

W. Wilson,

2 Sheets-Sheet 1.

Latch.

N^o 2,931.

Patented Jan. 27, 1843.

Fig: 3.

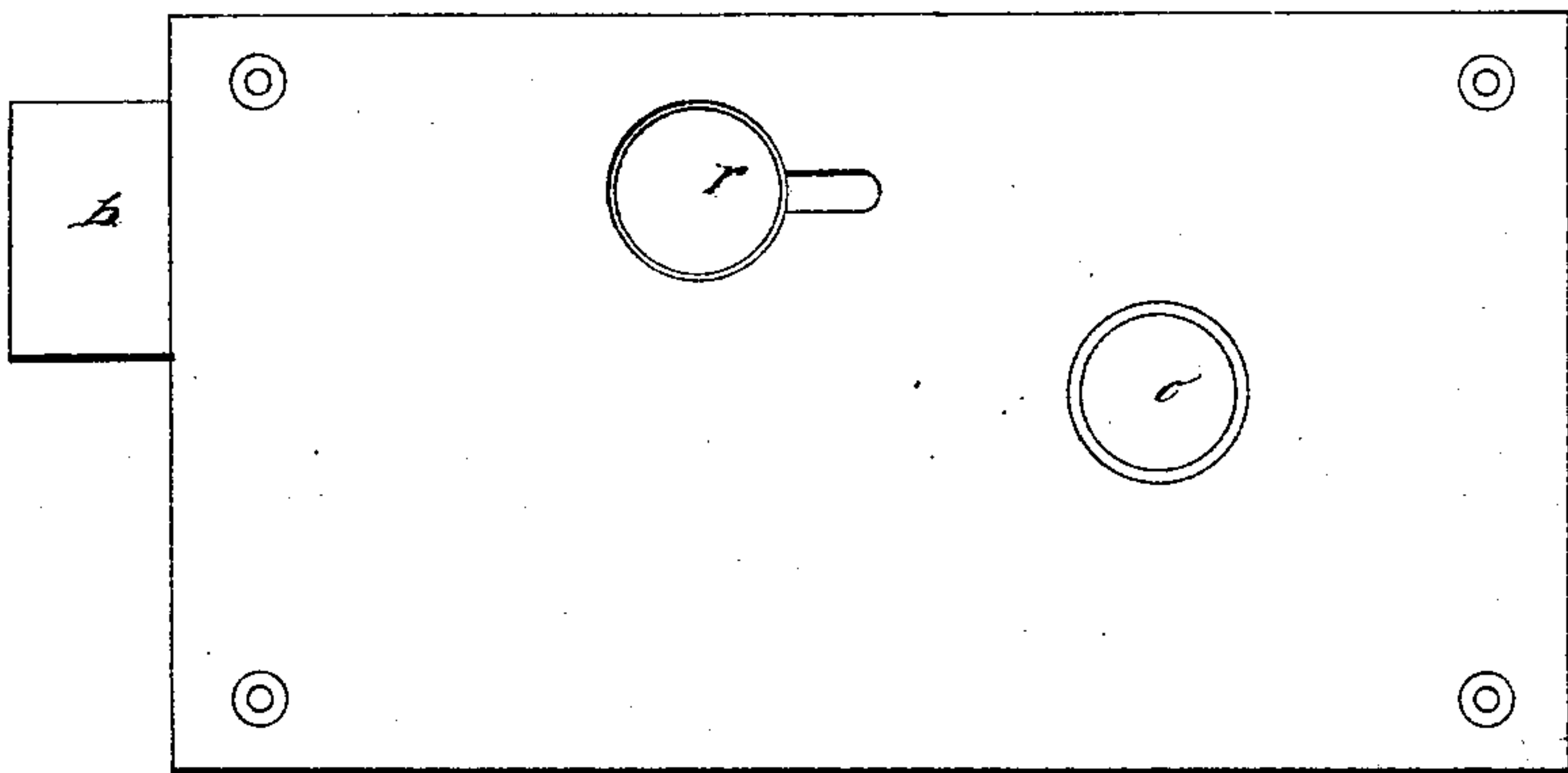


Fig: 5.

