G. H. KAISER.

SCALE.

APPLICATION FILED JAN. 18, 1919.

1,316,043. Patented Sept. 16, 1919.

Fig. 1.

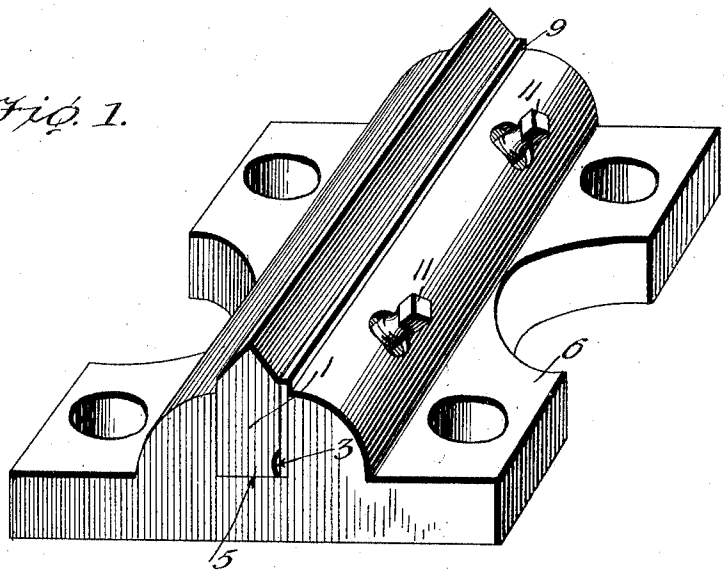


Fig. 3.

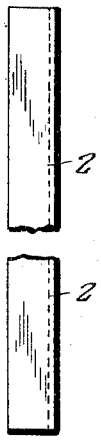


Fig. 5.

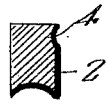


Fig. 6

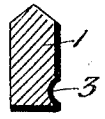


Fig. 4.

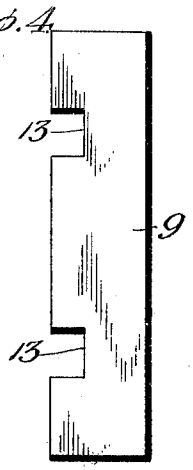
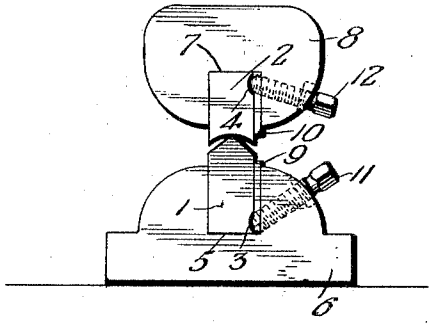


Fig. 2.



WITNESSES

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SCALE.

1,316,043. Specification of Letters Patent. Patented Sept. 16, 1919.

Application filed January 18, 1919. Serial No. 271,851.

To all whom it may concern:

Be it known that I, GEORGE H. KAISER, a citizen of the United States, and a resident of Portland, in the county of Multnomah and State of Oregon, have invented certain new and useful Improvements in Scales, of which the following is a specification.

My invention relates to scales of that character used on railroads, having removable pivots and bearings, and the present invention is an improvement over my prior Patent No. 1,207,410, the special object of the present invention being to provide a means for holding the pivots and bearings firmly in place, but in such manner that they may be removed when desired.

In the drawings:

Figure 1 is a perspective view of a pivot and its adjustable holder;

Fig. 2 is an end view of the pivot and bearing in place in their holders;

Fig. 3 is a top plan view of a bearing;

Fig. 4 is a front view of an insert;

Fig. 5 is a transverse vertical section through a bearing;

Fig. 6 is a transverse vertical section through a pivot.

In my prior patent the removable pivots and bearings were held in holders in such manner that the pivots might be detached for sharpening when necessary, while the bearings might be similarly detached for any purpose.

In the said construction the holders were provided with channels, in which the pivots and bearings were inserted, and the pivots and bearings had longitudinally extending grooves in their side walls at the level of the tops of the side walls of the channel, into which the said side walls might be upset or swayed to firmly secure the pivots and the bearings to the holders.

This method is to a certain extent objectionable, since the holders are made of steel or malleable iron and are liable to be injured by the upsetting or swaging above referred to.

In the present invention the swaging or upsetting of the side walls of the holder is dispensed with, both pivot and bearing being fixed in the grooves or channels of the holders by the swaging of an insert, to be later described, but in such manner that they may be easily detached when necessary.

