

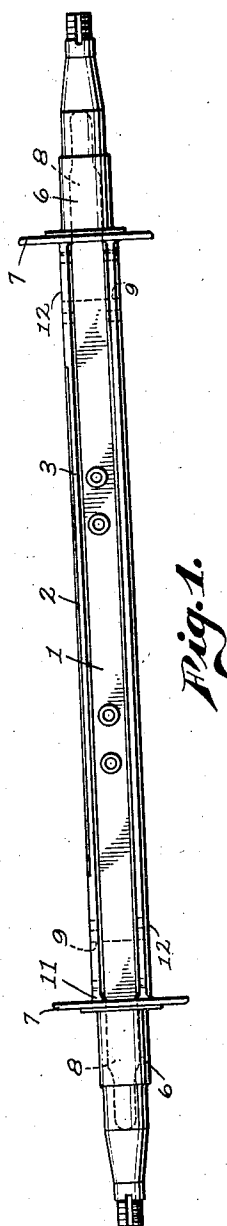
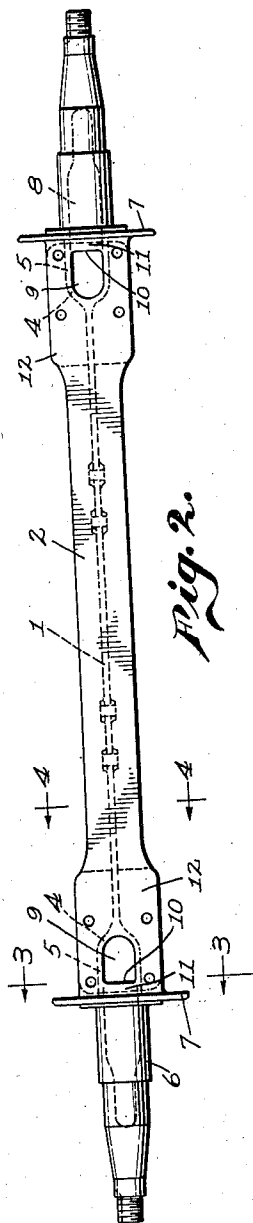
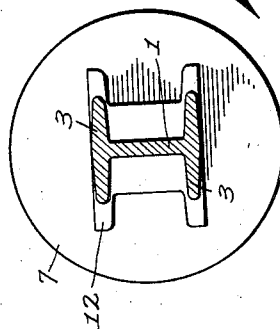
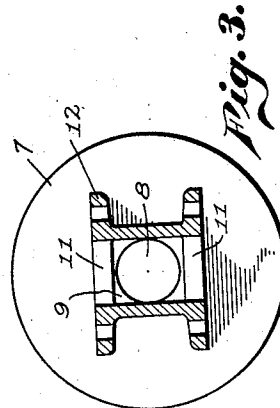
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AXLE

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AXLE

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6 Claims. (Cl. 301-124)

This invention relates to axles, and particularly to the axles of automobile trucks. Axles of this type usually have a body with a cross-section combining great strength with light weight. In the present instance the invention is disclosed as applied to an axle having substantially the form of the letter I. At each end of the body a spindle is formed integral with the body.

One of the objects of the invention is to provide an improved construction for the axle at the point where it connects with the spindle.

The spindles are usually of tubular form, and the axles are usually formed of cast metal such as cast steel. One of the objects of the invention is to provide a construction for the axle, which will have a form giving it great strength at the point of connection to the spindle, and which has a form that enables the axle to be readily cast; and also to provide a construction that will facilitate the support of the cores for the tubular spindles when the mold for the axle is being prepared.

A further object of the invention is to provide a form for the axle at the junction point of the body and the spindles, that will enable a substantially uniform thickness to be maintained for the metal walls so as to insure uniform cooling of the casting, and reducing the development of internal stresses to a minimum.

Further objects of the invention will appear hereinafter.

The invention consists in the novel parts and combination of parts to be described hereinafter all of which contribute to produce an efficient axle.

A preferred embodiment of the invention is described in the following specification, while the broad scope of the invention is pointed out in the appended claims.

