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H. HIGGIN.

REACH FOR VEHICLES.

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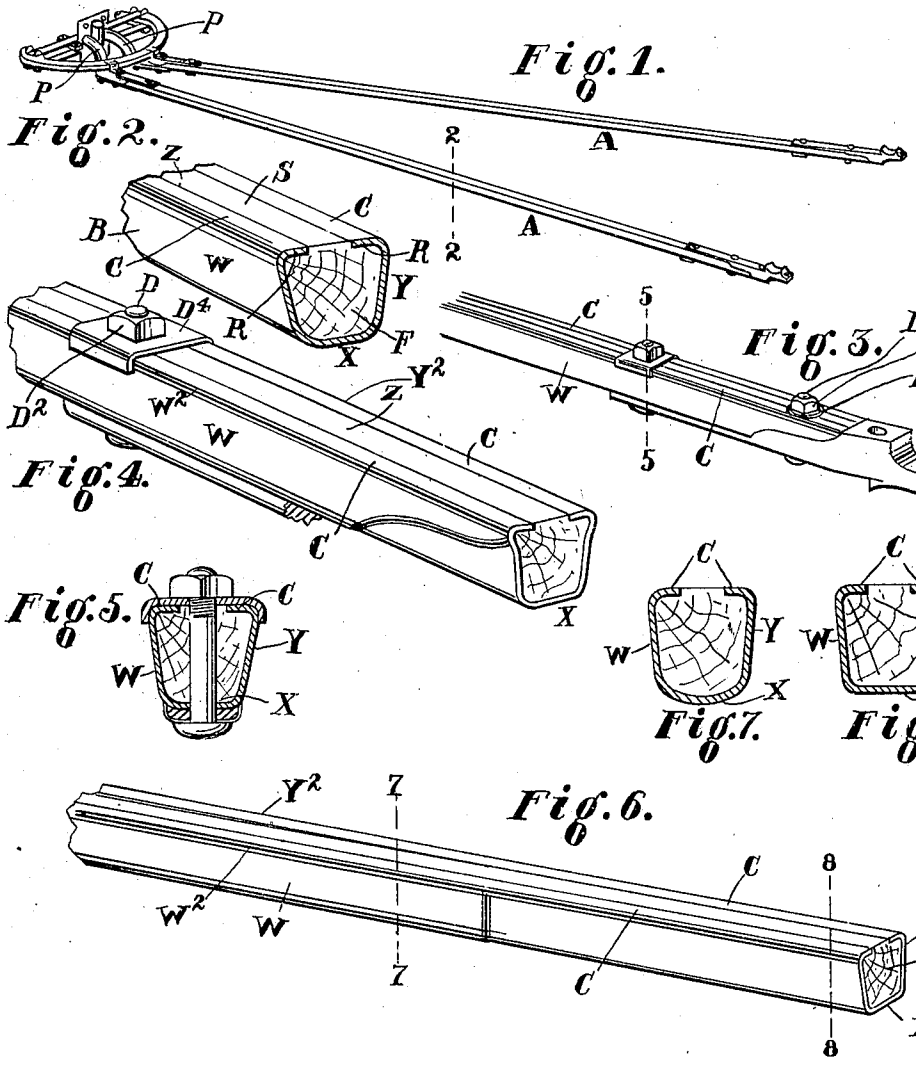


Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

Fig. 7.

Fig. 8.

Fig. 6.

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REACH FOR VEHICLES.

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To all whom it may concern:

Be it known that I, HENRY HIGGIN, a citizen of the United States, and a resident of the city of Newport, in the county of Campbell and State of Kentucky, have invented certain new and useful Improvements in Perches and Reaches for Road-Vehicles, of which the following is a specification.

The several features of my invention and the various advantages resulting from their use conjointly or otherwise will be apparent from the following description and claims.

In the accompanying drawings making a part of this application, and in which similar letters of reference indicate corresponding parts,—Figure 1 is a view in perspective of a road vehicle gear illustrating certain features of my invention. Fig. 2 is a vertical cross section of either of the two perches shown in Fig. 1; said section being taken at any point along the perch between the points where the end portions are changed in shape to interfit with the end irons. For definiteness of reference, the section may be considered to be taken in the plane of the dotted line 2, 2, of Fig. 1. The observer should note not only that Fig. 2 is on a scale enlarged over that of Fig. 1, but that in Fig. 2 the perch is shown as upside down, and the figure shows a bottom plan. Fig. 3 shows a perspective view enlarged of that end portion of the perch and its heel connection, which is shown at the right hand in Fig. 1. In this Fig. 3, the bottom side of the perch is uppermost. Fig. 4 is an enlarged perspective view, and presented to show the formation of the perch heel where it is in connection with the metal part which completes the connection between the perch and the rear axle, or axle pillow. Fig. 5 is a vertical transverse section taken in the plane of the dotted line 5, 5, of Fig. 3. Fig. 6 is a perspective view of that end portion of the perch which is connected to the headblock or fifth wheel of the vehicle. Fig. 7 is a vertical transverse section taken in the plane of the dotted line 7, 7, of Fig. 6. Fig. 8 is a vertical transverse section taken in the plane of the dotted line 8, 8, of Fig. 6. It should be noted that in Figs. 4, 5, 6, 7 and 8, the bottom of the reach is shown as uppermost, for the purpose of better illustrating the constructions respectively therein shown.

