

(No Model.)

H. K. HARKER.
BAG LOCK.

No. 442,884.

Patented Dec. 16, 1890.

Fig. 1.

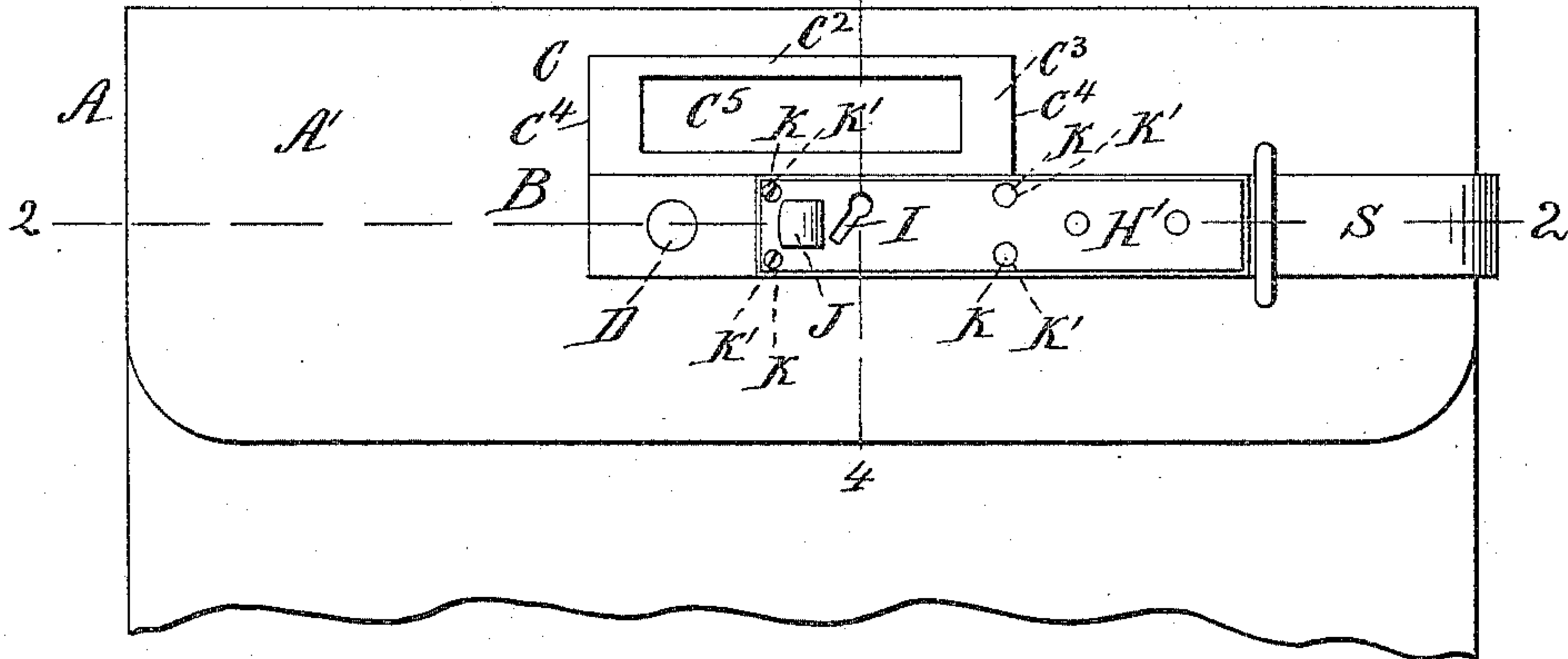


Fig. 2.

