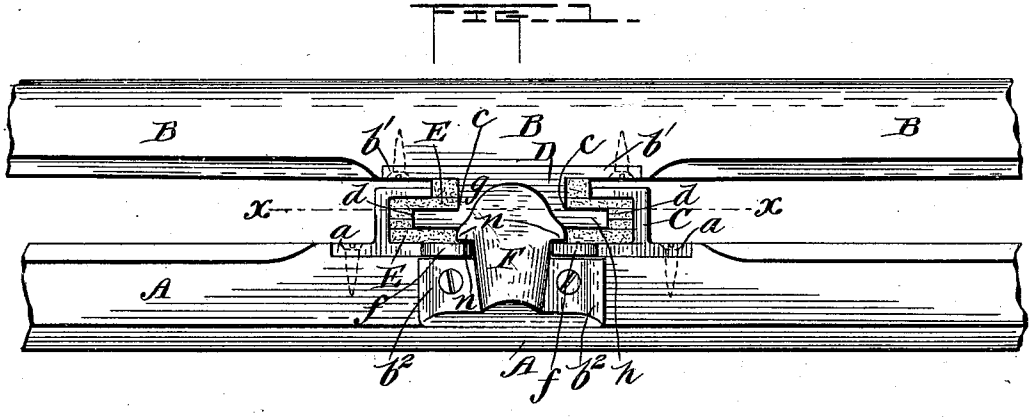
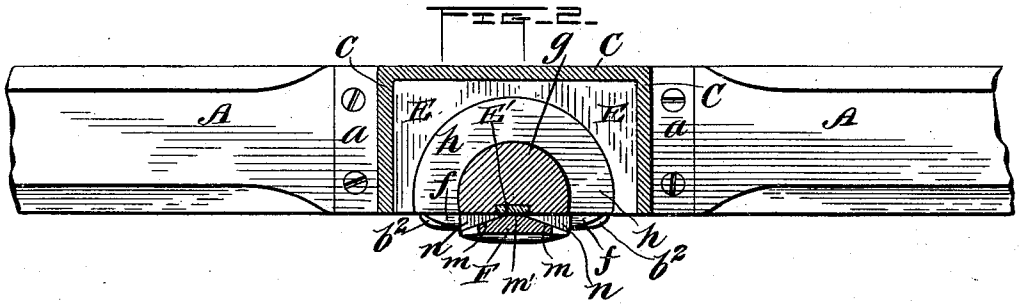
(No Model.)

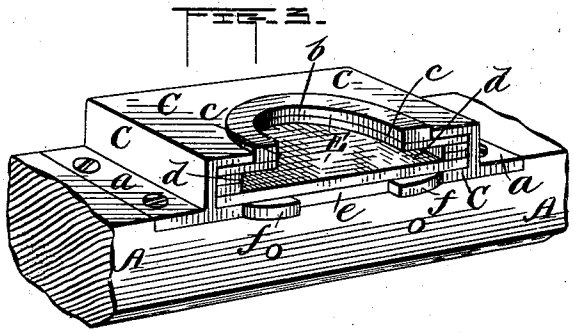
H. SWAN.

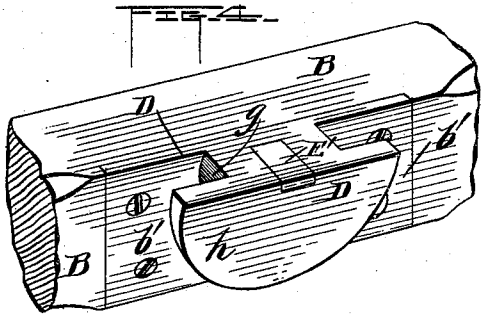
WHIFFLETREE CENTER.

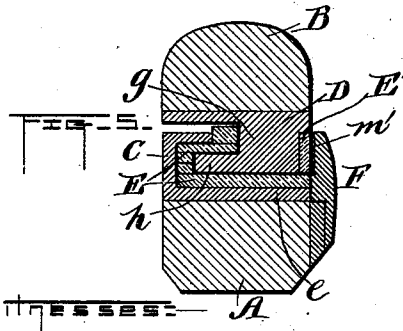
No. 478,033. Patented June 28, 1892.

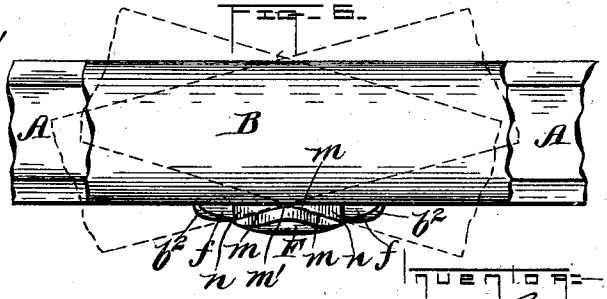












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UNITED STATES PATENT OFFICE.

HORACE SWAN, OF RUTLAND, VERMONT.

WHIFFLETREE-CENTER.

SPECIFICATION forming part of Letters Patent No. 478,033, dated June 28, 1892.

Application filed April 2, 1892. Serial No. 427,531. (No model.)

