

No. 816,324.

PATENTED MAR. 27, 1906.

H. A. HEMPEL.
 PRINTER'S QUOIN.
 APPLICATION FILED OCT. 3, 1905.

Fig. 1.

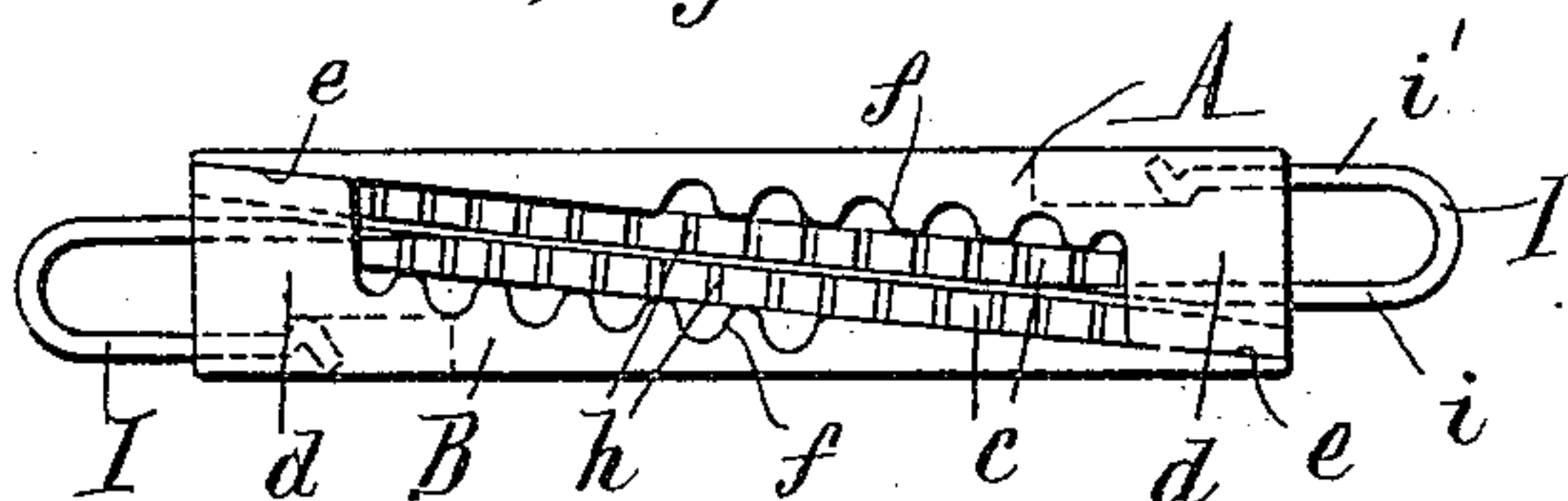


Fig. 2.

