

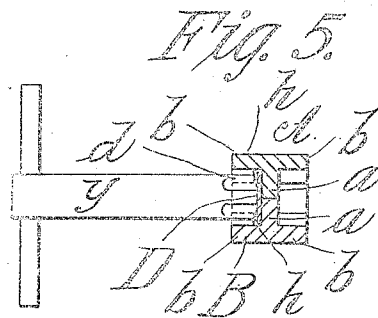
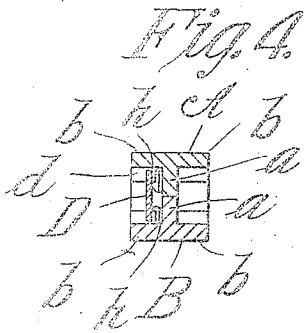
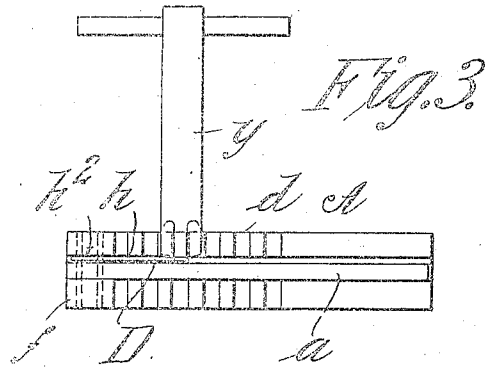
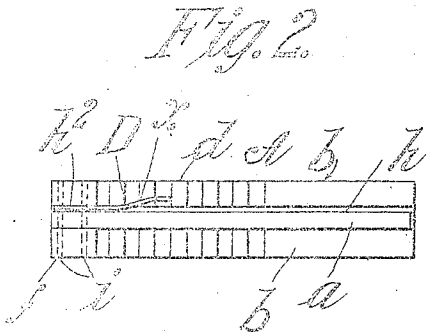
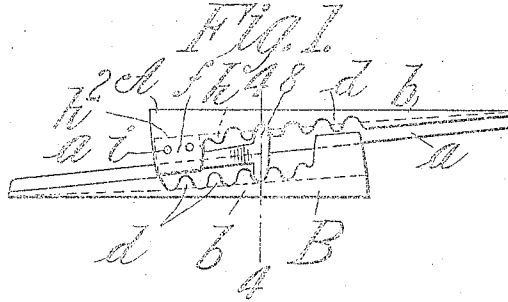
E. J. CASEY.

QUOIN.

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942,543.

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QUOIN.

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To all whom it may concern:

Be it known that I, EDWARD J. CASEY, a citizen of the United States of America, and resident of Springfield, in the county of Hampden and State of Massachusetts, have invented certain new and useful Improvements in Quoins, of which the following is a full, clear, and exact description.

The object of this invention is to provide locking devices in a quoin which will be automatically operative to prevent the endwise movement of one of the wedge-shaped quoin members relatively to the other from the effects of vibration or other cause, and which is susceptible of being most readily placed in a position of disengagement to permit of a purposed movement of the quoin members one relatively to the other for either increasing their transverse distention for locking up or for diminishing such distention for unlocking the form.

The invention consists in quoin members having structural features and appurtenances all substantially as hereinafter described in conjunction with the accompanying drawings and set forth in the claims.

In the drawings:—Figure 1 is a side elevation of the quoin; Fig. 2 is a plan view of the member of the quoin which in Fig. 1 is represented as the uppermost one shown as inverted; Fig. 3 is a similar view to Fig. 1 but showing the locking device as forced to its unlocking position by the action of the quoin operating key; Fig. 4 is a cross sectional view of the two-part quoin as taken on line 4—4, Fig. 1, the locking device being shown as in its locking position; Fig. 5 is a cross sectional view similar to Fig. 1, but showing the locking device as forced to its unlocking position by the key.

Similar characters of reference indicate corresponding parts in all of the views.

In the drawings,—A and B represent the pair of quoin members made of the usual wedge shape with their coacting surfaces so inclined to their backs or outer walls that irrespective of how much or little the one member may be slid endwise along the other their outer opposite surfaces will be always in parallelism although extended or contracted as the case may be.

