

(No Model.)

W. H. HOLLAR.  
SAFE LOCK.

2 Sheets—Sheet 1.

No. 518,453.

Patented Apr. 17, 1894.

FIG. 1.

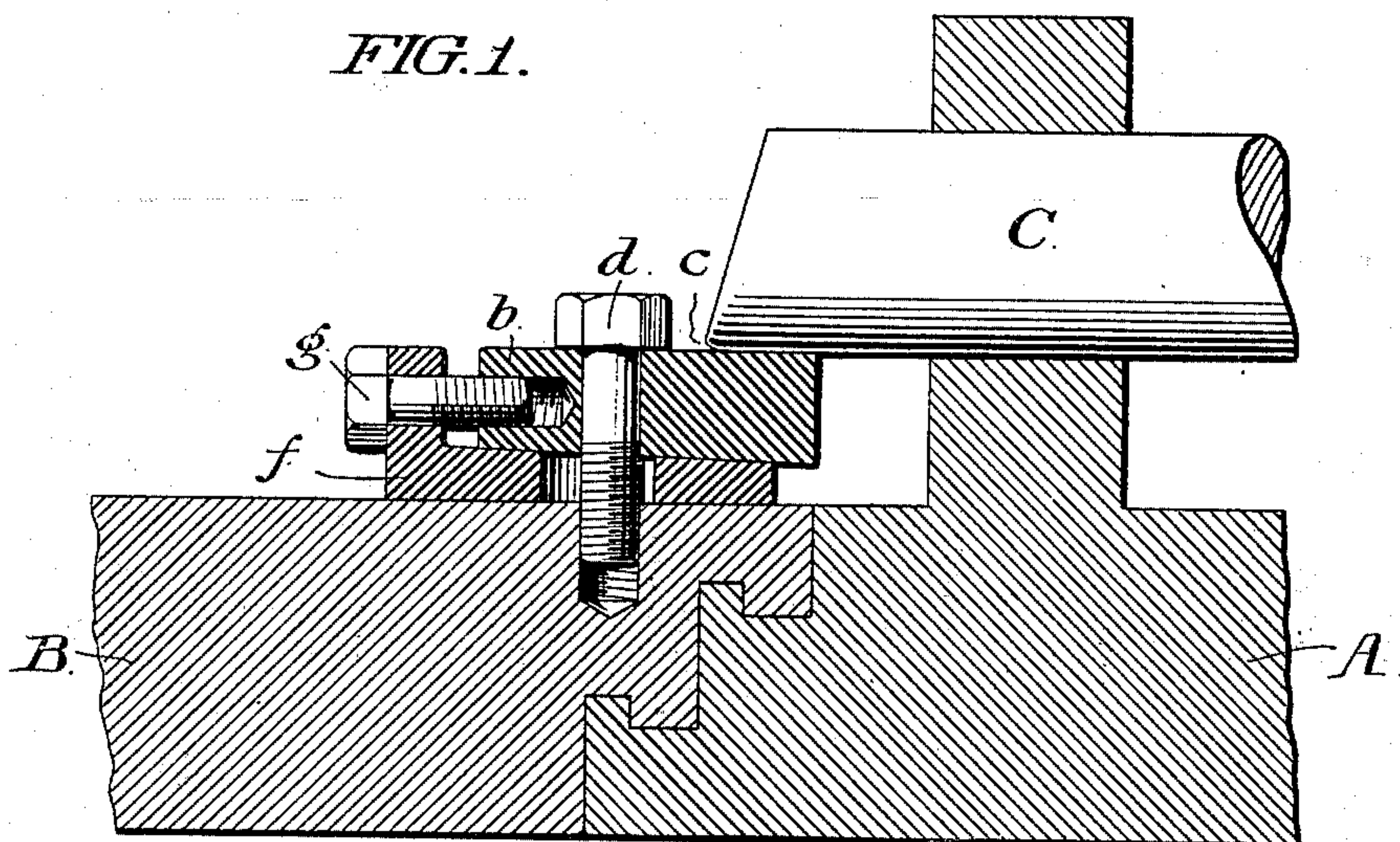
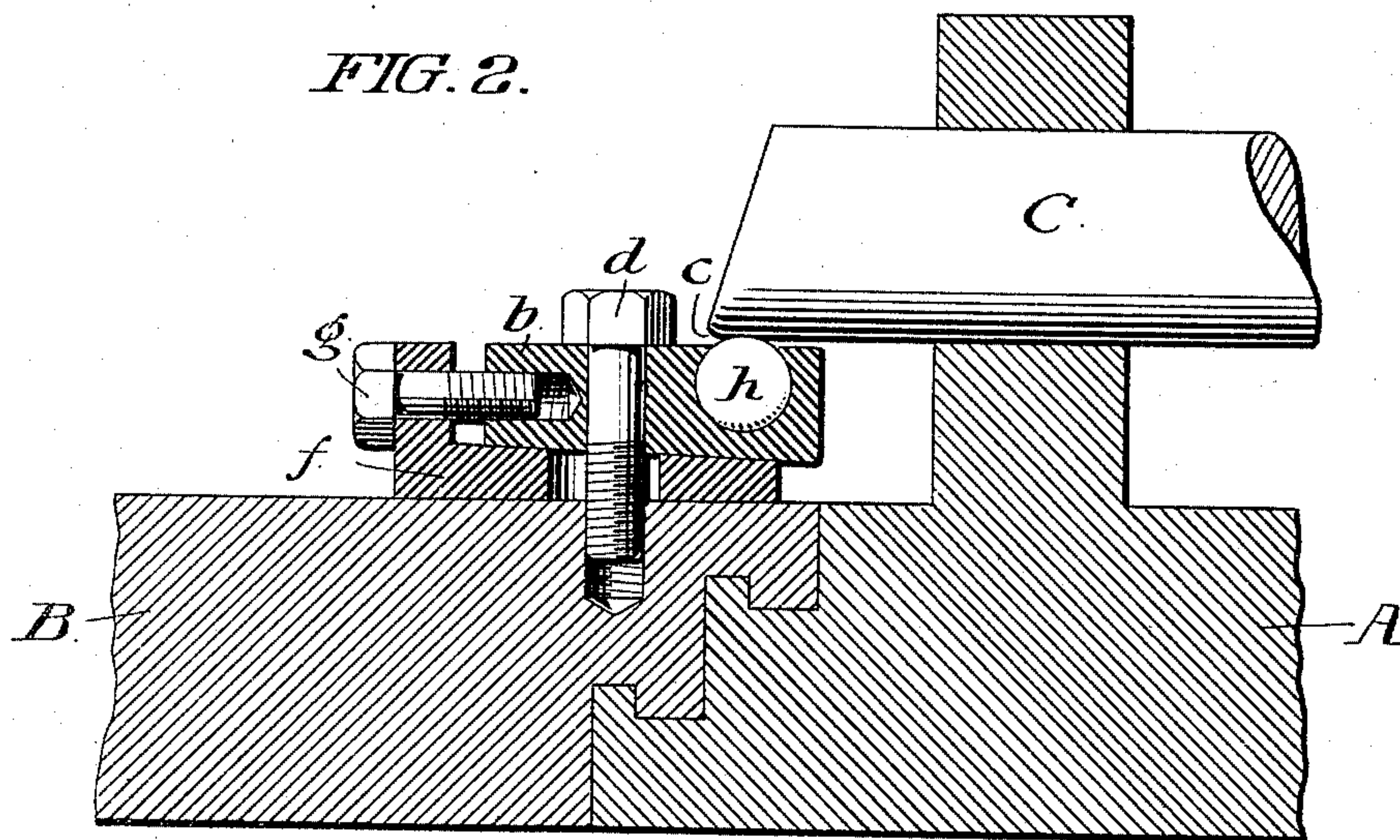