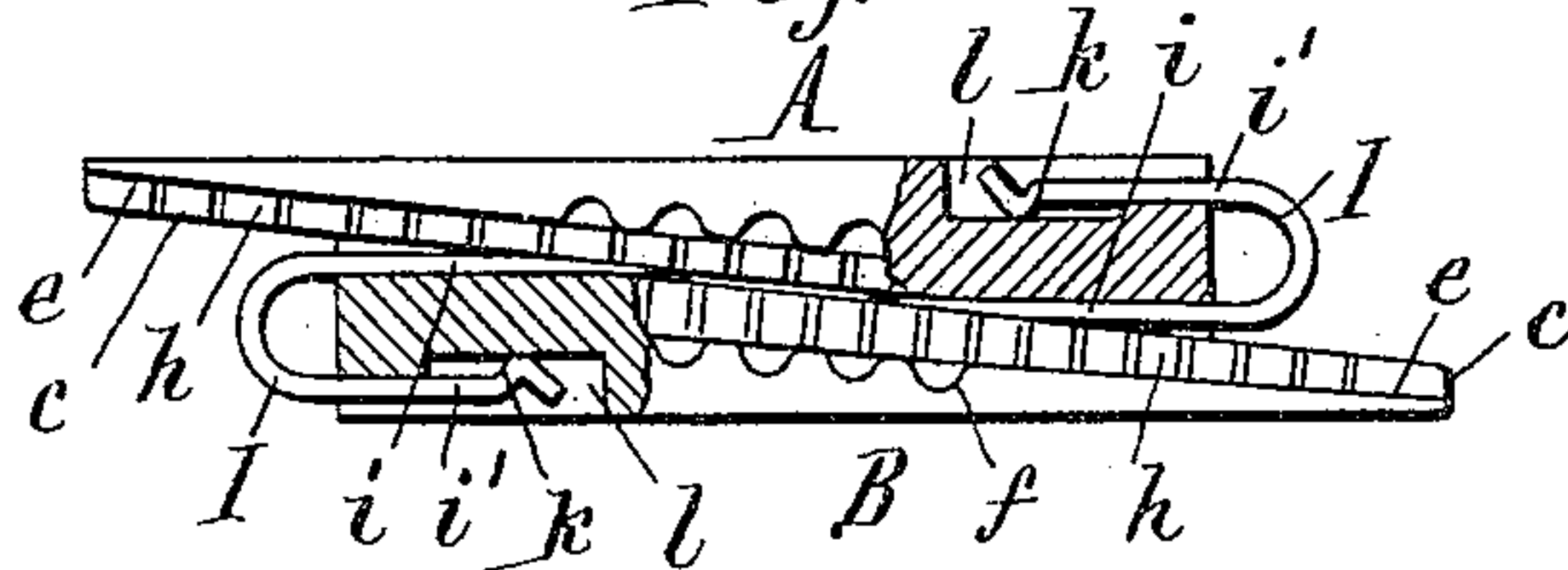


Fig. 3.

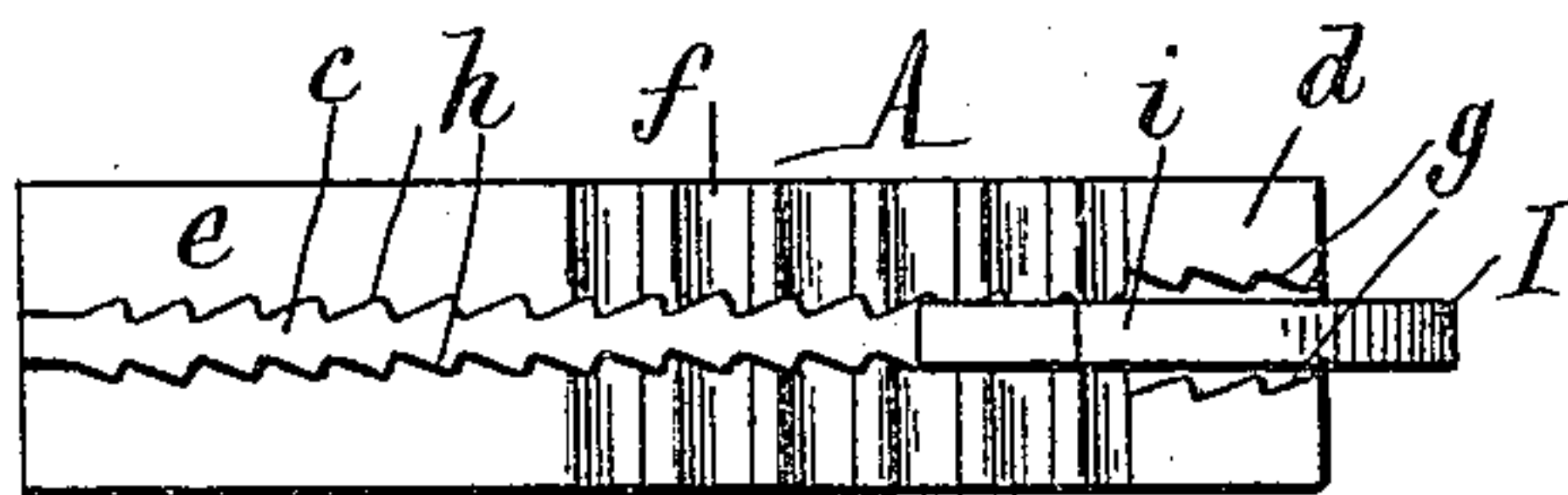


Fig. 4.