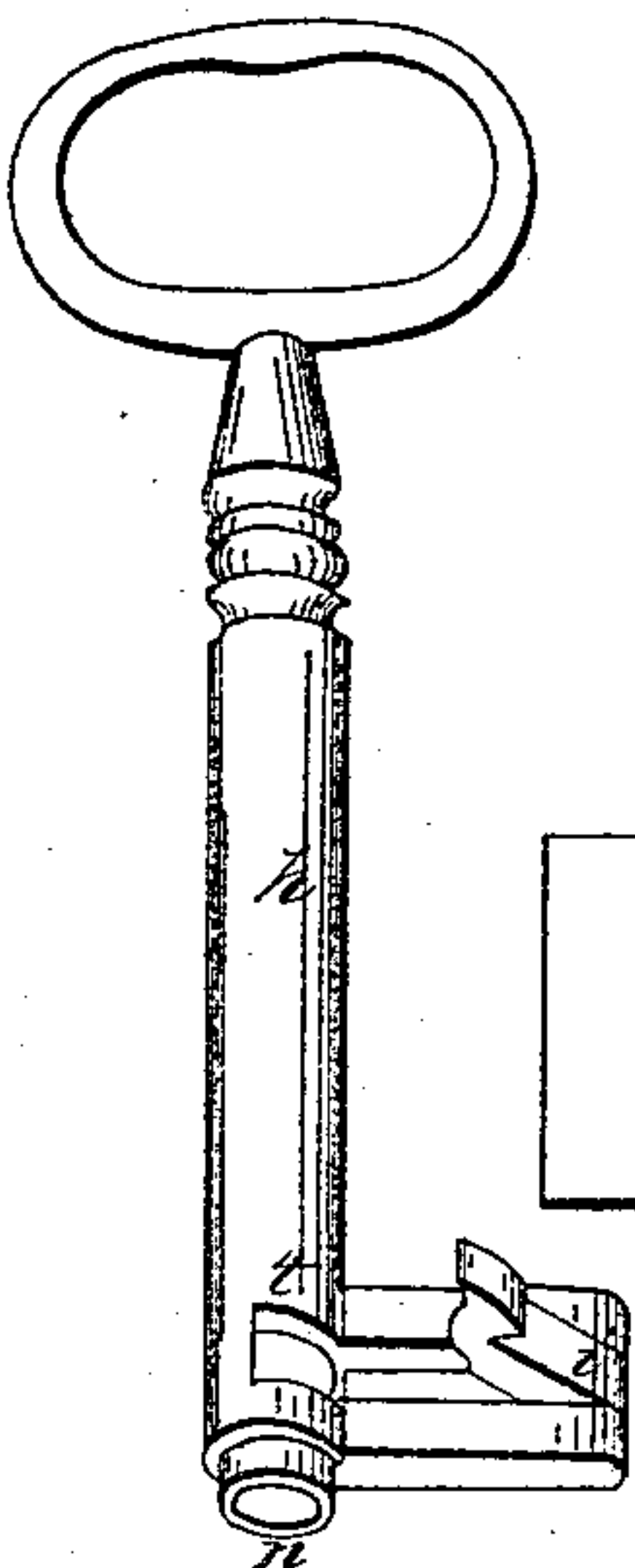


Fig: 1.

