

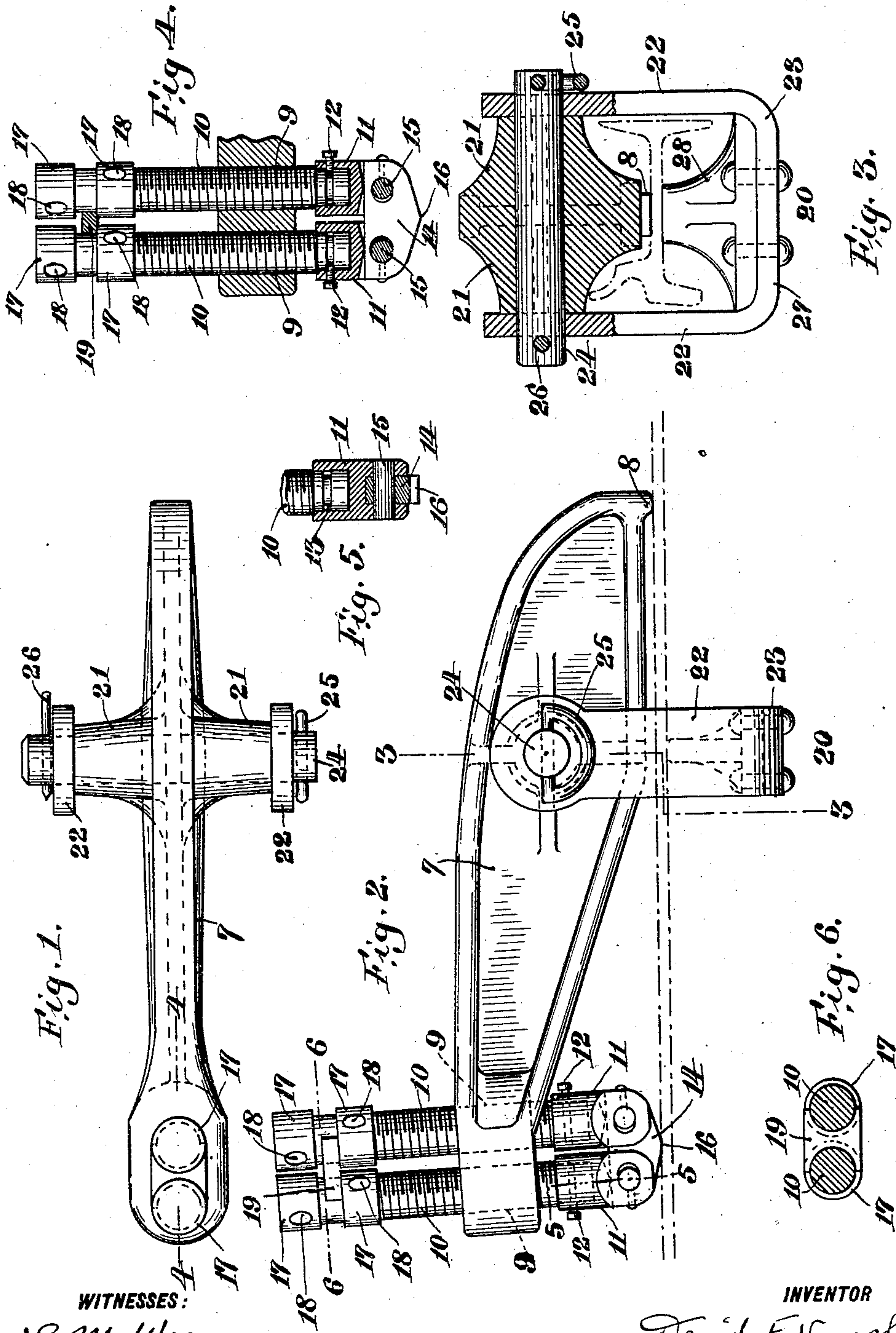
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JACK.

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944,706.

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WITNESSES:

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JACK.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, DAVID F. VAUGHAN, a citizen of the United States, and resident of Haddonfield, Camden county, State of New Jersey, have invented certain new and useful Improvements in Jacks, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

This invention relates to jacks, and especially, though not exclusively, to the class known as three-point jacks, adapted to be used for bending railway rails.

The object of the invention is to provide a jack wherein simplicity and lightness of construction are combined with ease and efficiency of operation, as will be hereinafter fully described and particularly claimed.

In the drawings:—Figure 1 is a plan view of my improved jack. Fig. 2 is a side elevation thereof, showing the jack applied to the web of a railway rail, the web of the rail being shown by dot-and-dash lines. Fig. 3 is a section on the line 3—3 of Fig. 2. Fig. 4 is a section on the line 4—4 of Fig. 1. Fig. 5 is a section on the line 5—5 of Fig. 2. Fig. 6 is a section on the line 6—6 of Fig. 2.