FIG. 2.



WITNESSES:

*James H. Bell*  
*Henry M. Paul Jr.*

INVENTOR

*William H. Hollar*  
*by his attorneys*  
*Hollingsworth & Thayer*



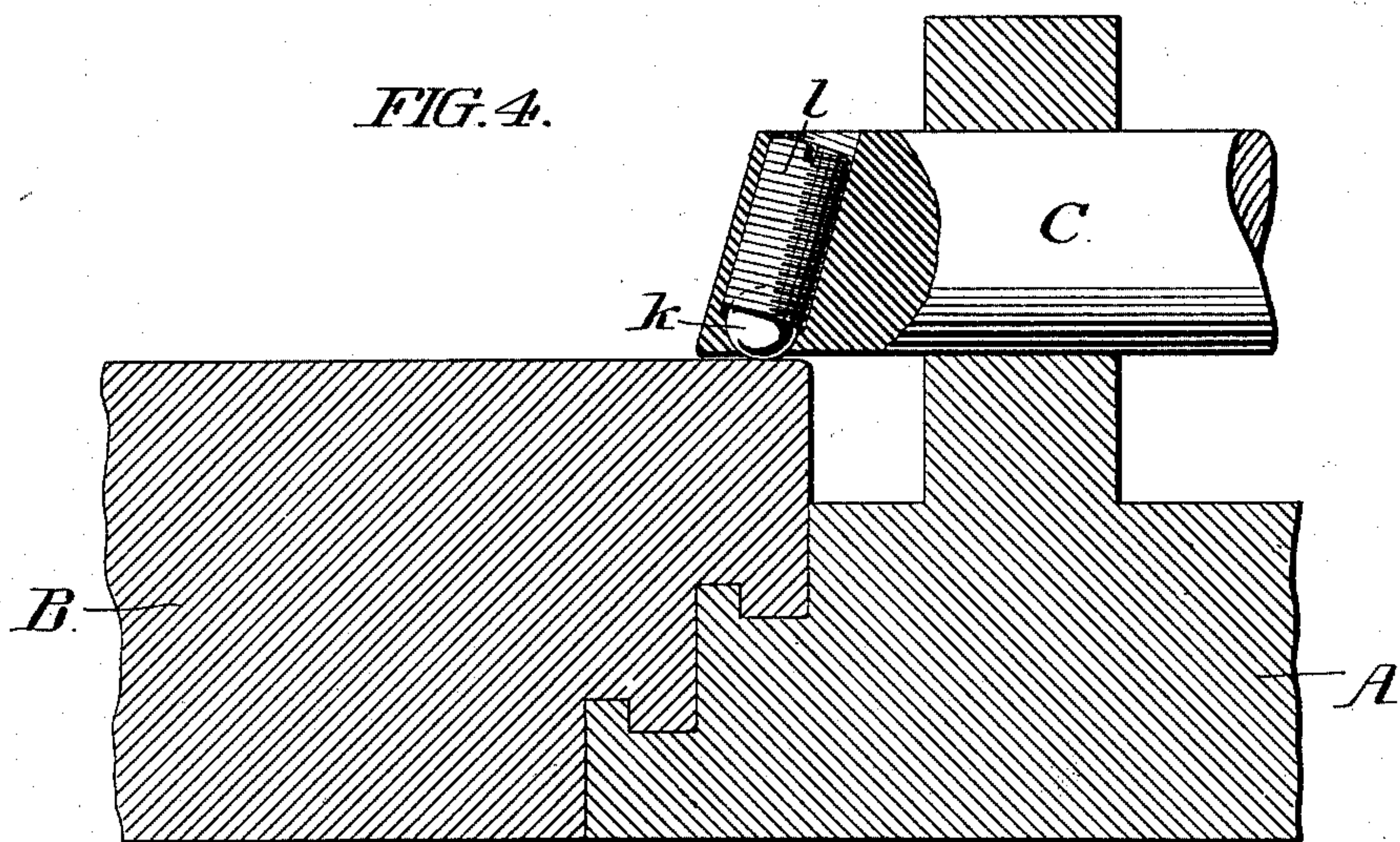
