

(No Model.)

A. T. H. BROWER.

SUPPLEMENTAL TIGHTENER FOR PRINTERS' QUOINS.

No. 580,922.

Patented Apr. 20, 1897.

Fig. 1.

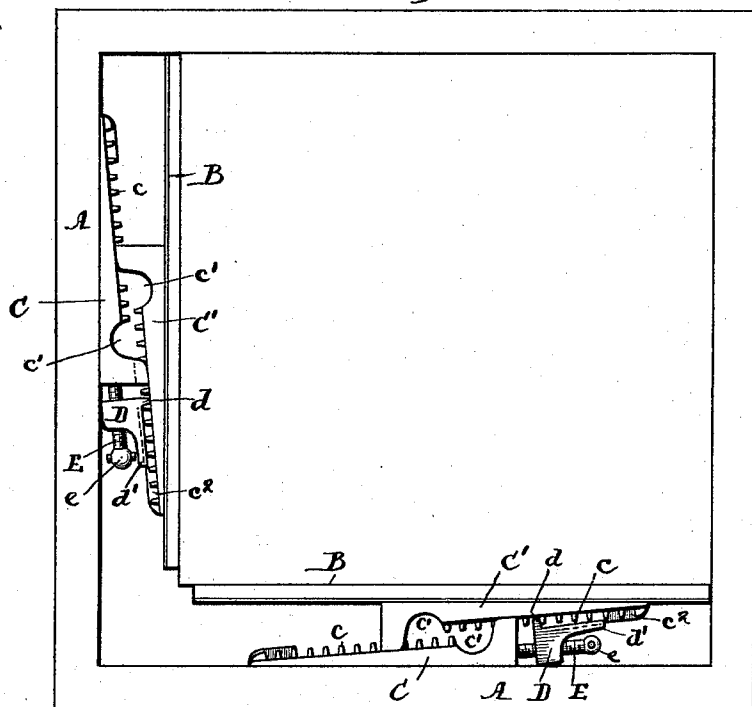


Fig. 2.

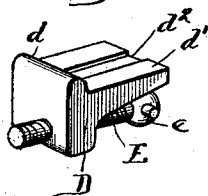


Fig. 4.

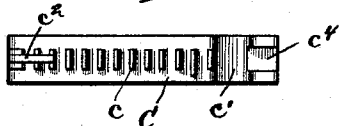


Fig. 3.

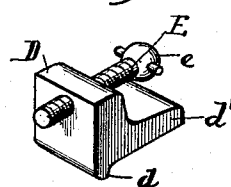


Fig. 5.

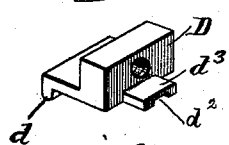


Fig. 7.

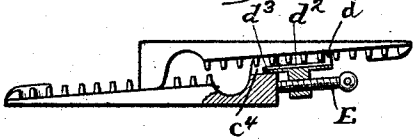


Fig. 6.

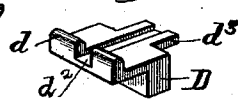


Fig. 8.

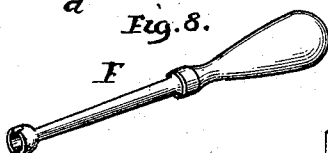


Fig. 9.

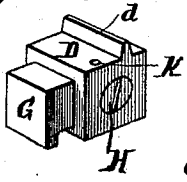


Fig. 10.

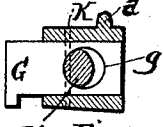
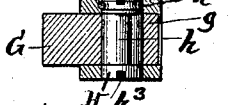


Fig. 11.



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UNITED STATES PATENT OFFICE.

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SUPPLEMENTAL TIGHTENER FOR PRINTERS' QUOINS.

SPECIFICATION forming part of Letters Patent No. 580,922, dated April 20, 1897.

Application filed September 30, 1895. Serial No. 564,101. (No model.)

To all whom it may concern:

Be it known that I, ABRAHAM T. H. BROWER, a citizen of the United States, residing at the city of Chicago, Cook county, Illinois, have
5 invented certain new and useful Improvements in Supplemental Tighteners or Locks for Printers' Quoins, of which I do declare the following to be a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

The present invention has for its object to provide improved means whereby the pairs or sets of quoins commonly used by printers for
15 locking the type-forms within the chases can be so tightened and locked that all danger of the slipping of the quoins and constant loosening of the type-form will be avoided.

