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COMPLETE SPECIFICATION.

Improvements in Book-edge Locks

We, HARRY LAMBERT SYMONDS, of S. Mordan and Company, Limited, Manufacturers, and RICHARD LANGHORN, Locksmith, both of 41, City Road, in the County of London, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement, reference being had to the accompanying drawings and to the letters and figures marked thereon, that is to say:

This invention relates more particularly to that construction of book-edge lock described in the Specification of Letters Patent No 3829, dated 22 February 1894, that is to say a lock in which the hasps are arranged to be out of the way when the book, to which it is applied, is open and in use. And the object of the present invention is to so construct such locks as to render them adjustable and detachable, and readily adaptable to what are known as "elastic" ledgers, or to other books capable of being varied in thickness, although they may be applied to books in which the thickness is constant.

To this end, the hasp (of which there may be one or more according to the size of the book, but preferably two) consists advantageously of two members or portions arranged relatively the one to the other, so that their total length can be varied; and one of these members may be a tube (tapped, or plain, internally) or a bar, provided with means by which it is detachably connected to the hasp-plate, while the other member may be a rod (screw threaded or plain) or a bar, adapted to work in said tube, or over or against said bar, and terminating at its free end in a catch or hook to engage the lock which is secured to the outer lock-plate.

In some instances, a fastening device, or devices, may be employed to retain the adjustable member in the position to which it may have been set.

A further object of the invention is to so improve the lock proper that one having, say two levers or tumblers may, without increasing its thickness, operate as a lock having four levers or tumblers; a double-bitted key, or two separate keys, being employed to actuate such lock. This arrangement, is more specially devised for use with a book-edge lock, where great security is usually required, but a thick lock is not permissible.

We will now describe our invention fully with reference to the accompanying drawings which shew, by way of example, several forms of the improved hasp, together with the improved lock, and in which:—

Fig 1 is a front view, and

Fig 2 an edge view of the construction in which an internally tapped tube and a screw threaded rod are employed to constitute the hasp, this being the preferred form.

Fig 3 is a perspective view of such a hasp detached.

Fig 4 is a vertical section of a modified form of adjustable and detachable hasp, in which a plain cylindrical tube and rod are employed.

[Price 8d.]



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Fig 5 is a front elevation of a form wherein two bars are used, and Fig 6 is a cross section of the same on the line *x, x*, of Fig 5.

Fig 7 is a front elevation, and

Fig 8 an edge view, in section, of a further modified form of adjustable and detachable hasp, in which two bars are likewise employed.

Fig 9 is an elevation of the improved lock proper, with its outer plate removed, and

Fig 10 is a section thereof on the line *y, y*, of Fig 9.

Fig 11 shews a two-bitted key for use with this lock.

A is the lock plate which is fixed to one of the covers, of the book, and carries a spring or other lock B, which may be let into the said cover, and C is the hasp-plate, which may likewise be let into the other cover of the book, and which carries the hasps, this being the usual construction.

Referring to Figs 1, 2 and 3, each hasp consists of a tapped tube *a* to receive a screw-threaded rod *b*, having a catch or hook *c* at its free end to engage the bolt *o* of the lock. This tube, at its lower end, is formed with a boss or block *d*, in which is a transverse slot *e* forming, as it were, a claw, adapted to engage a pin *f* passing through recesses in the hasp-plate C, and by means of which said hasp is retained in place.

To adjust this hasp to a book capable of being varied in thickness, the rod is screwed up, or down, in the tube *a*, until the desired length is attained; but to detach said hasp it is turned about the pivot pin *f*, in a plane normal to the book edge, into the position shewn by dotted lines in Fig. 2, and its pivoted end removed from said pin by raising said end until the slot clears the pin. In this manner, when the book is in use, it will be entirely without encumbrance.

Referring to Fig 4, the adjustable hasp here consists of a plain tube *a* in which a plain rod *b*, having a series of holes *g*, or notches, is adapted to work. Engaging with one, or other of said holes is a set screw *h*, passing through a tapped hole near the upper part of the tube, and by means of which the said rod, after having been adjusted to the desired length, is secured in position. As in the previous arrangement, the rod terminates at its free end, in a catch or hook *c*, and the tube is formed, at its lower or butt end, with a boss or block *d*, having a transverse slot *e* by means of which it is rendered detachable.

