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E. I. DODDS.

STEEL SIDE STAKE FOR CARS.

APPLICATION FILED JUNE 18, 1904. RENEWED JUNE 16, 1905.

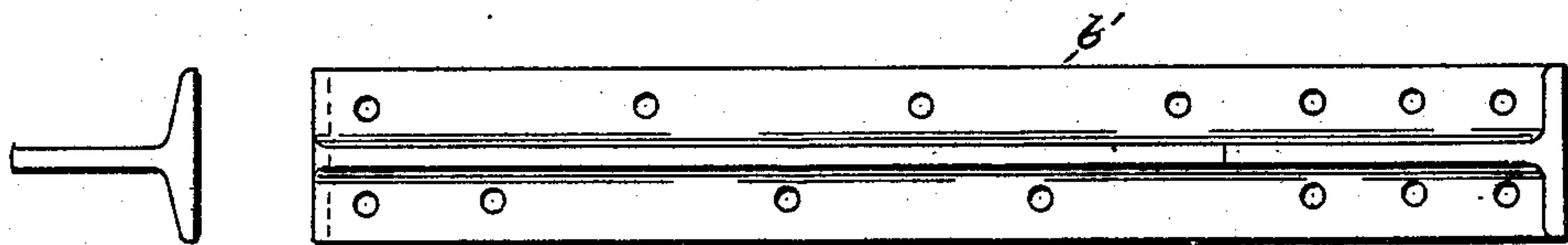
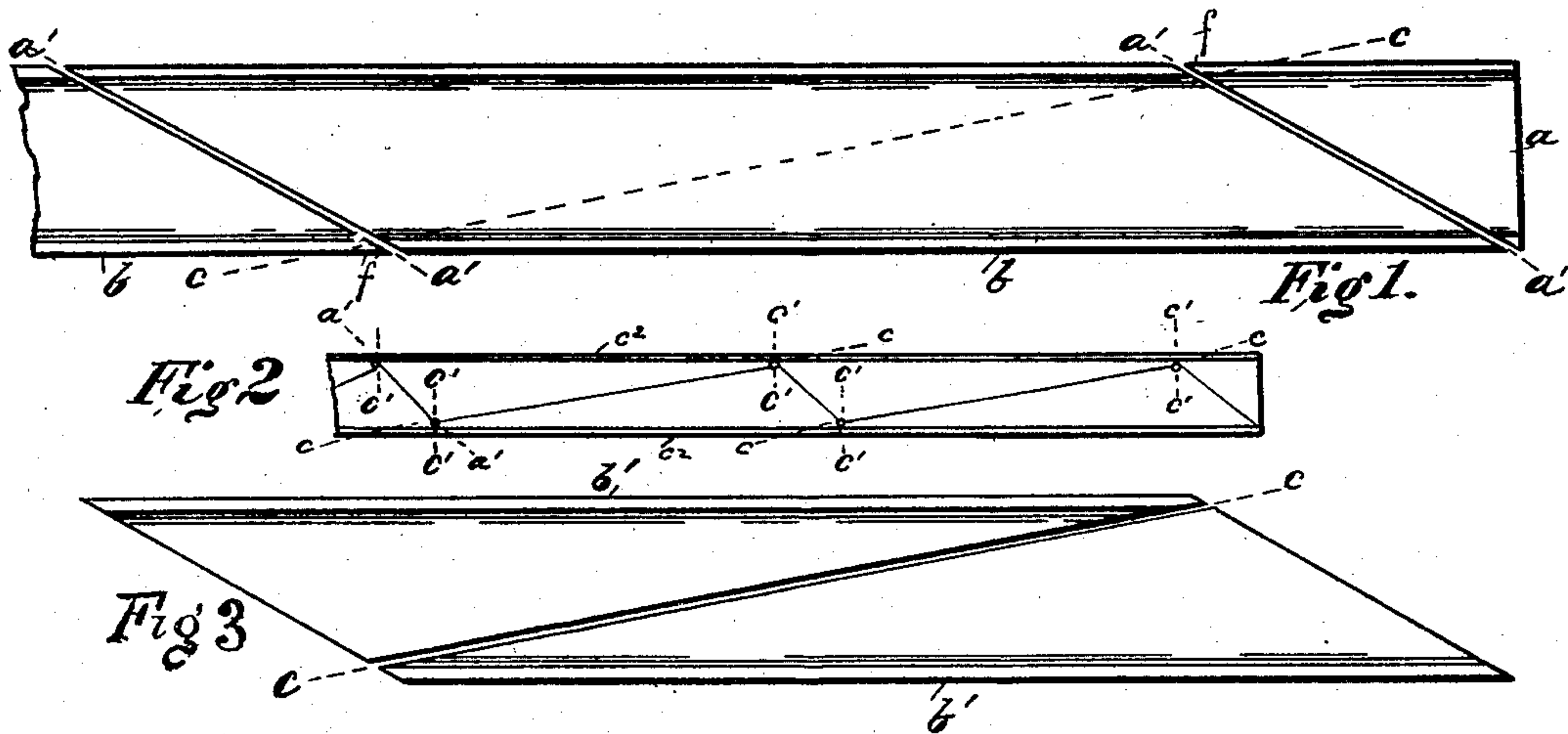


