MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS
STANDARD REFERENCE MATERIAL 1010a
(ANSI and ISO TEST CHART No. 2)
APPLICATION FOR A PATENT
(Combined Form – Convention and Non-Convention)

I/We AMSTED Industries Incorporated
3700 Prudential Plaza
Chicago, IL 60601

hereby apply for the grant of a Patent for an invention entitled

Bolster Gib Spacing on Roller Bearing Truck

which is described in the accompanying Provisional Complete Specification.

2. This application is a Convention Application and is based on the application(s) for a patent or similar protection made

in USA

on April 12, 1982, numbered 367,282, and

on .......................................................... numbered .........................................................., and

on .......................................................... numbered ..........................................................

3. My/Our address for service is: Care of COWIE, THOMSON & CARTER Patent Attorneys, of 343 Little Collins Street, Melbourne, Australia. 3000

DATED this 25th day of February 1983

Louis D. Davis
Vice President

To the Commissioner of Patents,
COMMONWEALTH OF AUSTRALIA
Declaration in Support of an Application for a Patent
(Combined Form – Convention and Non-Convention)

In support of the Convention application made for a patent for an invention entitled Bolster Gib Spacing on Roller Bearing Truck

1. Louis D. Davis, Vice President of c/o AMSTED Industries Incorporated, 3700 Prudential Plaza, Chicago, Illinois 60601

I do solemnly and sincerely declare as follows:

1. I am authorized to make this declaration on behalf of AMSTED Industries Incorporated, the applicant for the patent to support the Convention application.

2. The basic application(s) as defined by section 141 of the Act were made at USA on the 12th day of April, 1982, No. 367,282, by James A. Henkel.

3. I, the actual inventor(s) of the invention, are as follows:
   James A. Henkel

4. The basic application referred to in paragraph 2 of this Declaration was the first application made in a Convention country in respect of the invention the subject of the application.

DECLARED AT Chicago, Ill. this 25th day of February, 1983.

Signature of Declarant:
Louis D. Davis

The present Association of American Railroads (AAR) standard for heavy duty railway trucks is to provide for an initial, non-worn inner bolster gib-side frame column.
1. A railway truck comprising a bolster and two side frames, each end of the bolster being adapted to be received in an opening in one of the side frames, each end of the bolster including at least one inner bolster gib and at least one outer bolster gib extending transversely outward from the longitudinal axis of the bolster, the inner and outer bolster gibs forming at least one pocket to receive at least one column of one of said side frames, the clearance between each inner bolster gib and the respective side frame column being greater than the distance between each outer bolster gib and the respective side frame column.
COMPLETE SPECIFICATION

(ORIGINAL)

FOR OFFICE USE

Short Title:

Int. Cl:

Application Number: 13466/83

Lodged:

Complete Specification—Lodged:

Accepted:

Lapsed:

Published:

Priority:

Related Art:

TO BE COMPLETED BY APPLICANT

Name of Applicant: AMSTED INDUSTRIES INCORPORATED, of 3700 Prudential Plaza, Chicago, Illinois 60601, United States of America

Address of Applicant:

Actual Inventor: JAMES A HENKEL

Address for Service: Care of: COWIE, THOMSON & CARTER, Patent Attorneys, 71 Queens Road, Melbourne, Vic., 3004, Australia.

Complete Specification for the invention entitled: BOLSTER GIB SPACING ON ROILER BEARING TRUCK

The following statement is a full description of this invention, including the best method of performing it known to me:

*Note: The description is to be typed in double spacing, pica type face, in an area not exceeding 250 mm in depth and 160 mm in width, on tough white paper of good quality and it is to be inserted inside this form.
BOLSTER GIB SPACING ON ROLLER BEARING TRUCKS

Background of the Invention

The present invention relates generally to railway trucks, and more particularly to a railway truck having a bolster received in two side frames wherein inner and outer bolster gibs form pockets to receive the side frame columns.

The presence of such bolster gibs is known from patents such as U.S. Patent No. 3,109,387. However, that patent is mainly concerned with side frame stop lugs which limit the horizontal and rotative movement of the bolster within the side frames.

It has been discovered that the side frames in such railway trucks tend to move inward toward each other during service. The reason for such tendency is unknown, but a greater movement is suspected under loaded car conditions. Accordingly, excessive inner bolster gib wear has been experienced with minimal outer gib wear. Of course such gib wear is due to the side frame tendency to move inward toward each other, whereby the inner gibs are contacted by the side frame columns.