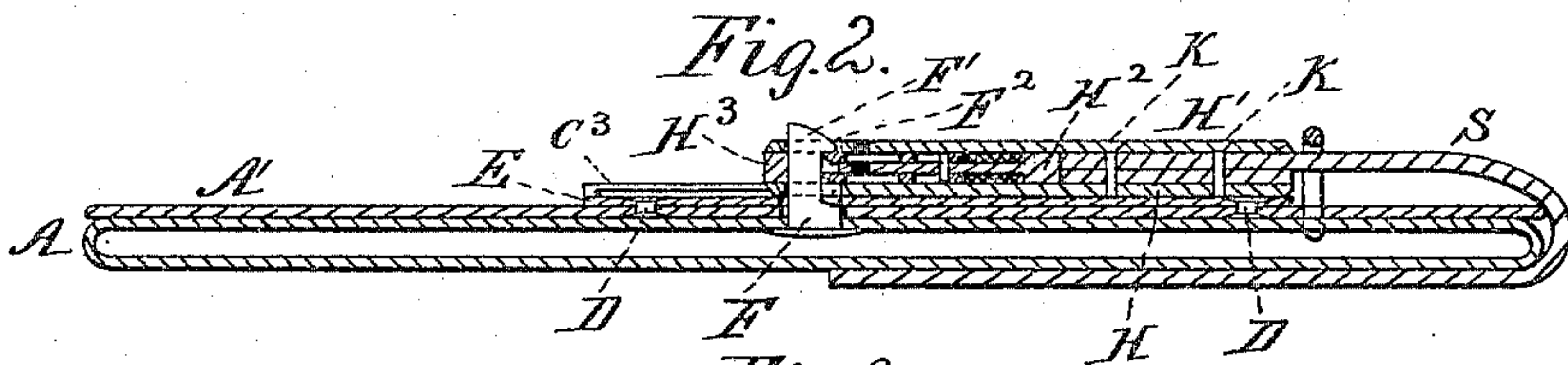


Fig. 3.

