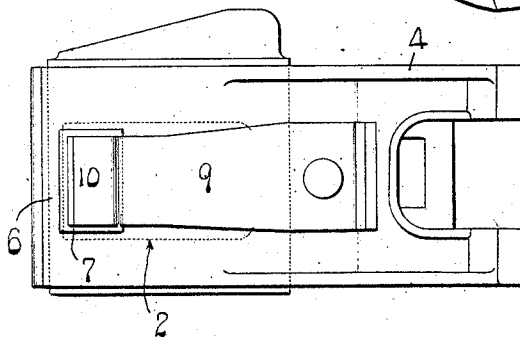
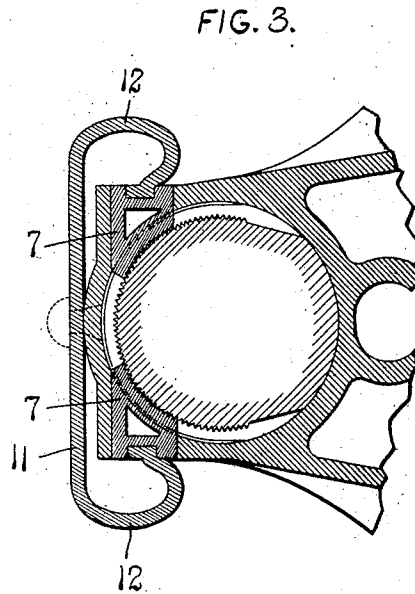
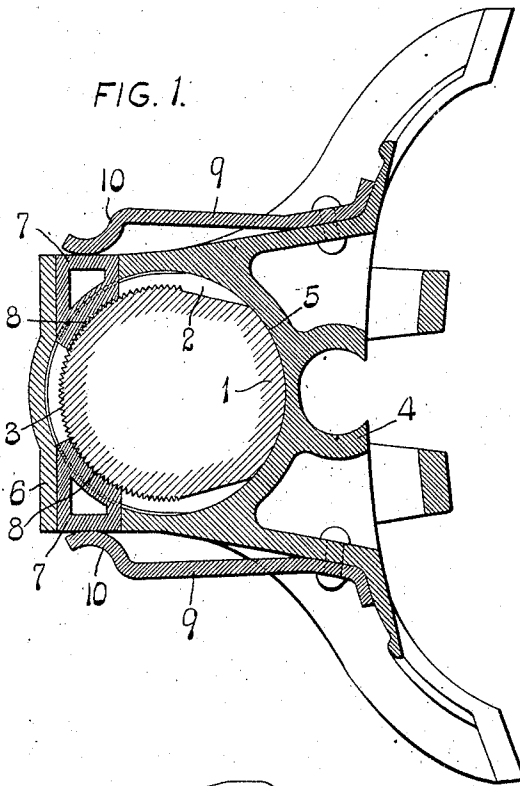


E. L. WHITE.
 BRAKE BEAM.
 APPLICATION FILED JULY 6, 1909.

988,609.

Patented Apr. 4, 1911.
 2 SHEETS—SHEET 1.



WITNESSES

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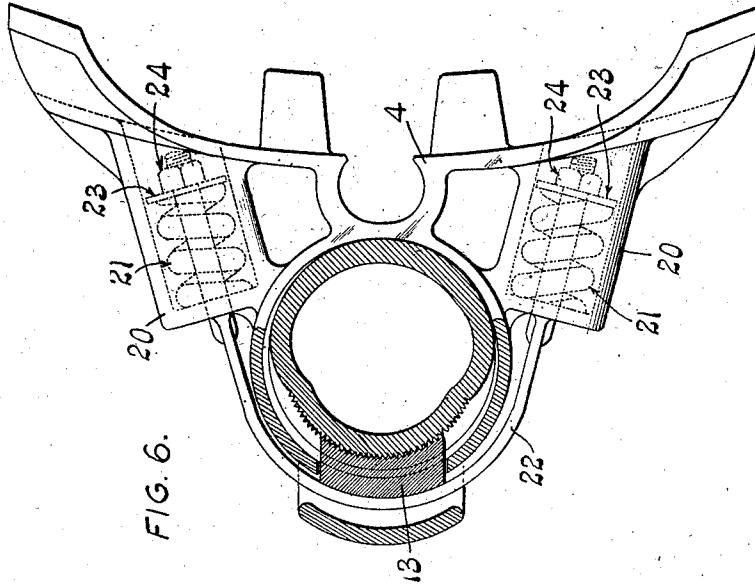


FIG. 6.

