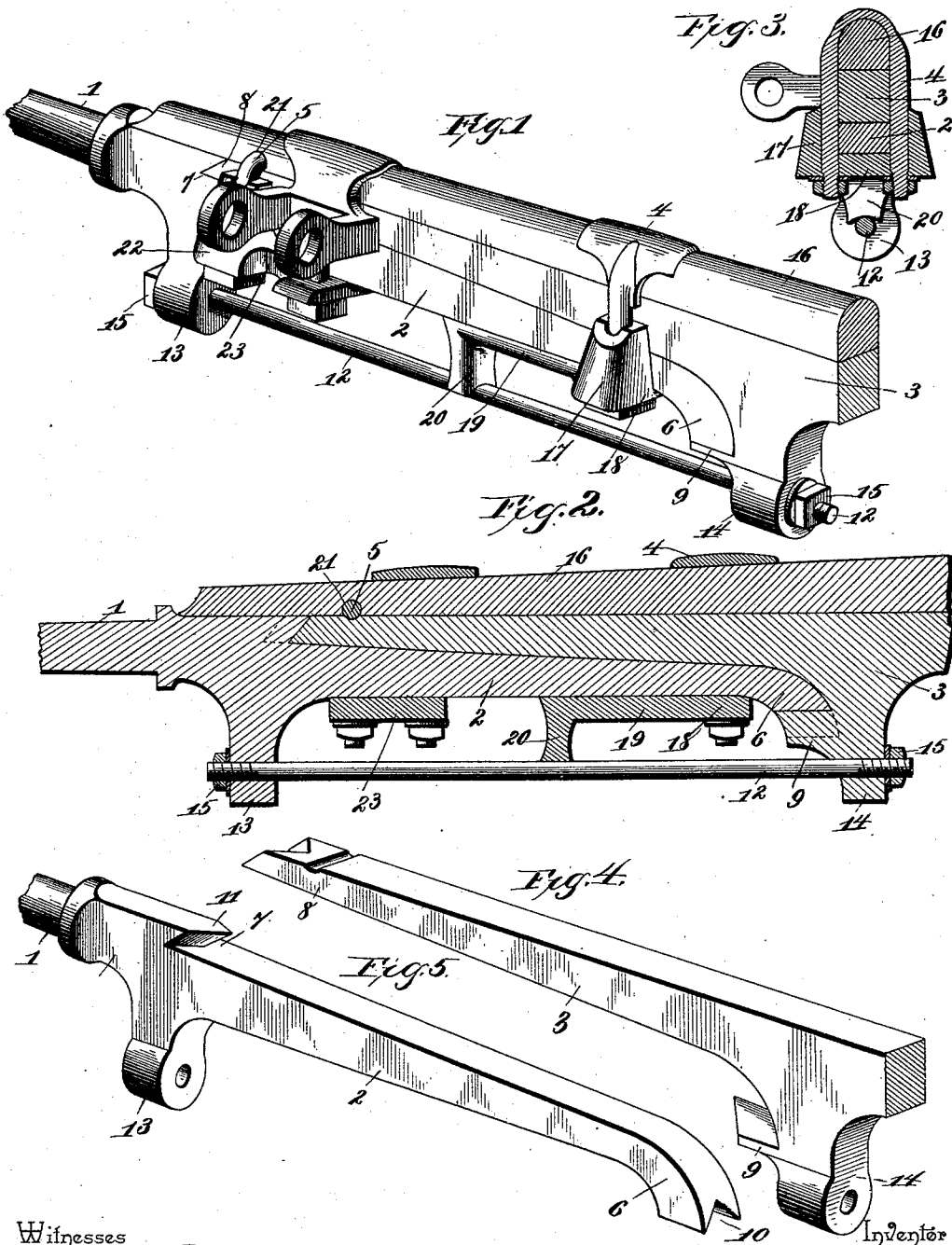


(No Model.)

W. M. RANKIN.
AXLE.

No. 472,587.

Patented Apr. 12, 1892.



Witnesses

E. C. Hardman
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By *his* Attorneys,

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UNITED STATES PATENT OFFICE.

WASHINGTON MARION RANKIN, OF LITTLE ROCK, ARKANSAS.

AXLE.

SPECIFICATION forming part of Letters Patent No. 472,587, dated April 12, 1892.

Application filed December 30, 1891. Serial No. 416,569. (No model.)

To all whom it may concern:

Be it known that I, WASHINGTON MARION RANKIN, a citizen of the United States, residing at Little Rock, in the county of Pulaski and State of Arkansas, have invented a new and useful Axle, of which the following is a specification.

The invention relates to improvements in axles.