Fig. 4.

Fig. 5.

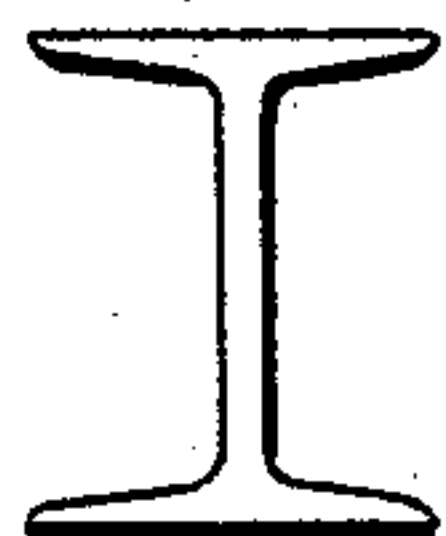


Fig. 6. Fig. 7.

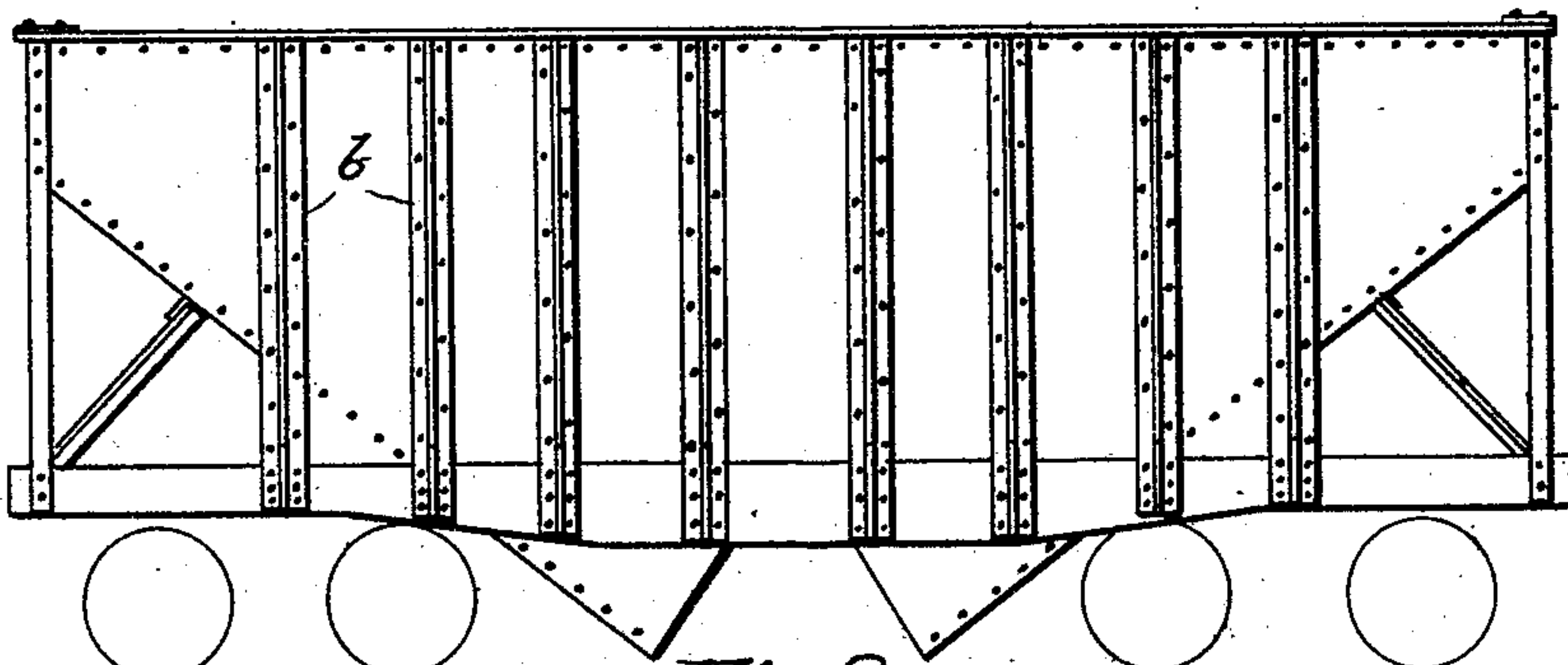
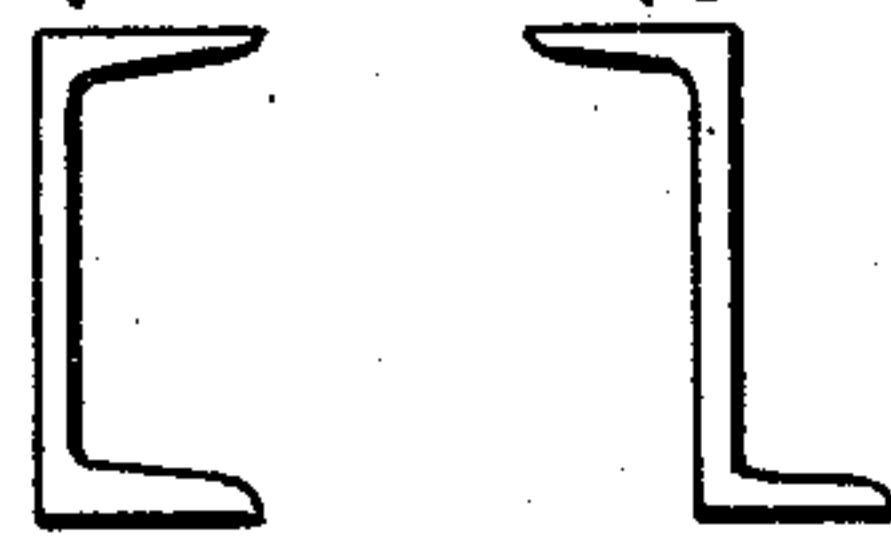


Fig. 8.

WITNESSES:

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STEEL SIDE STAKE FOR CARS.

No. 842,868.

Specification of Letters Patent.

Patented Feb. 5, 1907.

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To all whom it may concern:

Be it known that I, ETHAN I. DODDS, a citizen of the United States, residing at Avalon, in the county of Allegheny, in the State of Pennsylvania, have made a new and useful Improvement in Steel Side Stakes for Cars, of which the following is a specification.

My present invention relates to an economical method of forming side or end stakes for steel or wooden cars, the stakes being produced by cutting through the flanges and webs of rolled beams of channel, I, or Z cross-section. By adopting the method of manufacture described herein it becomes unnecessary to provide means for making side or end stakes as an independent or separate manufacture, it being only necessary to make use of well-known existing forms of steel bars or beams, from which stakes can be manufactured with little or no waste or scrap.