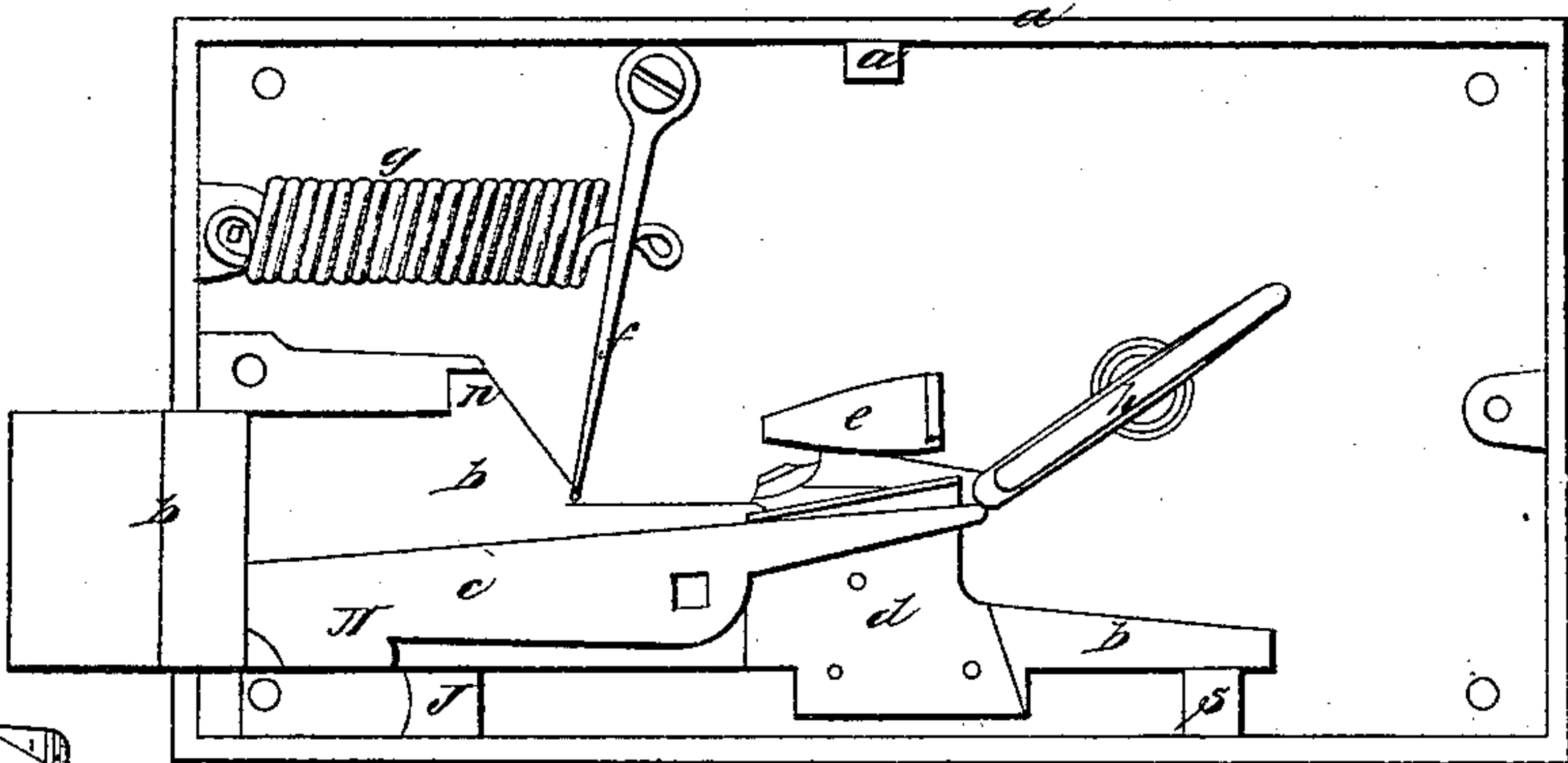


Fig: 7.

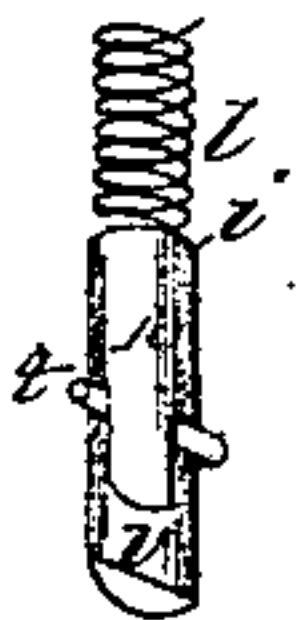


Fig: 6.