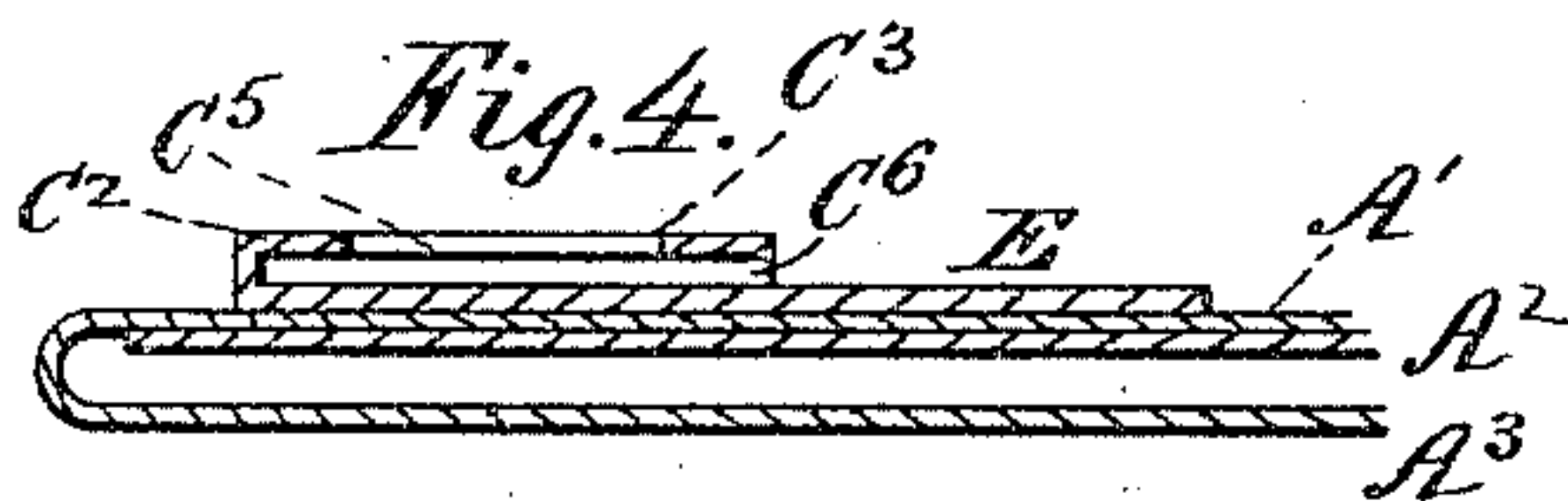
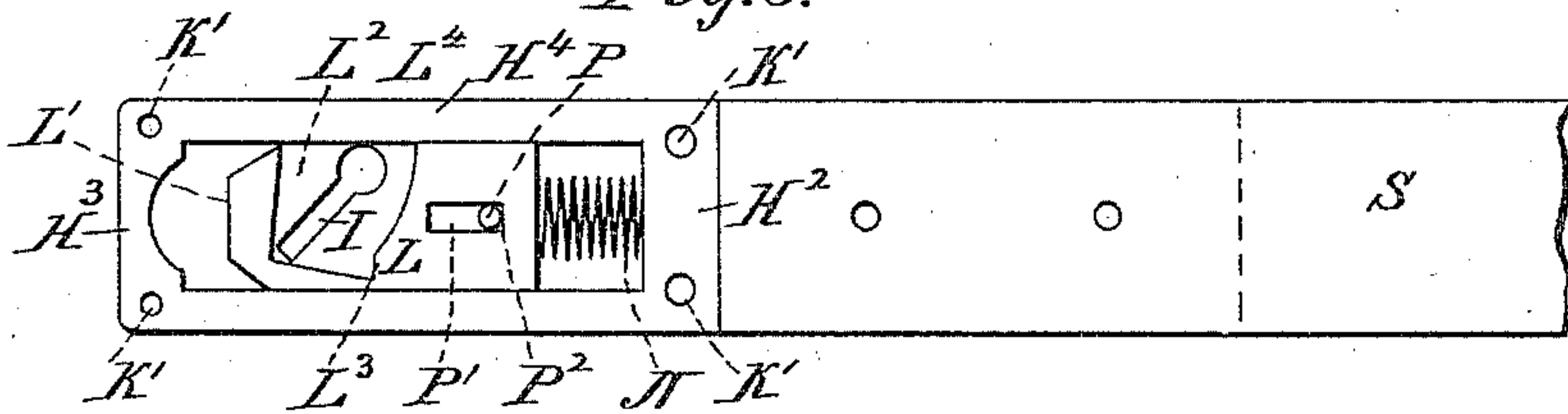


