

(No Model.)

C. R. HEIZMANN.
LOCK OR LATCH.

No. 538,074.

Patented Apr. 23, 1895.

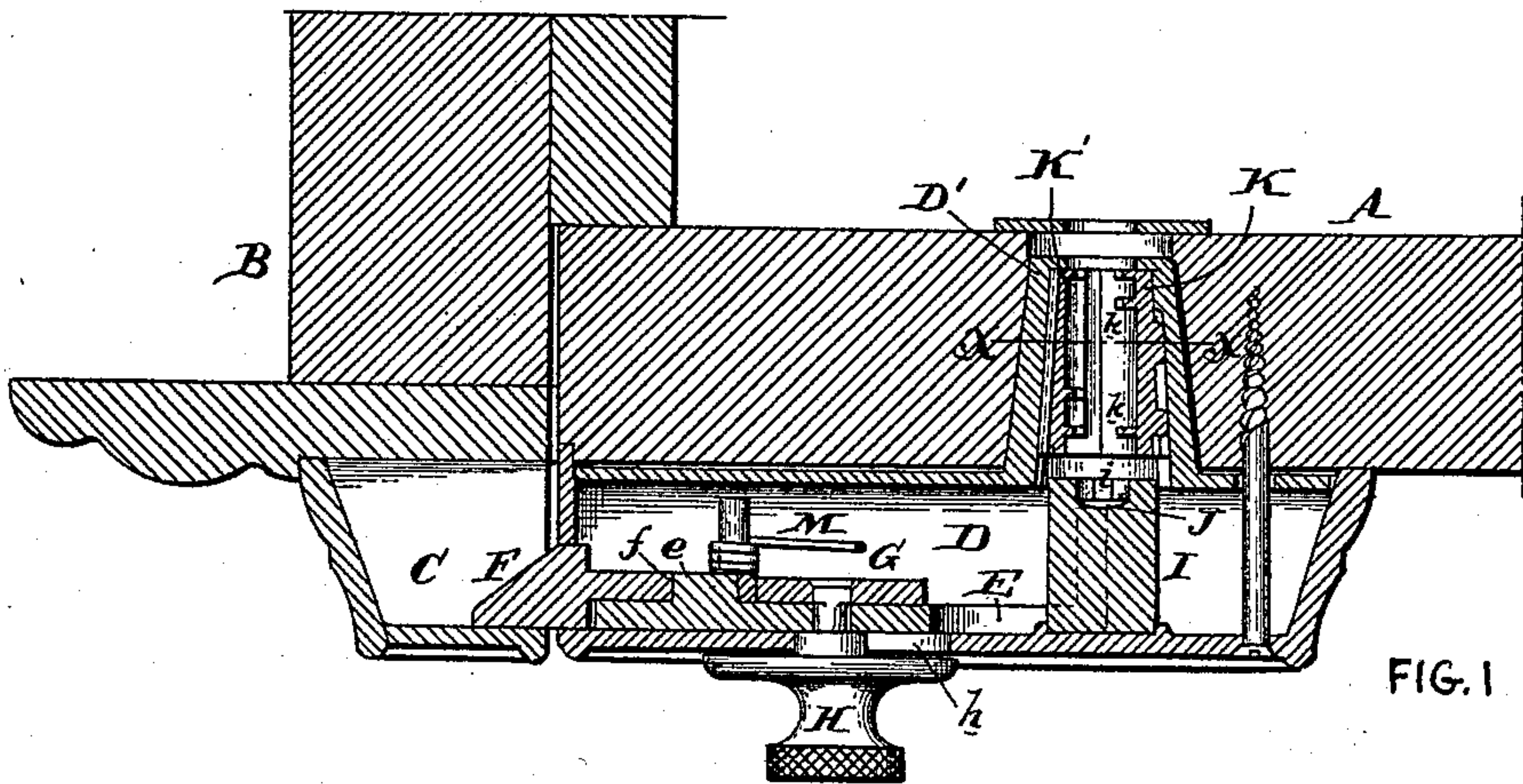


FIG. 1

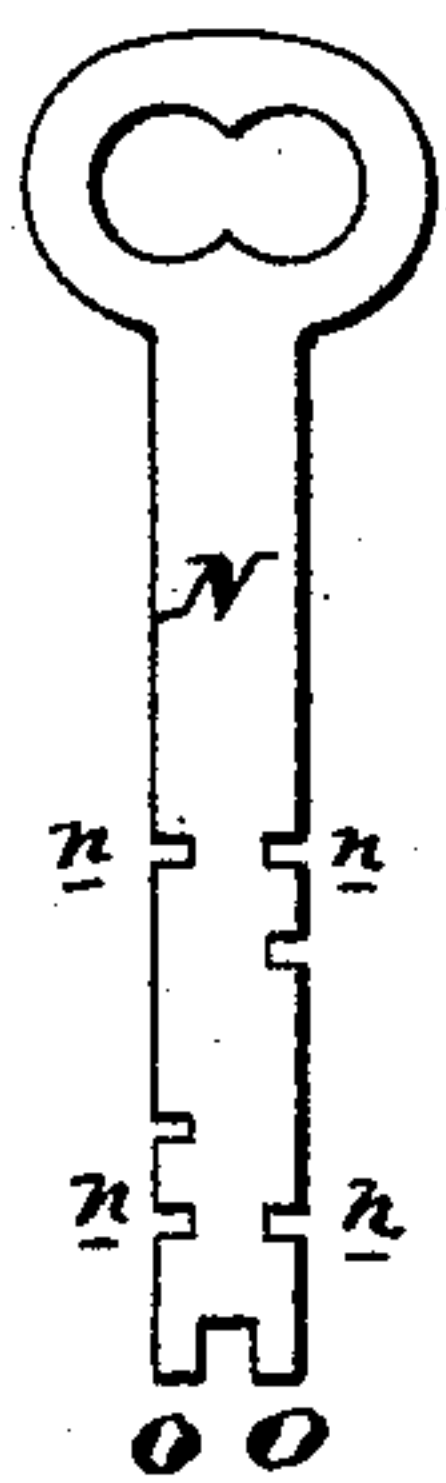


