G. G. FLOYD.

BRAKE HANGER PIN CONSTRUCTION FOR CAR TRUCK SIDE FRAMES.

APPLICATION FILED APR. 12, 1909.

940,865. Patented Nov. 23, 1909.

Fig. 1.

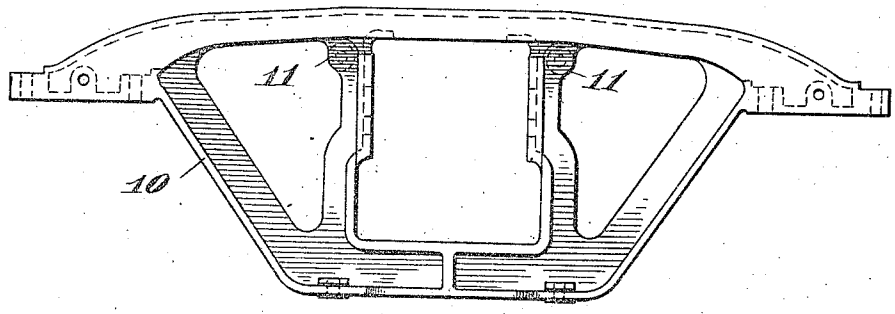


Fig. 2.

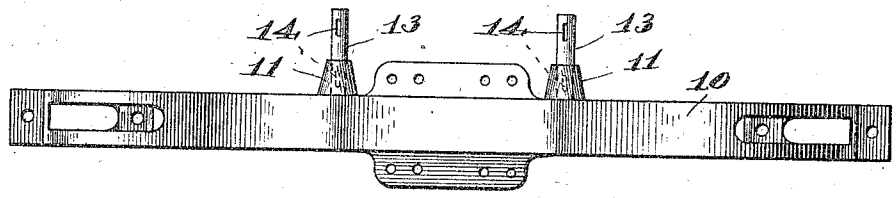
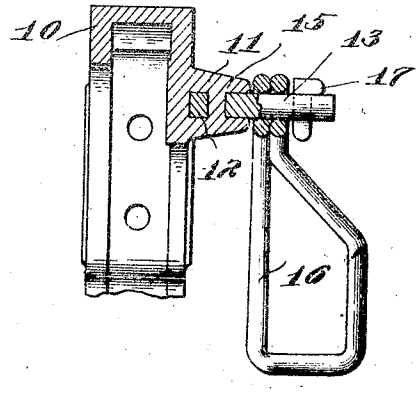


Fig. 3.

Fig. 4.



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UNITED STATES PATENT OFFICE.

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BRAKE-HANGER-PIN CONSTRUCTION FOR CAR-TRUCK SIDE FRAMES.

940,865. Specification of Letters Patent. Patented Nov. 23, 1909.

Original application filed March 22, 1907, Serial No. 363,822. Divided and this application filed April 12, 1909. Serial No. 489,316.

To all whom it may concern:

Be it known that I, GEORGE G. FLOYD, of Granite City, county of Madison, and State of Illinois, have invented certain new and useful Improvements in Brake-Hanger-Pin Construction for Car-Truck Side Frames, of which the following is a specification.

My invention relates to an improved form of support on a railway car-truck side-frame for a brake-hanger and the means for securing such support to the side-frame proper. For this support or sustaining member I preferably use a pin or short rod having an aperture or hole therethrough near each end, such holes being equidistant from the ends of the pin to facilitate the production of the completed structure, as is hereinafter indicated.

Inasmuch as some of the advantages of this improved construction reside in the ease and facility of its production, I will indicate herein to some extent the method of manufacture. The pattern of the side-frame has two apertures or recesses in bosses on its inner face, the recesses corresponding in size and shape of cross-section to the section of the pins. One of such pins or rods is inserted in each of the pattern recesses, and the combined or united pattern and pins are used as a pattern to form the mold cavity in the sand, it being understood that this invention has particular reference to cast-metal side-frames such as cast-steel. The pattern proper is then removed or withdrawn from the sand, leaving the pins partially embedded therein and partially projecting into the mold cavity or opening. The recesses of the pattern are sufficiently deep so that the aperture at one end of each pin will be in the mold cavity in the sand after the pattern has been withdrawn. Then the molten metal is poured into the mold, and, as is obvious, it flows about the pins and partially or wholly fills the holes thereof, whereby when the casting cools and hardens the pins are partially and firmly embedded or anchored in the casting. By placing the holes in the pins at equal distances from the adjacent ends it is immaterial which end is inserted in the aperture or recess of the pattern, so that the foundryman is free to insert either end he pleases, and it is impossible for him to make a mistake in this regard. It is to be understood that each pin is inserted the full depth of the recess in the pattern in order that the length of pin projecting from the pattern or casting may be fixed and predetermined. The purpose of the hole through the pin near its free end is to accommodate a split pin or cotter to maintain the brake-hanger in proper place on its protruding support.

