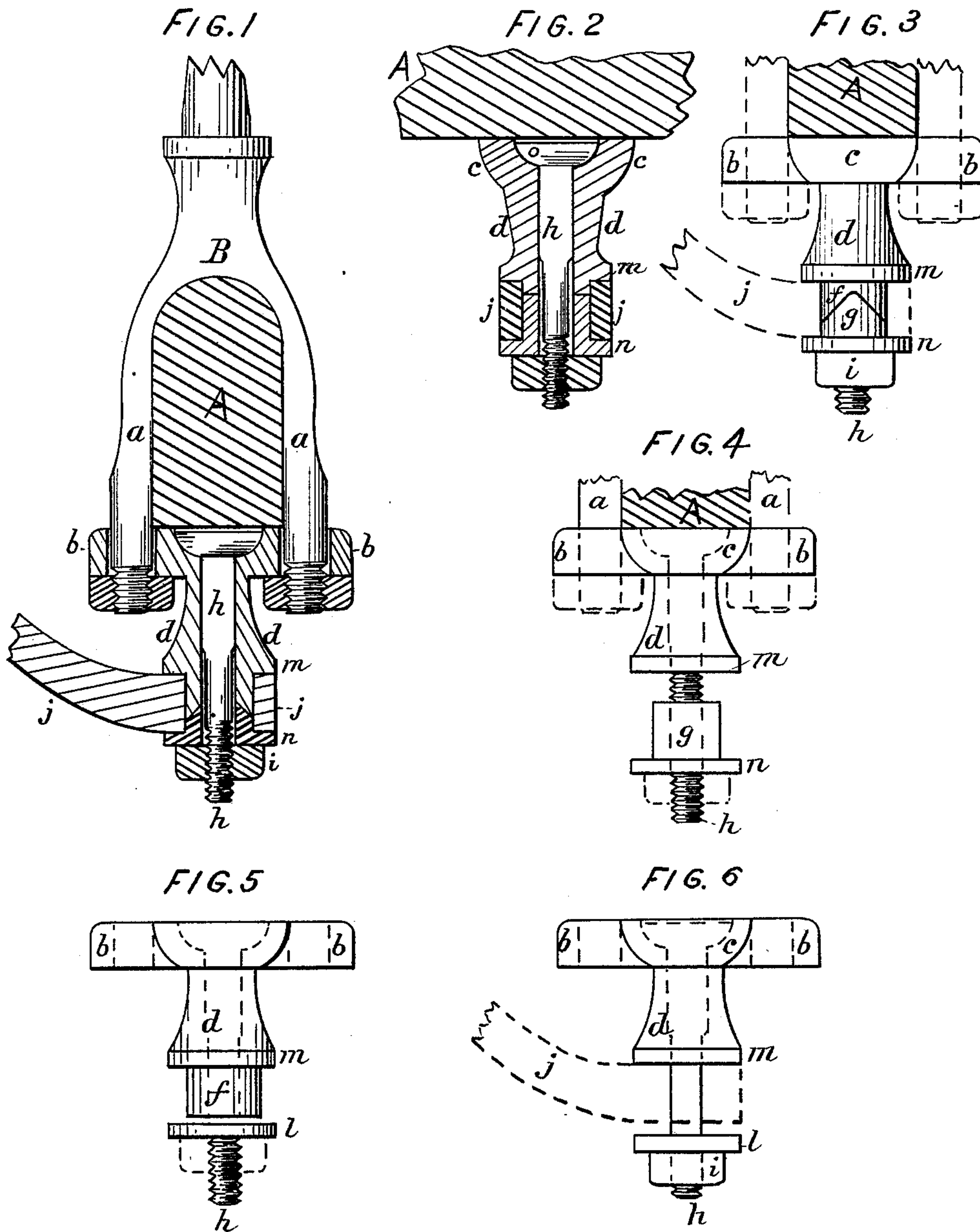


H. K. PORTER.
Clip King-Bolt.

No. 220,495.

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WITNESSES.

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IMPROVEMENT IN CLIP KING-BOLTS.

Specification forming part of Letters Patent No. **220,495**, dated October 14, 1879; application filed March 21, 1879.

To all whom it may concern:

Be it known that I, HENRY K. PORTER, of the city of Boston, State of Massachusetts, have invented an Improved Yoke for Clip King-Bolts, of which the following is a specification.

The object of my invention is to furnish a good and durable yoke at a less cost than if made in the usual manner, and in which the part subject to wear can be readily replaced without the loss of the main portion, as heretofore; and the invention consists in a yoke the body of which is formed of cast metal with a passage through the bar and stud for the insertion of a wrought-metal bolt for securing the brace when in position, a boss or suitable enlargement being formed upon the bar, in which boss is a suitable cavity to receive the head of such bolt, and a thimble being either formed in whole or in part upon or combined with the cast portion of the yoke to receive the wear of the brace, all as will, by the aid of the accompanying drawings, be fully described.