The invention is adapted more particularly
20 for use in connection with that class of printers' metallic quoins each pair of which comprises two wedge-shaped bodies having their abutting incline faces formed with rack-bars adapted to be engaged by a suitable key in
25 order to shift the wedges with respect to each other, and thus effect the locking of the type-form within the chase. In Letters Patent No. 413,166, granted to me October 2, 1889, is shown an example of this type of printers' quoin. In the finer classes of "job-work,"
30 particularly where the printing is done in a variety of colors and the most exact "register" is required, it is important that when the type-form has been locked up there shall
35 be no easing or loosening of the form, even to a slight extent, because when this occurs the exact register of the printing is destroyed.

By my present invention all danger of the quoins slipping and allowing the type-form
40 to ease or loosen after it has been locked up is effectively guarded against, and by this invention also an additional relative shifting of the quoins to more tightly lock the type-form can also be had when found desirable.

45 The invention consists, primarily, in a supplemental tightener or lock for printers' quoins, comprising a body having a part that is adapted to engage one of a pair of quoins, in combination with a pressure device or
50 mechanism for engaging other of said quoins, so that when the type-form has been locked

up the quoins can with certainty be retained in their locked position against danger of slipping or becoming loose.

The invention also consists in various novel 55 features of construction that will be hereinafter described, illustrated in the accompanying drawings, and particularly pointed out by claims at the end of this specification.

Figure 1 is a plan view of a printer's chase 60 and type-form having my invention applied thereto. Fig. 2 is a perspective view of one form of my improved supplemental quoin tightener or lock. Fig. 3 is a perspective view of the tightener or lock shown in Fig. 65 2, but taken from the opposite side. Fig. 4 is a detail plan view of one of a pair of quoins. Fig. 5 is a detail perspective view of a slightly-modified form of my improved quoin lock or tightener. Fig. 6 is a perspective view of the 70 device shown in Fig. 5, this view being taken from the opposite side. Fig. 7 is a view in side elevation (parts being shown in longitudinal section) of a pair of quoins having the form of my invention illustrated in Figs. 5 75 and 6 applied thereto. Fig. 8 is a perspective view showing the form of key that will be used with the devices illustrated in Figs. 2 and 5. Fig. 9 is a perspective view of a modified form of the invention. Fig. 10 is a 80 view in longitudinal section through the form of the invention illustrated in Fig. 9. Fig. 11 is a view in horizontal section on line 11 11 of Fig. 10.

A designates the chase wherein the type is 85 held, and B denotes the reglet or like furniture about the form. C C' denote the wedge-shaped sections of a pair of quoins, one of which sections is illustrated in plan in Fig. 4 of the drawings. The inner faces of the quoin- 90 sections C and C' are formed with the rack-bars c and with the open spaces c', these spaces serving to permit the insertion of the usual keys whereby the quoins will be shifted to lock and unlock the form in manner well un- 95 derstood in the art.

The form of my improved quoin lock or tightener illustrated in Figs. 1, 2, and 3 comprises a body D, having a part or projection d, adapted to engage with one of the quoins, 100 and preferably this projection d is of such size and shape that it will enter between the

teeth of the rack-bars *c* upon the inner faces of either of the quoins. By preference also the body *D* has a rearward extension *d'*, adapted to rest upon the teeth of the rack-bar *c*. Preferably also the body *D* is formed of approximately the same width of the larger end of the quoin, so that all danger of the part or extension *d* rising from out the teeth of the quoin will be avoided. The body *D* is formed with a threaded perforation, through which passes a correspondingly-threaded screw *E*, the outer end of which has a head *e* with projections that enable it to be firmly engaged by a suitable key or wrench *F*. (See Fig. 8.) It is manifest that any convenient shape may be given, however, to the head of the screw *E*, and any suitable form of key or wrench may be employed for operating this screw. By preference also the body *D* is formed with a groove *d²*, that will set over the rib *c²*, that is usually formed at the end of the rack-bar *c* in the type of quoin illustrated. From the foregoing description it will be seen that after the quoin-sections *C C'* have been shifted by means of the usual keys, so as to lock up the type-form, the quoin lock or tightener *D* will be dropped into place with its part or extension *d* entering between the teeth of the rack-bar immediately behind the larger end of one of the quoins. The screw *E* will then be turned by the key or wrench *F*, so that the free end of the screw shall bear tightly against the quoin *C* and thus securely lock it against accidental slipping or yielding with respect to the quoin *C'*. If desired, also, the screw *E* may be used for more tightly locking up the type-form, since as this screw is advanced the quoin *C* will be shifted upon its companion quoin *C'*.