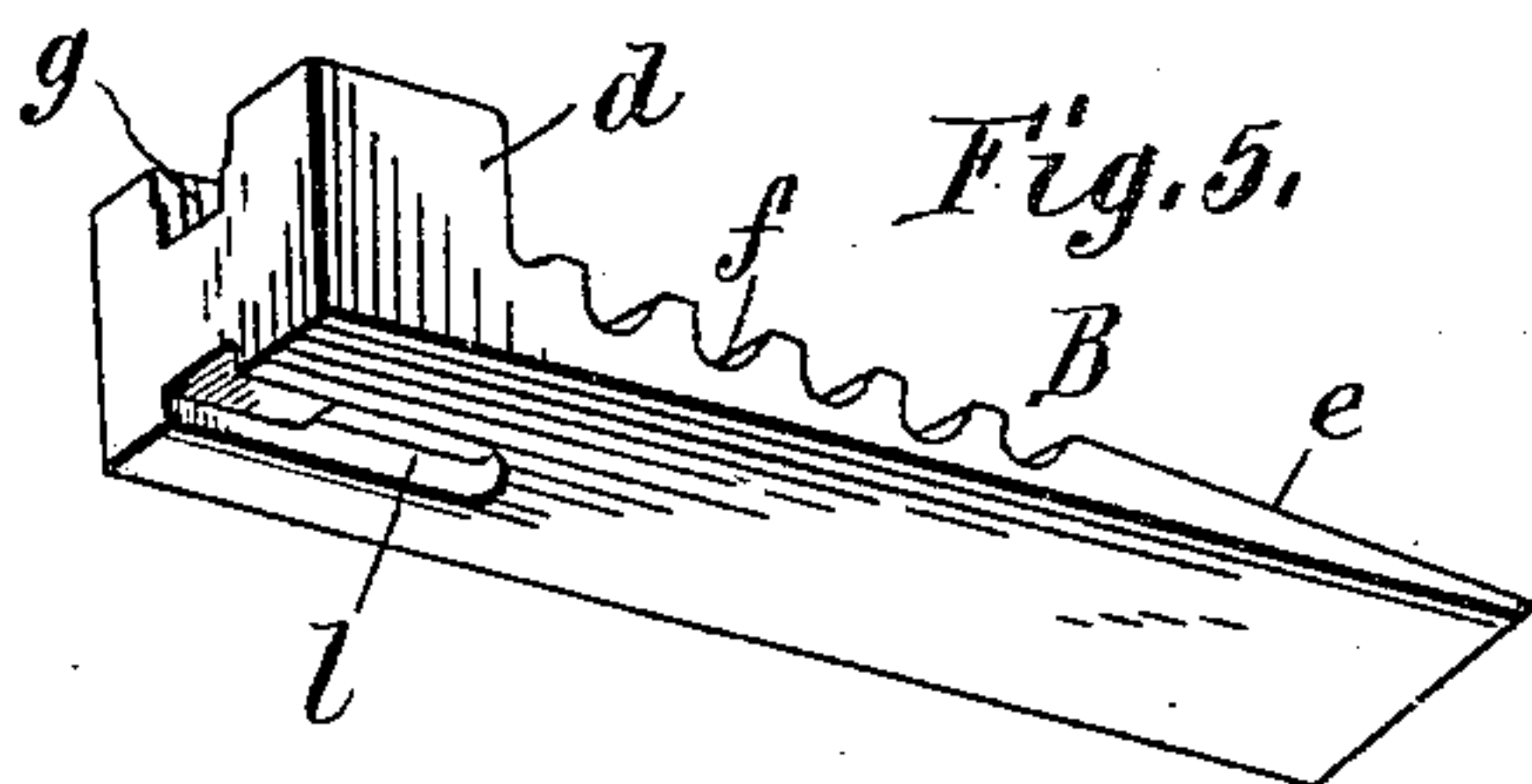
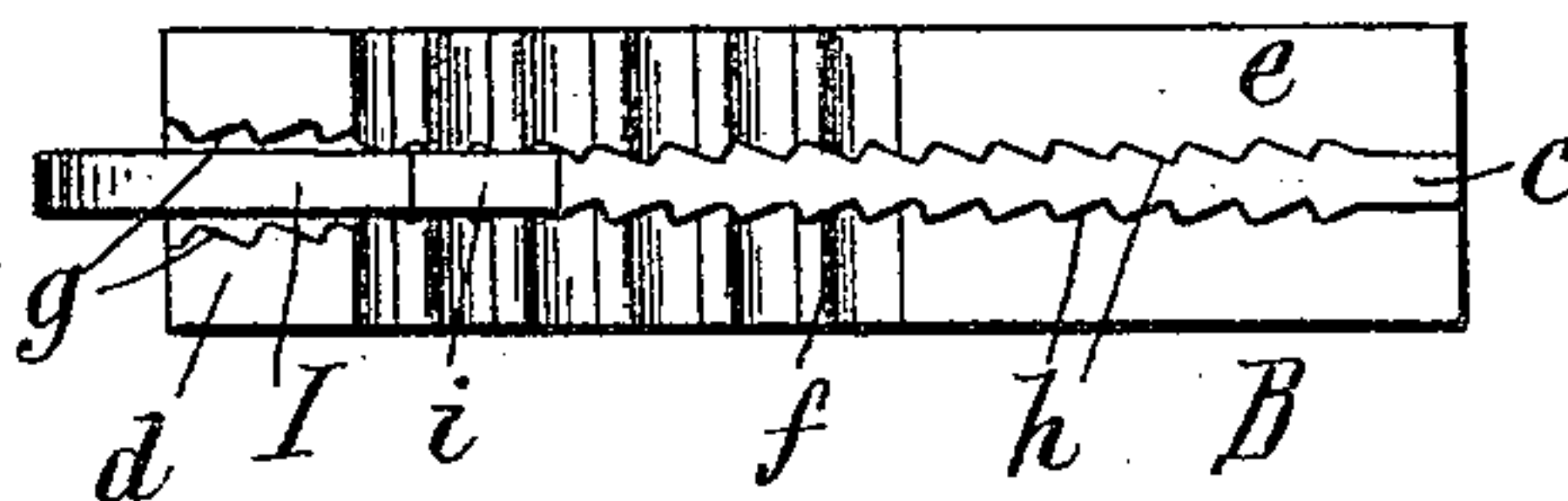
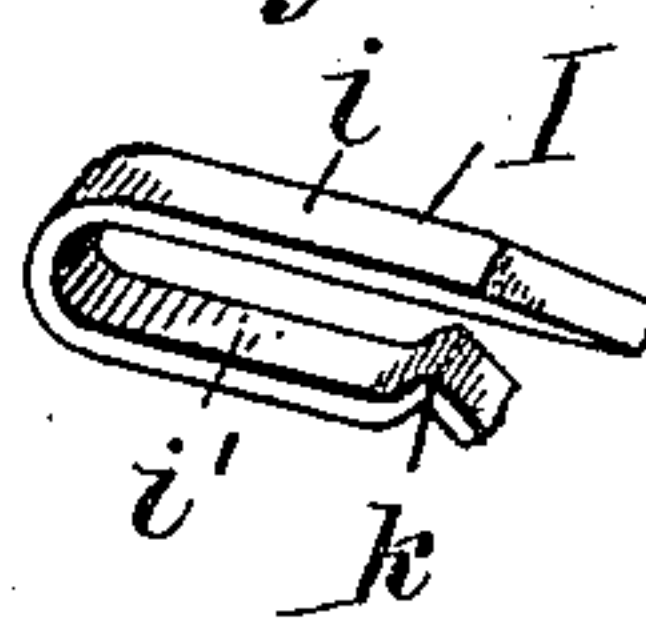