In Figs 5 and 6, the adjustable and detachable hasp likewise comprises two members or parts, both being here formed as bars. The lower one *a*¹, is provided with a dovetail groove *j*, and the upper one *b*¹ with correspondingly shaped edges adapted to engage and slide in said groove, and with a catch or hook *c*, the adjustability being brought about by sliding the member *b*¹ over or against the member *a*¹. And to keep this latter member at the position at which it may have been adjusted, it is formed with a slot *k*, in which engages a set screw *l* passing through a tapped hole in the member *b*¹.

In the arrangement shewn in Figs 7 and 8, the hasp also consists of two members forming bars, the member *b*¹ having a longitudinal slot *k*, and arranged to slide over or against the member *a*¹. In this modification the member *a*¹ is held and guided by two set screws *l*, *l*¹, in a manner similar to that above described with reference to Fig 4, and its adjustment is likewise effected in a similar manner; the purpose of the two set screws being to prevent lateral movement of the bars.

In the forms shewn in Figs 4 to 7, the means for securing the two members together are always on the inner side of the hasp, so that they can only be got at to alter the adjustment of the hasp when this latter is disengaged from the lock and thrown back.

The pivoting of the hasps shewn in Figs 4 and 5 is similar to that above described, with reference to Figs 1 to 3, but the hasp shewn in Figs 7 and 8 is pivoted so as to turn in a plane parallel with the book edge.

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The improved lock hereinbefore referred to, and illustrated in Figs 9 and 10, consists of a spring-pressed main or locking bolt o , suitably guided on the inner lock-plate o^x and adapted to be operated through a running bolt p (also suitably guided) by a shoulder p^1 on the bolt p acting against a projection o^1 on the locking bolt o . Mounted upon a pin p^2 fixed to the lock plate o^x (which pin also serves to guide the bolt p) are two levers or tumblers q, q^1 , and fixed to the bolt p is a stump q^2 adapted to engage slots q^3, q^4, q^5 in the said levers or tumblers. Also in the lower edge of the bolt p , are two slots p^3, p^4 , into which, and against the sides of which, the bits r^1, r^2 , of the key r (see Fig 11) respectively enter and act, the bit r^1 entering the slot p^3 and the bit r^2 entering the slot p^4 . These bits are of different length, so that the key can only be inserted in the key hole (which is suitably shaped to receive the bits) one way, and when so inserted, three quarters of a complete turn or revolution are required to operate the lock. The first half turn causes the bit r^1 to enter and engage the slot p^3 so moving the bolt o , the steps r^3 and r^4 of the bit first engaging and raising the levers q, q^1 , so that the stump q^2 on the said bolt is free to travel from the slots q^3 to the slots q^4 , and the bolt p to move such a distance that the shoulder p^1 abuts against the projection o^1 . In the next quarter turn, the bit r^2 engages the slot p^4 , and the steps r^5, r^6 , first raise the levers so that the stump q^2 is free to pass into the slot q^5 , and the bolt p to be moved a further distance, so moving with it the main or locking bolt o , into the unlocked position, whereupon the catches of the hasps can be disengaged therefrom. Thus the levers q and q^1 have to be operated twice before the unlocking can be effected, so making the lock equivalent to one having four levers. To engage the hasps, it is not necessary to use the key, as they can be inserted into the lock and snapped into engagement with the bolt o , the spring t yielding and allowing this. Further, instead of having a two-bitted key, two separate keys, each having one of the bits, may be employed. This will be found useful where a lock is so arranged as to be opened by two persons, each having one of the keys, when both are present.

If desired, the constructions of hasps hereinbefore described can be used in conjunction with a Bramah lock.