FIG. 5

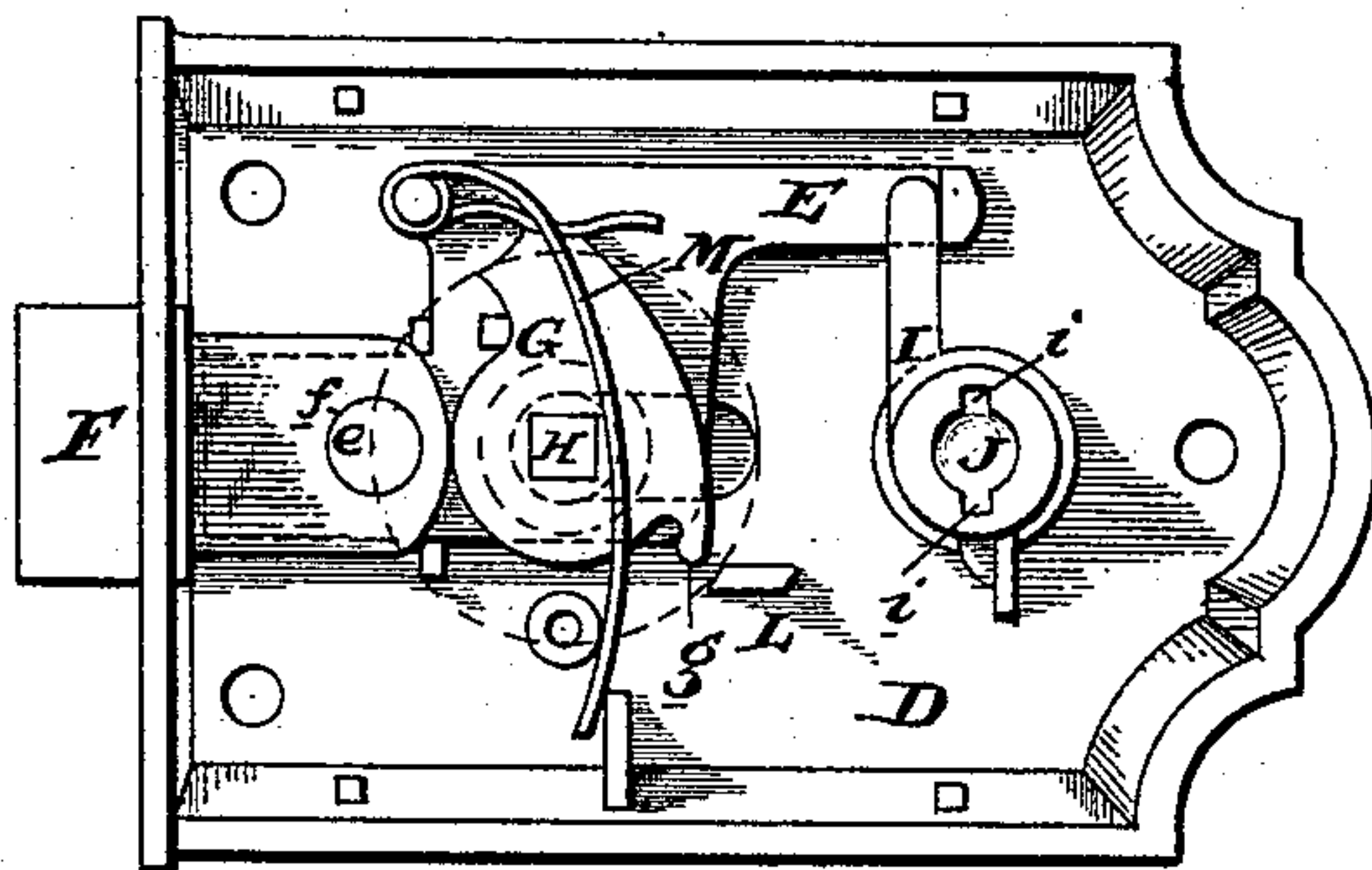


FIG. 2