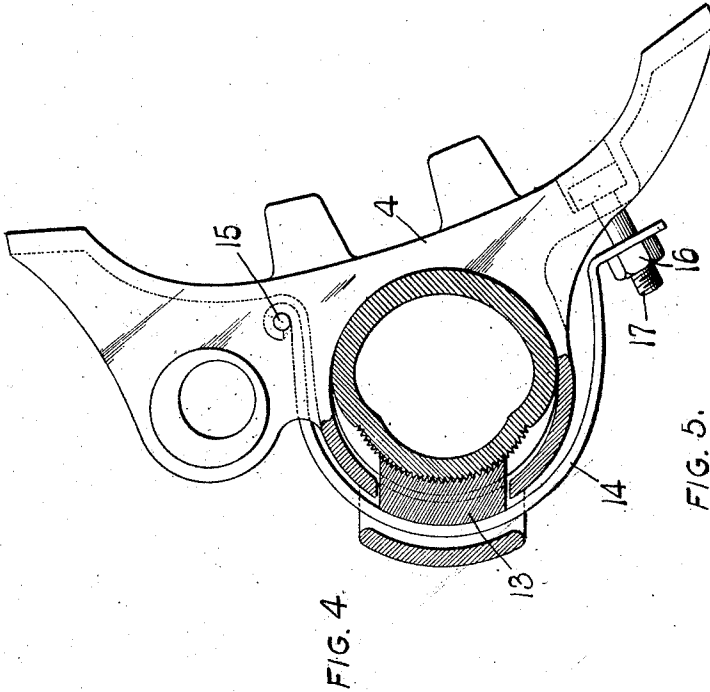


FIG. 4.

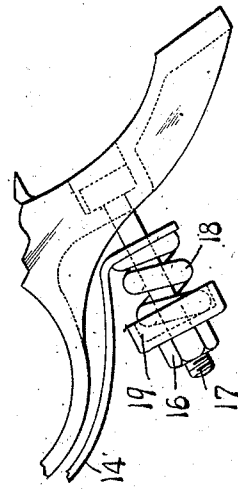


FIG. 5.

WITNESSES

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UNITED STATES PATENT OFFICE.

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BRAKE-BEAM.

988,609.

Specification of Letters Patent.

Patented Apr. 4, 1911.

Application filed July 6, 1909. Serial No. 506,048.

To all whom it may concern:

Be it known that I, EDWARD L. WHITE, a citizen of the United States, residing at Chicago, Illinois, have invented a certain new and useful Improvement in Brake-Beams, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a vertical section taken through the end of a brake beam and showing my improved method of adjustably mounting the head thereon. Fig. 2 is a plan view of the brake head seen in Fig. 1. Fig. 3 is a vertical section taken through the center of a brake head, showing a modified form of the means employed for adjustably mounting the same on the beam. Fig. 4 is an elevation of a brake head, showing a further modified form of means for mounting said head on the beam. Fig. 5 is an elevation of the lower portion of the head of the type seen in Fig. 4, showing a modified construction thereof. Fig. 6 is an elevation of a brake head partly in section, showing a further modified form of the means for adjustably mounting the head on the beam. My invention relates generally to brake beams and more particularly to the brake heads and the means employed for adjustably mounting the same on the ends of the beam, and my invention further relates to that class of adjustable brake heads which is illustrated and described in the patent issued to Henry B. Robischung, No. 485,823, dated November 8, 1892.