In the construction of the reach, the metal is preferably in the first instance a blank piece of flat metal which can be bent to the subsequent shapes demanded by my invention, without being broken, and without having its strength impaired by the bending or compression of it, as hereinafter specified. I employ in combination with this metal, a core or filler of wood. This wood is preferably a tough wood which is elastic and will bend without being broken. This wood is also preferably straight grained and of one piece for the entire length of the reach. Upon this wooden center piece or filler, I bend the metal sheet B, so as not merely to inclose it on three sides, viz.: on the sides W, X and Y, but also so that this metal sheet shall at least extend onto the side Z of the filler for a distance from each of the edges W^2, Y^2.

In my preferred and most useful construction, I construct the perch or reach A so that the outer surface of the metal shall be flush with the outer surface S of the wood at the side Z. I accomplish this in either one of two ways. One method is by cutting down the wood of the top Z on each side, thereby leaving recesses R, R. The bent edges C, C, of the metal are forced into these recesses. Another method is by bending the edges of the metal over and down upon the wood, and then by pressure forcing them down and compressing the wood beneath them. In some perches of wood (where a drop reach or perch is present), the perch is bent up and goes directly into the headblock. In such cases, the perch itself takes the place of the iron extensions P, P, shown in Fig. 1. When desired, my improved perch may be bent up and be continued to the headblock, in which event the extensions P, P, are omitted. It is desirable to compress and shape the perch at the front end for its connections with extensions P, P, and where the perch is to be bent up and take the place of the extensions P, P, substantially as shown in Fig. 1, it is also desirable to compress and shape the front end portions of the perches therefor. It is also desirable to shape by compression the perch substantially as shown to adapt it to fit the connections of it to the rear axle. I accomplish such requisite compressions after the wood is in the filler and the metal has been bent upon and around the wood and to place as heretofore specified, by next compressing the entire structure at the places of it which are to receive the desired new conformation, into the shape of said

new conformation. I have found that the wood will successfully sustain such compression, and that the metal will retain the shape into which it is compressed. The advantages of this construction are obviously many. Among these advantages may be noted:—First.—Great strength together with lightness of weight are conferred upon the reach. The perch will sustain a very great weight transversely, horizontally and vertically. The perch will endure a great torsional strain. Under each and all of these strains to which road vehicles are ordinarily subject, the perch will, when relieved from the strain, return to its first, that is, its original position.

Whenever as in my preferred construction, on the side Z, the surface S of the filler between the flanges C, C, of the perch is flush with the outer surface of the metal flanges C, C, the washers D^3 rest equally on the flanges and the surface S, and press equally on the metal and the wooden portions of the perch, when the nut D^2 of the bolt D with which they are respectively used, is tightened upon the perch. The compression is there equilateral, and therefore obviously for this reason an advantageous one. The same advantages for the clip D^4, employed with a bolt D, and nut D^2 are present, when the surface S of the wood and the surfaces of these metal flanges C, C, are in the same plane.

Wherever in the foregoing description and in the claims the word perch occurs without the word reach, it is to be understood as including the term reach.

What I claim as new, and of my invention and desire to secure by Letters Patent, is:—

1. A perch composed of a metal plate bent to form a three sided tube and having its fourth side partially closed by flanges, bent from the sides of the tube, leaving an open slit, and a wooden filler in said tube, said filler having a ridge thereon, fitting in said slit, substantially as described.

2. A perch composed of a metal plate bent to form a three-sided tube and having its fourth side partially closed by flanges bent inwardly from the sides of said tube and a wooden filler in said tube having a ridge thereon fitting between said flanges, said flanges and ridge forming a flat surface, substantially as described.

3. A perch composed of a metal plate bent to form a three sided tube and having flanges bent inwardly from its sides, leaving a slit, a wooden filler in said tube, having a ridge fitting in said slit, the end portions of said perch, including both the wood and metal portions, being compressed and bent, substantially as described.

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Attest:
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