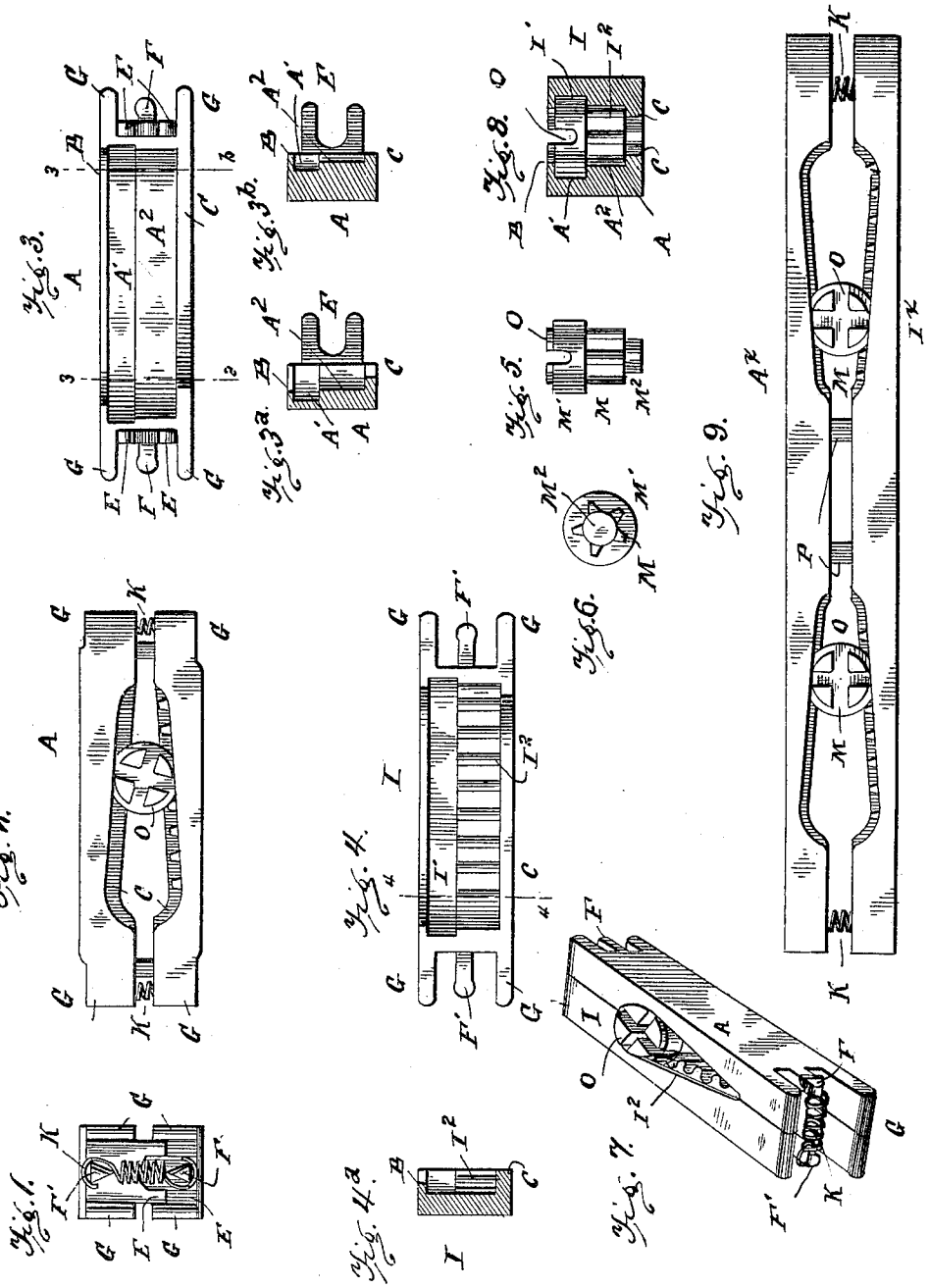
No. 657,252. Patented Sept. 4, 1900.

W. G. SLAUSON.

PRINTER'S QUOIN.

(Application filed May 25, 1899.)

(No Model.)



WITNESSES

Chas. K. Davies.

M. E. Brown

INVENTOR

W. G. Slauson

By W. A. Bartlett

Attorney

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM G. SLAUSON, OF OLEAN, NEW YORK.