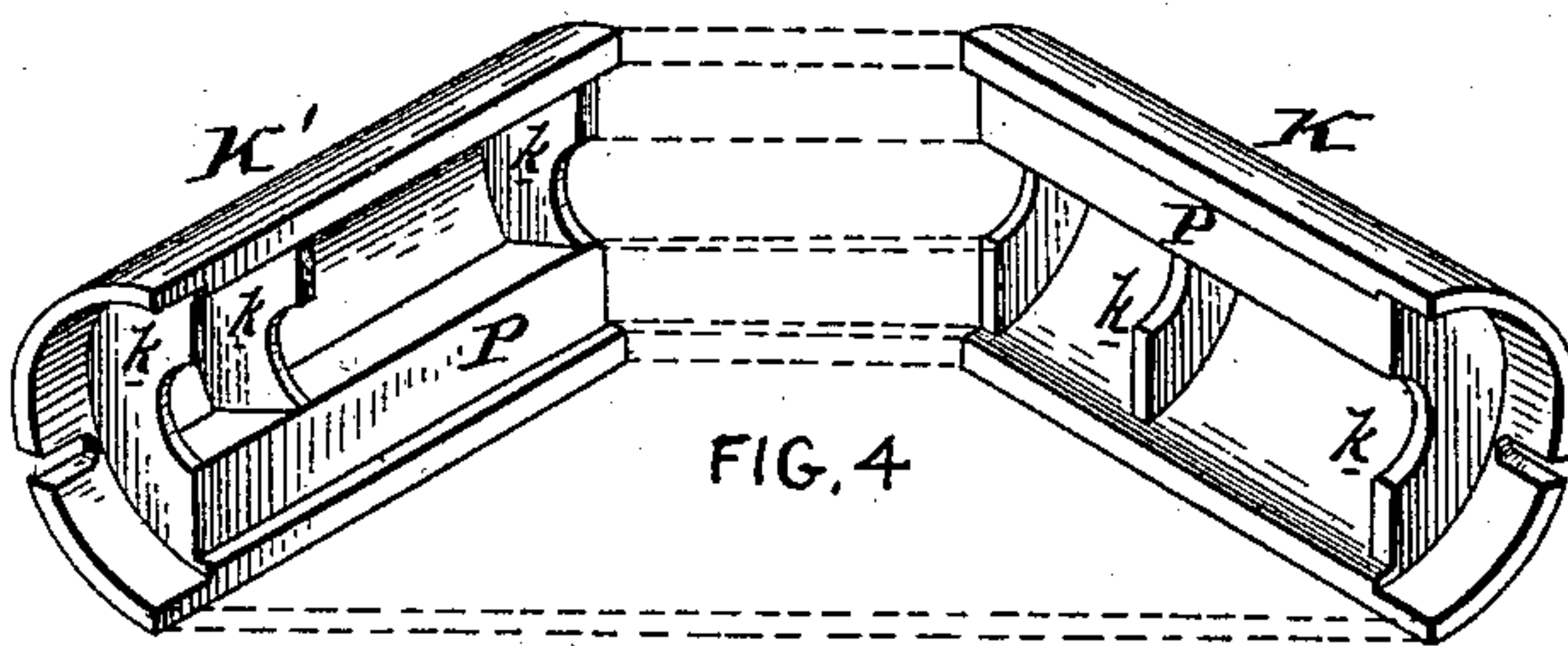


FIG. 4

Witnesses:
H. L. Motherwell.
Wm. L. Evans.