Figure 1 is a section taken vertically through the yoke and brace-eye, the axle being shown in vertical transverse section, the wrought-iron tion. Fig. 2 is a similar section, but taken at right yoke-bolt and king-bolt being shown in elevation angles to that shown in Fig. 1, or in the longitudinal direction of the axle. Fig. 3 is an elevation taken from the same point of view as Fig. 1, the axle being shown in transverse vertical section, the brace in dotted lines, and also showing the method of interlocking the parts of the thimble. Fig. 4 is an elevation similar to Fig. 3, but showing the thimble formed as an entirety and separate from the yoke-stud. Fig. 5 is a similar elevation of the yoke, (the axle omitted,) and with the thimble formed entirely upon the yoke-stud. Fig. 6 is a similar view of the yoke as used without the thimble, the brace being shown in position in dotted lines.

In these views, A is the axle. (Shown to illustrate the relative positions of the other parts.) B is the king-bolt, formed with the round forks *a a* to stride the axle. *b b* show the bar of the yoke, formed with a necessary enlargement, *c*, in the center, and with the usual holes to receive the round portion of the forks *a*. *d* is the stud, formed upon and depending from the

center of bar *b*. This stud is formed with a shoulder, *m*, below which is formed a thimble, *f*, terminating in an indented line, into which fits the corresponding thimble *g*, having formed upon it the collar *n*.

In boss *c*, and centrally in bar *b*, is formed a cavity to receive the head *o* of bolt *h*, as shown, the stem of the bolt extending through the passage in stud *d* and the thimble, and being provided with the usual nut *i*, the eye of brace *j* being formed to fit upon thimble *f*; and being so placed, the thimble *g* is inserted and secured in place by the nut *i*, which may be forced hard home, as the thimble serves as a jam-nut.

The oblique line of intersection of *f* and *g* not only prevents the nut from being turned loose by the revolving motion of the thimble in the eye of brace *j* as the vehicle is used, but the salient lines of part *g* may be readily filed away to adjust the space between *m* and *n* to the thickness of the brace-eye.

Instead of the thimble being formed in two parts, as shown in Figs. 1, 2, 3, it may be formed separate from the stud, as shown in Fig. 4; or it may be formed entirely upon the stud, as shown in Fig. 5; or the thimble may be omitted, as shown in Fig. 6. When the parts are constructed as in said last two figures, the washer *l* may be a part of the nut or a separate and distinct part.

The bolt *h* may be inserted in the completed casting; or the body may be cast to and around such bolt.

By forming the end or cross-section of thimble *f* with two oblique converging planes, constituting a retiring angle, and by forming the meeting end of thimble *g* with two diverging planes, which constitute a salient angle, as shown and described, two very beneficial results are accomplished: First, the thimble *g* is effectively locked, and thereby prevents wear on bolt *h*; second, when, by reason of the wear of the eye of brace *j*, it becomes necessary to reduce the space between collar *n* and shoulder *m*, by removing the bolt-nut *i*, thimble *g* may be withdrawn, and its angles filed down as easily as if its end were formed in one plane at right angles to its axis.

I claim as my invention—

1. In a king-bolt yoke having a central passage through bar *b* and stud *d* for a bolt, *h*, a boss or enlargement, *c*, at the intersection of the bar and stud, to receive the bolt-head, substantially as specified.

2. A king-bolt yoke formed with the bar *b*, stud *d*, and an enlarged shoulder, *m*, formed on such stud, and with a passage for a bolt, *h*, through such bar and stud, substantially as specified.

3. In a king-bolt yoke formed with a bolt-hole through bar *b* and stud *d*, as specified, the thimble *j*, formed upon stud *d* and projecting from shoulder *m*, substantially as specified.

4. In a king-bolt yoke formed with the bar *b* and stud *d*, with a bolt-passage through the same, a recess or counter-sink in such bar for the head of bolt *h*, substantially as specified.

5. In a king-bolt yoke, the combination of

the body, formed with bar *b* and stud *d*, having a passage containing bolt *h*, of a thimble, *g*, having a flange, *n*, and fitting to such bolt, substantially as specified.

6. In combination with the thimble *f*, formed upon stud *d* of a king-bolt yoke, and terminating in two oblique intersecting planes, a correspondingly - formed thimble, *g*, having a flange, *n*, substantially as specified.

7. In a clip king-bolt yoke, the combination of the body, formed with bar *b* and stud *d*, with a bolt-passage and head-recess therein, with the bolt *h* and thimble *g*, formed with a flange or collar, *n*, all substantially as specified.

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Witnesses:

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