In the manufacture of side or end stakes for cars it is desirable to provide structures having adequate strength and the smallest possible amount of material consistent with great strength. I find that by making side or end stakes with suitable flanges for attachment to the various sections of the car side and constituting these side or end stakes in such a manner as to make the web portions flare from the top toward the bottom a structure fully adequate for the purpose is provided, the same being quite as strong as side or end stakes in which the web or projecting blade is of uniform depth or height throughout the entire length of the stake. This is true even when the uniform depth or height is equal to the maximum depth or height of the web or blade portion of the side or end stake forming the subject of the present invention. Starting from this consideration I have devised a method of making side or end stakes with flaring webs or blades, which method is fully illustrated in the drawings herewith, wherein—

Figure 1 is a side elevation of a rolled I-beam, illustrating the cuttings which I propose to make. Fig. 2 is a reduced side elevation of a similar beam, illustrating how a number of side or end stakes can be made from a single beam. Fig. 3 is a side elevation of a similar beam, showing two side or end stakes after the cutting has been accomplished. Fig. 4 is a plan view of a side or end stake. Figs. 5, 6, and 7 are end views of

rolled beams of different shapes, and Fig. 8 is a side elevation of a steel car having my side or end stakes applied thereto.

In Fig. 1 of the drawings is shown a side elevation of a rolled I-beam having a bias cut $a' a'$ through its web and flanges. At one end of the beam a piece of scrap a will be formed, as shown. At the proper distance a parallel cut (also indicated by the characters $a' a'$) is made, and in this way a section of the I-beam is formed having the outline indicated by the central portion of Fig. 1—that is to say, the portion between the two parallel cuts (indicated by the characters $a' a'$). In order to form the said section into pieces suitable for side or end stakes, a cut (indicated by the broken line $c c$) is made, and this cut is caused to intersect the other cuttings already described at points just inside the flanges of the I-beam. In this way a small piece of scrap is left at each acute end of the cuttings, as indicated in Fig. 1 at $f f$.

When a beam of considerable length is chosen, it may be cut up into a number of side stakes, depending on the length of the beam and the length selected for the side or end stakes.

In Fig. 2 I illustrate an I-beam having several cuttings sufficient to sever the beam into four complete side or end stakes. In this figure I also show cuttings $c' c'$, extending through the flanges $c^2 c^2$, whereby the scrap (indicated at $f f$ in Fig. 1) is done away with. In this case the cutting $a' a'$ does not extend through the flanges, but only through the web and to the near sides of the flanges, at which latter points it connects with the cuttings $c' c'$ running through the flanges.

In Fig. 4 is represented a plan view of one of the side stakes b' complete.

The invention may be applied to rolled beams of other shapes than that illustrated in Fig. 1—as, for example, channel or Z bars—and the side or end stakes when made may be applied to steel cars of various types or to cars having wooden bodies.

I claim as my invention—

1. The method of manufacturing side or end stakes for railway-cars from a beam having flanges at its opposite edges which consists in severing said beam into parts by cuts intersecting each other substantially in the planes of the inner surfaces of said flanges, substantially as described.

2. The method of making side or end
stakes for railway-cars from a beam having
flanges at its opposite edges which consists in
severing said beam into parts by cuts extend-
5 ing through said flanges and intersecting
each other substantially in the planes of the
inner surfaces of said flanges, substantially as
described.

3. The method of manufacturing side or
10 end stakes for railway-cars from a beam hav-
ing flanges at its opposite edges which con-

sists in cutting through said flanges at suit-
able points and dividing the web of said beam
by cuts which intersect each other substan-
tially in the planes of the inner surfaces of 15
said flanges at the points where the latter are
cut through, substantially as described.

ETHAN I. DODDS.

Witnesses:

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THOMAS WEISING.