The bodies of the quoin members are, as somewhat usual in these devices, made each with a central rib *a*, flange like side portions *b* constructed with rack teeth *d* at their facing surfaces, in longitudinal arrangement;

and an end of each quoin member beyond the series of rack teeth is laterally widened, or made more solid as indicated at *f*.

Each quoin member has at the front side of its central rib and between the latter and the rack teeth *d* a longitudinal recess or groove *h*. Such groove in one of the quoin members,—as here represented the upper one A being endwise continuous, as especially represented at *h*² through the widened end portion *f* of the quoin member.

D represents a detent device which is connected with and carried by one of the quoin members, normally operative by its lateral reaction to engage in the rack teeth of the other quoin member and susceptible of being by a transverse pressure thereagainst, moved free from its rack tooth engagement.

As specifically shown this detent device is made in the form of a T-shaped spring plate, as shown facewise in Fig. 1, the same having its longitudinal member disposed, and confined by rivets, in the groove extension or recess *h*² of the quoin member A, and having its end portion which comprises the upwardly extending projection normally laterally deflected by being made with a bend or curvature indicated at *x* in Fig. 2, so that normally such extremity comprising the oppositely extending projections are outwardly offside from the line of the aforesaid grooves *h*, *h*, and have their disposition within the widths of the opposing set of rack teeth for engagement therein,—it being here mentioned that when the detent device is in its rack teeth engagement it forms an interlocking element or clog between the rack teeth of the one quoin member and the rack teeth of the other, as well as having a connection by the riveting *i* with the one quoin member A.

As the device is considered with reference to the view thereof, Fig. 1, it might be stated that a practically efficient device for the purpose of this invention would be provided if the upper projection, especially designated by the numeral 8, were omitted; but for increased stability and strength of the locking device the dual provision of transverse projections to the spring detent plate is preferred. The quoin, for instance, may be placed with its members in juxtaposition but non-distended as to the transverse aspect of the double wedge-formed device and placed between the chase and the form, at which time the spring detent by its out-

ward reaction will engage the rack teeth; but on the insertion of the pinion ended key *y* into its engagement with the opposed racks, the endwise thrust of the key for bringing it to place for its engagement with the racks will crowd the detent plate to its straight condition as represented in Fig. 3 so that its projecting or projections will be offside from the rack teeth and occupying positions in the groove or grooves *h*, thereby ceasing to constitute any obstruction to the relative movement of the quoin member; and, of course, when the quoin is to be unlocked and relatively moved to be contracted by the key the end thrust of the key against the detent plate again establishes the condition, as before explained, for freedom of movement of the double wedge-like parts.

I claim:—

1. A quoin comprising relatively movable wedge-shaped members having opposed rack-teeth at their sides, one of the quoin members having a longitudinal way inside of its rack teeth and the other quoin member having a spring detent engaged therewith and carried thereby, normally operative by its reaction to have a portion thereof engaged in the teeth of the relatively opposite quoin member and adapted by the engagement sidewise thereagainst of the quoin operating key to be transversely moved out of its rack tooth engagement and to be free for movement in the said longitudinal way.

2. A quoin comprising relatively movable wedge-shaped members having opposed rack teeth at their sides, and each having a longitudinal way inside of its rack teeth, one of the quoin members having a spring plate secured to its one end portion thereto, having

its outer extremity laterally deflected and provided with oppositely extended projections, normally operative by the spring reaction of said plate to engage opposite teeth of the quoin members and adapted by the engagement sidewise thereagainst of the quoin operating key to be transversely moved out of its rack tooth engagements and to be free for movement in the said longitudinal ways.

3. A quoin comprising relatively movable wedge-shaped members having opposed rack teeth at their sides, one of said members having a longitudinal groove inside of its rack teeth and having its end portion beyond the series of rack teeth widened and having a recess through said widened portion continuous with said groove and the other quoin member also having a longitudinal groove inside of its rack teeth, a T-shaped spring plate having its longitudinal member disposed and confined in said recess in the widened end part of the one quoin member and having its end portion comprising oppositely extending projections normally laterally deflected from the plane of the groove, and said recess adapted, when the quoin members are in operative relations, to engage in the opposed rack teeth thereof and adapted by the pressure in an inward direction sidewise thereagainst to be forced to the coinciding plane of said longitudinal grooves.

Signed by me at Springfield, Mass., in presence of two subscribing witnesses.

EDW. J. CASEY.

Witnesses:

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