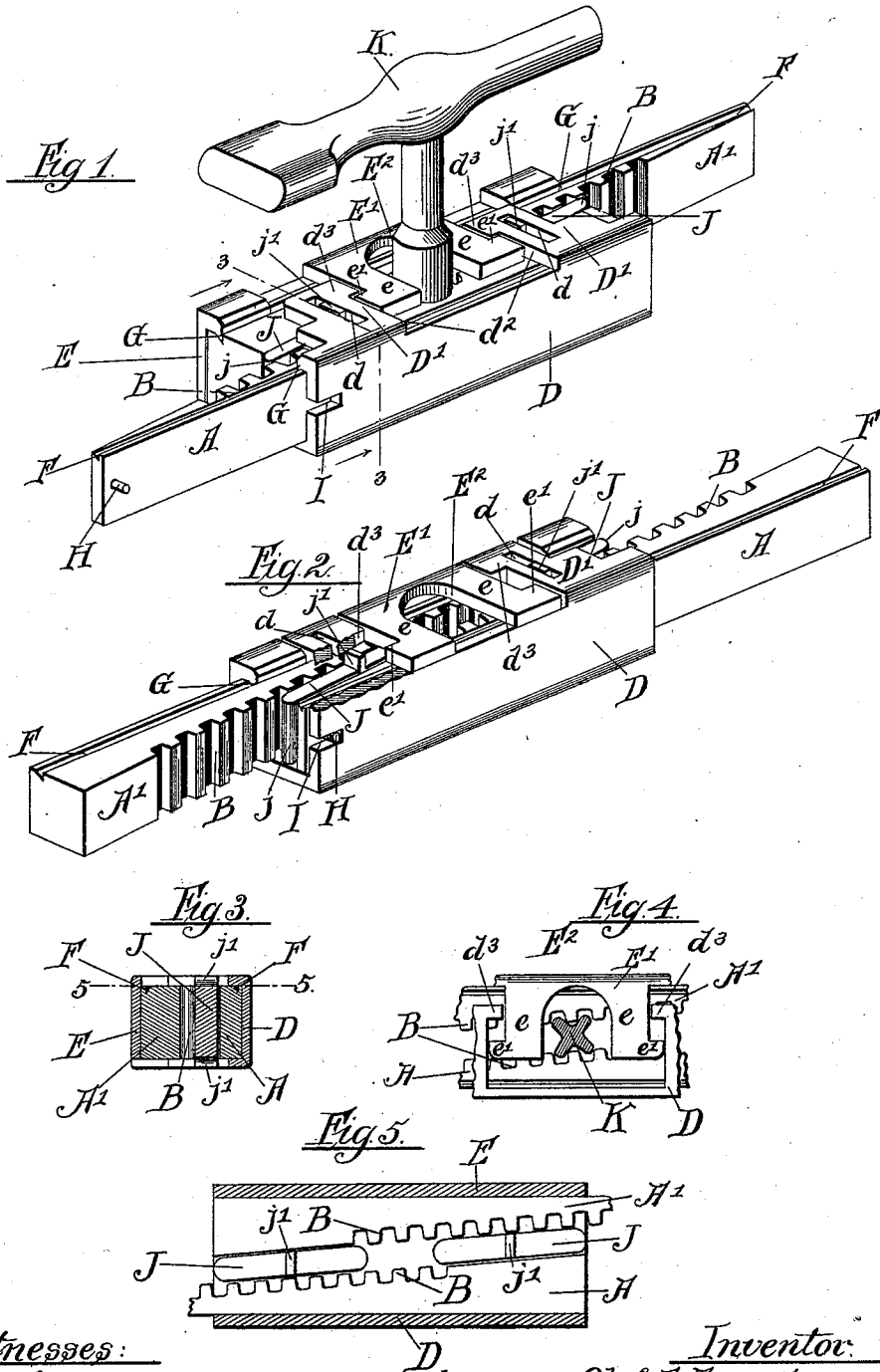


(No Model.)

O. A. AMUNDSON.
PRINTER'S QUOIN.

No. 528,756.

Patented Nov. 6, 1894.



Witnesses:
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UNITED STATES PATENT OFFICE.