Fig. 5.

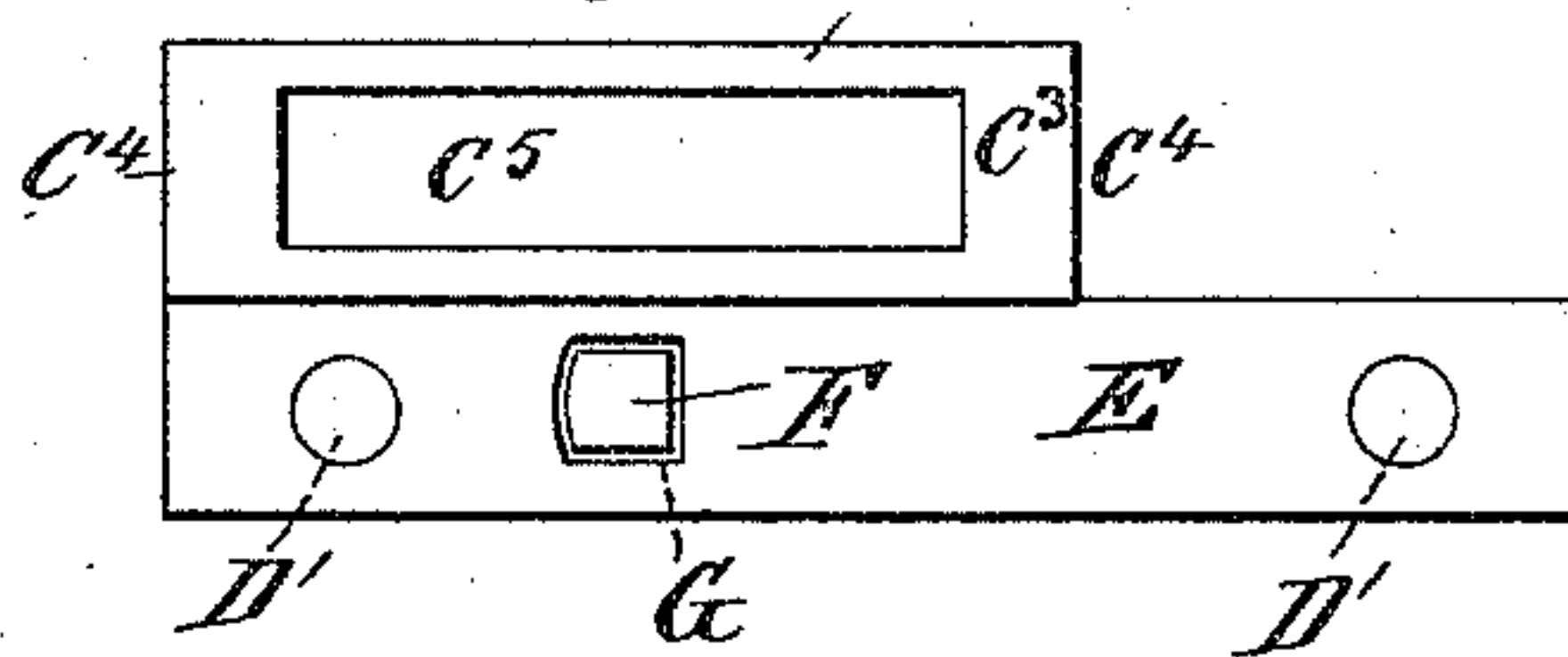


Fig. 6.