The object of the present invention is to simplify and improve the means for securing an axle-spindle to the body of the axle and to enable a spindle when worn to be readily removed and a new part to be readily attached.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a perspective view of a portion of an axle constructed in accordance with this invention. Fig. 2 is a longitudinal sectional view. Fig. 3 is a transverse sectional view. Fig. 4 is a detail perspective view of an end of an axle-body. Fig. 5 is a similar view of the spindle-section of the axle.

Like numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates a spindle-section having an arm 2, which is detachably secured to the axle-body 3 by inner and outer clips 4 and 5, and forms with the body an axle, whereby when an axle-spindle section has become worn and is unfit for use it may be readily removed and a new part may be quickly attached without employing a skilled mechanic and without delay. The arm 2 has its end 6 curved downward, and it is provided on its upper face with an inclined shoulder forming a dovetailed recess 7 to receive the beveled end 8 of the axle-body. The outer portion of the axle-body 3 and the arm 2 lap, and the axle-body conforms to the configuration of the upper face of the arm 2. The end 6 of the arm 2 fits in a recess formed by a shoulder 9 of the axle-body, and it is provided with a V-shaped recess 10 to receive the shoulder 9, which is triangular in cross-section, to form a dovetail joint to prevent lateral movement of the

parts. The end 8 of the axle-body has a V-shaped recess to receive the oppositely-beveled shoulder 11. The spindle-section and axle-body are held against longitudinal movement by a tie-rod 12, which has its ends arranged in depending perforated lugs 13 and 14 and threaded and secured by nuts 15. The depending lug 13 of the spindle-section is arranged near the inner end of the spindle proper, and the lug 14 is arranged adjacent to the shoulder 9. The inner clip 4 secures the axle to an axle-bed 16 and has its sides arranged in socket portion 17 of a clip-plate 18, which is arranged on the lower face of the arm 2, and it is provided with an extension 19 and a strut 20, formed integral with the extension and arranged at the outer end thereof and interposed between the tie-rod and the arm 2. By this arrangement a truss is formed by the strut and the tie-rod and great strength is given to the parts. The outer clip is arranged in a groove 21 of the axle-bed and engages the upper face of the axle and clamps the latter and the arm without passing around the axle-bed. The sides of the clip are arranged in socket portions 22 of a clip-plate 23, which is provided with an extension to receive the sides of an axle-clip 24. The axle-clip 24 passes around the axle-bed and is provided with perforated ears to receive the coupling-bolt of a thill-coupling. (Not shown.) The lower face of the strut 20 is slightly concave and the tie-rod is designed to be slightly bowed, so that the parts may be strained up, as desired from time to time. It will be seen that the spindle-section may be readily attached to an axle-body and that after a spindle has become worn and is unfit for use it may be quickly removed and a new one may be supplied. The socket portions 17 of the clip-plate 18, which extend above the joint of the lapped portions, add strength to the structure and prevent lateral movement of the parts.

What I claim is—

1. The combination of an axle-body, a spindle-section having an arm extending along the body, a tie-rod arranged beneath and extending longitudinally of and connecting the arm and the body, and a clip clamping the arm to the body and provided with a strut interposed between the body and the tie-rod, substantially as described.

2. The combination of an axle-body having a depending perforated lug, a spindle-section having an arm extending longitudinally of the body and provided with a depending lug, 5 a clip clamping the arm to the body, and a tie-rod extending longitudinally of the body and secured to said lugs, substantially as described.

3. The combination of an axle-body provided near its end with a shoulder 9 triangular in cross-section and forming a recess, said axle-body being provided at its end with a V-shaped recess, a spindle-section having an arm conforming to the axle-body and provided with a shoulder 11, having oppositely-beveled sides and fitting in the recess at the end of the axle-body, said arm having its end 6 provided with a V-shaped recess to receive the shoulder of the axle-body, and means for 20 securing the arm to the axle-body, substantially as described.

4. The combination of an axle-body, a spindle-section having an arm extending longi-

tudinally of the body, a tie-rod connecting the spindle-section and the body, an inner clip 25 having a clip-plate provided with an extension and with a strut arranged at the outer end of the extension and interposed between the arm and the tie-rod, an outer clip having a clip-plate provided with an extension, and 30 an axle-clip having its sides secured to the extension of the outer clip, substantially as described.

5. The axle-body having a perforated lug, the spindle-section having an arm extending 35 along beneath the axle-body and interlocked therewith at the ends and provided with a perforated lug, and a tie-rod connecting the lugs together, substantially as described.

In testimony that I claim the foregoing as 40 my own I have hereto affixed my signature in the presence of two witnesses.

WASHINGTON MARION RANKIN.

Witnesses:

W. H. RANKIN,
F. F. SMITH.