The principal object of my invention is to generally improve the construction shown in the patent above referred to, and provide simple, inexpensive means whereby the brake heads are arranged upon the ends of the beam in such a manner that they will automatically adjust themselves to the peripheries of the car wheels when the brakes are set, regardless of the character or position of the brake hangings.

A further object of my invention is to locate the locking blocks in such positions as that the brake heads are drawn against the front sides of the end portions of the beams and the sleeves or thrust blocks located thereon, thus doing away with all clearance

between the beams and brake heads at the points of contact, which clearance would otherwise result in lost motion, and which latter would be transmitted to the brake-actuating mechanism, when the brakes are set.

A further object of my invention is to provide simple yielding pressure devices which normally engage the locking blocks, thus holding the heads firmly locked on the ends of the beam and which yielding pressure means gives way to such degree as to permit the heads to rotate slightly relative to the beam when the brakes are set, thus permitting automatic adjustment of the brake heads to take place. After such automatic adjustment has taken place, the spring-pressed locking blocks reengage with the ends of the beam or the sleeve located thereon, and thus hold the heads in proper fixed position.

Another object of my invention is to arrange the locking blocks in a small space so that the brake beam may be "inside" hung.

To the above purposes, my invention consists in certain novel features of construction and arrangement of parts hereinafter more fully described and claimed.

Referring by numerals to the accompanying drawings, 1 designates the thrust block or sleeve which is arranged on the end of the brake beam. Formed in this sleeve or thrust block is a segmental groove 2, the bottom of which is provided with a series of transverse serrations or teeth 3.

4 designates the brake head, which is of the usual type and provided with a circular opening 5 which receives the sleeve or thrust block 1. Formed integral with the rear portion of the head 4 is a vertically disposed housing 6, the open ends of which communicate with the opening 5. Located in the open ends of this housing 6, and adapted to move therethrough, are locking blocks 7, the inner ends of which are provided with transverse serrations or teeth 8, which are adapted to engage with the serrations or teeth 3 formed in the bottom of the groove 2.

9 designates flat or leaf springs, the rear ends of which are fixed in any suitable manner to the body portion of the head 4, the free ends of said springs 9 being bent to

form groove fingers 10 which bear directly upon the outer ends of the blocks 7. These springs 9 are comparatively stiff and exert considerable pressure on the blocks 8 therefore holding the serrated or toothed inner faces of said blocks into close engagement with the corresponding serrated face on the sleeve 1, which action maintains the head in close engagement with the front side of the sleeve or thrust block 1. Such engagement not only takes up all the clearance and wear between the sleeve and head but it also prevents the head from rattling while in use.

In the modification seen in Fig. 3, a single spring 11 is made use of, the central portion of said spring, fixed in any suitable manner to the rear side of the housing 6 and the ends of said spring being bent around in the form of loops 12, the free ends of which bear directly against the outer ends of the blocks 7.

In the modification seen in Fig. 4 a single locking block 13 is arranged in the rear portion of the head 4 and bearing against the rear side of this block is the central portion of a strap 14, bent into approximately some circular form, one end thereof being fixed to the head 4 by means of a pin or rivet 15, the opposite end being loosely connected beneath an adjusting nut 16 located upon a bolt 17 situated in the lower portion of said head 4. In this construction the head 4 is not automatically adjustable upon the beam, and to adjust said head it is necessary to loosen the nut 16 to such a degree that the strap 14 can be loosened to permit the disengagement of the block 13 with the sleeve or thrust block on the end of the beam.

When the parts are properly assembled as shown in Fig. 4, the block 13 is held in engagement with the sleeve or thrust block and the head is held positively locked on said sleeve or thrust block. This construction takes up any lost motion or wear between the sleeve or thrust block on the head, and also performs the functions of an anti-rattler.

