

(No Model.)

J. HERBY.
AXLE.

No. 483,444.

Patented Sept. 27, 1892.

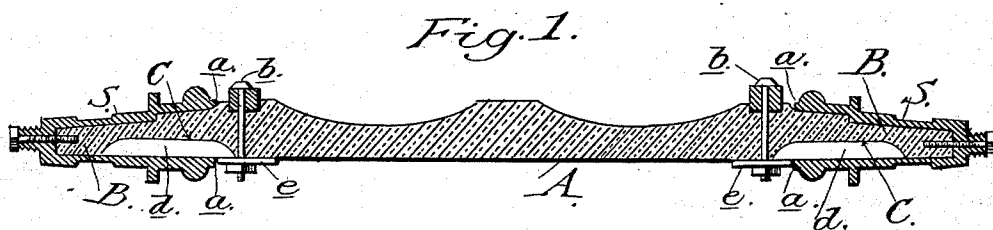


Fig. 2.

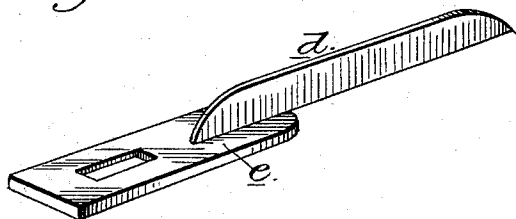
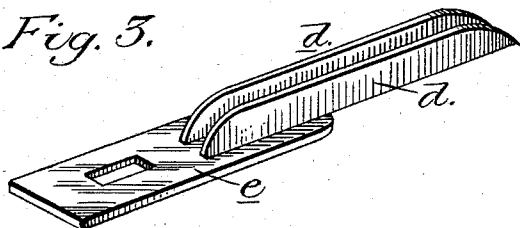


Fig. 3.



Witnesses;

Thomas Rout Jr.
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Inventor;

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his atty.

UNITED STATES PATENT OFFICE.

JOHN HERBY, OF JAMESTOWN, NEW YORK.

AXLE.

SPECIFICATION forming part of Letters Patent No. 483,444, dated September 27, 1892.

Application filed January 2, 1892. Serial No. 416,829. (No model.)

To all whom it may concern:

Be it known that I, JOHN HERBY, a citizen of the United States, residing at Jamestown, in the county of Chautauqua and State of New York, have invented certain new and useful Improvements in Axles; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Figure 1 is a longitudinal sectional view of an axle having my invention applied. Fig. 2 is a perspective view of the attachment or strengthening-plate removed. Fig. 3 is a modification of the form of attachment or plate shown in Fig. 2.

My invention relates to axles generally, and particularly to that class where the axles are made of wood and have metal skeins; and my invention consists of an axle having a narrow and deep groove formed in the under surface near each end and extending from a point near the base of the spindles and along said spindles and terminating short of the outer ends of the same; and my invention also consists of attachments or plates having vertical flanges adapted to be seated on edge in the grooves of the axle and horizontal flanges extending under the body of the axle and secured thereto, all of which I shall hereinafter fully describe and claim.

Referring to the accompanying drawings for a more complete explanation of my invention, A represents a wooden axle of the usual form, having the spindles B, upon which the metal skeins S are passed and secured. Commencing at points at or about where the inner ends or shoulders *a* of the skeins engage the wood body portion of the axle, I make grooves C, which extend outwardly along the under side of the spindles and terminate short of their outer ends. These grooves are narrow but deep, and may be simply saw-kerfs with their upper end walls curved or rounded.

To the under portion of the axle just inside of the skeins and immediately below the hounds and secured in position by the bolts *b*, which secure the hounds to the axle, are my attachments or strengthening-plates, one being placed near each end of the axle to strengthen and brace it at the point about

the shoulders of the metallic skeins when the latter are in place. These attachments or plates D are practically **L**-shaped in cross-section, each being formed with a thin vertical flange *d*, adapted to fit the groove or saw-kerf in the axle, and a horizontal flange *e*, adapted to be secured directly to the bottom of the axle by the nuts which secure the hounds, as before stated. The flange *d* being vertical, or, in other words, standing on edge, snugly fits the grooves or saw-kerfs and effectually strengthens and braces the axle at the points recognized to be weakest, while the attachments or plates require no special fitting and are secured in place by the bolts usually employed in the securing of the hounds. Being mere attachments and extending but a short distance along the axle, they may be cheaply made and readily removed or replaced, and when in position with their flanges *d* on the edge, as shown, they constitute a brace which greatly increases the strength of the axle.

The strengthening-plate or attachment shown in Fig. 1 has its vertical flange rising from the middle line of the plate; but this is not absolutely essential, nor do I limit myself to the use of but a single vertical flange, because in Fig. 2 the plate has two vertical flanges and one horizontal flange, and this latter plate may be substituted for the one shown in Fig. 1, in which case two grooves or kerfs, instead of one, are made in each end of the axle.

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

1. The combination of an axle having grooves formed in its body near the ends and extending from points near the bases of the spindles toward the outer ends of said spindles, but terminating short of said ends, and independent plates secured to the axle and having vertical flanges fitting said grooves, whereby the axle is strengthened, substantially as herein described.

2. The combination of an axle having deep narrow grooves formed in its under sides between the bases of the spindles and points inside of the outer ends of said spindles and independent plates having horizontal flanges by which they are secured to the axle and

vertical flanges adapted to enter said grooves edgewise, thereby strengthening said axle, substantially as herein described.

3. An axle having grooves formed therein
5 and extending from points near the bases of the spindles toward the outer ends thereof, but terminating short of said ends, in combination with independent plates secured to the axle near said bases, having outwardly-extending flanges adapted to enter said grooves
10 edgewise, substantially as and for the purpose herein described.

4. An axle having grooves formed therein and extending from points near the bases of

the spindles to points near the outer ends 15 thereof and having their upper end walls curved, in combination with independent plates having horizontal portions by which they are fitted to the axle and vertical flanges adapted to enter said grooves and provided 20 with rounded or curved ends, substantially as herein described.

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

JOHN HERBY.

Witnesses:

STEPEN L. RICE,
JAMES COOPER.