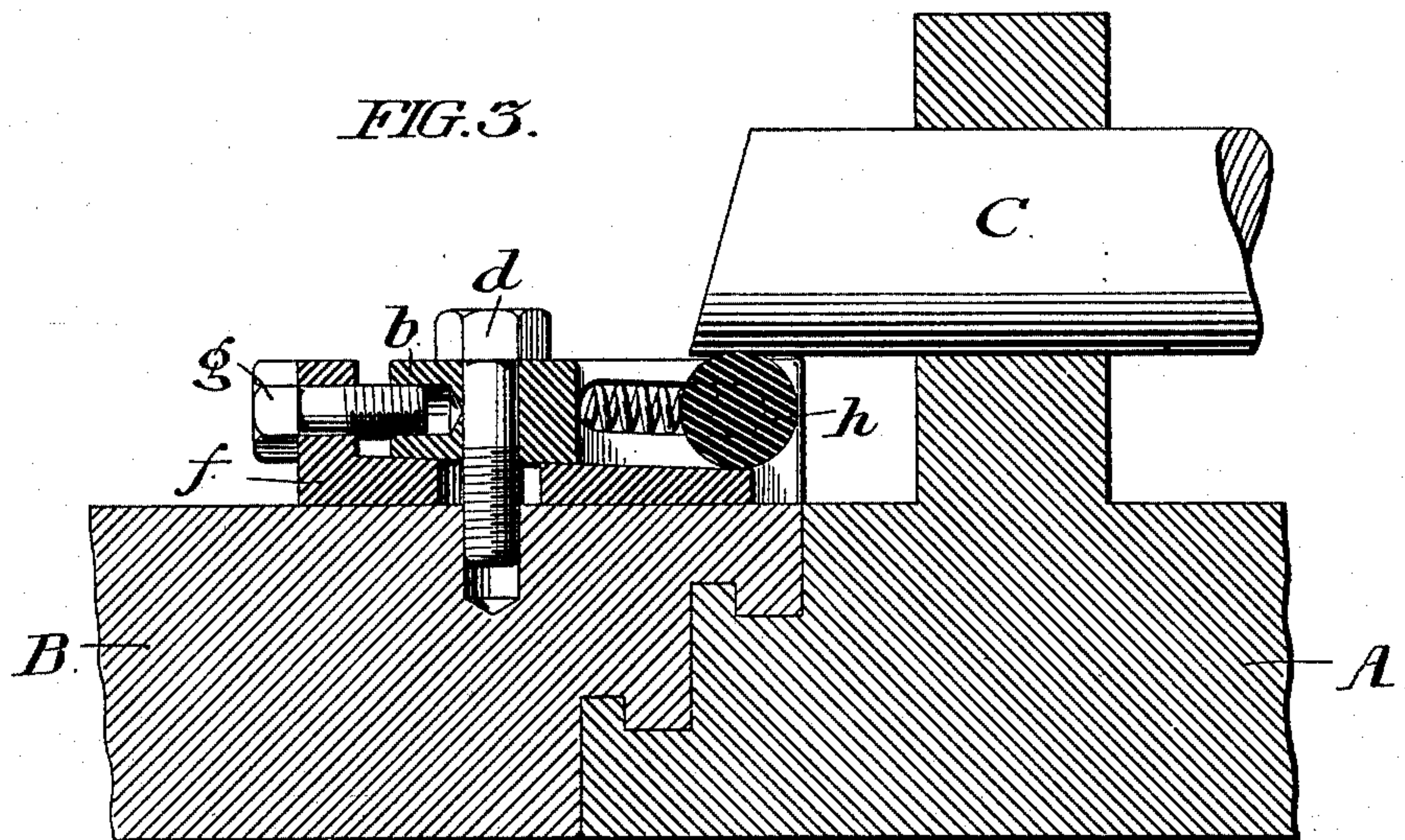
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INVENTOR:  
*William H. Hollar*  
*by his Attorneys*  
*Hollingsworth & Straley*



