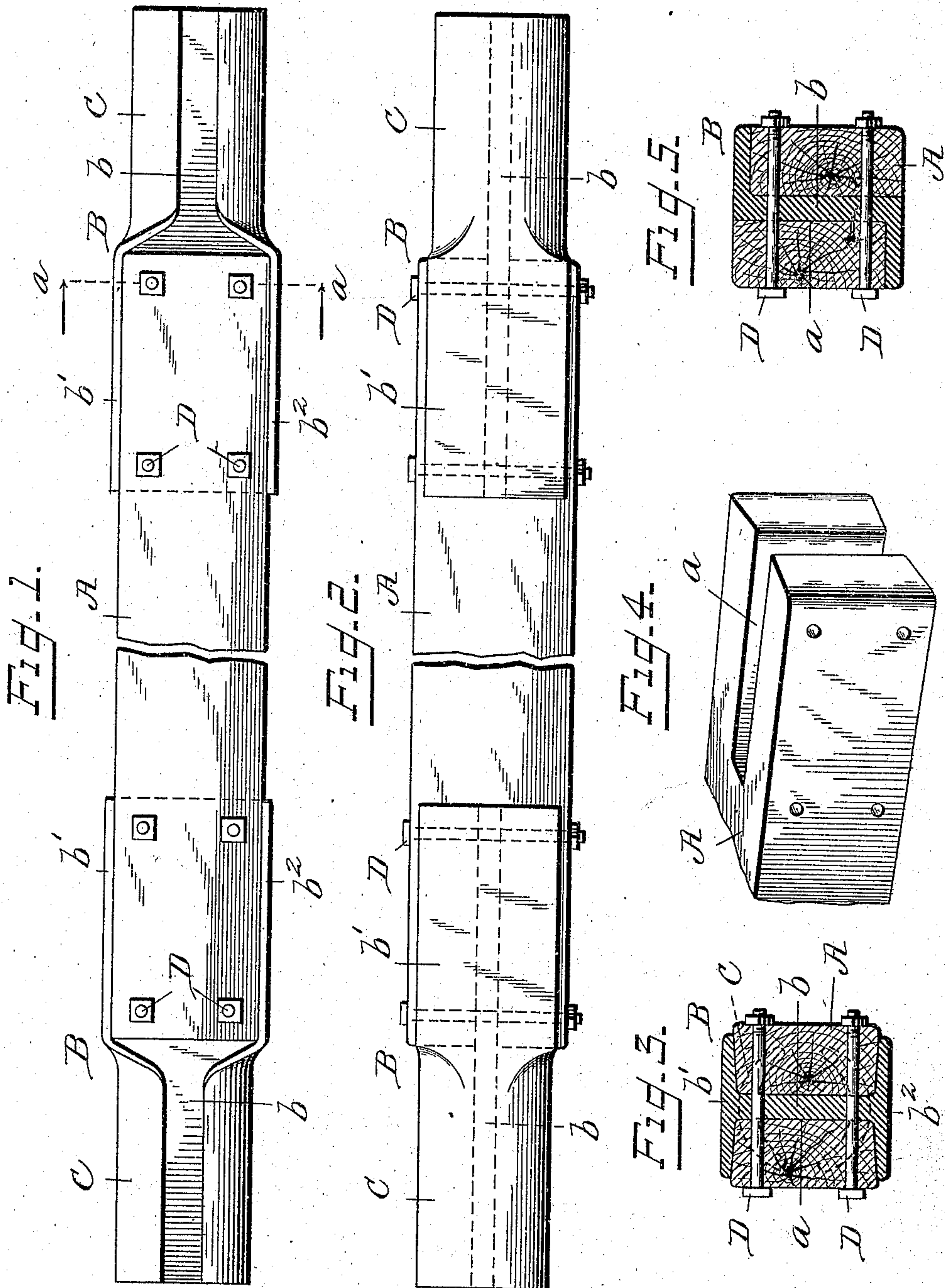


No. 815,583.

PATENTED MAR. 20, 1906.

E. EINFELDT.
AXLE.

APPLICATION FILED OCT. 30, 1905.



WITNESSES

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EMIL EINFELDT, OF DAVENPORT, IOWA, ASSIGNOR TO BETTENDORF
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AXLE.

No. 815,583.

Specification of Letters Patent.

Patented March 20, 1906.

