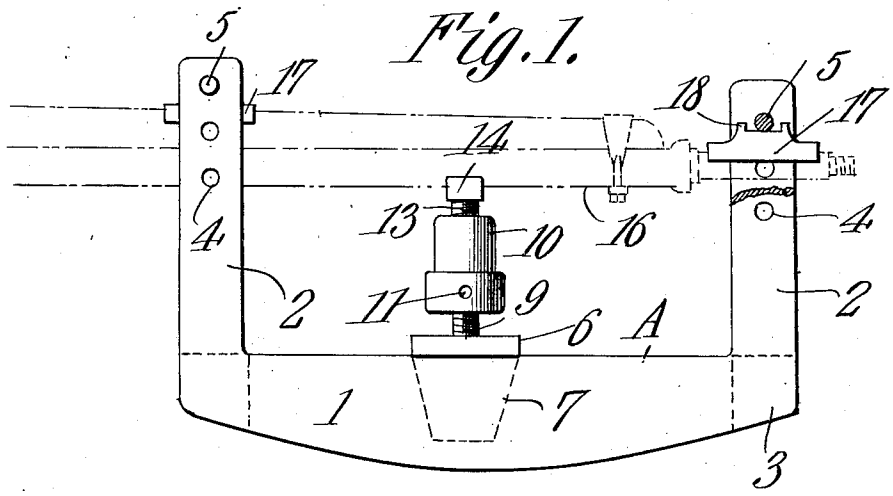
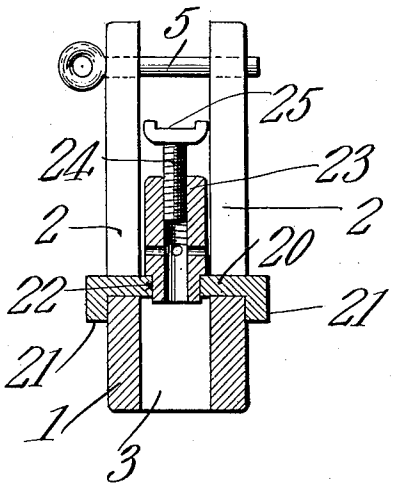


Fig. 3.



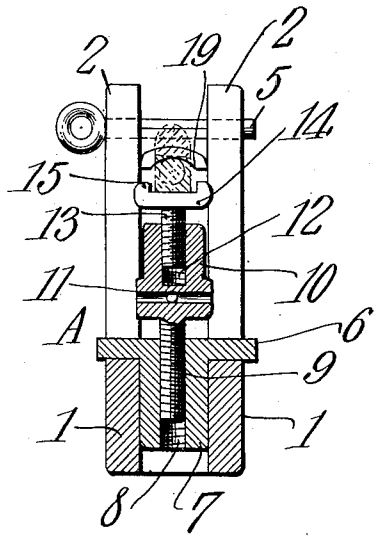


Fig. 2.

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2 SHEETS—SHEET 2.

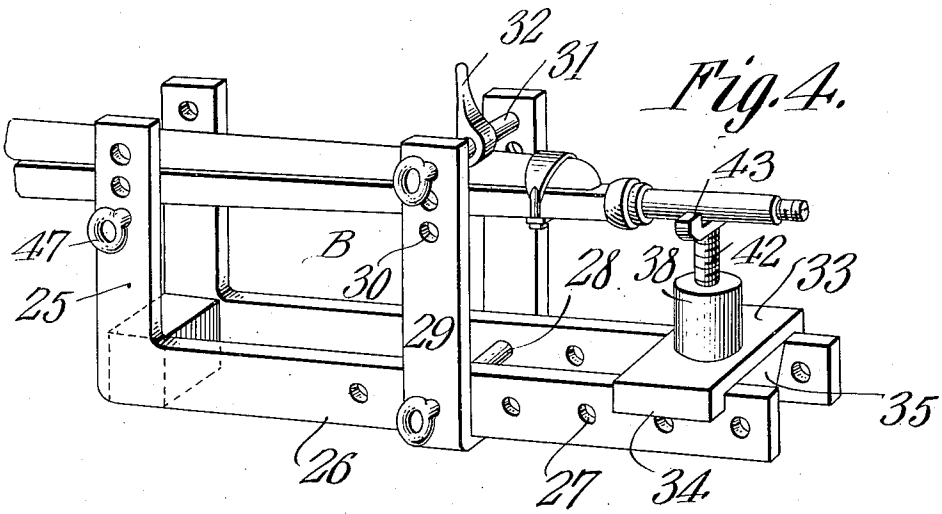


Fig. 4.