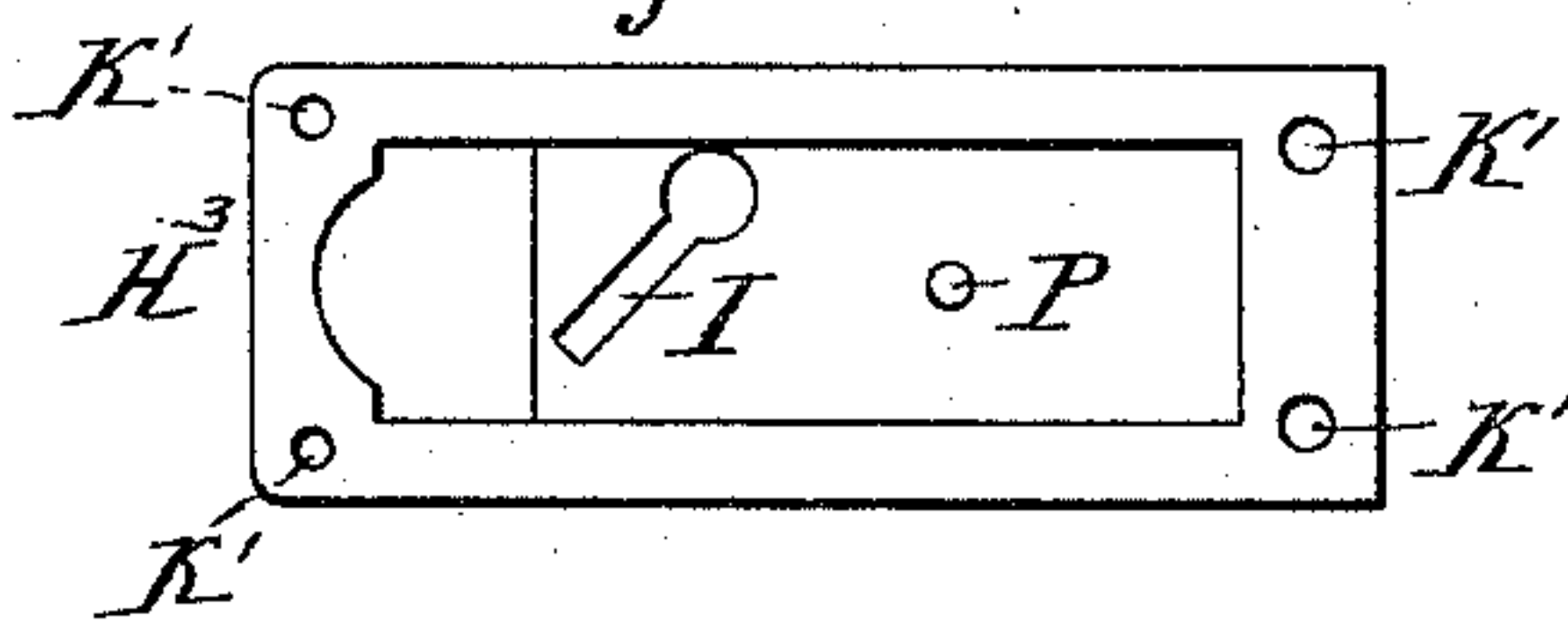
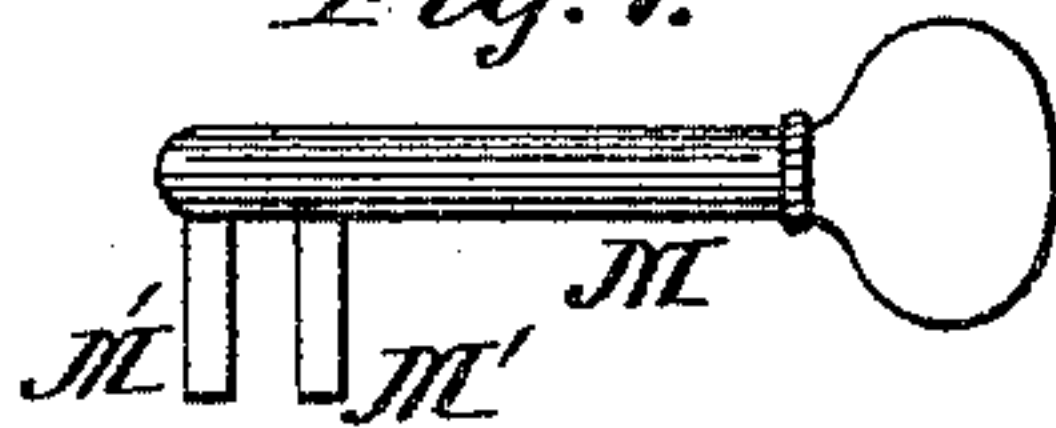


Fig. 7.



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UNITED STATES PATENT OFFICE.

HENRY K. HARKER, OF CINCINNATI, OHIO, ASSIGNOR TO FREDERIC C. WEIR,
OF SAME PLACE.

BAG-LOCK.

SPECIFICATION forming part of Letters Patent No. 442,884, dated December 16, 1890.

Application filed November 20, 1889. Serial No. 331,023. (No model.)

To all whom it may concern:

Be it known that I, HENRY K. HARKER, a citizen of the United States, and a resident of the city of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Locks for Securing the Covers of Receptacles, of which the following is a specification.

The various features of my invention and the several advantages arising from their use, conjointly or otherwise, will be apparent from the following description and claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a front elevation of the upper portion or mouth-end portion of a mail-bag, showing a top view of destination-card case and a top view of a lock embodying my invention. Fig. 2 is a section taken transversely through the mail-bag and through the lock at the dotted line 2 2 of Fig. 1. Fig. 3 is a view of the interior of the lock when the front or outer plate of the casing has been removed, the portion or strap to which the lock is attached being shown in connection with the remainder of said lock. Fig. 4 is a transverse section of the said lock, destination-card case, and upper portion of mail-bag, taken at the dotted line 4 4 of Fig. 1. Fig. 5 is a view of the front or upper surface of the destination-card case and the base-plate attached to the mail-bag and on which the lock rests, also showing the top or upper end of the latch. Fig. 6 is a top view of the interior frame-work of the lock intermediate between the upper and lower securing-plates. Fig. 7 is a side elevation of the preferred form of key to be used with the said lock.

