Jan. 7, 1941. F. SCHAEFER 2,227,915

EXPANSIBLE WEAR PLATE

Filed March 27, 1940

Fig. 1.

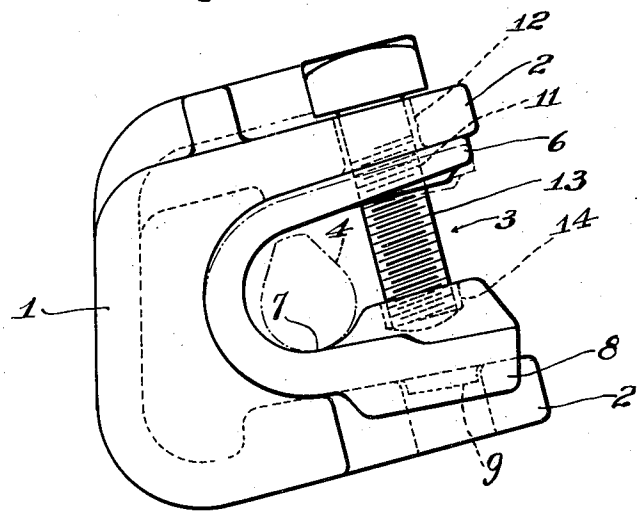
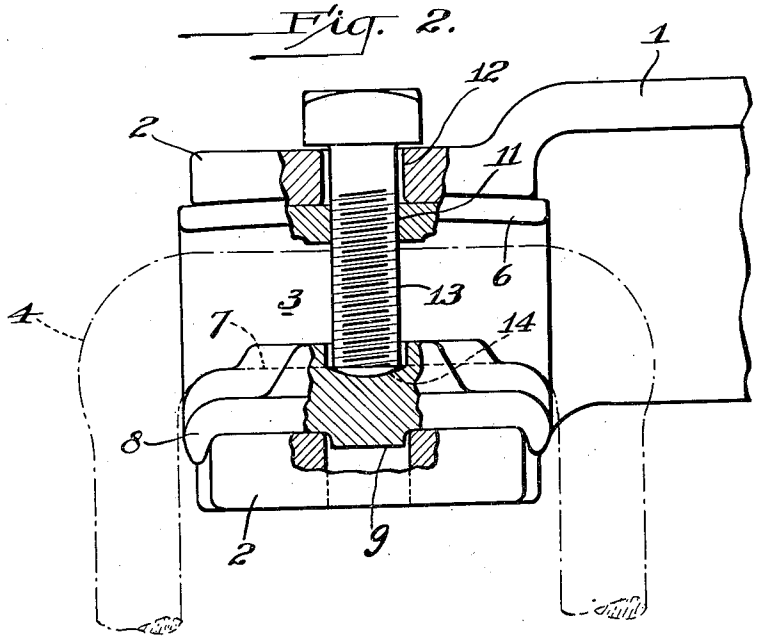



Fig. 2.




WITNESSES.
A. B. Wallace.
V. A. Peckham.

INVENTOR.
Frederic Schaefer
BY Brown, Critchlow & Flick
his ATTORNEYS.

Patented Jan. 7, 1941 2,227,915

# UNITED STATES PATENT OFFICE

2,227,915

## EXPANSIBLE WEAR PLATE

Frederic Schaefer, Pittsburgh, Pa.

Application March 27, 1940, Serial No. 326,263

4 Claims. (Cl. 188—209)

This invention relates to railway brake rigging, and more particularly to the wear plates by which brake hangers are supported in truck frame brackets.

Railway brake hangers used with freight cars are generally connected to truck frame brackets through the medium of plates or bushings mounted in the brackets for the purpose of receiving the wear resulting from movements of the hangers therein. As these wear plates are intended to be replaced when worn, it is highly desirable that they be readily insertable into and removable from the cast truck frame brackets. The plate-receiving recesses in these brackets vary somewhat in size, and because of this variation in size the wear plates must be small enough to readily enter smallest bracket recesses encountered. Accordingly, in many cases the plates fit loosely in the brackets, whereby they vibrate and rattle when the car is in transit. This causes the engaging surfaces of the brackets and plates to wear rapidly, thereby permitting greater relative movements and consequently greater wear.

It is among the objects of this invention to provide a wear plate which can be readily inserted in any standard brake hanger bracket, which can be rigidly secured in such brackets so that it will not vibrate and wear, which is simple in construction, and which is held in place by readily available means.

In accordance with this invention a U-shaped brake hanger wear plate, having spaced upper and lower walls, is disposed in the recess formed by the upper and lower walls of a hanger bracket connected to the side frame of a railway car truck. The bracket walls may be provided with the conventional bolt or pin-receiving unthreaded openings therethrough, but such an opening is required in only one of the walls for the purpose of this invention. The wear plate rests on the lower wall of the bracket, and the plate wall next to the perforated wall of the bracket is provided with a threaded opening in line with the opening in the bracket. A bolt, which extends through these two openings, is slidably mounted in the bracket opening but is screwed through the threaded opening in the wear plate. The inner surface of the opposite wall of the plate is engaged by the inner end of the bolt which is tightened sufficiently to expand the wear plate; that is, the two walls of the plate are forced away from each other and tightly against both walls of the bracket so that the wear plate can not vibrate and wear in the bracket.

