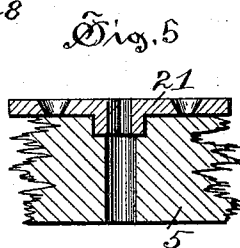
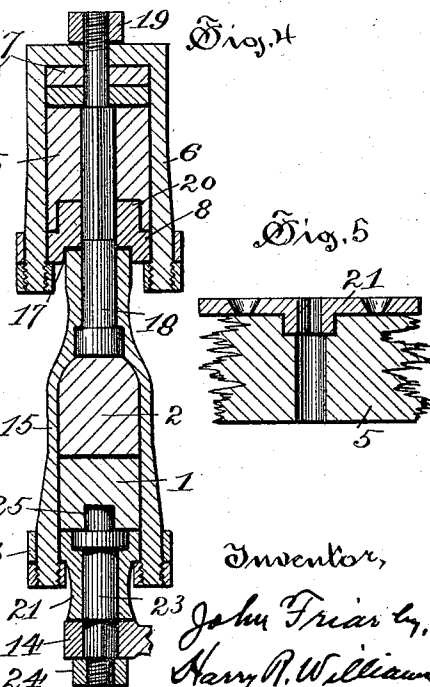
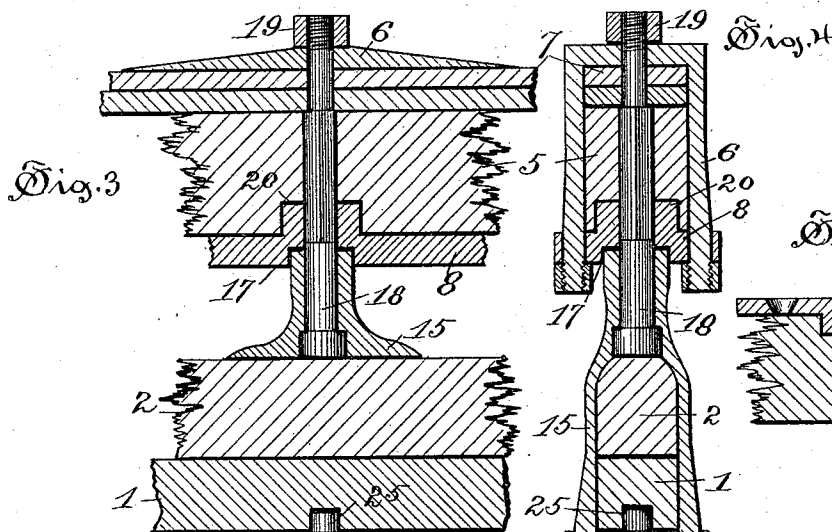
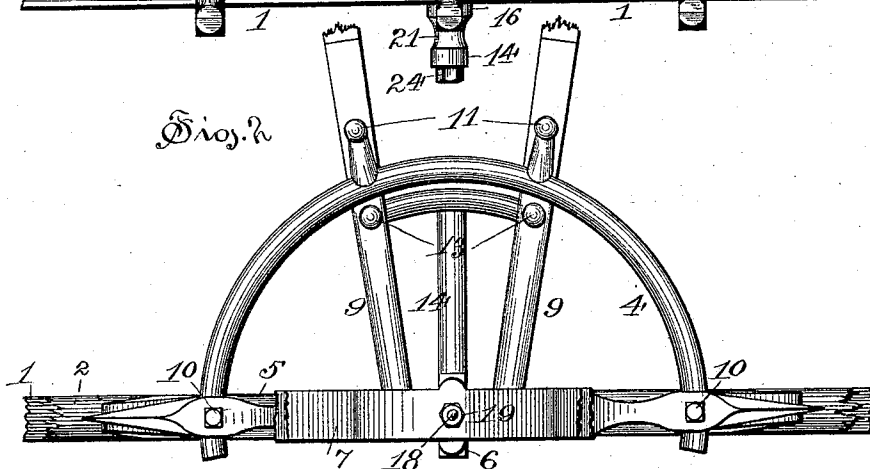
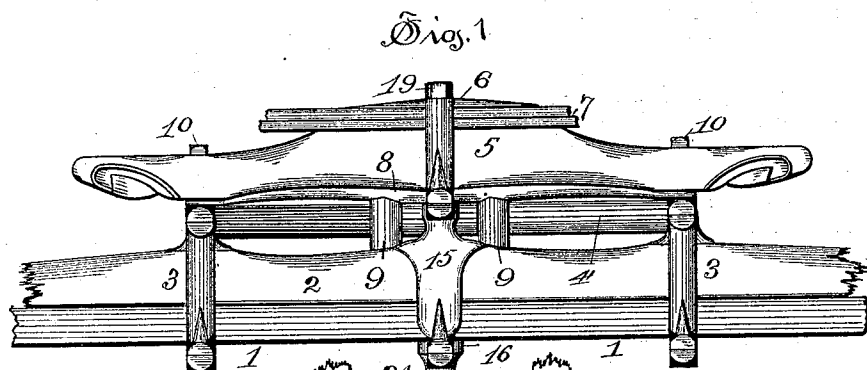


(No Model.)

J. FRIAR.
KING BOLT.

No. 485,496.

Patented Nov. 1, 1892.