An example of such inner bolster gib-side frame column wear was obtained from a heavy duty Association of American Railroads (AAR) standard railway truck after 480,000 miles of service. The inner bolster gib had worn 0.211 inch (0.536 cm) and the side frame column contacting the inner bolster gib had worn 0.172 inch (0.437 cm). The outer bolster gib showed no wear and the side frame column contacting such outer bolster gib also showed no wear.
The present Association of American Railroads (AAR) standard for heavy duty railway trucks is to provide for an initial, non-worn inner bolster gib-side frame column spacing of 1/4 inch (0.63 cm) and an outer bolster gib-side frame column spacing of 5/8 inch (1.58 cm). Such a spacing arrangement has resulted in the excessive inner gib wear discussed above. Such inner bolster gib and contacting side frame column wear is noted to take place mostly in the first one or two years of service of the railway truck. After this initial wear in period, little further wear is believed to occur.

Accordingly, it is an object of the present invention to provide a railway truck which exhibits lessened inner bolster gib wear and improved service life for the bolster and side frames of the truck.

Summary of the Invention

The present invention provides a railway truck having a bolster supported in two side frames. The bolster has two sets of inner and outer bolster gibs at either end thereof, such gibs forming a pocket to receive the side frame columns. The clearance between the inner gib and the side frame column is increased from the AAR standard, and the clearance between the outer gib and the side frame column is decreased from the AAR standard. A preferred relation between the inner and outer gib-side frame column clearances has been found to be where the inner gib-side frame column clearance is equal to or slightly greater than the outer gib-side frame column clearance.
In particular, the present invention provides a railway truck comprising a bolster and two side frames, said bolster being supported within said side frames, said bolster including at each end thereof an inner bolster gib and an outer bolster gib, each such gib extending outward from the bolster to form a pocket on the bolster to contact the side frame, the clearance between the inner bolster gib and the side frame being increased from the AAR standard of 1/4 inch to about 1/2 inch, and the clearance between the outer bolster gib and the side frame column being reduced from the AAR standard of 5/8 inch to about 3/8 inch.

The present invention reduces the excessive amount of inner gib wear, while maintaining the total inner and outer gib clearance required by the AAR such that a long service life is obtained before the maximum AAR standard of 1 1/2 inches (3.81 cm) of total clearance between the inner and outer gibs and the side frame columns is reached and repair is required.

**Brief Description of the Drawing**

In the drawing, a top partial view of the bolster-side frame of the present invention is shown.

**Detailed Description of the Present Invention**

In the drawing a partial top view of one side of bolster 10 is shown. Side frame columns 12 and 14 with respective wear plates 15 and 17 are also shown as nearly abutting bolster 10.
The end of bolster 10 is shown to have two sets of inner bolster gibs 16 and 24 and outer bolster gibs 18 and 26 which extend transversely outward from the longitudinal axis of bolster 10. Side frame column 12 has a stop lug 20 extending outward from the longitudinal axis of side frame column 12, and side frame column 14 has a stop lug 22 extending outward from the longitudinal axis of side frame column 14.

The space between inner bolster gibs 16 and 24 and side frame columns 12 and 14 is increased from the AAR standard of 1/4 inch to about 1/2 inch (1.27 cm), and the space between outer bolster gibs 18 and 26 and side frame columns 12 and 14 is reduced from the AAR standard of 5/8 inch to about 3/8 inch (0.95 cm). A preferred relation is to have the distance between the inner bolster gib and the side frame column equal to or greater than the distance between the outer bolster gib and the side frame column.
CLAIMS
The claims defining the invention are as follows:-

1. A railway truck comprising a bolster and two side frames, each end of the bolster being adapted to be received in an opening in one of the side frames, each end of the bolster including at least one inner bolster gib and at least one outer bolster gib extending transversely outward from the longitudinal axis of the bolster, the inner and outer bolster gibs forming at least one pocket to receive at least one column of one of said side frames, the clearance between each inner bolster gib and the respective side frame column being greater than the distance between each outer bolster gib and the respective side frame column.

2. A railway truck as claimed in claim 1 wherein the clearance between each inner bolster gib and the respective side frame is approximately 1/2 inch (1.27 cm), and the clearance between the outer bolster gib and the side frame is approximately 3/8 inch (0.96 cm).

3. A railway truck as claimed in claim 2 wherein each bolster end includes two inner and two outer bolster gibs, each gib extending outwardly from the longitudinal axis of the bolster.

4. A railway truck as claimed in claim 3, wherein the side frame includes two columns, each of which is received in a bolster gib pocket.

5. A railway truck comprising a bolster and two side frames substantially as herein particularly described with reference to the accompanying drawing.

DATED this 23rd day of October, 1986.

AMSTED INDUSTRIES INC.
DRAWINGS