OLUF ANDREW AMUNDSON, OF CHICAGO, ILLINOIS.

PRINTER'S QUOIN.

SPECIFICATION forming part of Letters Patent No. 528,756, dated November 6, 1894.

Application filed February 20, 1894. Serial No. 500,856. (No model.)

To all whom it may concern:

Be it known that I, OLUF ANDREW AMUNDSON, a citizen of the United States, residing at Chicago, in the county of Cook, State of Illinois, have invented a new and useful Improvement in Printers' Quoins, of which the following is a specification.

The printers' quoins now ordinarily in use are composed of two wedges which are fitted to each other and are provided with rack teeth on their adjacent faces, between which the printer inserts his key which has teeth corresponding to that of a small pinion on its lower end which engages the teeth of the wedges and whereby by rotating the handle, the wedges are moved in relation to each other in locking or unlocking the form. In connection with the quoins used in locking the form there are used a number of small blocks usually of wood which are called the furniture. Ordinarily the quoins are inserted quite closely to each other around the periphery of the form to insure a good locking. As the wedges are moved in relation to each other it is evident they must slide on each other and one or both of them must slide on the furniture or the frame of the form, or in other words must slide with relation to the fixed position of the form, and this sliding action takes place on the surface of least resistance, sometimes on the furniture and sometimes on the frame of the form and sometimes on both of these surfaces. The frictional resistance of these surfaces varies considerably, so much so that the printer when he inserts his key and starts to lock the form does not know which wedge is going to move or in which direction the body of the quoin will move in locking, and he frequently finds that when the wedges are sufficiently adjusted for locking purposes, they have traveled out of the position in which it is desired to make them lock, and frequently several unsuccessful attempts are made to lock the quoin in a certain position before the printer learns at which point he must insert the wedges at the commencement of the locking action in order to have them at the desired point on completion of their locking. The friction of the sliding action of the wedges in direct contact with the furniture produces strains tending to dis-

locate the form which is very objectionable, and some of the quoins previously in use have the bearing surfaces between the wedges so shallow or narrow and poorly fitted that the strains of locking at the lower edges of the wedges are different from those at the top edges of the wedges which has the result of causing the form to work loose when in use.

To overcome the above described difficulties and to make a quoin embodying the merits described and set forth herein are the objects of my invention.

The invention consists in the devices set forth in the claims hereof.

Reference will be had to the accompanying drawings, in which—

Figure 1 is a perspective view of my quoin with the key inserted, and the wedges set to their full or greatest position of locking. Fig. 2 is a similar view in which the key is wanting and a part of the quoin casing is cut away to show one of the blocks which separate the wedges, which wedges are here shown as being in position of the opposite extreme of that of Fig. 1. Fig. 3 is a transverse sectional view on line 3—3 of Fig. 1. Fig. 4 is a plan sectional view showing the position of the rack teeth of the wedges and the pinion of the key. Fig. 5 is a plan view of the quoin in section on line 5—5 of Fig. 3 which is the plane of the top surface of the wedges.

In the drawings A designates one of the wedges and A' designates the other wedge, and B the rack teeth on their adjacent faces.

D designates the backing or casing for the wedge A, and E the backing or casing for the wedge A'.

In one or both edges of each wedge there is made a groove F, into which projections G of each backing piece engage. This projection G is made by swaging downward into the grooves F a portion of the flanges of the backing pieces. In the end of each wedge there is a pin H, which prevents the wedge from being entirely withdrawn from the casing. When the wedge is withdrawn to its full limit in relation to the casing, the pin H passes into a slot I in the end of the casing to permit the small end of the wedge to be withdrawn flush with the end of the casing. Between the wedges at each end of the cas-

ing, there are placed blocks J, which have rounded ends *j* which blocks are the full depth of the wedges and bear against the outer ends of the rack teeth thereby separating the
 5 wedges from each other. Projections *j'* from the tops and bottoms of the blocks J engage slots *d* in the flanges D' of the backing D, whereby the blocks J are held in position.

The backing pieces D and E are provided
 10 with flanges D' and E' which engage the tops and bottoms of the wedges and are fitted to each other in a manner that when placed in position to each other, the blocks J and the wedges A and B inserted, they cannot then
 15 come apart and may be handled with impunity without displacing the parts from their position of use.