Witnesses:

P. A. Phelps
A. L. Farn.

Inventor,

John Friar by,
Harry R. Williams
att.

UNITED STATES PATENT OFFICE.

JOHN FRIAR, OF HARTFORD, CONNECTICUT.

KING-BOLT.

SPECIFICATION forming part of Letters Patent No. 485,496, dated November 1, 1892.

Application filed November 9, 1891. Serial No. 411,344. (No model.)

To all whom it may concern:

Be it known that I, JOHN FRIAR, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in King-Bolts for Vehicles, of which the following is a full, clear, and exact specification.

The invention relates to the class of bolts which pivotally connect the oscillatory axle to the fixed running-gear or body of a wagon, carriage, buggy, phaeton, or similar wheeled vehicle; and the object is to provide a simple and cheap bolt of this class, applicable to any vehicle, which will keep tighter, be less liable to break, and have less wear, and consequently less rattle, than prior king-bolts.

To this end the invention resides in a connection so constructed that the holding-nuts set against a stationary part and themselves do not turn, while each of the moving parts is in contact with and held by a single stationary part and does not pass through several pieces.

Referring to the accompanying drawings, Figure 1 is a front elevation of a section of the forward portion of the running-gear of a carriage. Fig. 2 is a plan of the same. Fig. 3 is an enlarged longitudinal vertical section through the king-bolt and connected parts. Fig. 4 is a similar transverse section, and Fig. 5 is a detail longitudinal section of a head-block of modified construction.

In the views, 1 indicates an axle formed of iron or steel of any desired cross-sectional shape held to the usual wooden bed 2 by clips 3, to which the lower half of the fifth-wheel 4 is secured in the customary manner. Held to the top of the head-block 5 by a clip 6 are the springs 7, and secured to the bottom of the block is the usual plate 8, from which rearwardly project the reach-irons 9. The upper half of the fifth-wheel is held by bolts 10 to the block at the ends of the plate and by bolts 11 to the reach-irons 9, to which is secured by bolts 13 the bridle-iron 14. The axle and bed are also held together by the king-bolt clip 15 and its yoke 16. The circular shank of the king-bolt, which sets into a circular socket 17 in the lower face of the head-block plate, is longitudinally perforated

by a circular opening, in which fits a pivot 18, having an enlarged head. This pivot passes through the king-bolt, the plate, block, springs, and clip, and is threaded at the end to receive a nut 19. A portion of this pivot is squared or otherwise made oblong in cross-section and passes through a similarly-shaped opening in the plate to prevent the pivot from turning around.

The head-block plate, which at the center forms the yoke for the spring-clip, is thickened or provided with a hub 20, having a rectangular opening to receive the rectangular part of the pivot to prevent the latter from rotating, as shown in Figs. 3 and 4, or this may be accomplished by securing a plate 21, having a rectangular or oblong opening, to the top of the head-block, as shown in Fig. 5.

When the pivot is passed through the king-bolt, plate, block, springs, and clip, it is held stationary and does not turn, so that the stationary nut may be tightly set against the top of the stationary spring-clip, drawing the king-bolt, which oscillates on the stationary pivot, as closely as desired against the bottom of the plate.

The hub 21 of the yoke 16 for the king-bolt clip is also longitudinally perforated with a circular opening, and in this opening fits a circular pivot 23, with an enlarged head, a rectangular portion that passes through a rectangular opening in the end of the bridle-iron 14, and a threaded end to receive a nut 24. When this pivot is passed through the yoke and bridle-iron, it is held from rotation, and the nut, which consequently does not oscillate, is screwed as closely as desirable against the bottom of the stationary end of the bridle-iron. The upper end of the pivot 23 may be provided with a hub or stud 25 to project into a socket in the axle to prevent the parts from slipping out of position when together. When the parts are connected together by the means described, the king-bolt oscillates on the fixed pivot 18, with its upper end against the bottom face of the head-block plate, so that the nut 19 does not turn, nor is there any moving part which passes through the plate, block, spring, and clip, so as to unscrew the nut or wear the opening, causing rattling and exposing the pivot to the

danger of bending and breaking. At the lower end the yoke, which is secured to the king-bolt, so as to be practically a part thereof, oscillates upon the pivot 23, with its lower
5 face against the face of the bridle-iron, so that the pivot does not turn in the bridle-iron to wear that opening and produce a cause of rattling, nor does the nut oscillate, so that it will be unscrewed.

10 I claim as my invention—

The combination, with the head-block 5, the axle 1, and the bed 2, of clips 6 and 15, the latter of which is provided with an apertured extension and the former with a bolt-hole at
15 its upper end, a yoke 8, having a hub 20 with an angular aperture, and a seat 17 for the

upper end of the extension of the clip 15, a pivot held by its head in said extension and having a polygonal portion in the angular aperture of the yoke 8, and a screw-threaded
20 end for a nut 19, a yoke 16, having a hub 21, nuts for screwing the yoke to the clip 15, a bridle-iron 14, having an angular aperture, a headed pivot 23, held in said yoke and pivoted with a polygonal portion to take into the
25 angular aperture of the bridle-iron, and a nut 24 for the screw-threaded end of said bolt, substantially as set forth.

JOHN FRIAR.

Witnesses:

H. R. WILLIAMS,
P. A. PHELPS.