A indicates a mail-bag of any suitable form, having its mouth closed by a flap portion A', folded over flat upon the upper portion of the mail-bag, thereby closing up the mouth or opening of the mail-bag through which mail-matter is introduced into the bag or removed therefrom. The front portion A² of the mail-bag immediately behind the flap is preferably re-enforced by a stiffening-piece A³. To this portion of the mail-bag, and preferably to the stiffening-piece aforementioned, is secured the latch-piece F. This latch-piece F consists of a shank whose free or outer end is provided with a laterally-extending lip or

hook projection F², and this end of the latch has a beveled surface F', extending from a point on the latch F² upward to the opposite wall of the latch. In the outer surface of the flap A' lies the base-plate E, suitably secured to the flap, preferably by rivets D passing through holes, as D' D', in the base-plate, the holes being preferably located one at one side of the base-plate and the other at the other end of the base-plate, substantially as shown. The base-plate is also provided with an opening G of the proper size and just large enough to easily pass over the latch F, thereby allowing the flap of the mail-bag to lie flat against the adjacent portion A² of the mail-bag and at the same time allowing the latch to project through and beyond the said base-plate a sufficient distance to make proper connection with the lock, as hereinafter mentioned.

The construction of the lock is substantially as follows: The upper portion of the frame of the lock consists of the plate H', provided with a key-hole I and a latch-hole opening J, the latter being for the reception of the latch. The lower or base plate H H of the lock is the same size and shape as the plate H', and has similar openings for the reception of screws, and it has also a similar opening for the reception of the latch; but the key-hole I is not present. The frame-work of the lock intermediate between the upper plate H' and the base-plate H consists of a frame open at top and bottom and provided at one end with the wall H² and at the other end with the wall H³ and at one side with the wall H⁴ and at the other side with the wall H⁵. This frame H², H³, H⁴, and H⁵ rests upon the base-plate H, and on the top of this said plate H² H³ H⁴ H⁵ rests the upper or outer plate H'. The upper and lower plates and the intermediate frame aforesaid are securely united together in a rigid manner by means of screws K, passing through holes in the plate H' and through holes K' in the frame-work H² H³ H⁴ H⁵ and through corresponding holes in the plate H, the holes K' in one of the plates being screw-threaded and engaging a screw-thread on the screw K and entering therein. For the purposes of security the screw-heads of these screws are located on the under side of the base-plate

II, so that when the lock is locked to the bag it will be impossible to reach the heads with a screw-driver and thus unscrew the screws. The screw-holes K' aforementioned are preferably located one in each corner of the frame II² II³ II⁴ II⁵, and of course the corresponding holes in the plate II' will be located to come opposite the holes K' in the said frame.

The interior of the frame II² II³ II⁴ II⁵ contains the operative parts of the lock. These parts are as follows: Within the frame and sliding longitudinally therein is a sliding tumbler L. The forward end of this tumbler is beveled at L' on its under side. The tumbler is provided with a recess L². The rear edge of the said recess is provided with a detent L³. The rest L⁴ of this rear edge is cut away. The recess of the tumbler is located substantially as shown in Fig. 3. The tumbler when not retracted by a key M always occupies the advanced position shown in Fig. 3 by reason of the pressure exerted by a suitable spring. Such a spring is shown quite fully in Fig. 3 and indicated by the letter N, the spring in the present illustrative instance being a spiral one, compressed between the rear wall II² of the frame and the rear end of the tumbler. When the tumbler is in the position shown in Fig. 3, the key can be readily inserted into the lock and into the recess L² of the tumbler through the key-hole I. A suitable detent is provided to prevent the tumbler from sliding too far forward. The preferred form of detent is shown in the drawings, particularly in Figs. 3 and 6, and consists of a pin P, fixed to the stationary parts of the lock in any suitable manner. The pin works in the opening P' in the tumbler L, and as the tumblers advance through the agency of the spring N the rear wall of this opening P' impinges against the pin and prevents the farther forward advance of the tumbler. The object of preventing the tumbler from advancing farther forward is that there shall always be a space between the front end of the tumbler and the wall II³ of the lock to admit the point of the latch, so that the latch may enter through the said space and its beveled portion bear against the beveled edge of the tumbler, and thereby operate to push back the tumbler as the lock is pushed down from the latch. The key is of a simple description, having a shank provided with an arm, as M' M'. The key, being inserted through the key-hole I into the lock and turned, operates against the detent L³ of the tumbler and presses back the tumbler, and thereby withdrawing it from under the lip F², and allowing the lip to be lifted up from the latch and withdrawn, thereby unlocking the mail-bag.

