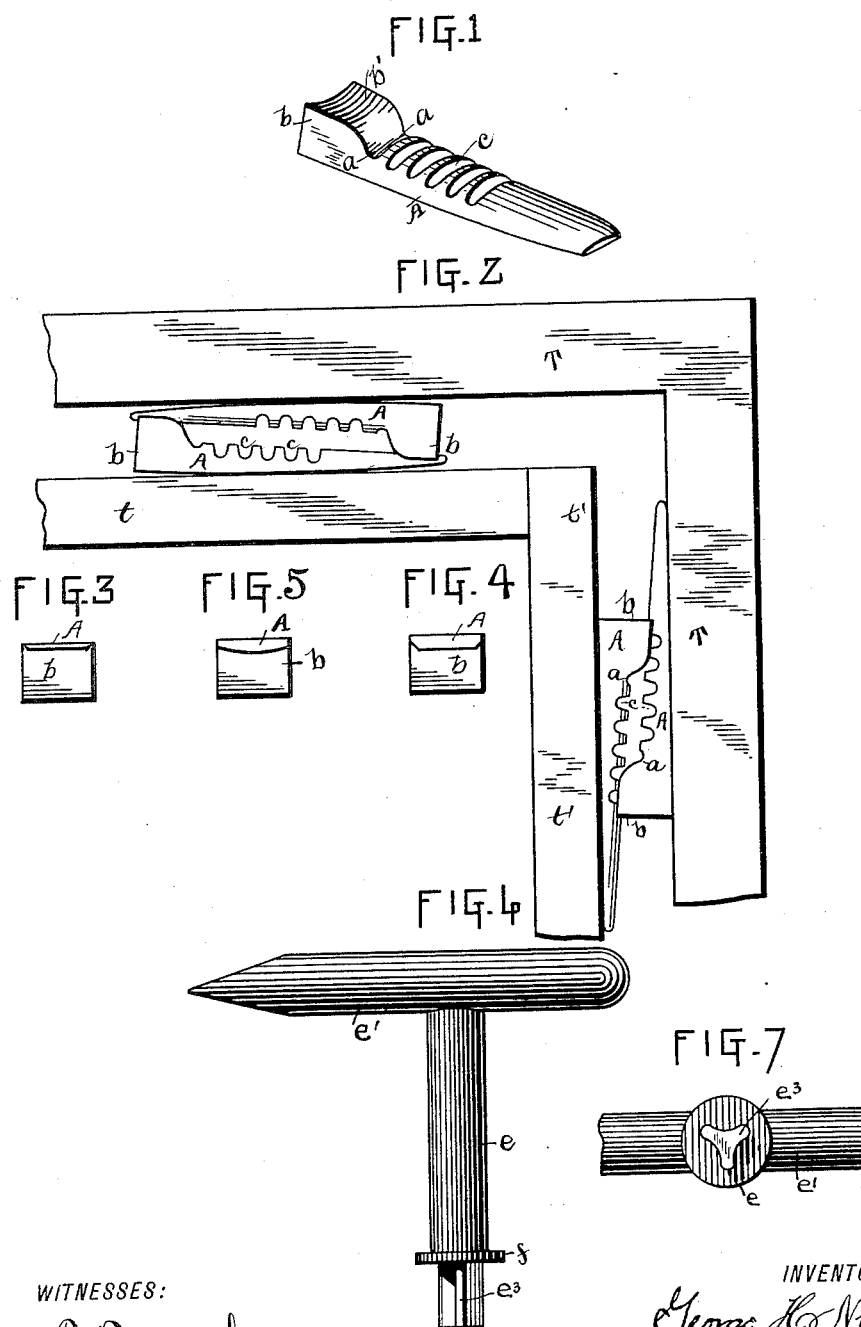


(No Model.)

G. H. NITSCHKE.
QUOIN.

No. 419,212.

Patented Jan. 14, 1890.



WITNESSES:

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OF SAME PLACE.

QUOIN.

SPECIFICATION forming part of Letters Patent No. 419,212, dated January 14, 1890.

Application filed March 23, 1888. Serial No. 268,211. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. NITSCHKE, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented a certain new and useful Improvement in Locking-Quoins, of which the following is a specification.

My invention relates to the improvement of metallic locking-quoins which, in conjunction with a key, are adapted for the use of printers in locking forms of type within a chase; and the objects of my invention are to provide strong and durable quoins and operating-keys, so constructed as to admit of the latter being made to bear equally on all points of the teeth of the former when in engagement therewith; to so construct said key and quoins as to prevent the latter from lifting or spreading apart at their upper edges during the operation of locking, thereby causing the form to rise off its feet and thus print imperfectly; to obviate the necessity of forming the quoins with central horizontal guide-ridges, and to so form the quoins as to admit of an easy and accurate adjustment one against the other. These objects I accomplish in the manner illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of one of the halves of my improved quoin. Fig. 2 is a view of a portion of a chase and locking-furniture, showing two of my improved quoins, one locked and one unlocked. Figs. 3 and 4 represent, respectively, end views of modified forms of quoins. Fig. 5 is an end view of the quoin herein described. Fig. 6 is a side elevation of the operating-key, and Fig. 7 is a view of the under side of the key.

