

(No Model.)

2 Sheets—Sheet 1.

F. J. COLE & E. W. GRIEVES.
RAILROAD CAR STRUCTURE.

No. 511,588.

Patented Dec. 26, 1893.

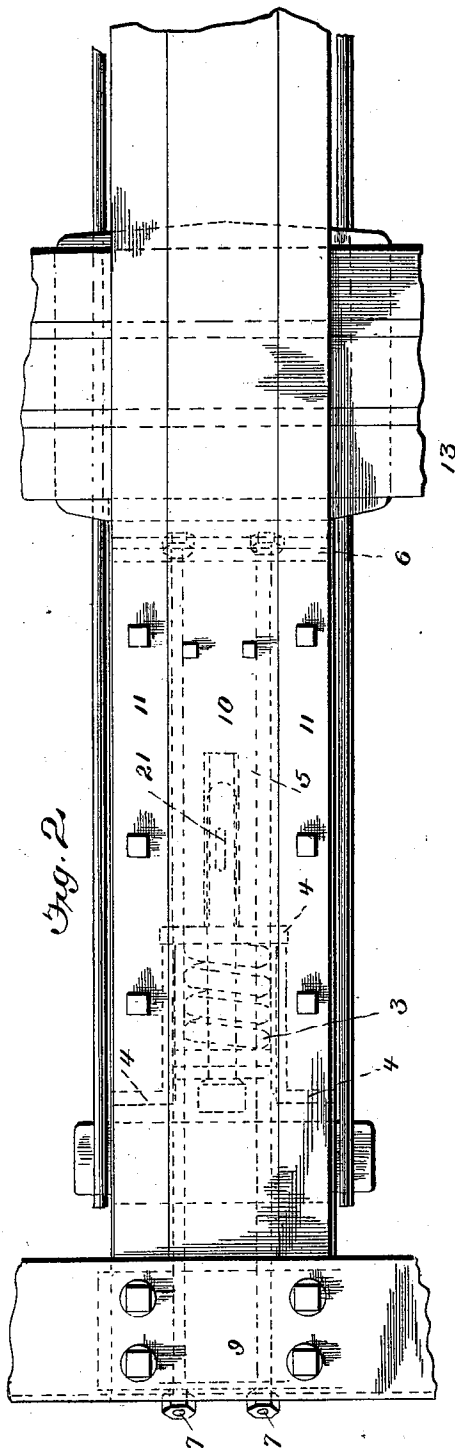


Fig. 2.

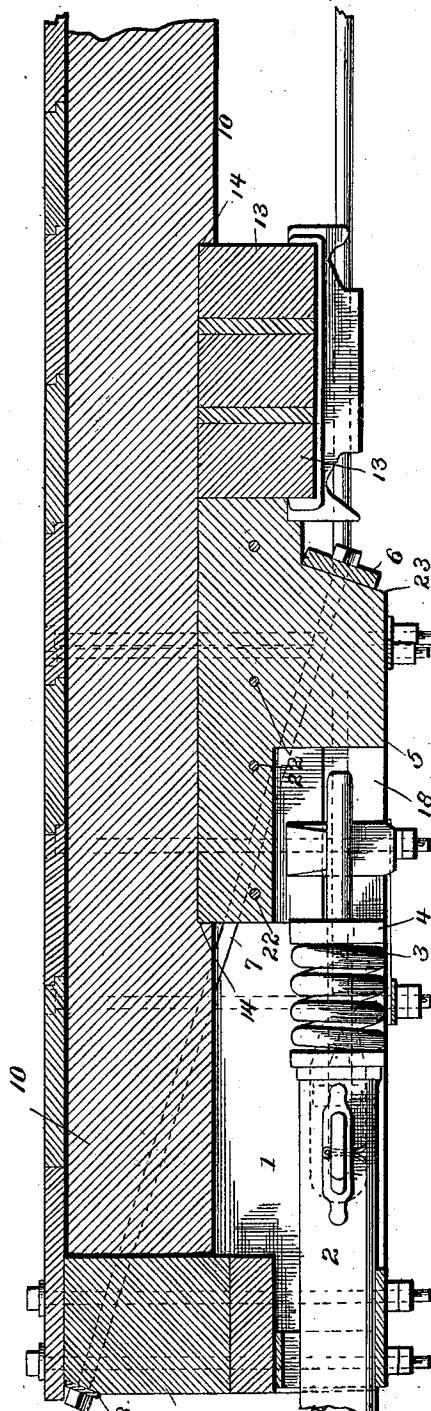


Fig. 1.