Inasmuch as the lock and its key are both very simple in construction, in order to prevent the ready picking thereof, I duplicate the tumbler, and for supporting the tumblers in position at a distance apart, so that there may be two arms of the key located at a distance apart, and thereby preventing any key

with a single arm from unlocking the lock, I provide the frame H² H³ H⁴ H⁵ with a diaphragm centrally located. On the upper side of said diaphragm is located one of the tumblers, such as already described, and on the other side of the diaphragm is located another of the said tumblers, as already described. The detent or pin P, heretofore referred to, is located in said diaphragm, as shown, and extends through the diaphragm and projects on both sides thereof. This detent P preferably consists of a pin screwed into the diaphragm. Each diaphragm is provided with its own independent spring, such as hereinbefore described, for advancing it and holding it in an advanced position, except when the tumbler is retracted by means of a key. In the event of there being two tumblers and springs the key M will be provided with two arms.

The lock is suitably secured to the usual binding-strap S of the mail-bag in any suitable manner, preferably as follows: The free end of the strap is placed between the adjacent ends of the plate II II', and the front edge of the said strap rests against and is in near proximity to the rear wall of the frame II² II³ II⁴ II⁵. The end of the strap is then riveted or bolted or otherwise suitably secured in position between said plates II and II'.

In practice my improved lock is operated in general as follows: After the mail-matter has been placed in the bag, the flap is brought over and down against the front side A² of the mail-bag, the latch F passing through the opening G in the plate E. The strap S is now folded over the flap substantially as shown in Fig. 1, and the lock is now applied to the latch F by inserting the upper point of the latch into the space between the front edge of the adjacent tumbler and the front wall II³. The operator now presses the lock down upon the latch, and the beveled edge F' operates to push back the tumbler until the projection F² of the latch passes the tumbler. The spring N of this tumbler will then immediately advance the tumbler so that its forward edge will project under the lip projection F². In case there are two tumblers, as it is intended there shall be, the latch will next retract the second or upper tumbler in the same manner that it did the first or lower one. After passing the upper tumbler its forward edge will also catch securely in the projection F². As the upper forward edge portion of each of the tumblers is flat and not beveled away, any effort to pull the lock off the latch will be resisted by the edges of the front ends of the tumblers. When it is desired to unlock the lock, the key M is inserted, and the detent L³ of one of its arms M' bears against the detent L³ of the other arm. As the key is turned the tumbler is retracted, the free ends of the arms M' M' of the key respectively resting against the adjacent surfaces L⁴ of the respective tumblers. The tumblers will now remain retracted, and their forward edges having been drawn back the free

end or lip F^2 of the latch leaves a space between the front edges of the tumbler and the front wall H^3 of the frame of the lock sufficiently large to allow the latch to pass through said space and the lock to be withdrawn from the latch. The key is now turned back and withdrawn from the key-hole, and the lock will be again in the position where it can be applied to the latch and automatically lock therewith.