The preferred embodiment of the invention is illustrated in the accompanying drawing in which Fig. 1 is a side view of a brake hanger bracket in which my wear plate is mounted; and Fig. 2 is a front view showing the hanger and bracket partly broken away in section.

Referring to the drawing, a bracket 1, which is adapted to be connected to a railway truck side frame in any suitable manner, is provided with laterally projecting upper and lower spaced jaws or walls 2 that form a recess 3 open on three sides. This recess is for the purpose of receiving the upper yoke or cross member 4 of a brake hanger indicated by broken lines. To prevent the hanger from wearing the bracket a U-shaped wear plate 6 is removably mounted in recess 3 with its inner portion provided with a concave hanger seat 7 extending transversely thereof. The wear plate is preferably provided near the outer end of its lower wall with down-turned flanges 8 that overlap the underlying portion of the bracket in order to aid in centering the plate in recess 3 and to prevent the side arms of the hanger from wearing the bracket.

It is a feature of this invention that the wear plate is held in the bracket recess in such a manner, although it initially fits loosely therein, as to eliminate vibration between them and the resulting wear of their engaging surfaces. For this purpose one of the wear plate walls, preferably the upper one, is provided with a threaded opening 11 therethrough that registers with the usual unthreaded opening 12 in the upper wall of the bracket. A short bolt 13 is inserted downwardly through the bracket hole in which it is loosely or slidably mounted and is screwed through plate opening 11. The bolt is more than long enough to permit its lower end to engage the upper surface of the lower wall of the wear plate which is preferably provided with a depression or socket 14 in which the bolt seats.

By tightening or turning the bolt with its lower end pressing against the lower wall of the wear plates, the upper wall of the plate is flexed or screwed upwardly on the bolt away from its lower wall and into tight engagement with the upper wall of the bracket. The bolt should be long enough to permit this expansion of the wear plate into tight contact with both walls of any hanger bracket with which the plate is adapted to be used, and therefore in some cases the lower surface of the bolt head may practically engage the top of the bracket while in other cases there may be a slight clearance between them. Nevertheless, the relatively great friction between the engaging threads of the bolt and wear plate and

between the lower end of the bolt and the lower wall of the plate prevents vibrations from causing the bolt to turn and work loose.

If desired, the wear plate can be locked even more securely in the bracket recess by providing the bottom of the plate with an integrally depending boss 9 that projects down into the hole with which the lower wall 2 of the bracket is generally provided.

It will thus be seen that although the wear-plate can be made small enough to fit in the smallest bracket recesses, it can be expanded when used in larger recesses so that it will likewise fit tightly therein. The body of the plate may be made slightly thinner than heretofore to facilitate its expansion. The bolt that produces the expansion and also locks the wear plate in the hanger bracket is an article that can be obtained readily in almost any railroad shop. Consequently, if a bolt is lost no difficulty will be experienced in obtaining another one.

According to the provisions of the patent statutes, I have explained the principle and construction of my invention and have illustrated and described what I now consider to represent its best embodiments. However, I desire to have it understood that, within the scope of the appended claims, the invention may be practiced otherwise than as specifically illustrated and described.

I claim:

1. A U-shaped wear plate for use in a brake hanger bracket having a bolt-receiving opening in one of its walls, the plate having spaced walls one of which is provided with a threaded opening adapted to threadedly receive a bolt slidably disposed in said bracket opening, and the inner surface of the opposite wall of the plate being adapted to be engaged by the inner end of said bolt, whereby tightening of the bolt in the U-shaped plate will force its walls away from each other and against both of the bracket walls.

2. The combination with a brake hanger bracket having upper and lower walls forming a recess between them, and a bolt slidably disposed in an opening through one of said walls, of a U-shaped wear plate disposed in said recess for supporting a brake hanger and having spaced upper and lower walls with the wall adjacent the perforated bracket wall provided with a threaded opening through which said bolt is screwed, and the inner surface of the opposite wall of the plate being engaged by the inner end of the bolt, said bolt being tightened sufficiently to force said plate walls away from each other and against both of the bracket walls whereby the plate is rigidly mounted in the bracket.

3. The combination with a brake hanger bracket having upper and lower walls forming a recess between them, and a bolt slidably disposed in an opening through the upper wall, of a U-shaped wear plate disposed in said recess for supporting a brake hanger and having spaced upper and lower walls, the lower wall resting on the lower wall of the bracket and the upper wall provided with a threaded opening through which said bolt is screwed, and the upper surface of the plate's lower wall being provided with a depression in which the lower end of the bolt is seated, said bolt being tightened sufficiently to flex the plate's upper wall tightly against the upper wall of the bracket to thereby rigidly mount the plate in the bracket.

4. U-shaped wear plate for use in a brake hanger bracket having a bolt-receiving opening in each of its opposite walls, the plate having spaced walls one of which is provided with a threaded opening adapted to threadedly receive a bolt slidably disposed in the adjacent bracket opening, the inner surface of the opposite wall of the plate being adapted to be engaged by the inner end of said bolt, whereby tightening of the bolt in the U-shaped plate will force its walls away from each other and against both of the bracket walls, and the outer surface of said opposite wall of the plate having a boss adapted to project into the adjacent bracket opening.

FREDERIC SCHAEFER.