Similar letters refer to similar parts throughout the several views.

A represents one of the halves of my improved quoin, which consists of an oblong metallic block having one of its sides smooth and slightly convex, and having the surface of its opposite side or face slanting downwardly and rearwardly to its rear end from a point *a* slightly in the rear of its front end. That portion of the metal between said point *a* and the front end of the quoin is made to project outwardly, as shown, to form a head *b*.

The slanting surfaces of each of the quoins are provided with a number of notches and intervening teeth *c*, said notched portion preferably extending from the point *a* to a point slightly past the center of the length of the quoin. The surface of the notched side or face of the half-quin is curved or beveled, as shown, to its outer edges from points on either side of an imaginary horizontal line drawn through the center of the half-quin. A similar curved or rounded bevel is also formed from a point near the rear and smaller end of each half-quin to said end. The surface of the head *b* on the side corresponding with the notched portion *c* is concave, as shown, to correspond with the curve of said notched portion formed by the lateral bevel of the latter, above described.

E represents the operating-key, consisting of a vertical arm *e*, having a cross-arm or handle *e'*. The lower portion of the arm *e* consists of a solid center having projecting at equidistant points therefrom vertical flanges or teeth *e''*. Although three of these teeth are shown in the drawings, any desired number may be used. Immediately above the toothed portion *e''* of the key is made to project a circular flange or shoulder *f*.

Two of the above-described quoins having been brought together in the usual manner, with the rear ends of each resting and fitting within the depression *b'* of the head of the other, the space occupied may be increased by inserting the lower toothed end of the key between the notched or toothed surfaces of the quoins, the teeth of one being made to enter the depressions formed between the teeth of the other, while the shoulder *f* rests upon the upper sides of the quoins. The space between the lower end of the key and the shoulder *f* is about equal to the height of the quoins, thus allowing the teeth of the key to press equally against the lower as well as the upper part of the quoin-teeth. This equal contact between the quoin and key teeth will operate to prevent the tendency of the upper sides of the quoins to spread apart, and thus throw the form off its feet, and will also prevent the key from falling from its vertical position onto the type when the grasp of

the hand is released therefrom. It will be observed that the pressure of the shoulder *f* upon the quoins will prevent one being lifted above the other while the form is being locked. The curved depression in the head of each of the half-quoins forms a seat and guide for the curved or half-oval surface of the adjoining half-quoins.

As shown and described herein, the rear or smooth side of the quoin is slightly convex. The object of this curve is illustrated in Fig. 2 of the drawings, in which *T* represents a portion of a chase, and *t t'* respectively represent pieces of wood furniture. The upper quoin (shown between the furniture-strip *t* and chase) is in position for locking, while the lower quoin (shown between the furniture-strip *t'* and the chase) is locked. The latter quoin, as is shown, has been tightened until the convex sides of the half-quoins are made straight by pressure.

It will be seen that the swelling of the wooden furniture, which, as is well known, is often caused by dampness, will only serve to more firmly assure the form in its position; but said furniture being so swelled or expanded when the form is first locked up, the shrinkage caused by the drying of said furniture will tend to loosen, if not entirely unlock, the form.

By the use of the above-described quoin it will be seen that the shrinkage of the furniture will only cause the ends of the quoin to be released from its bearing against the fur-

niture, while the central portion of the quoin will bear firmly between the adjoining parts.

As shown in Figs. 3 and 4 of the drawings, modified forms of quoins may be used. In said figures the bottom of the depression in the head is flat and curves abruptly near its edges, in place of being a continuous curve, as shown in Fig. 5; but it acts also as a guide for the quoin resting against it.

Having now fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The above-described metallic quoin, each of its halves having a depressed head *b*, and having a slanting and a convex side, the former provided with a number of notches and intervening teeth *c*, said notched surface or face being provided with a curved bevel toward its outer sides and rear ends, substantially as and for the purpose specified.

2. The combination of the metallic half-quoins *A*, having depressed heads *b*, and having slanting and convex sides, as described, provided with a number of notches and intervening teeth *c*, said slanting sides being provided with a curved bevel toward their sides and rear end, with the operating-key *E*, having teeth *e*³ and shoulder *f*, substantially as and for the purpose specified.

GEORGE H. NITSCHKE.

Witnesses:

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