For the purpose of convenience I preferably attach a card or plate indicating the destination of the mail-bag when *en route*, and I combine with said lock a suitable device for holding said destination-card. This combination is substantially as follows: I provide a destination-card case C, having end walls C^4 C^4 and back wall C^2 , top C^3 , and base C' . This base C' is connected to the part E and preferably integral therewith, it and the part E in the latter instance being formed out of one sheet of metal. The top C^3 of the card-case is provided with an opening C^5 . The space inclosed by the walls C^4 C^4 C^2 is smaller than the length and breadth of the space inclosed by the walls C^4 C^4 C^2 lying beneath the top C^3 . A proper card indicating the destination of the mail-bag, of a size sufficient to fill the space last mentioned, is inserted into said space, the printing or writing of said destination-card being uppermost. As the card is larger than the space C^5 and the top C^3 , it cannot escape through the said opening, and at the same time the destination indicated will appear through said opening. When the lock is locked to the mail-bag, all tendency of the destination-card to slip out of its case through the opening after it has been introduced into said case is effectually prevented by the presence of the adjacent edge of the lock. When the mail-bag has reached its destination and the lock is removed therefrom, the card can be readily withdrawn from its case and a new card inserted indicating the subsequent destination of the mail-bag.

Some of the advantages of my improved lock are as follows: The lock being attached to the pouch or mail-bag is not liable to be mislaid. The operation of locking the lock to the mail-bag is extremely rapid, and much time is thereby saved in the locking of the bag. The lock is very compact, and its compactness renders it less liable to destructive contact with pavements, floors, and the like. Moreover, its flat form assists in preserving it from injury. The lock is very light of weight, and its use saves much expense annually in the matter of transportation, inasmuch as the Government pays for less weight annually carried in the transportation of the mail. The lock is a remarkably safe one, as no degree of concussion will spring it open. Furthermore, it is extremely economical of manufacture.

While the various features of my invention are preferably employed together, one or more of said features may be used without

the remainder, and in so far as applicable one or more of said features may be used in connection with locks other than the specific entirety herein set forth.

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

1. The combination of the latch, substantially as F' F^2 , the lock having a space for the introduction of the latch, and two tumblers whose forward ends are each provided with a bevel, as I' , at a distance from each other, each of the tumblers reciprocating independently of the other, and each provided with its own spring for its advancement and with a suitable detent for limiting its advance and with a detent for the impingement of the arm of the key, substantially as and for the purposes specified.

2. A mail-bag provided with a latch having beveled top and projecting lip, the lock having a frame, as H^2 H^3 H^4 H^5 , provided with a diaphragm intermediate between the two tumblers, each of the tumblers provided at its forward end with a beveled edge, each tumbler reciprocating independently of the other, each advanced by its own spring, such advancement being limited by a detent, each tumbler provided with a recess for the reception of the key and surfaces for the impingement of the arm of the key, substantially as and for the purposes specified.

3. A mail-bag provided with latch F, having beveled top and projecting lip, and the base-plate E, secured to the flap, having opening G, through which the latch F passes, and the flat lock having reciprocating tumblers provided with the upward beveled edge and advanced by a spring, such advance being limited by a detent, and having a recess provided with walls for the impingement of the arm of the key, and outlying frame H^2 H^3 H^4 H^5 , the upper and lower frame portions H H' , extending rearwardly beyond the lock and receiving the end of the strap, substantially as and for the purposes specified.

4. A mail-bag provided with latch F, having beveled top and projecting lip, and the base-plate E, secured to the flap, having opening G, through which the latch F passes, and the flat lock having reciprocating tumblers provided with the upward beveled edge and advanced by a spring, such advance being limited by a detent, and having a recess provided with walls for the impingement of the arm of the key, and outlying frame H^2 H^3 H^4 H^5 , the upper and lower frame portions H H' , extending rearwardly beyond the lock and receiving the end of the strap, the plate E being provided with a destination-card case consisting of the extension C' , integral with the plate E and the end wall C^4 C^4 , rear wall C^2 , and top C^3 , having opening C^5 , substantially as and for the purposes specified.

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