PRINTER'S QUOIN.

SPECIFICATION forming part of Letters Patent No. 657,252, dated September 4, 1900.

Application filed May 25, 1899. Serial No. 718,163. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM G. SLAUSON, a citizen of the United States, residing at Olean, in the State of New York, have invented certain new and useful Improvements in Printers' Quoins, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to quoins for printers' use.

The object of the invention is to produce a metallic quoin which shall be expanded or spread apart laterally without the necessity of endwise movement of the quoin-body, such as is needed with a wedge, and wherein the spreading device is securely held by friction against backward movement; and the invention consists in details of construction and combination of parts substantially as described.

Figure 1 is an end view of the quoin. Fig. 2 is a top plan. Fig. 3 is an inner face view of one of the parts of the quoin-body. Figs. 3^a and 3^b are sections of one of the parts of the quoin on lines 3^a and 3^b. Fig. 4 is an inner face view of the other part of the quoin-body. Fig. 4^a is a section of Fig. 4 on line 4 4. Fig. 5 is an elevation of the spreader-pinion. Fig. 6 is a bottom plan of the spreader-pinion. Fig. 7 is a perspective view of the quoin. Fig. 8 is a cross-section. Fig. 9 is a view of a modification adapted for use as expansible furniture.

A indicates one part of the body of the quoin. This is cast in metal, malleable iron being preferred on account of cheapness. The outer face of the piece is flat. The inner face is beveled or tapered lengthwise for the central portion of its length between end shoulders, and an overhanging flange B projects above this beveled portion to a greater distance. The beveled face A is divided into two steps A' and A^2, as shown, having the same bevel in the direction of the length of the quoin, but one of these beveled surfaces projecting more than the other.

Near each end of the piece A there are laterally-projecting guides or bosses E, which are centrally notched. A lug F projects lengthwise of the body near each end. A projecting rib G overhangs these bosses and lugs at each side of the body.

The body part I is substantially a counterpart of the part A, with the exception that the inclined inner face I' has a rack I^2 extending inwardly, and the bosses E are dispensed with, the main portion of the part I being of such length as to lie between the bosses E of part A. Part I has lugs F', and when the two parts A and I are turned face to face a coiled wire or similar spring K at each end of the coin extends from lug F to lug F', and these springs tend to draw the two parts of the body into contact, the lugs E serving as guides to prevent endwise displacement. The ribs G overhang and protect the springs and bosses.

Between the inclined faces of the two body-sections a rolling spreader is inclosed. This spreader has a pinion M, which engages the rack I^2. Above and below the teeth of pinion M there are cylindrical portions of the spreader connected to the pinion M, one of these cylindrical portions M' being of greater diameter than the pinion M and the other portion M^2 of less diameter than the pinion. One end of the pinion has a wrench-seat O, preferably a seat for a cruciform wrench or key such as is in common use in printing-offices for moving quoins of well-known character. The spreader or expander is inclosed between the body parts A and I. The cylindrical portions of the pinion have frictional engagement with the inclined faces of the body, that part M' engaging the face A' and I' under rib B and M^2 engaging the edge of ribs C. The parts of the pinion which are of greatest diameter are thus partly inclosed in vertical direction between these ribs, and the pinion cannot escape in vertical direction from between the inclined faces of the quoin-body sections, while springs K hold the parts together; but the rotation of the pinion compels it to travel along the rack I^2 toward the wider or narrower space between the inclined faces of the body portion, according to the direction of rotation. This travel of the pinion causes the cylinder M' to bear on the faces A' I' and cylinder M^2 to bear on the faces C, and as the pinion approaches the narrower space between the two body portions these sections are forced apart. As the pinion moves toward the wider space the springs draw the body-sections toward each other. The pin-

ion therefore causes the parts M′ and M² to act as rolling wedges or expanders and force the body-sections apart when the pinion moves or rotates in one direction. The pinion and its connected cylinders having spread the body-sections A I apart permits them to assume parallel or inclined positions according to the direction of pressure against the outer faces of the quoin, the parts M′ and M² acting as a fulcrum. Thus in using the quoin between a square chase and straight furniture or sidesticks the quoin will expand, but remain rectangular; but between inclined surfaces the quoin will become more or less wedge-shaped.

