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BRACKET FOR LOCOMOTIVE STEAM GAUGES

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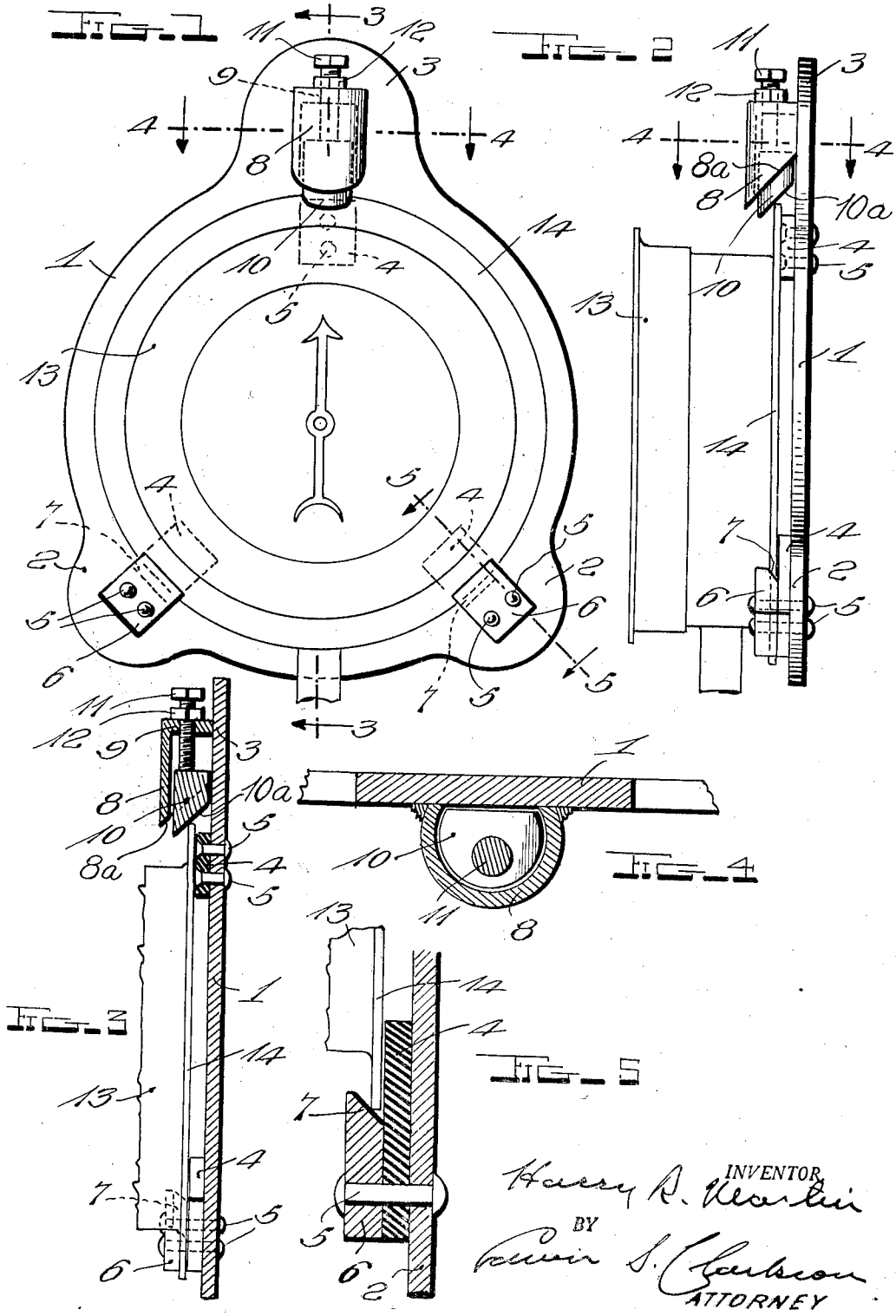

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BRACKET FOR LOCOMOTIVE STEAM GAUGES

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1 Claim. (248—16)

When locomotives are turned in an engine terminal they are hot, and if a steam gauge is out of order it must be removed immediately. The removal of steam gauges under these conditions, and as they are now mounted under present practice an excessive amount of time is required on account of the high degree of heat in which the operator must work. In addition to the heat element it has been found that the workmen remove the gauge face to allow more clearance for inserting and turning the flange screws when the gauge is being reapplied. These objections are actually experienced daily in engine terminals.

Another objection to the present mounting of steam gauges on locomotives is that employees in engine terminals complain about the burning of their hands when engaged in removing or applying the gauges.

The object of my invention is to eliminate the above related objections, and to provide a bracket for locomotive steam gauges to which a gauge may be readily removed from and attached to; and with these and other objects in view, my invention consists of the parts and combination of parts hereinafter set forth.

In the drawing:

Figure 1 is a front elevation of a steam gauge and mounting embodying my invention.

Figure 2 is a side elevation of Figure 1.

Figure 3 is a vertical sectional view on the line 3—3, Figure 1.

Figure 4 is a horizontal sectional view, enlarged scale, on line 4—4, Figure 1.

Figure 5 is a sectional view on the line 5—5, Figure 1.

The reference numeral 1 designates a frame for mounting a steam gauge on a locomotive according to my invention, the preferred form of which is circular to conform with the outline of the usual gauges. This frame is provided at its bottom with two projections or lugs 2, and at its top with a lug 3, as clearly shown in the drawing.