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To all whom it may concern:

Be it known that I, EMIL EINFELDT, of Davenport, county of Scott, and State of Iowa, have invented a new and useful Improvement in Axles, of which the following is a specification.

This invention relates to the construction of axles; and the invention comprehends a composite axle in which the main body portion is of wood and the bearing-spindles of metal and formed from sections of flanged metallic bars, the flanges of which are shaped to present rounded bearing-surfaces or wheel-spindles.

The invention resides in the manner of uniting the parts, the end of the wooden body portion being slotted to embrace the web of the flanged section, and the said body portion being suitably formed at its slotted end to fit closely between the flanges of said section, bolts being passed through the slotted portion of the body and through the web of the flanged section and serving to hold the parts firmly together in a single rigid structure.

In the accompanying drawings, Figure 1 is a side elevation of an axle constructed in accordance with my invention. Fig. 2 is a top plan view of the same. Fig. 3 is a vertical transverse section on the line *a a* of Fig. 1. Fig. 4 is a perspective view of one end of the body portion of the axle with the flanged section removed. Fig. 5 is a sectional view of a modification of my invention.

Referring to the drawings, my improved axle consists of a main body portion A, of wood, and wheel-spindles B, of metal, which spindles are firmly fixed to the ends of the wooden body portion. The wheel-spindles are each formed from a short length or section of flanged bar, preferably commercial I-beam, comprising a central web *b* and longitudinal flanges *b'* and *b''*, projecting laterally from the upper and lower edges of the web. The flanges for a portion of their length are curved inward toward each other, forming a rounded bearing-spindle C, while for the remainder of their length they extend straight and present on opposite sides of the web open channels. The end of the wooden body portion of the axle is formed with a central open slot *a*, which embraces the web of the flanged section, and the slotted end of the wooden bar is formed and shaped so that it will snugly

and completely fill the open channels between the flanges of the metallic section; the upper and lower edges of the body A extending along the inner faces of the flanges and the inner walls of the slot in said body extending at the sides of the web *b*, as clearly shown in Fig. 3.

The parts are held firmly and fixedly together by means of fastening-bolts D, in the present instance four in number, extending through the slotted end of the wooden body and through the web *b* of the flanged section.

The flat flanges of the end section of the axle by bearing, respectively, against the upper and lower edges of the wooden body portion afford a strong and effective support for the spindles and prevent the same from sagging or shifting out of a true position in line with the longitudinal center of the axle-body.

Instead of employing an I-beam section for the wheel-spindles they may be formed from a section of flanged bar of L form in cross-section, as shown in Fig. 5. This would necessitate no change in the form of the slotted end of the wooden body portion of the axle or the manner of connecting the same with the flanged sections. In this construction the upper flange at one side of the metallic section will bear on the upper edge of the axle-body at one side, while the lower flange at the opposite side of the metallic section will bear against the under side of the axle-body, with the result that the flanged section will be given firm and rigid support and will be prevented, as in the first instance described, from being shifted out of position.

The employment of my invention in connection with the manufacture of axles will enable a wheel-bearing of large diameter to be obtained with a minimum amount of material, a saving being effected both in the length of the wooden body of the axle and in its thickness.

Having thus described my invention, what I claim is—

1.. In an axle, the combination with a main body portion, of an end section provided with longitudinal flanges and a connecting-web, and shaped to constitute a wheel-spindle, the end of the body portion being seated against and secured to the web of the end section, with the flanges of the latter bearing along the edges of the body portion.

2. An axle comprising a main body por-

tion having its end slotted, and an end section having longitudinal flanges and a connecting-web, the said web being seated and secured in the slot in the body portion, with
5 the ends of the latter fitting between the longitudinal flanges of the end section.

3. In an axle and in combination with an end section shaped at its extremity to form a wheel-spindle and formed in its sides with
10 open longitudinal channels, a main body portion having its ends shaped to fit in said channels, and means for fastening said parts rigidly together.

4. A composite axle comprising a main

wooden body portion and metallic flanged
end sections shaped at their outer extremities
to constitute wheel-spindles, the flanges of
said end sections bearing against the edges of
the body portion, and suitable fastening de-
vices for securing said end sections fixedly to
the body portion. 20

In testimony whereof I hereunto set my hand, this 18th day of October, 1905, in the presence of two attesting witnesses.

EMIL EINFELDT.

Witnesses:

M. LOUISE DODGE,
LEON ZOECKLER.