# UNITED STATES PATENT OFFICE.

WILLIAM H. HOLLAR, OF PHILADELPHIA, PENNSYLVANIA.

## SAFE-LOCK.

SPECIFICATION forming part of Letters Patent No. 518,453, dated April 17, 1894.

Application filed April 18, 1892. Serial No. 429,626. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM H. HOLLAR, of Philadelphia, Pennsylvania, a citizen of the United States, have invented certain new and useful Improvements in the Manufacture of Safes, whereof the following is a specification, reference being had to the accompanying drawings.

As safes are usually constructed the edge of the door is formed with a number of shoulders or rabbets, which fit snugly into corresponding shoulders or grooves in the edge of the jamb of the safe against which the door closes. The bolts by which the door when closed is made fast are mounted at the back of the door, and when extended bear against the inner face of the jamb thereby holding the door fast in place. When the door is tightly closed and the bolts extended in their locked position, it is highly desirable that there should be a perfectly true adjustment between the face of the jamb and the bolts where they come in contact, for it is evident that if there be any space between the two, just to that extent will outward pressure on the door create air-spaces between the shoulders or rabbets at the joint, into which a burglar may introduce explosive substances. At the same time it is evident that this close contact between the two, if attained, must produce more or less friction, which it is desirable to avoid as the motion of the bolts is usually effected by hand or automatically.