To all whom it may concern:

Be it known that I, HORACE SWAN, a citizen of the United States, residing at Rutland, in the county of Rutland and State of Vermont, have invented certain new and useful Improvements in Whiffletree-Fastenings; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to whiffletree and other analogous fastenings of that type used as substitutes for the king pin or bolt; and its object is to simplify and cheapen as well as improve the operation and effectiveness thereof, and also afford increased convenience and facility for repairing the same.

My invention consists in certain novel constructions, combinations, and arrangements of parts forming the whiffletree-fastening, as will be hereinafter described.

In the drawings, Figure 1 is a rear view of the whiffletree-supporting cross-bar, whiffletree, and its fastening. Fig. 2 is a horizontal section of the fastening in the line *x x* of Fig. 1. Fig. 3 is a perspective view of a portion of the cross-bar and that part of the fastening which is screwed to the cross-bar. Fig. 4 is a perspective view of that part of the fastening which is attached to the whiffletree as viewed from the under side and rear. Fig. 5 is a vertical cross-section of the cross-bar, whiffletree, and fastening as seen in Fig. 1; and Fig. 6 is a top view of the cross-bar, whiffletree, and fastening, the dotted lines illustrating the vibratory movements of the single-tree.

A in the drawings is the cross-bar; B, the whiffletree; C, the lower part of the fastening, and D the upper part; E, the packing, of leather or molded or stamped paper-stock, and F the plate by which the parts C and D are secured together and the part D, with the whiffletree, permitted to vibrate without separating. The part C is a metal casting with flanges *a*, by which it is screwed to the cross-bar A, and with a vertical bearing recessed portion of segmental shape, being a portion of a circle a little greater than a half-circle and open at its rear, as indicated at *c*, and below this segmental recessed portion it has a horizontal segmental recess *d* of greater diameter than the recess *b*, said recess being overhung by the metal portion in which the recess *b* is formed. Below the recess *d* the plate is level and extends horizontally and forms a bottom *e* for the recess *d*. The recess *d* is open at the rear, same as the recess *b*, and on each side of this opening below the upper surface of the bottom *e* interlocking sustaining-lugs *f* are formed on the rear edge of the plate outside the recesses *b d*, as shown, for a purpose presently described. The part D is also a metal casting, and it is formed with flanges *b'*, by which it is screwed to the whiffletree, and a segmental neck *g* and a segmental head *h*, the neck and head being, respectively, portions of circles a little greater than half-circles. The neck and head form an inverted-T coupling portion, which concentrically and closely fits the recesses *b* and *d*, and when the parts C and D are connected by horizontally inserting C into D through the open back of the plate C a separation thereof by a vertical movement cannot take place, but a horizontal vibratory movement in a back and forward direction of the plate D upon the plate C is permitted, as illustrated by dotted lines in Fig. 6. The packing of leather or stamped or molded paper-stock E may be in several pieces or molded in one piece, and it is inserted at the open back of the fastening, so as to lie upon the bottom of plate C and against all of the surfaces where friction and rattling contact would take place if the packing was not interposed between the plates C and D. This packing remains like a pillar and can be readily withdrawn and new packing introduced at the rear of the fastening parts. The plate F is formed with a front face, which is curved or beveled, as at *m*, and at the junction of the bevels, which is midway of the plate, a scale-beam-like bearing-edge *m'* is formed, as shown, and opposite this bearing-edge a piece of packing-leather or paper-stock E' is applied upon the rear surface of the plate D, and against the same the edge *m'* bears, and thus wear of the plates F and D and rattling are prevented. The plate F is also formed with two bearing-lugs *n*, and below these lugs are flanges b^2, by which it is

secured to the cross-bar. The lugs *n* rest upon the lugs *f* of the plate D and prevent the plate F from descending, and they also form a horizontal bearing for the plate D to vibrate upon outside the back edge of the packing on a plane with the bottom portion of the upper surface of that part of the packing which rests on the bottom of the plate D.

By constructing the whiffletree-fastening in the manner herein described the bearing portions can be made of about one-half the metal used in making fastening-plates with bearing portions which are complete circles, facilities for the insertion of an improved form of packing and the repairing of such packing are afforded, and the parts can be united and separated very conveniently, it only being necessary to unscrew the plate F and draw the whiffletree in a backward direction.

The fastening-plates C, D, and F, with the packing, can be used on eveners, front axles of carriages, and in other places where rockers and king-bolts are employed.

What I claim as my invention is—

1. The fastening confining-plate C, having segmental bearing-recesses *b* and *d*, open at back, the plate D, having segmental neck *g* and segmental head *h*, and the confining-stop and bearing-plate F, having curved or beveled surfaces with a scale-beam-like bearing-edge between them, substantially as described.

2. The plate C, having segmental bearing-recesses *b* and *d* and open at back, the plate D, having segmental neck *g* and head *h*, packing E, applied between the points of contact of the plates with one another, and the confining-stop and bearing-plate F, substantially as described.

3. The combination, with the plates D and F, of the removable confining-stop and bearing-plate F, fastened on the cross-bar, formed with beveled surfaces and a bearing-edge at the back of the plates C and D, and packed at E, substantially as described.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

HORACE SWAN.

Witnesees:

E. S. WHITTAKER,

FRED H. HYDE.