In the drawing:

Figure 1 is a side elevation of an axle embodying my invention.

Fig. 2 is a plan of the axle illustrated in Fig. 1.

Fig. 3 is a vertical cross-section on the line 3-3 of Fig. 2, but upon an enlarged scale.

Fig. 4 is a cross-section upon the same scale as Fig. 3, and taken on the line 4-4 of Fig. 2.

The axle illustrated is of substantially I cross-section, that is to say, it has a substantially vertical web 1 that extends throughout the length of the body 2 of the axle, said web uniting integrally at its edges to flanges 3 that extend horizontally from the web.

In applying my invention to such an axle, I form the web at each end with a plurality of in-

tegral branches, preferably two branches 4 that diverge and form a V terminating in two forks 5, (see Fig. 2).

The forks 5 unite integrally with a tubular arm or spindle 6 at the end of the axle, and at the junction point a collar 7 is located. For a considerable portion of its length the spindle is hollow, that is to say, it is tubular, being formed with a bore 8 cored in the same.

The axle is most conveniently cast on its side, and in order to facilitate supporting the cores for the spindles, I prefer to form the axle flanges 3 with an opening 9 that passes vertically through the axle between the forks, and this opening communicates with the bore 8 of the spindle. The outer edge 10 of the opening 9 at each flange, is located a short distance from the inner face of the collar 7, so that two horizontal ribs 11 are formed that stiffen the collar on its inner side.

In preparing to cast the axle, the pattern would be formed with core prints corresponding to the opening 9, and these core prints being located on the sides of the axle to be cast, will form recesses in the mold to support a core. This core would form the opening 9 and also the core or bore 8 of the spindle. The use of this opening 9 facilitates the supporting of the core for the spindle. The width of the flanges 2 adjacent the collars is somewhat increased so that an expanded head 12 is formed where the body 2 unites to the collar.

It will be evident that axles embodying my invention provide considerable strength at the junction of the body with the spindles, and furthermore, they can very readily be cast and the thickness of the metal wall at the head 12 is substantially the same as throughout the body 2, which insures that the cast axle will cool uniformly. This will avoid the developing of internal stresses.

It is understood that the embodiment of the invention described herein is only one of the many embodiments this invention may take, and I do not wish to be limited in the practice of the invention, nor in the claims, to the particular embodiment set forth.

What I claim is:

1. An axle having a body with a longitudinal web, a spindle at the end of the body, said web having integral forks at its end integrally united to said spindle, the plane of said forks being substantially parallel with said web.

2. An axle having a body with a longitudinal web with flanges extending along the edges of the

web, a spindle at the end of the body, said web having branches forming a pair of integral forks integrally connecting to the inner end of the spindle, the plane of said forks being substantially parallel with said web.

3. An axle having a body with a longitudinal web with flanges extending along the edges of the web, a tubular spindle at the end of the body, said web having branches forming a pair of integral forks integrally connecting to the inner end of the spindle, said body having an opening in the same between the said forks communicating with the bore of the tubular spindle.

4. An axle having a body with a longitudinal web and having flanges extending longitudinally along the edges of the web, a collar at the end of the body, said web having forks branching off therefrom, each fork lying in a plane substantially parallel with the web, and integrally connecting to said collar, and a spindle beyond the collar and integral therewith.

5. An axle having a body with a longitudinal

web and having flanges extending longitudinally along the edges of the web, a collar at the end of the body, said web having forks branching off therefrom and integrally connecting to said collar, and a spindle beyond the collar and integral therewith, said spindle having a bore therein extending inwardly and said forks having an opening extending through the body between the same and communicating with said bore.

6. An axle having a body with a longitudinal vertical web and having a longitudinal substantially horizontal flange at each edge of the web, a collar adjacent the end of the body integrally connecting with the flanges, said web branching into a pair of integral forks adjacent to the collar and integrally connecting to the collar, said body having a transverse opening between said forks; and a spindle beyond the collar integral with the same and having a bore communicating with said transverse opening.

LLOYD D. KAY.