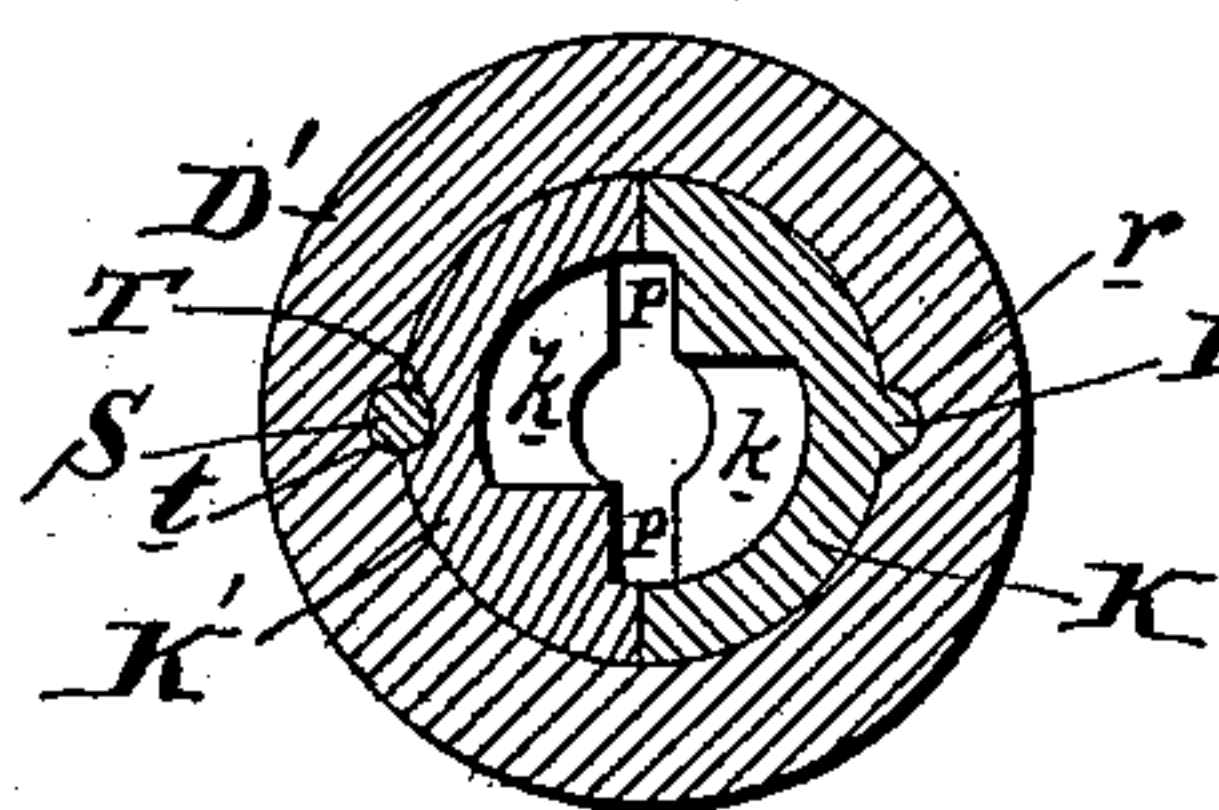


FIG. 3

Inventor.
C. Raymond Heizmann
By *[Signature]*
Attorney.

UNITED STATES PATENT OFFICE.

CHARLES RAYMOND HEIZMANN, OF READING, PENNSYLVANIA, ASSIGNOR
TO THE PENN HARDWARE COMPANY, OF SAME PLACE.

LOCK OR LATCH.

SPECIFICATION forming part of Letters Patent No. 538,074, dated April 23, 1895.

Application filed March 22, 1894. Serial No. 504,588. (No model.)

To all whom it may concern:

Be it known that I, CHARLES RAYMOND HEIZMANN, of Reading, county of Berks, State of Pennsylvania, have invented an Improvement in Locks and Latches, of which the following is a specification.

My invention has reference to locks and latches, and consists of certain improvements which are fully set forth in the following specification and shown in the accompanying drawings, which form a part thereof.

My improvements comprehend certain features of construction which are fully described hereinafter and more specifically pointed out in the claims.

Referring to the accompanying drawings, Figure 1 is a sectional plan view through a door, door jamb and lock embodying my invention. Fig. 2 is an interior view of the lock with the key guide and plate removed. Fig. 3 is a cross section on line $x-x$ of Fig. 1 showing the key guide in position in the tubular extension of the lock. Fig. 4 is a perspective view of the two parts making up the key guide separated so as to show their general construction; and Fig. 5 is an elevation of a key adapted to my improved lock.

A is the door. B is the door frame. C is the keeper, and D is the lock or latch proper. The bolt F is provided with a hole f which receives the pin e on the bolt plate E, the latter being adapted to reciprocate within the frame of the lock. The bolt F has its rearwardly extending shank connected with the head or latch part midway thereof so as to form an offset on each side. This permits the bolt to be reversed and yet retain the head portion in proper relative position to work through the hole in the case. A spring M is adapted to force the bolt plate E forward so as to thrust the bolt F outward with a spring pressure. This is accomplished by attaching the spring to the bolt plate, and causing its free end to press upon a lug in the casing. This spring has also an additional function which is to hold the latch or lock bolt G in either of its two extreme positions. In the position in which it is shown in Fig. 2 it permits the bolt to remain normally in locking position. If the bolt plate E be drawn backward by the knob H which works in a slot h

in the case, and the locking plate G be turned by turning the said knob, the hook g will catch back of a lug L on the case of the lock and hold the bolt plate in such withdrawn position. The spring holds the said plate G in either the position shown in Fig. 2 or that adapted to hold it in contact with the lug or projection L. Any movement of the plate E also moves the bolt F.