In the modified construction shown in Fig. 5, an expansive coil spring 18 is located on the bolt 17 and interposed between the end of the spring 14 and a washer 19 beneath the nut 16. This construction permits the head 4 to automatically adjust itself on the end of the beam when the brakes are applied and when said automatic adjustment takes place the spring 18 will be compressed, and after the automatic adjustment takes place the spring 18, together with the spring 14, very rigidly locks the head on the beam.

In the modification shown in Fig. 6, a single locking block is made use of, and the head 4 is provided with a pair of recesses or pockets 20 located on opposite sides of the cir-

lar opening of said head and located in said pockets or recesses are expansive coil springs 21. A strap 22 extends around the rear portion of the head 4 and bears directly upon the block 13, the ends of said strap extending into the pockets 20 through the coil springs located therein and being provided on their ends with washers 23 and nuts 24. It will be readily understood that this form of head is automatically adjustable on the beam and when the automatic adjustment takes place, the springs 21 will be sufficiently compressed to permit the block 13 to disengage from the sleeve or thrust block when the rotary motion of the parts relative to one another takes place.

Thus it will be seen how I have provided a simple and inexpensive structure for locking brake heads upon the ends of the brake beam, which construction readily permits the heads to automatically adjust themselves upon the beam at the time the brakes are applied.

My improved construction also takes up any clearance due to wear between the beam and the heads, thereby doing away with lost motion which otherwise would be transmitted to the brake mechanism.

It will be observed that according to my construction the friction blocks reduce the size of the socket so that the head is bound in adjusted positions upon the part of the beam upon which it is mounted. These two friction blocks pressing inwardly toward each other in tangential lines as shown in Fig. 1, will force the part of the beam on which the head is mounted, forwardly against the front wall of the socket, thus taking up all clearance space between the beam-part and head at this point.

I do not, in this application, claim the specific form of my invention disclosed in Figs. 4 and 5, as the structures disclosed in these figures form the subject matter, respectively, of applications filed by me June 27, 1910, Serial Number 569,111, and August 8, 1910, Serial Number 576,260.

Having thus described my invention, what I claim is:

1. The combination with a brake beam, of a movable head, and a pair of automatically yielding locking blocks carried by the head and movable transversely to the axis of the beam for engaging the same at different points.

2. The combination with a brake beam, of a movable brake head and a plurality of spring pressed locking blocks carried by the head and movable transversely to the axis of the beam for engaging the same at different points.

3. The combination with a brake beam having a sleeve located on its end, of a brake head mounted on said sleeve, and a plurality of automatically yielding locking

blocks carried by the head and pressed inwardly for engaging the sleeve at different points.

4. The combination of a brake beam having a sleeve mounted on its end, of a head mounted on the sleeve, and a plurality of spring-pressed locking blocks carried by the head and pressed inwardly for engaging the sleeve at different points.

5. The combination with a brake beam, of a brake head loosely mounted on the end thereof, a plurality of locking blocks carried by the head and engaging the beam at different points and an independent spring for each locking block.

6. The combination with a brake beam, of a sleeve on the end thereof, in which sleeve is formed a segmental groove, the bottom of which groove is serrated, a brake head on the sleeve, and a pair of independently moving locking blocks carried by the head and engaging in the groove in the sleeve.

7. The combination with a brake beam, of a sleeve located on the end thereof in which sleeve is formed a groove, the bottom of which is serrated, a movable head on the sleeve, a pair of independent locking blocks carried by the head and engaging in the groove in the sleeve, and a spring bearing against each locking block.

8. A self-adjusting brake head for brake beams having a socket adapted to receive the end of the beam, and a pair of independently mounted locking blocks carried by the head and movable transversely to the axis of the beam.

9. A self-adjusting brake head for brake beams having an opening adapted to receive the end of the beam, a plurality of independent locking blocks carried by the head, which locking blocks project into the opening in the head, and a spring bearing against each locking block.

10. The combination with a brake beam, of a movable brake head on the end of the beam, a pair of oppositely disposed locking blocks carried by the head and adapted to engage the beam and means whereby said blocks are forced toward each other.