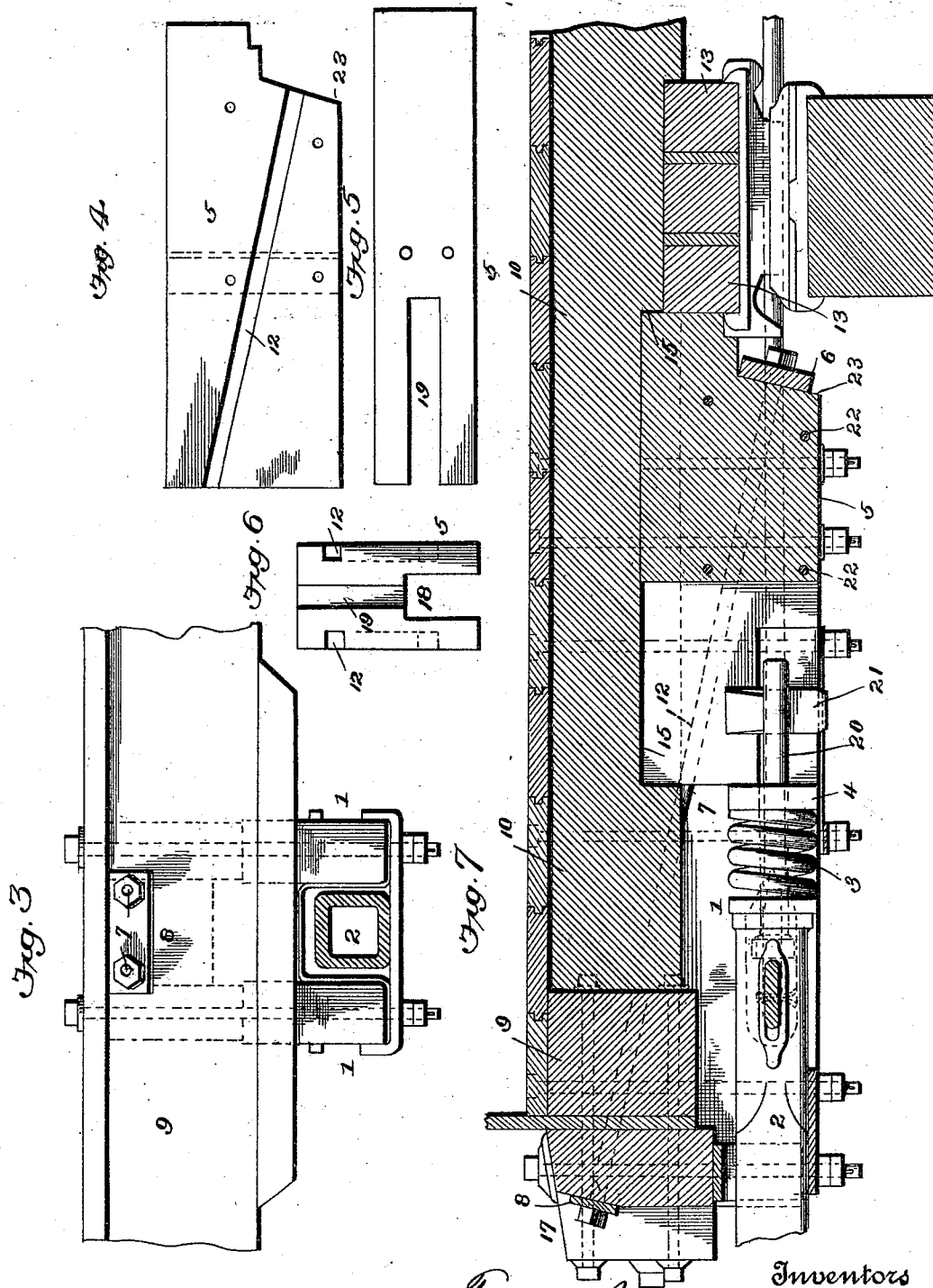
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UNITED STATES PATENT OFFICE.

FRANCIS J. COLE AND EDWARD W. GRIEVES, OF BALTIMORE, MARYLAND.

RAILROAD-CAR STRUCTURE.

SPECIFICATION forming part of Letters Patent No. 511,588, dated December 26, 1893.

Application filed March 17, 1893. Serial No. 466,505. (No model.)

To all whom it may concern:

Be it known that we, FRANCIS J. COLE and EDWARD W. GRIEVES, citizens of the United States, and residents of Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Railroad-Car Structures, of which the following is a specification.