Fig. 6.



Witnesses:-
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UNITED STATES PATENT OFFICE.

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PRINTER'S QUOIN.

No. 816,324.

Specification of Letters Patent.

Patented March 27, 1906.

Application filed October 3, 1905. Serial No. 281,126.

To all whom it may concern:

Be it known that I, HENRY A. HEMPEL, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented a new and useful Improvement in Printers' Quoins, of which the following is a specification.

This invention relates to that class of metallic quoins which are used in pairs and which are provided with inclined faces by which the quoins of a pair bear against each other. Such quoins are also usually provided with longitudinal ribs, by which the quoins are aligned with reference to each other, and with gear-racks between which a pinion-key is engaged for moving the quoins lengthwise in tightening or releasing the same. Quoins of this general character are shown and described, for instance, in Letters Patent No. 443,280, granted December 23, 1890, to myself and Joseph A. Dingens. Such quoins are sufficiently secure for most purposes; but when a press runs exceptionally fast or a form is required to be used in the press for an unusually long period of time it is desirable to provide such quoins with special means for preventing the quoins from working loose. Various special devices have been employed or suggested for this purpose; and the object of this invention is to provide such quoins with special securing means which are simple and inexpensive in construction and at the same time efficient and convenient in use.

In the accompanying drawings, Figure 1 is a side elevation of a pair of quoins provided with my improvements. Fig. 2 is a similar view, partly in section. Figs. 3 and 4 are face views of the quoins. Fig. 5 is a perspective view of one of the quoins. Fig. 6 is a detached perspective view of the securing-wedge.

Like letters of reference refer to like parts in the several figures.