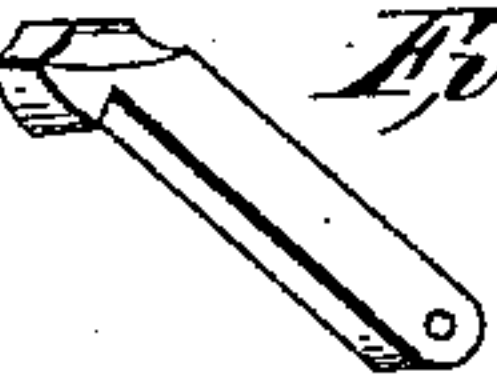
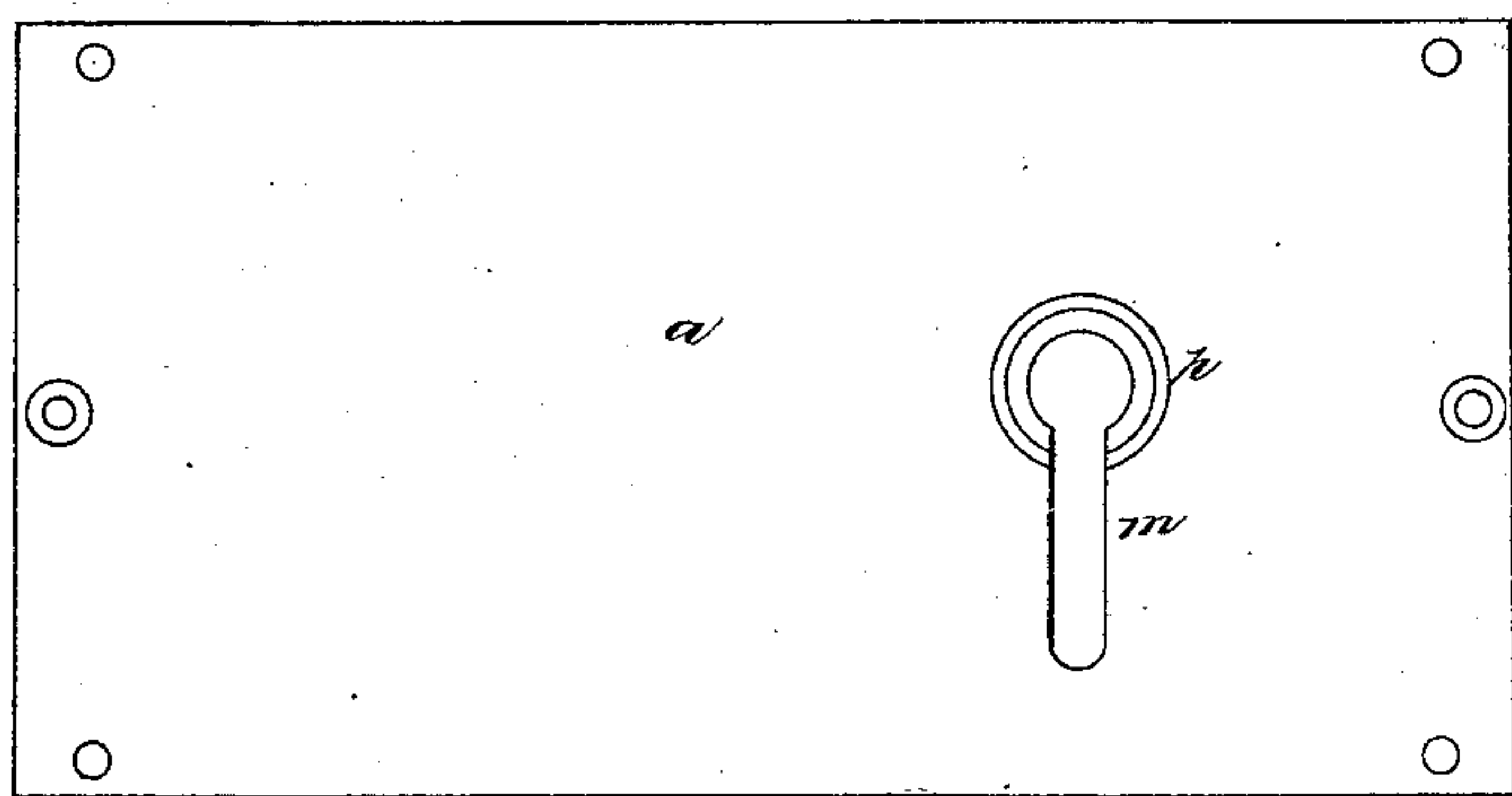


Fig: 2.



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Fig: 4.