7 designates the main frame or support of the jack which may be of any shape and size for its intended purpose. In the present embodiment of my invention, this frame or support 7 is elongated, as shown, and is provided adjacent one of its ends with a bearing portion 8 and adjacent the other end with a pair of screw-threaded holes 9 through which extend a pair of shafts 10, which are screw-threaded and fitted to the screw-threads of the holes 9, whereby, when the shafts 10 are turned, they will be moved longitudinally through the holes 9.

The adjacent ends of the shafts 10 on one side of the support 7 are reduced, and fitted to the reduced ends of the shafts are collars 11. The collars 11 are provided with screws 12 which extend into grooves 13 in the reduced portions of the shafts 10, whereby the shafts 10 may turn with relation to the collars 11 and whereby the collars 11 are held in place upon the ends of the shafts 10. The collars 11 project from the ends of the shafts 10, and the projecting ends of the collars are bifurcated for the reception of the ends of a bearing member or lever 14 which extends between the axes of the shafts 10 and collars 11. The ends of the member are pivotally connected to the collars 11 by

transverse pins 15 secured to the member 14 and extending into slots in the bifurcated portions of the collars 11. The central portion of the bearing member or lever 14 projects in a direction away from the shafts 10, as at 16, to provide a bearing point or fulcrum for the lever as will be hereinafter explained.

Formed on or secured to each shaft 10 are two collars 17 which are arranged in spaced relation to each other, the two collars of one shaft being laterally adjacent the two collars of the other shaft. These collars 17 are each provided with a transverse hole 18 for the reception of a bar or other instrument by means of which the shafts 10 may be turned independently of each other to adjust them through the holes 9 of the support 7 for a purpose hereinafter explained.

In order to limit the longitudinal adjustment of one shaft 10 with relation to the other shaft 10, so that each shaft may only be adjusted a predetermined distance without adjusting the other shaft, I provide a plate or member 19 which extends between the shafts 10 and is arranged between two collars 17 of each shaft. This member 19 is carried by the shafts 10 and is held in place by the bifurcated ends of the member 19 embracing the shafts 10 as shown. The thickness of the member 19 is less than the distance between the collars 17 of each shaft 10. Thus it will be seen that one shaft 10 may be adjusted longitudinally through its opening 9 until one of its collars 17 engages the member 19; whereupon, the other shaft 10 may be similarly adjusted until one of its collars 17 engages the member 19, and so on. The shafts 10 may be alternately adjusted through their openings 9, the member 19 limiting the degree of adjustment of one shaft until the other shaft has been correspondingly adjusted, for a purpose hereinafter explained.

Projecting from the support 7 and connected thereto between the bearing portion 8 and the shafts 10, or bearing member 14, is a bearing part 20 as follows:—The support 7 is provided with laterally projecting bosses 21, adjacent the outer ends of which are arranged the ends of the side members 22 of a yoke 23, and extending through the ends of the side members 22, the bosses 21, and the support 7, is a shaft 24 by means of which the yoke 23 is pivotally connected to the support 7. One end of the shaft 24 is provided

with a suitable handle 25 adapted to engage the outer face of one side member 22; and the other end of which is provided with a transverse pin 26 extending through an opening in the shaft 24 and engaging the outer face of the other member 22. By removing the pin 26 and withdrawing the shaft 24, the yoke 23 may be removed from the support 7. The outer portion 27 of the yoke 23 connecting the side members 22 thereof is provided with a bearing part 28 which extends toward the support 7 between the side members 22 and in spaced relation thereto, and the support 7 extends from the bosses 21 toward the part 28 between the yoke side members 22, also in spaced relation to said members, thus providing a space within the yoke 23 having a contracted central portion for the reception of the web of a railway rail and enlarged end portions, one for the reception of the head and the other for the reception of the foot-flange of a railway rail, as shown by dot-and-dash lines in Fig. 3.

The operation is as follows:—When it is desired to bend a railway rail, the jack is applied to the rail, as shown by dot-and-dash lines in Figs. 2 and 3; that is to say, the bearing portion 8 and the bearing member 14 are engaged with one face of a rail web, and the bearing part 28 is engaged with the other face of the rail web between the points of engagement of the bearing portion 8 and bearing member 14. This may be done by passing the railway rail through the yoke 23 or by disconnecting the yoke 23 from the support 7 and after it has been passed around the railway rail, again connecting it with the support. After the jack has been applied to the rail as just described, the shafts 10 are turned to adjust them toward the rail in alternate succession, by introducing a suitable tool to the openings 18 in the collars 17, the member 19 limiting the adjustment of each shaft with relation to the other, as previously explained. During the adjustment of the shafts 10, the central projecting portion 16 of the member or lever 14 is forced against one side of one portion of the rail web, thus forcing this portion of the railway rail from the support 7 while the adjacent portion of the rail is held in fixed relation to the support 7 by the engagement therewith of the bearing parts 8 and 28. Thus the rail will be provided with a bend the extent of which will be determined by the degree of adjustment of the shafts 10. By employing a pair of screw-threaded shafts connected by a bearing lever or member which engages the rail centrally between the shafts and by adjusting the shafts alternately, I double the pressure against the rail that would be present if but a single shaft engaging the rail were employed, for the reason that

while one shaft 10 is being adjusted to exert pressure upon one end of the lever 14, the other end of the lever is held against movement by its connection with the other shaft 10, the centrally projecting part 16 of the lever acting as a fulcrum between its two connected ends.