A and B represent two quoins, forming a pair. Each of these quoins is provided on its face or inclined side with a central longitudinal rib *c* and at its large end with two lugs *d*, which are arranged on opposite sides of the rib and are separated by a groove in which the rib of the companion quoin engages. These lugs project beyond the rib and bear with their inclined faces against the inclined faces *e*, which are formed on the companion quoin near the tip end thereof on opposite sides of the ribs. The ribs are pref-

erably so constructed that they do not come in contact with each other, so that the quoins bear against each other only by the inclined faces of the lugs and tips.

f represents the gear-racks, which are arranged on opposite sides of the ribs in the usual way.

The lugs *d* are provided on their opposing inner sides with teeth *g*, which have abrupt and inclined sides. The abrupt sides face toward the large end, and the inclined sides face toward the small or tip end of the quoin. The rib *c* is provided at its sides with teeth *h* of similar form and arrangement. When the quoins are in face-to-face contact, as represented in Figs. 1 and 2, with the rib of one quoin arranged in the groove between the lugs of the companion quoin, the adjacent teeth of the lugs and ribs interlock more or less, as the quoins are usually slightly deflected or twisted on each other in tightening them by means of the pinion-key, which is placed between the rack-bars. The interlocking abrupt faces of the teeth strongly resist the unlocking or releasing movement, while the inclined faces of one set of teeth readily slip past those of the other set in tightening the quoins.

I represents a safety locking device which is adapted to be driven between the quoins for the purpose of binding them securely in the locked or tightened position. This device is of U form and has a binding or locking arm *i* arranged lengthwise in the groove between the lugs and terminating in a tapering or wedge-shaped end adapted to be forced between the ribs of the quoins. The other arm *i'* of the safety locking device serves to attach the latter to the quoin and terminates in a head or shoulder *k*, which projects into a recess *l*, formed in the under side of the quoin near the large end thereof. The safety locking device is made of steel or other material having sufficient elasticity to permit the head *k* to be sprung into the recess *l* in attaching the device to the quoin and to prevent the device from becoming detached in handling the quoin. The recess is so much longer than the head that it permits of the requisite lengthwise movement of the safety locking device on the quoin for tightly driving the binding-arm *i* between the ribs.

When a pair of quoins is placed in face-to-face contact ready for use in locking a form, the safety locking devices *I* are withdrawn

from the ribs, as represented in Fig. 1. After the quoins have been tightened by means of the rack-bars or other devices provided for the purpose the safety locking devices
 5 are driven, with their binding-arms *i*, between the ribs, as represented in Fig. 2. This binds the quoins firmly against the adjacent pieces of furniture and prevents accidental loosening of the quoins. When it is
 10 desired to unlock the quoins, the safety locking devices are first loosened by means of a suitable tool, which is engaged in the projecting bights of the devices.

In the drawings each quoin is provided
 15 with the described safety locking device; but, if preferred, only one quoin of each pair may be provided with such a device.

I claim as my invention—

1. The combination of a pair of quoins having inclined contact-faces and adapted to be
 20 moved lengthwise along said faces for tightening the quoins, and a safety locking device capable of lengthwise movement with reference to the quoins and adapted to be driven
 25 between opposing faces thereof after the quoins have been tightened, substantially as set forth.

2. The combination of a pair of quoins having inclined contact-faces and means for moving
 30 the quoins lengthwise relative to each other along said faces, and a safety locking device attached to the large end of a quoin and adapted to be driven with its free end between opposing faces of the quoins, substantially
 35 as set forth.

3. The combination of a quoin and a safety locking device capable of lengthwise movement on the quoin and comprising a binding-arm which is adapted to be driven between
 40 opposing faces of a pair of quoins and an attaching-arm by which the device is connected to the quoin while being capable of lengthwise movement thereon, substantially as set forth.

4. The combination of a quoin and a safety
 45 locking device capable of lengthwise movement on the quoin and comprising a binding-arm which is arranged adjacent to the inclined face of the quoin and an attaching-arm which is arranged adjacent to the back
 50 of the quoin and movably connected therewith, substantially as set forth.

5. The combination of a quoin having on its face side a longitudinal rib and lugs arranged
 55 on opposite sides thereof and projecting beyond the same and on its rear side a longitudinal attaching-recess, and a safety locking device capable of lengthwise movement on the quoin and comprising a binding-arm arranged upon said rib between said lugs and
 60 an attaching-arm arranged adjacent to the back of the quoin and having an attaching-shoulder which engages in said recess, substantially as set forth.

Witness my hand this 27th day of September, 1905.

HENRY A. HEMPEL.

Witnesses:

EDWARD WILHELM,
 C. B. HORNBECK.