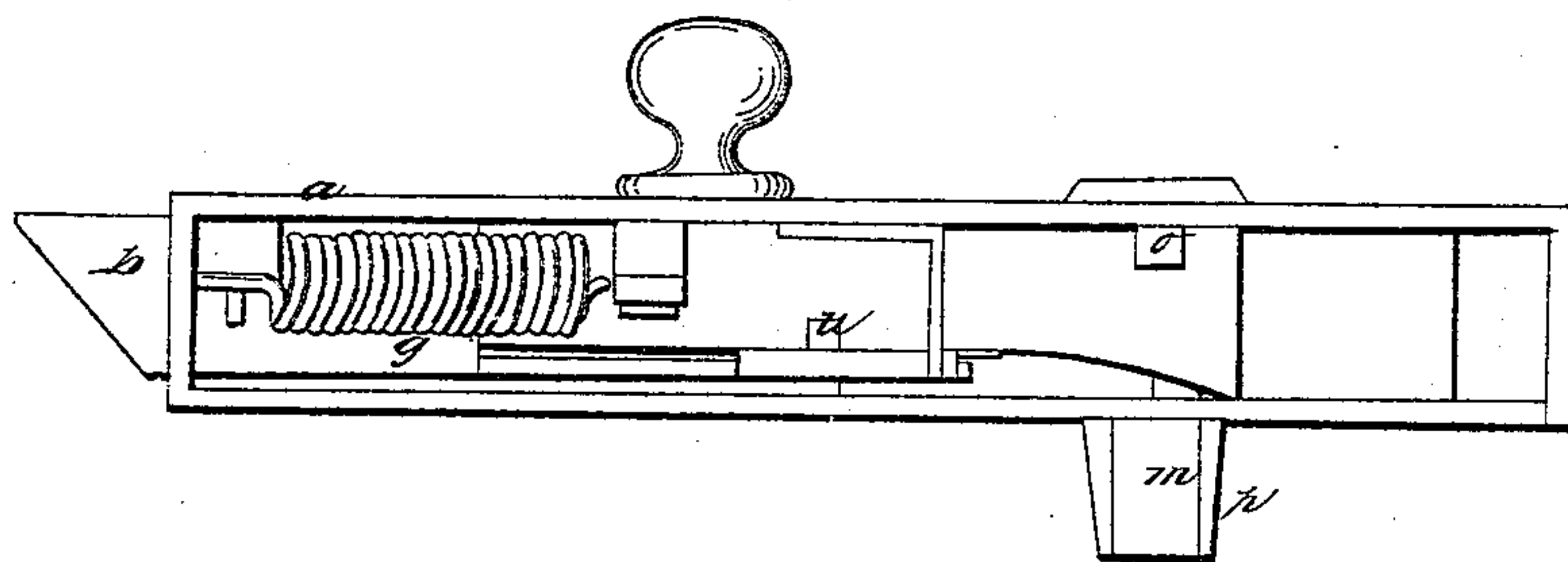


Fig: 8.

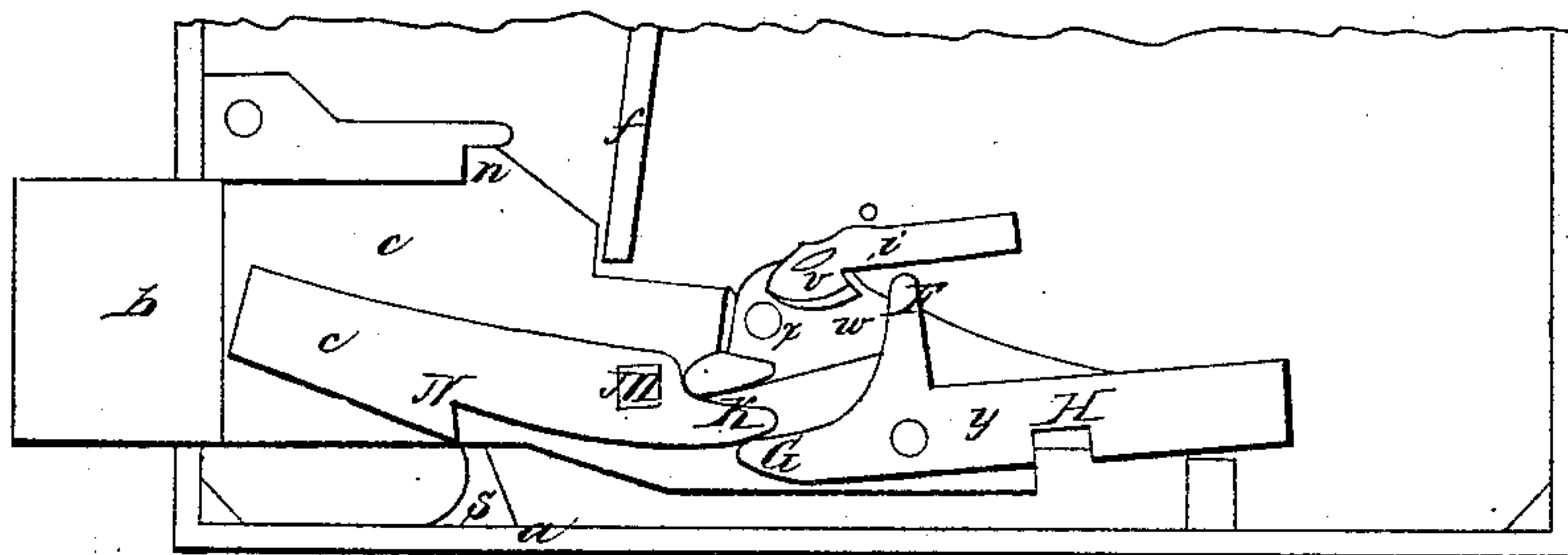


Fig: 9.