While I have herein shown my invention in a desirable and practicable form, yet I desire it to be understood that I do not limit myself to this particular construction, as the same may be greatly modified without departing from the invention, and particularly with respect to the shape and size of the main frame or support, which may be designed to meet any varying requirements, and the contact points may be varied so as to contact with all or any portion of the side of the rail.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:—

1. The combination of a support, a pair of screw-threaded shafts having their screw-threads engaged with said support, a bearing member extending between the axes of said shafts, and connections between said shafts and bearing member permitting longitudinal adjustment of said shafts independently of each other.

2. The combination of a support, a pair of screw-threaded shafts having their screw-threads engaged with said support, a bearing member extending between the axes of said shafts, connections between said shafts and bearing member permitting longitudinal adjustment of said shafts independently of each other, and means for limiting the longitudinal adjustment of one shaft with relation to the other shaft.

3. The combination of a support, a pair of screw-threaded shafts having their screw-threads engaged with said support and each shaft being provided with two collars in spaced relation to each other, a member carried by said shafts and extending into the space between the two collars of each shaft, a bearing member extending between the axes of said shafts, and connections between said shafts and bearing member.

4. The combination of a support, a pair of screw-threaded shafts having their screw-threads engaged with said support, collars rotatably mounted on adjacent portions of said shafts, said collars being movable with said shafts independently of each other and a bearing member extending between said collars and connected thereto.

5. The combination of a support, a pair of screw-threaded shafts having their screw-threads engaged with said support, a bearing member extending between the axes of said shafts beyond the ends thereof, said member having a central portion projecting in a direction away from said shafts, and

connections between said shafts and bearing member.

6. The combination of a support, a pair of screw-threaded shafts having their screw-threads engaged with said support, collars rotatably mounted on adjacent portions of said shafts beyond the ends thereof, and a bearing member extending between said collars and connected thereto, said member having a central portion projecting in a direction away from said shafts.

7. The combination of an elongated support having a bearing portion adjacent one end and a pair of screw-threaded openings adjacent the other end, a pair of screw-threaded shafts having their threads engaged with the threads of said openings, a bearing member extending between the axes of said shafts, connections between said shafts and bearing member, and a bearing part extending from said support between said bearing portion and said bearing member.

8. The combination of an elongated support having a bearing portion adjacent one end and a pair of screw-threaded openings adjacent the other end, a pair of screw-threaded shafts having their threads engaged with the threads of said openings, a bearing member extending between the axes of said shafts, connections between said shafts and bearing member, a bearing part extending from said support between said bearing portion and said bearing member, and means for limiting the longitudinal adjustment of one shaft with relation to the other shaft.

9. The combination of an elongated support having a bearing portion adjacent one end and a pair of screw-threaded openings adjacent the other end, a pair of screw-threaded shafts having their threads engaged with the threads of said openings and each shaft being provided with two collars in spaced relation to each other, a member carried by said shafts and extending into the space between the two collars of each shaft, a bearing member extending between the

axes of said shafts, and connections between said shafts and bearing member.

10. The combination of an elongated support having a bearing portion adjacent one end and a pair of screw-threaded openings adjacent the other end, a pair of screw-threaded shafts having their threads engaged with the threads of said openings, collars rotatably mounted on adjacent portions of said shafts, a bearing member extending between said collars and connected thereto, and a bearing part extending from said support between said bearing portion and said bearing member.

11. The combination of an elongated support having a bearing portion adjacent one end and a pair of screw-threaded openings adjacent the other end, a pair of screw-threaded shafts having their threads engaged with the threads of said openings, a bearing member extending between the axes of said shafts, said member having a central portion projecting in a direction away from said shafts, connections between said shafts and bearing member, and a bearing part extending from said support between said bearing portion and said bearing member.

12. The combination of an elongated support having a bearing portion adjacent one end and a pair of screw-threaded openings adjacent the other end, a pair of screw-threaded shafts having their threads engaged with the threads of said openings, collars rotatably mounted on adjacent portions of said shafts, a bearing member extending between said collars and connected thereto, said member having a central portion projecting in a direction away from said shafts, and a bearing part extending from said support between said bearing portion and said bearing member.

In testimony whereof, I have hereunto affixed my signature.

DAVID F. VAUGHAN.

Witnesses:

S. I. HARPER,

WALTER C. PUSEY.