On the lugs 2 I attach heat insulating fibre blocks 4 by means of rivets 5, or the like, said blocks extending inwardly of the frame beyond the inner edge of the frame 1. The brackets 6 are secured to the frame 1 and blocks 4 by means of the rivets 5, the free ends of the brackets being undercut, as at 7. I secure a frame or bracket 8, in a suitable manner to the top lug 3, said lug being hollow and provided with a screw threaded opening 9 through its top wall the lower edge of each side wall of which are inclined downwardly and outwardly from the frame. I slidably mount a latch 10 within the lug or bracket 8 the lower end of which is inclined downwardly and outwardly from the bracket in parallelism with the lower edges of the side walls of the bracket, which latch is engaged by the cap screw 11 by means of which the movable latch 10 is moved into and out of engagement with the gauge frame. To lock the screw and bracket 10 in an adjusted position I mount a lock nut 12 on the screw 11.

The steam gauge is designated by the reference numeral 13 and is provided with an annular projecting rim 14. The blocks 4 cooperatively form a seat against which the back of the gauge bears when in supported position and whereby it is heat-insulated from the boiler.

The frame embodying my invention is suitably secured in a permanent position on the locomotive, as will be readily understood by those skilled in the locomotive art.

With a steam gauge mounted on my improved frame, as shown, if for any reason it must be detached from the locomotive, this may be done by the simple operation of loosening the lock nut 12 and backing off the screw 11 which withdraws the sliding latch 10 from engagement with the rim 14 of the gauge, whereupon the gauge is free to be tilted forward at its top beyond the bracket 8 and then lifted in an upward movement, thus freeing the rim 14 of the gauge from under the lower brackets 6. This operation may be made in a comparatively short time and without the operator burning his hands or arms.

It will be observed that the undercut ends 7 of the lower brackets 6 are beveled or inclined downwardly and inwardly toward the frame 1. The base of the rim 14 of the gauge is detachably engaged with the beveler surfaces 7 in such manner that an upward and outward tilting movement of the gauge is required to release it from the brackets 6. As the weight of the gauge tends to hold it by gravity in engagement with the brackets 6 it cannot be moved out of engagement therewith by jolts or jars of the locomotive as long as it is held from upward displacement by the latch 10. It will also be observed that the hollow bracket 8 has a beveled lower end 8a which is inclined upwardly and rearwardly toward the frame 1 and terminates above the upper edge portion of the rim 14 of the gauge when the latter is fully engaged with the brackets 6, and it will also be observed that the lower end of the latch 10 has a similarly beveled or inclined end 10a which engages said edge portion of the rim 14 to clamp the gauge in supported position. When the latch is adjusted into clamping engagement with the rim 14 its inclined edge 10a is moved to a

position below the edge 8a of the bracket 8 and wedgingly clamps the gauge rim 14 against the beveled faces 7 of the brackets 6 and firmly against the upper and lower seat blocks 4. As long, therefore, as the latch 10 is held by its fastening means from upward movement the gauge will be held at its upper end from upward and outward tilting movements, which are required to release it, even when frame and gauge are subjected to violent shocks and jars from the locomotive. The latch, however, is weighted or formed of a somewhat heavy body, so that even in the event of its fastening elements 11 and 12 becoming loosened any tendency to upward movement of the latch will be resisted by gravity and the frictional engagement of the latch with its bracket, whereby it will be maintained in engagement with the rim 14 to hold the gauge from becoming displaced or from unduly chattering against its seat. The described constructions of the surfaces 8a of the bracket 8 and 10a of the latch 10 are of advantage in allowing the gauge to be freely applied or removed when the latch is retracted, as thereby sufficient space will be provided between the upper edge portion of the rim 14 and the bracket to allow the gauge to be inserted at an angle down into engagement with the brackets 6 and lower seat blocks 4, and then tilted inwardly against the upper seat block to place it in position to be engaged by the latch 10 when the latter is moved downwardly into clamping position.

When in fixed operative position the rim 14 of the gauge is securely locked by the brackets 6 and latch 10 against accidental displacement.

The fibre strips 4 prevent heat from the locomotive from unduly increasing the temperature of the steam gauge, thereby reducing to a minimum the likelihood of the operator burning his hands in removing the gauge.

What I claim is:

A steam gauge holder comprising a supporting frame having a seat surface, a gauge having a rim portion and adapted to be clamped against said seat surface, a pair of lower supporting brackets fixed to the frame on opposite sides of its vertical center and having upper retaining ends inclined downwardly and inwardly toward the frame and adapted to be engaged by the lower portion of the rim of the gauge, a hollow upper supporting bracket fixed to the frame substantially in line with its vertical center and arranged so that its lower end will be spaced from the upper portion of the rim of the gauge when the gauge is in engagement with the lower brackets, said upper bracket having its said lower end inclined upwardly and rearwardly toward the frame, a weighted latch slidably mounted in the upper bracket and having a lower end portion inclined correspondingly to the inclined lower end of the bracket and adapted to engage the upper portion of the rim of the gauge to wedgingly clamp the gauge against the seat surface of the frame and inclined end faces of the lower brackets, the arrangement being such that the lower end of the latch when in engaging position depends below the inclined end of the upper bracket, and means for adjusting the latch upwardly or downwardly and fixing it at its upper end in adjusted position to the upper bracket.

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