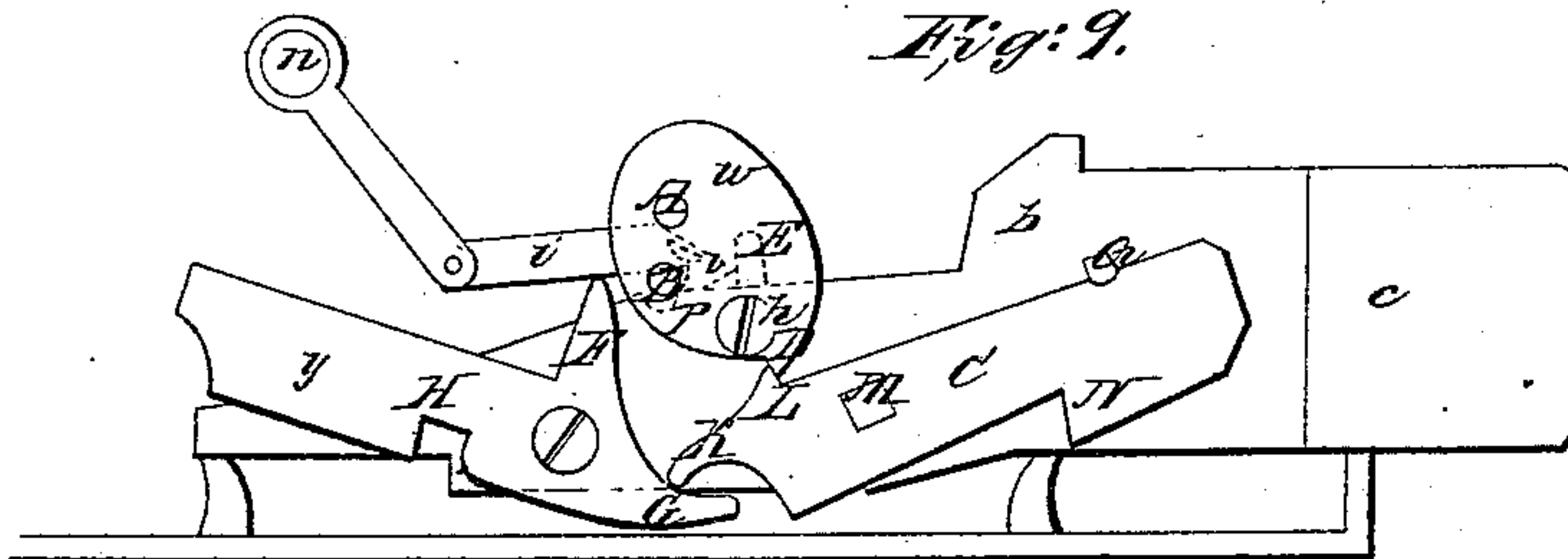


Fig: 10.

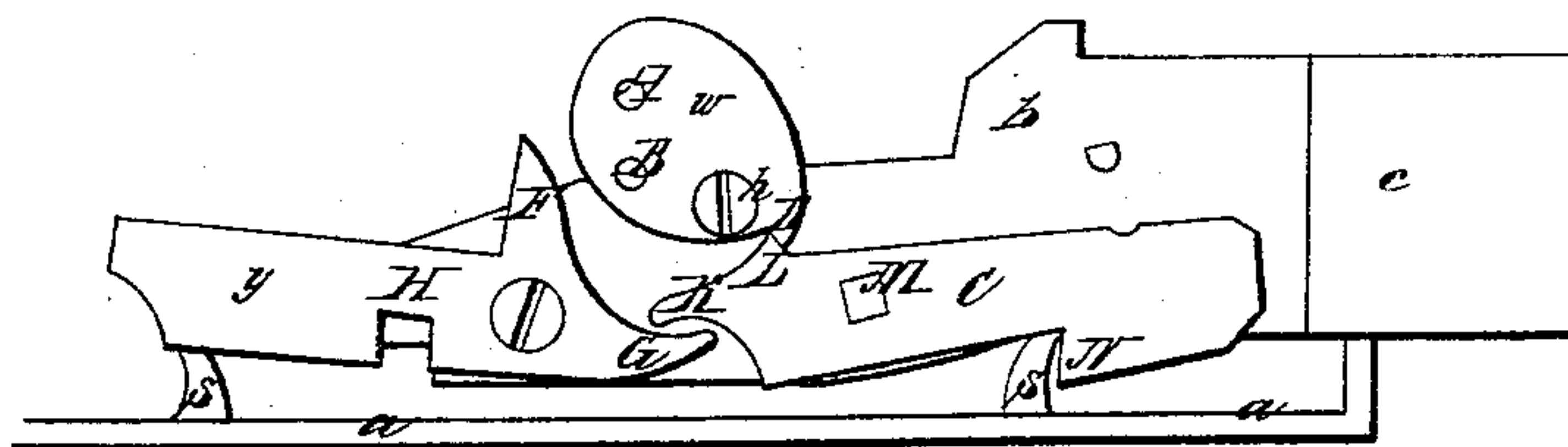
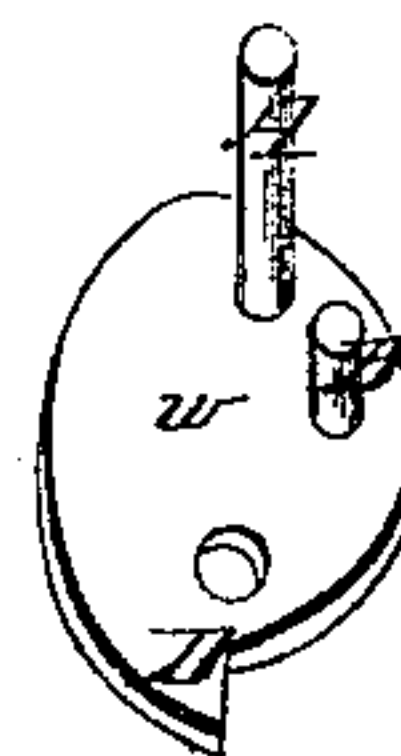