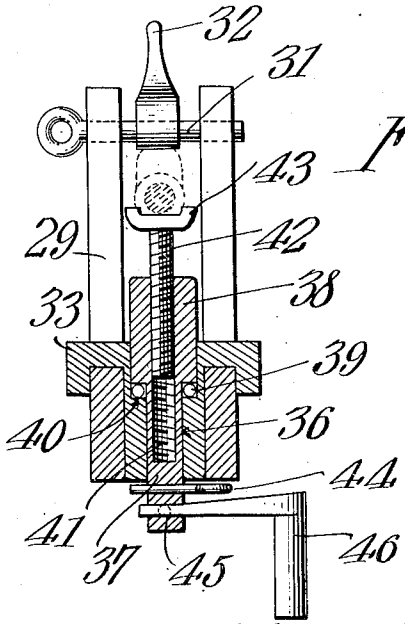


Fig. 5.

John Q. Taylor Inventor.

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UNITED STATES PATENT OFFICE.

JOHN QUINCY TAYLOR, OF COOPER, TEXAS.

AXLE-STRAIGHTENER.

No. 884,429. Specification of Letters Patent. Patented April 14, 1908.

Application filed September 27, 1907. Serial No. 394,920.

To all whom it may concern:

Be it known that I, JOHN QUINCY TAYLOR, a citizen of the United States, residing at Cooper, in the county of Delta and State of Texas, have invented a new and useful Axle-Straightener, of which the following is a specification.

This invention relates to devices for straightening axles and its object is to provide a simple and compact device of this character which can be readily placed in position and easily manipulated.

Another object is to provide a device of this character capable of straightening an axle at any point thereon, said device being adjustable so as to be equally effective when used in connection with axles of different kinds and sizes.

With these and other objects in view the invention consists of certain novel features of construction and combinations of parts which will be hereinafter more fully described and pointed out in the claims.

In the accompanying drawings is shown the preferred form of the invention.

In said drawings: Figure 1 is an elevation of the device, a portion thereof being shown in section and an axle within the device being indicated by dotted lines. Fig. 2 is a central transverse section through the parts shown in Fig. 1. Fig. 3 is a view similar to Fig. 2 and showing a modified form. Fig. 4 is a perspective view of a modified form of device the same being shown in position upon an axle. Fig. 5 is an enlarged transverse section therethrough, the axle being shown in dotted lines.

Referring to the figures by characters of reference, A designates a yoke-like body having cross bars 1, 1 constituting the base of the device, each of said bars being provided at both ends with arms 2, the arms of the two bars being spaced apart by means of corner blocks 3. If desired, the blocks, bars and arms can all be formed in a single casting. Each arm 2 has a series of apertures 4 for the reception of holding pins 5 designed to be removably placed therein.

Slidably mounted on the bars 1 is a bed plate 6 having an angular extension 7 projecting downward therefrom and movable between the bars 1. The extension and the plate have a screw threaded passage 8 extending through them and designed to receive a threaded stem 9 projecting downward from a head 10. This head is provided with radial openings 11 for the reception of a bar or other suitable means, not shown, whereby the head can be easily rotated. Within the upper portion of the head is a screw threaded recess 12 for the reception of a threaded stem 13 extending from a jaw 14 having flanges 15 along the side portions thereof designed to embrace an axle such as indicated at 16. The threads upon the stems 9 and 13 are oppositely pitched so that when the head 10 is rotated the jaw 14 will be quickly raised and the structure therefore constitutes an efficient jack.

In using the device saddles such as shown at 17 are placed upon the axle at opposite sides of the bend therein and the pins 5 are positioned above these saddles so as to constitute abutments for them. Each saddle has projections 18 designed to lap opposite portions of the pins 5 so as to prevent longitudinal displacement of the saddles. Moreover, each saddle has its lower face preferably concave as indicated at 19 in Fig. 2 so as to properly center upon the axle. After the device has been placed upon the axle in the manner described the plate 6 is adjusted along the bars 1 until the jaw 14 assumes a position directly under the bend in the axle. Head 10 is then rotated by inserting a bar or other device into the radial opening 11 and turning the head upon the threaded stems 9 and 13. Jaw 14 will therefore be forced upward against the bend in the axle with sufficient force to straighten the axle. By providing the saddles 17 increased bearing surfaces are presented to the axle where it is retained by pins 5 and therefore there is no danger of the axle becoming dented or otherwise marred during the straightening operation.

