BEST AVAILABLE COPY

J. P. NORTHEY.

KEY BOLT.

APPLICATION FILED APR. 19, 1917.

1,261,598. Patented Apr. 2, 1918.

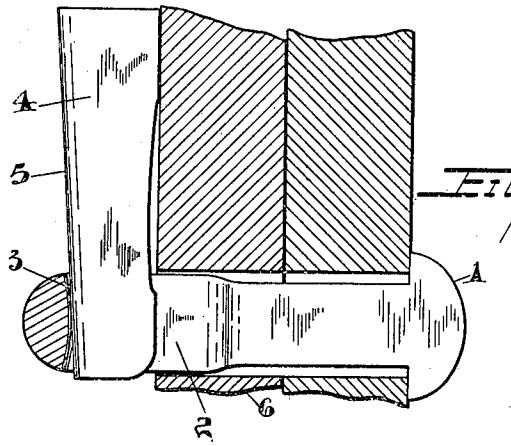


Fig. 1.

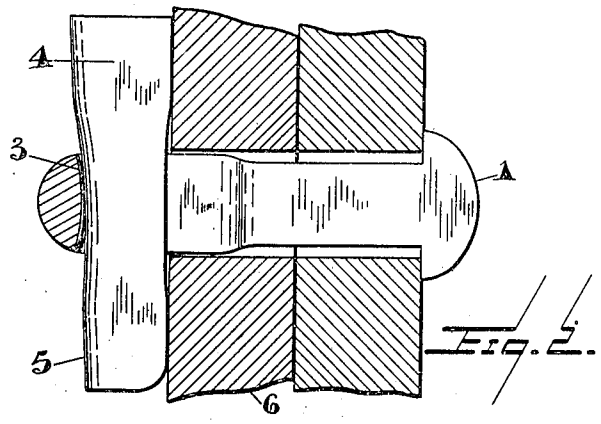


Fig. 2.

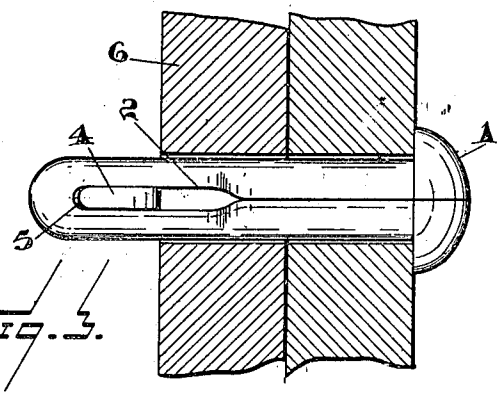


Fig. 3.

INVENTOR.

J. P. Northey.

BY J. Edward Maybee.

ATT'Y.

UNITED STATES PATENT OFFICE.

JOHN P. NORTHEY, OF TORONTO, ONTARIO, CANADA.

KEY-BOLT.

1,261,598. Specification of Letters Patent. Patented Apr. 2, 1918.

Application filed April 19, 1917. Serial No. 163,244.

To all whom it may concern:

Be it known that I, JOHN PELL NORTHEY, of the city of Toronto, in the county of York, Province of Ontario, Canada, have invented certain new and useful Improvements in Key-Bolts, of which the following is a specification.

This invention relates to slotted bolts with which wedge keys are employed such for example as the bolt shown and described in United States Letters Patent No. 1,000,445 dated August 15th, 1911, and my object is to devise means for preventing the keys working loose under the influence of vibration.

I attain my object by forming the wedge key of spring steel and concaving the side of the key contacting with the part through which the bolt passes, so that when the key is driven in it contacts at its outer edge with the end of the slot and at its inner edge with the part through which the bolt passes at each side of the bolt but at some distance therefrom. The key thus forms a spring arch, the tension of which is sufficient at all times to keep the key sufficiently tight under all conditions to prevent any backing up and loosening.

The key and bolt are constructed in detail substantially as hereinafter described and illustrated in the accompanying drawings in which

Figure 1 is a side elevation partly in section of the bolt and key, the latter being placed in position ready to be driven;

Fig. 2 a similar view with the key driven in place; and

Fig. 3 is a side elevation of the same taken at right angles to Fig. 1.

In the drawings like numerals of reference indicate corresponding parts in the different figures.

1 is a bolt in which is formed the slot 2. The end 3 of the slot is preferably convexly curved depthwise of the slot so that the wedge key 4 may be driven from either side and still have an effective bearing against the end of the slot. Transversely of the slot the end is concavely curved and the back 5 of the wedge key is similarly shaped to fit the slot. The front edge of the key which is intended to engage the part 6 through which the bolt passes is concaved or cut away so that when the key is driven home it engages the part through which the bolt passes at each side of the bolt, but at some distance therefrom, while its back or outer edge engages the end of the slot intermediate these two points. The key thus forms a spring beam which is under heavy stress. Under such conditions the key will remain tight under all conditions, as no vibrations or jar can materially reduce the pressure of the key on the parts with which it is engaged. There is thus no lessening of the frictional grip of the key under any conditions and the latter will always remain tight.

What I claim as my invention is:—

1. The combination with a slotted bolt of a wedge key adapted to pass through the slot in the bolt, having its back substantially straight in the direction of its length, and having the front edge which faces toward the head of the bolt slightly concaved longitudinally.

2. The combination with a bolt having a slot formed therein with its end convexly curved depthwise of the slot, of a wedge key adapted to pass through the slot in the bolt having its back substantially straight in the direction of its length and having the front edge which faces toward the head of the bolt slightly concaved longitudinally.

3. The combination with a bolt having a slot formed therein with its end convexly curved depthwise of the slot and concavely curved transversely of the slot, of a wedge key adapted to pass through the slot in the bolt, having its back substantially straight in the direction of its length and having the front edge which faces toward the head of the bolt slightly concaved longitudinally and its back convexly curved transversely.

Signed at Toronto, Canada, this 10th day of April, 1917.

JOHN P. NORTHEY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."