I is a lever spindle having an arm adapted to withdraw the plate E against the pressure of the spring M when turned under the action of the key. It is provided with a central recess J, preferably rounded at its lower portion so as to be deepest at its center, and having opposite recesses or notches i to receive the lower ends O, O of the key N. This spindle I is suitably pivoted within the case of the lock D.

Arranged above the spindle I is a tubular projection D' which is preferably somewhat conical upon the interior. Fitted within this tubular part D' are the key guide parts K, K', preferably formed in the two portions each of which is provided with a longitudinal recess P to receive the key and the transverse wards k to fit into the notches n in the key shank. These wards k and particularly the middle ones are located in different planes in the guide where it is desired to have the lock opened by different keys.

The construction of the keys will vary with the variation of the wards k of the guides K, K'. One of the guide pieces is provided with projections R adapted to fit within a recess r on the interior of the tubular portion D' which thereby locates the exact position of the key guides. The other part K' of the key guide is provided with a recess T which with a similar recess t in the tubular part D' forms a hole or aperture into which a piece of wire S is driven, and which thereby holds the key guide firmly and permanently in position. When the parts are in the proper position in the case the guide grooves P, P will be in alignment with the notches or recesses i in the spindle I.

It will be observed that any attempt to insert a wire or hair pin or other instrument to turn the spindle I, will cause the same to pass out of the grooves i into the central recess J

and thereby turn without operating the spindle. The central recess J further performs the function of permitting dirt or dust to readily clear itself from the recesses or grooves i.

5 In practice I prefer to make the key guide in two parts K, K' as shown on account of simplicity and cheapness of construction but it is evident that the said parts might be formed integral if so desired.

10 I do not confine myself to the minor details of construction as these may be changed to suit the various forms of locks to which my invention may be applied.

What I claim as new, and desire to secure 15 by Letters Patent, is—

1. In a lock or latch, the combination of a spindle for operating the bolt adapted to receive the end of the key, with a metal key guide provided with a transverse ward or 20 wards adapted to be received in the notches of the key shank, and one or more continuous guides projecting inward to receive the side face of the key and extending longitudinally past the wards and inwardly to receive 25 and guide the surface of the key shank.

2. In a lock, the combination of a tubular projection from the case, with a key guide fitted therein and formed with continuous inwardly projecting walls forming groove or 30 grooves or guides to receive and guide the shank of the key and a ward or wards adapted to be received in the notches of the key, the said key guide being formed with one or more of the said wards and longitudinally continuous guides extending past the wards in one 35 integral piece and adapted to receive the side face or faces of the key shank.

3. In a lock or latch, the combination of the case having a tubular projection, with a key 40 guide formed of two parts adapted to fit together and be received within said tubular

projection, each of said parts of the key guide being provided with one or more wards adapted to receive the notches of the key and a longitudinal inwardly projecting continuous 45 guide extending past the wards and forming when in position a longitudinal passageway for the side faces of the shank of the key.

4. In a lock or latch, the combination of the case having a tubular projection, a key guide 50 formed of two parts adapted to fit together and be received within said tubular projection each of said parts of the key guide being provided with one or more wards adapted to receive the notches of the key and forming 55 when in position a longitudinal passageway for the shank of the key, and a locking wire driven into a recess between said key guide and tubular projection of the lock case to hold the key guide in position. 60

5. In a lock or latch, a lock case provided with a tubular projection, combined with a key guide having longitudinal continuous guiding surfaces P extending past the wards and split longitudinally and fitted within the tubu- 65 lar projection and formed with a series of wards.

6. In a lock or latch, the combination of a radial key guide formed with a longitudinal continuous and inwardly projecting guide ex- 70 tending past the wards for guiding the side faces of the key, and one or more transverse wards in which one or more of said wards are integrally formed transversely to the longitudinal guide constituting the guideway for 75 the key.

In testimony of which invention I have hereunto set my hand.

C. RAYMOND HEIZMANN.

Witnesses:

SIMON P. O'REILLY,
F. M. BANKS.