My invention consists in devices whereby an exceedingly fine adjustment may be attained between the bolt and the surface of the jamb against which it plays; and also means whereby, notwithstanding the close contact of the two, friction between them may be greatly lessened.

The accompanying drawings show four varying applications of my invention.

Figure 1 shows a horizontal section of a portion of the door and jamb, of a safe with an adjustable surface on the inner face of the jamb against which the bolt plays. Fig. 2 shows in the same section, the adjustable surface with the addition of an anti-friction roller. Fig. 3 shows in the same section an alternative method of mounting the anti-friction roller. Fig. 4 shows in the same section an

adjustable anti-friction ball mounted in the bolt itself.

In Fig. 1, A represents a portion of the door of a safe, B the corresponding portion of the jamb, the interlocking rabbets and grooves being shown. C is the end of the bolt mounted on the inner side of the door. Upon the inner face of the jamb, opposite the bolt, is a steel block *b*, affixed to the jamb by screws, *d*. The inner surface of the block *b*, is slightly beveled, and between the beveled surface and the jamb is inserted a wedge, *f*, having a corresponding bevel and with slots for the screws *d* to pass through. The back of the wedge carries a shoulder through which the screw *g* passes and enters the side of the block *b*. By tightening the screw *g*, and loosening the screws *d*, the wedge is forced farther in beneath the block *b*, which is correspondingly raised. The corner of the bolt C, which comes in contact with the block, has a small bevel *e*, to facilitate the passage of the same over the corner of the block.

In Fig. 2 is shown the same device with the addition of an anti-friction roller, *h*, inserted within the block and opposing its periphery to the bolt as it advances.

In Fig. 3 is shown a different method of mounting the anti-friction roller upon the block. Its trunnions run in slotted journal-bearings affixed to the block, allowing the roller to roll up the inclined plane of the wedge *f*. The roller is maintained in position at the farthest extremity of the slot by a spring until the bolt rolling over it pushes it farther back.

In Fig. 4 the adjustable surface is affixed to the bolt and not the jamb. A ball, *k*, is mounted within the bolt, a portion of its periphery projecting just at that point where the bolt comes in contact with the jamb. The inner half of this ball rests within the concave extremity of a screw, *l*, passing entirely through the bolt. The extent to which the ball projects from the surface of the bolt is therefore dependent on the extent to which the screw is advanced.

By all of these devices, an exceedingly fine adjustment is attained between the bolt and the jamb. The adjustment is made by closing the door and shooting the bolts and then



advancing the adjusting screws until each bolt is in direct contact with the jamb and the door drawn in as tightly as possible. This is done while the back of the safe is still open unless the completed safe is to be large enough to admit the presence of a man inside. The anti-friction rollers render practicable this tightness without increasing the friction of the bolts to such an extent as to render it difficult to draw them.

Although I have illustrated in my drawings but four methods of applying the principle of my invention, yet I do not wish to be understood as limiting myself to the applications there shown. Both in the arrangement of the adjusting screws and in the method of mounting the anti-friction rollers great variety of detail is possible without departing from the principle of my invention.

Having thus described my invention, I claim—

1. In a safe the combination with a door, the jamb against which the door shuts, the bolt on the interior of the door, an adjustable surface interposed between the bolt and that

portion of the inner surface of the jamb opposite the extended bolt, and means for retaining such surface in its adjusted position, substantially as set forth.

2. In a safe the combination of the door, the jamb against which the door shuts, the bolt on the interior of the door, an adjustable antifriction roller interposed between the bolt and that portion of the inner surface of the jamb opposite the extended bolt, and means for retaining said roller in its adjusted position, substantially as set forth.

3. In a safe the combination of the door, the jamb against which the door shuts, the bolt on the interior of the door, an adjustable block affixed to the inner surface of the jamb opposite the extended bolt, an antifriction roller carried by the block and opposing its periphery to the bolt, and means for retaining said block in its adjusted positions, substantially as set forth.

WILLIAM H. HOLLAR.

Witnesses:

WALTER REES,  
JAMES H. BELL.