A car-truck side-frame having the characteristics and made in the manner indicated effectively performs the functions for which it is employed, and the brake-hanger supporting means thereof are produced at a minimum of expense and without likelihood of the foundryman making any error or mistake therein.

I have illustrated the preferred form or embodiment of my invention in the accompanying sheet of drawings, and throughout the various views thereof like reference characters refer to the same parts.

Figure 1 is a side elevation of a cast-metal railway car-truck side-frame equipped with my improved brake-hanger supporting means; Fig. 2 is a top plan view of the structure shown in Fig. 1; Fig. 3 is a perspective view of one of the brake-hanger pins illustrated on an enlarged scale; and Fig. 4 is a vertical transverse section through the top portion of the side-frame and one of the bosses equipped with one of the pins mentioned.

As will be readily understood by those skilled in this art, the pattern of the truck side-frame will necessarily be substantially, or in general appearance, like the side-frame proper 10 illustrated in Fig. 1, and that such pattern will have projecting laterally from its inner surface a pair of bosses corresponding to the side-frame bosses 11, illustrated perhaps most clearly in Figs. 2 and 4 of the drawings. Each of such pattern bosses will have a central circular recess or aperture corresponding to the recesses 12 of the bosses of the side-frame.

Before the wooden pattern is placed in the sand to form the mold cavity, a metallic pin 13, like or similar to that shown in perspective in Fig. 3, is inserted in each of the boss recesses 12 of the pattern so that the end of the pin rests on the bottom or rear wall thereof, the portion of the pin projecting from the pattern being of the desired length and being determined by the depth

of the boss cavity. As is indicated in Fig. 3, each brake-hanger supporting-pin 13 has an aperture 14 extended laterally therethrough near each end, these holes being at equal distances from the adjacent ends of the pin, for the purpose indicated above. After the pair of pins or supporting rods 13 have been inserted in such pattern recesses the combined side-frame pattern and pins are used as a single or unitary pattern to form the mold cavity. Subsequently the pattern only of the side-frame is withdrawn from the sand, leaving the projecting portions of the pin 13 imbedded in the sand, and leaving those parts of the pins which were previously in the recesses of the pattern projecting into the mold cavity. The depth of the boss recesses of the pattern is such that the hole 14 in the inserted end of each pin is wholly within the boss. The mold is now ready for the pouring of the molten metal, and after the cavity in the sand has been filled and the metal cooled and hardened, it will be found that during the casting operation the hot metal flowed into the holes 14 of the cylindrical pins within the mold cavity so as to form the strips of uniting or anchoring metal 15, which act to securely and firmly hold the ends of the pins in the side-frame. The manner in which the brake-hangers 16 are supported on these apertured pins 13 is clearly illustrated in Fig. 4, the upper end of each hanger having holes in which the pin 13 is intended and is adapted to fit. A flat split or cotter-pin 17 or similar means is passed through the outer hole 14 of each pin, so as to securely but detachably maintain each hanger on its support.

With a construction of this kind it will be readily apparent that the hanger 16 may be readily removed from the side-frame by merely sliding it sidewise and without any tilting, which is an advantage at once obvious to those skilled in this art.

Owing to the fact the transverse holes or apertures 14 of the pins 13 are equally distant from the ends of the pin, no care need be exercised to determine which end should be placed in the boss recess of the pattern, and for this reason it is impossible for the foundryman to make a mistake. Also, the foundryman makes no error regarding the extent to which the pin should project from the pattern, since the pin is always inserted sufficiently to strike the bottom of the boss recess. In some cases it may be desirable to vary the amount of projection of such pins from the ends of the bosses even when the same wooden pattern is used, and to achieve this result, after employing longer or shorter pins washers or fillers may be removably held in the bottom of the pattern boss recesses in any approved manner.

To those skilled in this art it will be apparent that minor mechanical changes may be made in the structure herein shown and described and in the manner of anchoring the pins in the side-frames without departure from the heart and essence of this invention, and without the sacrifice of any of its benefits and advantages.

This application is a division of my former application Serial No. 363,822, filed March 22, 1907.

I claim:

1. The combination of a cast-metal truck side-frame and a brake-hanger pin having an aperture near each end, one end of said pin being embedded in said side-frame and having a portion of the metal thereof in said aperture whereby said pin is firmly anchored in said frame, substantially as described.

2. The combination of a cast-metal truck side-frame and a brake-hanger pin having an aperture near each end, said apertures being equidistant from said ends, one end of said pin being embedded in said side-frame and having a portion of the metal thereof in one of said apertures whereby said pin is firmly anchored in said frame, substantially as described.

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