Fig: 11.



UNITED STATES PATENT OFFICE.

WM. WILSON, OF NORTHAMPTON, MASSACHUSETTS.

LOCK AND KEY.

Specification of Letters Patent No. 2,931, dated January 27, 1843.

To all whom it may concern:

Be it known that I, WILLIAM WILSON, of Northampton, in the county of Hampshire and Commonwealth of Massachusetts, white-smith, have invented a new and Improved Lock and Key for the Fastening of Doors, Trunks, Chests, and All other Purposes for Which a Lock is Used as a Fastener; and I do hereby declare that the following is a full and exact description of the same and of its operation, reference being had to the annexed drawings, making a part of this my specification, in which—

Figure I, is an interior or vertical section of the lock showing the internal machinery thereof. Fig. II, is an interior or front section of the lock. Fig. III, is a posterior view of the lock. Fig. IV, is a superior or horizontal section of the lock. Fig. V, is a view of the key. Fig. VI, is a view of a section of the key representing the extension bit. Fig. VII, is a view of a spring-catch and follower which are concealed in the body of the key. Fig. VIII, is a section representing a bolt with a tumbler and forward and hold back levers. Fig. IX, represents another form of tumbler and the operation of the key upon the tumbler levers and bolt in the act of unlocking or withdrawing the bolt. Fig. X, represents the position of the tumbler levers and bolt when it is locked or out. Fig. XI, is a view of one modification of the tumbler, which said drawings with the letters, references and explanations thereon are by me hereby expressly made a part of this my specification.

To enable others skilled in the art to make and use my said invention I will proceed to describe its construction and operation.

First is the key.—This is composed of metal and in its exterior form resembles the common door key now in use without any mortises for guards in the center of the bit. The stem *h* is perforated like a trunk key at *n*. The bit is divided into three nearly equal portions at a right angle with the stem of the key, the center portion *i* turning on a pivot or hinge at its outer extremity, while the other end is formed into a beveled head and hook which when shut drops into a socket in the stem of the key where it is held fast by a catch *k* slipping into a groove *o* in the hooked end of the extension bit *i*. The cylindrical aperture *n* in the stem of the key is large enough to admit a spiral spring *l* at its bottom, above

which is a follower or slide *v* held in its place by a pin *t* through the stem on the slide *v* is a catch *k* which slips into a groove *v* in the head of the extension bit *i* when shut upon the stem and holds it fast. The bit *i* is released from the catch *k* by the stem *o* in the lock pressing upon the outer end of the follower or slide *v* when the key is introduced into the lock.

Second is the lock.—The bolt *b* is a solid body of metal resting on standards *s*, *s*, or on friction rollers. On its upper surface and about the length of the bit of the key (exclusive of the extension bit *i*) forward of the key hole *m* is an inclined plane which extends on the bolt upward and forward to nearly a level with the cylindrical stem of the key hole *p* and forward to very nearly the full length or reach of the key and extension bit *i* when extended and when so extended the hook on the end of the bit *i* drops into a socket or notch in the bolt fitted to the hook or the hook seizes a stem or upright on the bolt at that point as the case may be and the bolt is drawn back, or where a tumbler *w*, Fig. VIII, is used the hook or the end of the extension bit *i* drops into a socket or stimp on the tumbler and by which the key draws back the bolt, or where a tumbler *w*, Fig. IX, is used the bit *i* when extending passes under the pin *A* on the tumbler and raises it by which the pin *B* is raised out of its bed *P* or the bolt when the hook of the bit *i* seizes the pin *B* and the bolt is drawn back by the key.