The above arrangement of the fitting of the flanges D' and E' to each other is thus: The
 20 flange E' has a central projection *e*, provided with engaging points *e'* which are fitted into spaces *d*², of the flange D', which flange D' is provided with engaging points *d*³, which interlock the points *e'*, preventing the dislodgment
 25 of the projection *e* from the space *d*², when the wedges and blocks are in position which prevents the vertical movement of the backing pieces in relation to each other. In the center of the projection *e*, of the flange *e'* there is an
 30 aperture E², into which the key K is inserted to move the wedges in a manner well understood. The sides of the aperture E² prevent the key from traveling with the wedges and hold it in constant position to the backing pieces
 35 of the quoin, which is a desideratum.

If the operator places each wedge in the same corresponding position to the backing before he inserts his key, the wedges will travel in locking to the same corresponding
 40 position in relation to each other and the backing, which is a desideratum.

The frictional resistance of the travel of the wedges is always on the surfaces of the backing pieces and the blocks J and is therefore
 45 uniform, and the operator by use will accustom himself to the force required in setting the wedges so that he may regulate the desired locking strain on the form which cannot be arrived at with the old forms of quoin, owing
 50 to the constant variation of their frictional resistance on the different pieces of the furniture.

In handling and using this improved quoin, the operator has, as it were, but one piece to
 55 pick up and put in position, which greatly saves time, and he inserts it exactly at the point where the locking is desired, as it cannot shift its position by the action of the locking of the wedges, and in locking, no strains
 60 are produced to dislocate the furniture and the form, and as the blocks J are of the full depth of the wedges, giving a wide, clean and sharp bearing to the wedges, there can be no unequal strains between the tops and bottoms
 65 of the wedges, which are objectionable as above described.

The backing pieces D and E made in the

form shown can be cheaply made by stamping from sheet metal, which is a desideratum.

What I claim is—

1. In a printer's quoin the combination, of
 70 two wedges, of rack teeth on their adjacent faces, of a block or blocks inserted between said faces and bearing on the ends of said rack teeth for the purpose described.

2. In a printer's quoin the combination, of
 75 two wedges, of rack teeth on their adjacent faces, of a block inserted between said faces and bearing on the ends of said rack teeth for the purpose described, of backing pieces
 80 on the back of each wedge and connected to each other in a manner that the frictional resistance of locking is taken up by the backing pieces and not transmitted to the furniture
 85 of the form.

3. In a printer's quoin the combination, of
 90 two wedges, of rack teeth on the adjacent faces of said wedges, of a block or blocks interposed between the adjacent faces of said wedges, of backing pieces for each wedge
 95 which backing pieces engage each other and the interposed wedges and block or blocks thereby holding the same together for the purpose described.

4. In a printer's quoin the combination, of
 100 two wedges, of blocks interposed between said wedges, of a backing piece for each wedge, of means for preventing the entire separation of the wedges from the backing pieces.

5. In a printer's quoin the combination, of
 105 a wedge having a groove in the length thereof, of a backing piece having a point or points engaging said groove to hold said wedge in a desired position of sliding contact with said backing substantially as shown.

6. In a printer's quoin the combination, of
 110 two wedges, of a block or blocks interposed between said wedges, of backing pieces on the outer sides of said wedges, of means whereby each of said wedges may be made to travel in relation to the backing pieces substantially as shown.

7. In a printer's quoin the combination, of
 115 two wedges, of blocks interposed between said wedges, of backing pieces for each wedge, said backing pieces connected to each other and connected to said interposed blocks for the purpose of holding all together substantially as shown and described.

8. In a printer's quoin the combination, of
 120 two wedges, of a backing engaging said wedges and thereby holding said wedges in position to each other, of a groove F and a pin H in said wedges for the purpose of holding said wedges in position to said backing and preventing their entire detachment from said
 125 backings substantially as shown and described.

In witness whereof I have hereunto subscribed my name, on this 10th day of February, 1894, in the presence of two witnesses.

OLUF ANDREW AMUNDSON.

Witnesses:

A. D. RAUSTEAD,
 CHARLES H. GARD.