11. The combination with a brake beam of a sleeve located on the end thereof, a portion of the peripheral face of which sleeve is serrated, a movable head on the sleeve, and a plurality of spring-pressed locking blocks carried by the head and movable transversely to the axis of the sleeve to engage at different points on the serrated face thereof.

12. The combination with a brake beam, of a sleeve located on the end thereof, a portion of the peripheral face of which sleeve is serrated, a movable head on the sleeve, a plurality of spring-pressed locking blocks carried by the head and movable

transversely to the axis of the sleeve to engage at different points on the serrated face thereof, the bearing faces of said blocks being also serrated.

13. The combination with a brake beam of a sleeve located on the end thereof, a portion of which sleeve is serrated, a movable head on the sleeve, a pair of independent locking blocks carried by the head, the bearing faces of which blocks are serrated and movable transversely to the axis of the sleeve to engage at different points on the serrated face of the sleeve, and a spring bearing against each locking block.

14. The combination with a brake beam, of a sleeve located on the end thereof in which sleeve is formed a groove the bottom of which is serrated, a movable head on the sleeve, a pair of independent locking blocks carried by the head and engaging in the groove in the sleeve and a spring bearing against each locking block.

15. The combination with a brake beam, of a sleeve located on the end thereof, a head on the sleeve, a locking block carried by the head and engaging the sleeve, and a yielding element arranged outside the head and engaging the locking block.

16. In a brake beam, the combination of a brake head having a tangentially arranged locking block.

17. In a brake beam, the combination of a brake head having a tangentially movable locking block.

18. In a brake beam, the combination of a brake head having oppositely disposed locking blocks movable transversely to the axis of the socket in said head.

19. In a brake-beam, the combination of a brake-head having two oppositely disposed locking blocks movable in a direction tangential to the surface of the socket in the head.

20. In a brake beam, the combination of a brake head having a tangentially arranged locking block, and a spring for holding said block in position.

21. In a brake beam, the combination of a brake head having a tangentially movable locking block, and a spring for moving said block tangentially.

22. In a brake beam, the combination of a brake head having oppositely movable locking blocks presented toward each other, and a spring for each locking block cooperating with the outer faces thereof for moving said blocks in opposite directions.

23. In a brake beam, the combination of a brake head having a plurality of locking blocks, and a spring for each locking block.

24. In a brake beam, the combination of a brake head having a socket, and a plurality of locking block recesses opening thereinto.

25. In a brake beam, the combination of a

brake head having a socket, and a plurality of tangentially disposed locking block recesses opening thereinto.

26. In a brake beam, the combination of a brake head having a socket, and a tangentially disposed locking block recess-opening thereinto.

27. In a brake beam, the combination of a brake head having a locking block, and means spanning the brake head to engage said locking block.

28. In a brake beam, the combination of a brake head having a locking block, and means embracing said head and cooperating with said locking block.

29. In a brake beam, the combination of a brake head having a locking block, and yielding means embracing said brake head and cooperating with said locking block.

30. In a brake beam, the combination of a brake head having a plurality of locking blocks, and yielding means embracing said brake head and cooperating with said locking blocks.

31. The combination of a brake-head having a socket, a part of the beam on which it is mounted, and plural means for lessening

the size of the socket, whereby the head is held in adjusted positions.

32. The combination of a brake-head having a socket, a part of the beam on which it is mounted, and plural means pressing inwardly against the beam-part to force the same to one side of said socket.

33. The combination of a brake-head having a socket, a part of the beam on which it is mounted, and plural means cooperating with said parts to force the beam-part to one side of said socket, whereby the head is held in position.

34. The combination of a brake-head having a socket, a part of the beam on which it is mounted, and plural means movable in opposite directions and cooperating with said parts to force the beam-part to one side of said socket, whereby the head is held in position.

In testimony whereof I hereunto affix my signature in the presence of two witnesses, this 26th day of June 1909.

EDWARD L. WHITE.

Witnesses:

EDWARD T. WALKER,
JOSEPH W. WEINLAND.