The bolt may be a spring lock bolt as represented in *b*, Figs. I and IV or in the common form as represented *b*, Figs. VIII, IX, X. Where a spring bolt is used the spiral spring *g* and the lever *f* will always keep the bolt *b* out or bolted and where the common bolt is used the lowered lever *c* and the holdback lever *y* will hold the bolt *b* alternately locked or unlocked at pleasure. The lever *c* is affixed to the side of the bolt *b* and has a movable axis or fulcrum *M* which passes horizontally through the bolt *b* and through the backside of the lock, terminating in a button or handle at *r*. This lever *i* has a hook or notch on its under side at *H* which when the bolt is out or locked drops and catches upon the forward standard *s* and holds the bolt out. Another lever *y* on the side of the rear end of the bolt *b* hooks upon the rear standard *s* at *N*, where the lock is unlocked and holds it fast.

Where a tumbler w is used upon the bolt b , Fig. VIII, the head and hook of the bit i is fitted to a matrix in the tumbler which moves on its axis x and the tumbler acts upon the lever c and that upon lever y raising the hooks H and N each above the standards s, s , while the bolt b is moving backward or forward where a single lever c is, and as in Fig. I the rear end is depressed by the end of the bit to raise it off the standard s in order to draw back the bolt. The button or handle r , Fig. III, moves in a groove on the backside of the lock and by it the bolt may be moved backward or forward from the inside without introducing the key. In Fig. IX the levers c and y are operated by a hook on the tumbler as represented D, L, K, G.

Method of locking and unlocking.—In the spring bolt lock, Fig. II, with a single lever c nothing more is needed to lock it than to shut the door, chest, or trunk on which it is used. To unlock it introduce the key then turn it backward from the bolt at an angle of twenty or thirty degrees from the line of the key hole m . Then press gently against the key until it strikes the back side of the lock when the stem o , Fig. IV, introduced into the cavity of the key at n and bearing against the follower or slide v will liberate the extension bit i which will then drop down on the bolt l . Then turn the key toward the bolt until the bit strikes the under side of the guide e , Fig. II, when the extension bit i will have passed up the inclined plane on the bolt and a little beyond the notch or socket T on the bolt l . Then draw the key toward you until the bit strikes the front sides of the lock when the hook on the end of the extension bit will drop into the notch or socket T on the bolt l , Fig. I, and by turning the key backward the bolt will be unlocked. Then turn the key a little forward to release the hook i from the notch or socket T and press the key back against the back side of the lock and turn it around until the bit strikes the upper side of the guide e . Then press against the key and the bit i will fall into its socket on the stem of the key and may be taken out of the lock.

In the modifications of the machinery with a holdback lever y and tumbler w as are represented in Figs. VIII, IX, X, in locking nothing more is required than to introduce the key and turn it as in a common lock without liberating the extension bit i when the bit striking the upright stem F on the lever y raises it above the standard s and the force of the spring g throws out the bolt. In locks of this kind the key hole

m is inverted. To unlock the same introduce the key. Then turn it backward from the bolt b nearly half a circle, then press against the key as before described, liberate the bit i from the stem of the key and pass it up the inclined plane in the bolt as before until it strikes the under side of the guide e , Fig. VIII, or until it strikes against the stem E in the bolt b , Fig. IX. Then draw the key toward you until the bit strikes the front side of the lock when the head and hook on the end of the extension bit i will be drawn into the stirrup of the tumbler w and the bolt is withdrawn as before mentioned. Or in case the modification as represented in Figs. IX, X, XI, is used introduce the key and pass it up the inclined plane as before mentioned when the beveled head of the extension bit i will pass between the pin A and catch B on the tumbler and pressing against A raises up the tumbler on its axis and lifting the catch B out of its bed P. Then draw the key to the front side of the lock as before when the hook on the bit i seizes the catch B and by it the bolt is withdrawn. Then push back the key to liberate the hook i from the catch B and turn the key around about a half circle until it strikes the guide e on the upper side, press upon it and drop the bit i into its socket in the stem of the key as before when it can be taken out of the lock.

The several portions of the lock and key being in all cases marked with the same letter in each section or figure wherein the same are represented the references herein are made by letter only without in all cases naming the figures or sections where the same may be found in the drawings annexed.

What I claim as my invention and desire to secure by Letters Patent is—

1. In the key the employment of an extension bit i to the ordinary bit of the key and in combination therewith the manner of confining the same in the stem of the key hereinbefore described.

2. And in the lock the machinery and method herein specified and described for guarding against pick locks by the arrangement of the levers c and y in combination with the removal of the notch or socket at T, Fig. I, on the bolt or of the tumbler, Figs. VIII, IX, X, so far from the key hole m as to be acted upon by the extension bit i on the key as herein specified and described.

WM. WILSON.

In presence of—

L. D. SMITH,
T. G. DEXTER.