It is to be understood that in lieu of the straightening device shown in Figs. 1 and 2 the construction shown in Fig. 3 may be utilized. By referring to this figure it will be seen that the bed plate 20 has side flanges 21 which lap the bars 1 and constitute guides. An opening 22 is formed in the plate 20 and receives the reduced end of a tubular head 23 designed to be rotated in the same manner as the head 10. Head 23 has a threaded passage for the reception of a stem 24 extending from a jaw 25 similar to the jaw 14 hereinbefore described. This device is slower in operation than that shown in Figs. 1 and 2 because but a single stem is provided

for shifting the jaw 25 against the axle, whereas in the form shown in Figs. 1 and 2 the movement is multiplied by the provision of two oppositely threaded stems. It is of course to be understood that the pins 5 can be placed in any of the openings 4 best suited for the application of the device to the axle to be bent. The device will be found to be of great utility owing to its compact nature, its durability, and the ease with which it may be applied to axles of different forms and sizes.

Instead of constructing the device as shown in Figs. 1 to 3 the same may be constructed as shown in Figs. 4 and 5 wherein the body B is provided with arms 25 at one end only, the bars 26 constituting the base of the body being provided with series of openings 27 designed to receive a securing pin 28. This pin is disposed to be extended through a yoke 29 which embraces the bars 27 and the parallel arms of which have openings 30 designed to receive a pin 31 similar to the pins 5 and extending loosely through a cam 32. A bed plate 33 is slidably mounted upon the bars 26 and has side flanges 34 which lap said bars. An extension 35 projects downward from the bed plate and between the bars and has a counterbored opening 36 therein into which projects a stem 37 formed at one end of a head 38. Anti-friction devices such as balls 39 are interposed between the head 38 and the shoulder 40 formed within the extension 35. A threaded bore 41 is formed within the head and the stem 37 and projecting into this bore is a threaded stem 42 having a jaw 43 at its upper end disposed to engage the axle. A pin 44 extends through the stem 37 for the purpose of preventing its displacement. This stem also has a series of openings 45 designed to receive one end of a crank 46 whereby the stem 37 and head 38 can be readily rotated.

The device herein described can be used not only in the manner shown in Fig. 1 but also as shown in Fig. 4 wherein the yoke 29 is located between arms 25 and the jack. The parts are designed to be arranged in this manner when it is desired to bend the axle downward. The bend in the axle is placed directly under the pin 31 and a pin 47 is placed within arms 25 and below the axle. By turning head 38 in the manner described the opposite portion of the axle can be pushed upward and therefore said axle will be bent upon the pin 31. By providing a cam such as shown at 32 it is possible to take up any play which may occur between the axle and the pin 31 when, for example, the parts are arranged in the relative positions shown in Fig. 1. Importance is attached to the fact that the yoke 29 is adjustable along the base of the body so as to adapt the device to various conditions.

What is claimed is:

1. A device of the character described comprising spaced bars connected at one end and constituting the base of a body, said bars having integral spaced arms extending from the connected ends thereof, a yoke embracing and slidable upon the base, means for securing the yoke in adjusted position, separate means upon the arms and yoke for engaging an object to be bent, and a jack slidably mounted upon and projecting between and embracing the bars of the base.

2. The combination with spaced parallel angular bars connected at their angle portions and forming a base and arms; of a yoke embracing the base and slidable thereon, means extending through the yoke and base for locking the parts together, adjustable retaining devices carried by the arms and yoke, a cam carried by one of said devices, and a jack adjustably mounted on the base.

3. In a device of the character described the combination with a body having spaced arms for the reception of an object to be bent, and means adjustably mounted within the arms for retaining an object therebetween; of a bed plate adjustably mounted upon the body, an object engaging jaw, and revoluble screw threaded means interposed between the jaw and bed plate for directing said jaw toward or away from said object.

4. In a device of the character described the combination with a body having parallel arms at the ends thereof; of retaining pins adjustably mounted within the arms, saddles coöperating therewith and interposed between the arms, and a jack upon the body and adjustable toward the ends thereof.

5. A device of the character described comprising a body, arms at one end thereof, a yoke adjustably mounted upon the body, separate means upon the arms and yoke for engaging an axle, a jack adjustably mounted upon the body, and means carried by one of the axle engaging devices for taking up play between the axle and said device.

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

JOHN QUINCY TAYLOR.

Witnesses:
AUBREY T. STELL,
F. ENGEL.