Referring to the drawings, both pivot 1 and bearing 2, which are of tool or pivot steel, have upon one face and near that edge which engages the bottom of the channel in the holder a longitudinally extending groove 3 and 4, respectively. The pivot 1 is held in the channel 5 of a holder 6, while the bearing 2 is held in the channel 7 of a holder 8.

The channels are of somewhat greater width than the thickness of the pivot or bearing, and between that wall of pivot or bearing provided with the groove 3 or 4, as the case may be, and the adjacent wall of the channel, there is an insert 9 and 10, respectively, of mild steel or soft iron, the said insert being of sufficient thickness to fill the space and of a depth slightly greater than that of the channel, so that the upper edge of the insert will extend above the holder.

Each holder 6 and 8 has openings inclining inwardly and downwardly toward the bottom of the channel in one side wall of the channel, and through these openings are threaded set screws 11 and 12, the set screws 11 being connected with the holder 6, while the set screws 12 are connected with the holder 8, the set screws engaging the bottoms of the grooves 3 and 4, as clearly shown in Fig. 2.

Each insert, as shown for the pivot insert 9 in Fig. 4, has notches 13 on its lower edge, the said notches registering with the openings for the set screws 12 and being designed to permit the passage of the set screws, so that the set screws can engage within the grooves 3 and 4, respectively, to hold the pivot or bearing in the holder. After the parts have been arranged as shown in Figs. 1 and 2, with the inserts in place and the set screws tightened, by means of a blunt cold chisel or a swage tool, the extended or free edge of each insert is swaged into the channel, that is, into the space between the channel wall and the pivot or bearing. The ends of the insert are also swaged in the same manner, thus firmly locking the pivot or bearing in the holder. To remove a pivot or bearing, the set screws 11 or 12, as the case may be, are loosened and with a hammer and punch the pivot and bearing can be driven out.

In the usual practice, scale pivots and bearings are tapering or wedge shaped, and are driven in the channel which holds them. With the present construction, the pivots

and bearings are substantially rectangular, having parallel sides, and they are held by the insert. Hence the careful calculation to provide an accurate fit between the channel of the holder and the pivot or bearing is not essential.

It will be understood that while the improved scales are especially adapted for railroad use they may be used in other connections and for other purposes. The holders, it will be noticed, have slots extending transversely of the long axes of the pivots and bearings, for receiving the holding bolts which connect the holders. Thus a limited amount of adjustment is permitted to bring the pivot or bearing into exact position. The set screws are for the purpose of holding the pivot or bearing in place, while the insert is being swaged in.

I claim:

1. In a scale, removable pivots and bearings, holders for the pivots and bearings, each holder having a channel for receiving the pivot or bearing in which the pivot or bearing fits loosely and with a space between the same and one side wall, and an insert of softer metal fitting within the space and extending above the wall of the channel to form an edge to be swaged, each holder having openings inclining inwardly and downwardly toward the bottom of the channel at the wall adjacent to the insert, set screws threaded through the openings for engaging the pivots and bearings, each insert having notches in its lower edge through which the set screws may pass, each pivot and bearing having a longitudinally extending groove near its bottom in the wall adjacent to the insert for engagement by the set screws.

2. In a scale, removable pivots and bearings, holders for the pivots and bearings, each holder having a channel for receiving the pivot or bearing in which the pivot or bearing fits loosely and with a space between the same and one side wall, and an insert of softer metal fitting within the space and extending above the wall of the channel to form an edge to be swaged, each holder having openings inclining inwardly and downwardly toward the bottom of the channel at the wall adjacent to the inset, set screws threaded through the openings for engaging the pivots and bearings, each insert having notches in its lower edge through which the set screws may pass.

3. In a scale, removable pivots and bearings, holders for the pivots and bearings, each holder having a channel for receiving the pivot or bearing in which the pivot or bearing fits loosely and with a space between the same and one side wall, and an insert of softer metal fitting within the space and extending above the wall of the channel to form an edge to be swaged, each holder having openings inclining inwardly and downwardly toward the bottom of the channel at the wall adjacent to the insert, set screws threaded through the openings for engaging the pivots and bearings.

4. In a scale, removable pivots and bearings, holders for the pivots and bearings, each holder having a channel for receiving the pivot or bearing in which the pivot or bearing fits loosely and with a space between the same and one side wall, and an insert of softer metal fitting within the space and extending above the wall of the channel to form an edge to be swaged.

5. In a scale, removable pivots and bearings, a holder for each pivot and bearing, said holders having channels for receiving the pivots and bearings and of greater width than the thickness of the said pivots and bearings, and an insert of softer material between one wall of the channel and the pivot or bearing and extending within the said wall to provide an edge to be swaged into the space between the wall and the pivot.

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Witnesses:
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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."