Our invention relates to the construction of a freight car for use on railroads and has for its object to strengthen the frame-work of the structure in such a manner as to resist the shock of impact while coupling.

In the drawings Figure 1 is a vertical section of the car frame; Fig. 2, a plan of a part of the car frame; Fig. 3, an end elevation of part of same; Fig. 4, a side elevation of abutting block; Fig. 5, a top elevation of abutting block; Fig. 6, an end elevation of abutting block. Fig. 7 is a vertical longitudinal section of modified structure.

In the drawings 1—1 are the draw-bar timbers of the car; 2 the coupling head and bumper; 3 the bumper spring; 4 the bumper follower plate upon which the bumper spring rests.

5 is a filling block shown in detail in Figs. 4, 5 and 6. The form shown in Figs. 4, 5 and 6 is the one shown in Fig. 7; that shown in Fig. 1 differs from it only in not being cut entirely through at the end, that is to say, the slots 18 and 19 in which the stem 20 of the coupler and its key 21 stand, do not extend to the top of the block 5; otherwise the blocks are identical. The block 5 stands between the rear ends of the draw-bar timbers 1—1 to which it is bolted by horizontal bolts 22—22 passing through said timbers and block. The rear ends of both draw-bar timbers and block 5 are made of the same shape, and at the lower corner are provided with a notch having an inclined surface 23.

6 is a washer plate bearing against the inclined notch 23 and extending across the rear ends of both draw-bar timbers and block 5.

7—7 are two truss rods which pass through the plate or washer 6, through the grooves 12—12 in the sides of the block 5 (Fig. 4) through slots in the sides of the central timber 10, and through the end sill 9, and washer 8. Upon its extremity a nut is screwed which bears upon the washer 8.

The central timber 10 is not usually used in constructing freight cars of this class. It stands between the timbers 11—11, to which it is bolted by a series of transverse bolts. The end of the timber 10 abuts against the end sill 9 in its center and between the truss rods 7—7. The under side of the timber 10 is notched at 14—14, Fig. 1, and the block 5 which extends slightly above the draw-bar timbers 1—1 fits into the forward end of said notch. 13 is a cross-brace timber which stands immediately behind the block 5 and the draw-bar timbers 1—1 and against which they abut; it fits on its upper edge into the other end of the notch 14, and together with the block 5 occupies said notch. In Fig. 7 the structure is slightly different, the notch 15—15 being deeper than 14—14, and being occupied entirely by the block 5, while beyond it there is another notch 16 which is occupied by the cross timber 13. Fig. 7 also shows a slightly different arrangement of end-sill timbers.

It will be readily seen that when a blow is struck upon the coupling, the shock will be received by the bar 2, and imparted to the plate 4, and draw-bar timbers 1—1 and the block 5, both of which abut upon the cross timber 13, which is notched into the timber 10. Timber 10 being bolted by a series of horizontal bolts to the frame timbers of the car-body, the strain put upon the draw-bar timbers 1—1 and the block 5 will also be imparted to the truss rods 7—7, through the plate 6, and by said bolts to the end sill 9, and to the frame of the car. It will thus be seen that all shocks upon the couplings will be equally distributed throughout the car frame, and the maximum strength secured.

Having thus described our invention, what we claim is—

1. In a car frame the combination of two draw-bar timbers, a block bolted between the rear ends of said timbers, a central frame timber provided with a notch on its under side into which the block enters.

2. In a car frame the combination of two draw-bar timbers, a block bolted between the rear ends of said timbers, a central frame timber provided with a notch or notches on its under side, and a cross timber located at the rear of the draw-bar timbers and block and

below the central timber, the block and cross-bar timber entering the notch or notches of the central timber.

3. In a car frame the combination of draw
5 bar timbers, a straight truss rod in a single
piece secured to the rear of the cross bar tim-
bers at one end, the end-sill of the car to which
the truss rod is secured at the other end, and
a central frame timber for the car bearing
10 against the end-sill, substantially as described.

4. In a car frame the combination of two
draw-bar timbers, a block between the rear

ends of said timbers, a straight truss rod in a
single piece passing through the block and
forward through the end sill of the car, and 15
said end sill, substantially as described.

Signed at Baltimore city, in the State of
Maryland, this 8th day of March, A. D. 1893.

FRANCIS J. COLE.

EDWARD W. GRIEVES.

Witnesses:

G. F. PROUDFOOT,

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