In the form of my invention illustrated in Figs. 5, 6, and 7 the body *D* of the supplemental quoin lock or tightener is shown as provided with a threaded opening to receive a screw like the screw *E*, (illustrated in Figs. 1, 2, and 3,) but in this form of the invention the body *D* is not so broad as in the form shown in the preceding figures of the drawings. The body *D* in this last form, as in that previously described, is provided with a part or extension *d²*, adapted to engage one of the quoins, and is provided also with a shallow extension *d³*, adapted to enter the groove *c⁴*, that is formed in the inner face of the larger end of the quoin, as more particularly shown in Fig. 7 of the drawings. By preference a groove *d²* is formed on the inner face of the body *D*, this groove permitting the body to pass over the rib *c²* upon the inner face of each of the quoins *C* and *C'*. It will be observed that in this last form of my invention the part or extension *d*, that engages with one of the quoins is at the outer end of the body *D* instead of at the inner end, as in the form of the invention illustrated in Figs. 1, 2, and 3. The extension *d³*, setting within the groove *c⁴* of the quoin, serves to prevent the part or extension *d*

from slipping out of engagement with the rack-bar *c* as the screw *E* is turned. In the use of this form of my invention after the quoins *C C'* have been shifted in the usual manner to lock up the type-form the body *D* will be inserted adjacent the larger end of one of the quoins, with the extension *d³* projecting slightly within the groove *c⁴* and with the part or extension *d* engaging the teeth of the rack-bar *c*. With the parts in this position the screw *E* will be turned by means of a suitable wrench, such as that shown in Fig. 8, so as to securely lock the quoins in position or, if desired, further shift the quoins with respect to each other, in order to more tightly lock up the form of type.

In the form of the invention illustrated in Figs. 9, 10, and 11 the body *D* of my improved quoin lock or tightener is formed with a part or extension *d*, adapted to engage one of the quoins, and, as in the preceding forms of my invention, is provided with a pressure device to insure the locking of the quoins or their additional shift, if required. In this form of the invention the body *D* is chambered to receive a sliding push-bar *G*, that has a circular opening *g* formed therein, and through this circular opening *g* passes a shaft *H*, having an eccentric portion *h*, that will engage with the push-bar *G* and thus advance or retract this bar according as the shaft is turned. Preferably the shaft *H* is retained in place by a pin *K*, passing through the body *D* and through an annular groove *h²*, formed adjacent one end of the shaft, and in order to permit the shaft to be readily turned its ends are formed with grooves *h³* to receive a screw-driver or like tool.

From the foregoing description it will be seen that when the form of the invention illustrated in Figs. 9, 10, and 11 is to be employed the body *D* will be placed in position immediately behind the larger end of one of the quoins, so that the part or extension *d* shall enter between the teeth of one of the rack-bars *c*, the push-bar *G* being at such time in retracted position. Then by turning the shaft *H* the push-bar can be forced outward, so as to firmly bear against the end of the quoin and thus securely lock it against all danger of accidental slipping.

While I have illustrated in the drawings several forms of my invention, it is manifest that the details of construction can be varied within wide limits without departing from the spirit of the invention, and I do not wish, therefore, that the invention should be understood as restricted to the details of the structure set forth, except where such details are specifically recited in the following claims.

Having thus described the invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A supplemental lock or tightener for printers' quoins separable from the body of said quoins and having a part adapted to engage one of the opposing faces of a pair of

quoin-sections at a point beyond the other of said sections and having a pressure device for engagement with the end of the other of said quoin-sections, substantially as described.

5 2. A supplemental lock or tightener for printers' quoins comprising a body separable from said quoins and adapted to set within the space at the end of the quoin-sections and having a part adapted to engage one of the
10 opposing faces of the quoin-sections at a point beyond the other of said sections and being provided with a pressure device carried thereby independently of the quoins and adapted to engage the end of the other of said quoin-
15 sections, substantially as described.

3. A supplemental lock or tightener for printers' quoins comprising a body independent of said quoins and adapted to fit within the space at the end of the quoin-section and
20 having a part adapted to engage with one of the opposing faces of the quoin-sections and having a pressure device arranged to bear against the end of the other quoin-section, substantially as described.

5 4. A supplemental lock or tightener for printers' quoins comprising a body D provided with a projection *d* adapted to engage with one of the opposing faces of a pair of

quoins, said body and its projection being adapted to fit in the space at the end of the
25 quoin-sections and said body carrying a pressure device arranged to engage the outer end of one of the quoin-sections, substantially as described.

5. A supplemental lock or tightener for
35 printers' quoins comprising a body having a part or extension adapted to engage one of a pair of quoins and having a screw arranged to engage the end of the other of said pair of quoins, whereby the relative shift of the
40 quoins may be effected, substantially as described.

6. A supplemental lock or tightener for printers' quoins comprising a body D separable from the quoins and adapted to fit with-
45 in the space at the end thereof and having a part or extension *d* adapted to engage with one of a pair of quoins, a screw E passing through said body D and arranged to bear upon the end of the other of said quoins, said
60 screw having its end formed to receive a suitable wrench or key, substantially as described.

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Witnesses:

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