Having now particularly described and ascertained the nature of our said invention, and in what manner the same is to be performed; we declare that we claim, is:—

1. In a book-edge lock, an adjustable and detachable hasp, substantially as and for the purposes described.
2. In a book-edge lock, an adjustable hasp formed of two members or portions so arranged that one member or portion, which is provided with a catch or hook to engage the lock, is adapted to be advanced or retracted within, or to be slid over or against, the other member or portion, which is provided with a slotted boss or block for the purpose of detachably connecting it to the hasp plate, substantially as and for the purpose described.
3. A book-edge lock having one or more adjustable hasps pivoted to the hasp-plate and capable of being detached therefrom, when the book is open and in use, substantially as described.
4. The adjustable and detachable hasp as described with reference to Figs 1, 2 and 3 of the annexed drawings.
5. The modified forms of adjustable and detachable hasp, as described with reference to Figs 4 to 8 of the annexed drawings, and provided with means for securing them in position after adjustment.
6. In a book-edge lock, locking mechanism proper comprising two (or more) levers or tumblers so constructed and arranged as to operate as a lock having four (or more) levers or tumblers, either by means of a two-bitted key (as described with reference to Figs. 9 and 10 of the annexed drawings) or by

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means of two separate keys, each having one bit corresponding to each of the said levers or tumblers, respectively.

7. The combination of any of the herein described adjustable and detachable hasps with the herein described improved lock.

Dated this 10th day of July 1903.

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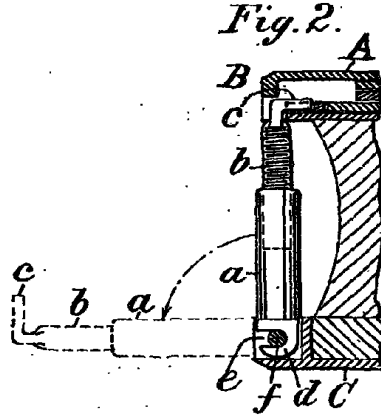
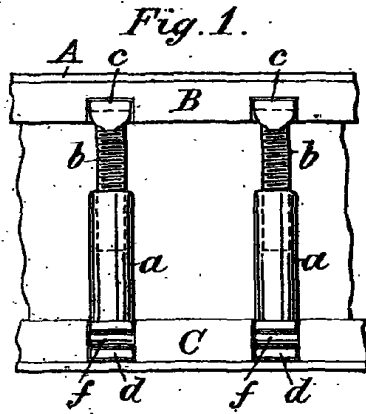


Fig. 3.



Fig. 4.

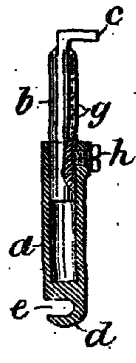


Fig. 5.

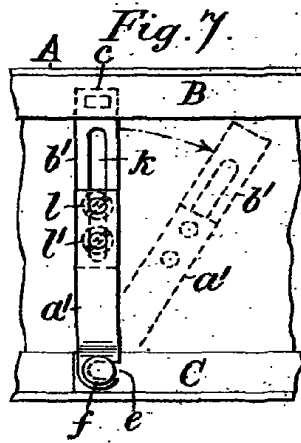
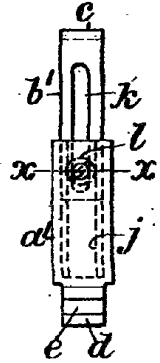


Fig. 8.

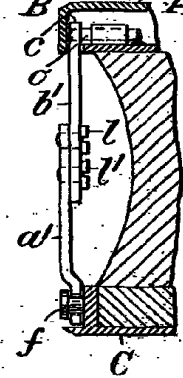


Fig. 6.



Fig. 9.

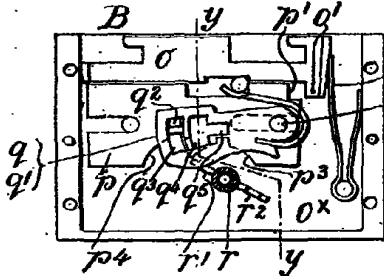
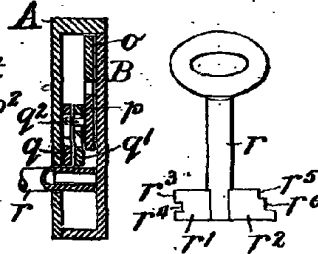


Fig. 10. Fig. 11.



[This Drawing is a reproduction of the Original on a reduced scale.]