As the bearing-surface M′ is of greater diameter than the pinion M there is greater friction on this surface than on the pinion, and therefore no jar or vibration of the press can rotate the pinion to unlock the quoin. The cylinder is under sidewise pressure when the quoin is expanded; but this pressure is merely a crushing and not a rotating strain, and the quoin cannot be unlocked by such strain.

There being no longitudinal movement of the coin-body in locking or unlocking the form there is no tendency to "skew" the form or chase, and the quoin can operate in a smaller lengthwise space than any quoin which operates by a lengthwise wedge movement.

The springs K are not necessary to the operation of the quoin, as the parts A I and the spreader would make an operative quoin without them. They are efficient for holding the parts of the quoin in their operative relations.

In the modification Fig. 8, the parts A× and I× are practically duplications of the quoin hereinbefore described, the parts being extended to form an elongated quoin or expansion furniture. The direction of the inclines is reversed at opposite ends of the furniture. Dowel-pins P P may take the place of bosses E E. The parallel central part of the furniture may be of any reasonable length. In other respects this furniture is practically a duplication of the quoin hereinbefore described. This modified form of quoin may form a piece of beveled furniture by advancing one spreader and retarding the other or may be rectangular by putting the spreaders in complementary positions.

In nearly all forms of wedge-quoins the quoins are liable to loosen or slip by reason of the vibration of the press. Even where the quoins do not actually loosen the pressman feels compelled to stop his press from time to time and test the tightness of his lock-up. The upper and lower surfaces of the spreader being of unequal size the frictional contact of these parts of the spreader with the bearing-faces of the quoin-body is of a different character at the top and bottom of the spreader—that is, when the spreader is rotated in either direction one of the cylindrical surfaces has a different surface speed from the speed of the other cylindrical surface, and this differential speed when moving tends to give such a frictional contact as to prevent the moving of the spreader. The wrench gives a means of moving of sufficient power to overcome the resistance; but a test of considerable severity shows no tendency for the spreader to slip in actual use on a press. Another objection to several well-known quoins is that while intended to be operated by a wrench they may be driven by a shooting-stick, and frequently are so driven, to the injury of the imposing-stones, furniture, &c. My quoin cannot be operated by a shooting-stick, which is one of its advantages.

What I claim is—

1. In a quoin, two metallic body-pieces having oppositely-inclined inner faces, a rolling spreader between such inclined faces and bearing on the same, means for moving the spreader lengthwise of the quoin, and springs connecting the body-pieces to each other, in combination substantially as described.

2. In a quoin, the body-sections having overhanging ends, springs connected to both of the body-sections between these overhangs, and a spreader between and operating to expand the body-pieces, all combined substantially as described.

3. In a quoin, the body-pieces having inclined inner faces and a longitudinally-moving rolling spreader between the same, laterally-projecting guides from one body-piece engaging the other piece, and means for closing the body-pieces onto the spreader, all combined.

4. In a quoin, the body-sections having each an upper and a lower inclined bearing-surface, and a rolling spreader having cylindrical surfaces of unequal diameter engaging such bearing-surfaces, said spreader having means for forcing it lengthwise of the inclined bearing-surfaces to spread the sections apart, substantially as described.

5. In a quoin, the body portions each having a plurality of inclined bearing-surfaces extending in opposite directions, a spreader having bearing-surfaces of different diameter engaging said bearing-surfaces, and means for holding the body portions in relative position, substantially as described.

6. A printer's quoin consisting essentially of two metallic body-pieces yieldingly connected near their ends, and having their proximate faces relatively inclined when the outer faces are parallel, combined with a roller-spreader interposed between said proximate faces in position to spread the body-pieces by longitudinal movement, and to permit a rocking of the body-pieces about said spreader, substantially as described.

7. A printer's quoin consisting essentially of two body-pieces oppositely beveled in the direction of their length and yieldingly con-

nected together, one of said pieces having a longitudinal rack, and a generally-cylindrical spreader-piece interposed between the beveled surfaces and having teeth engaging the rack, whereby the rotation of the spreader causes it to move lengthwise of the rack, thus spreading the body-pieces but permitting their inclined relation to each other or a rocking on the spreader, substantially as described.

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

WILLIAM G. SLAUSON.

Witnesses:
J. H. THOMPSON,
JOHN M. LARKIN.