

No. 656,688.

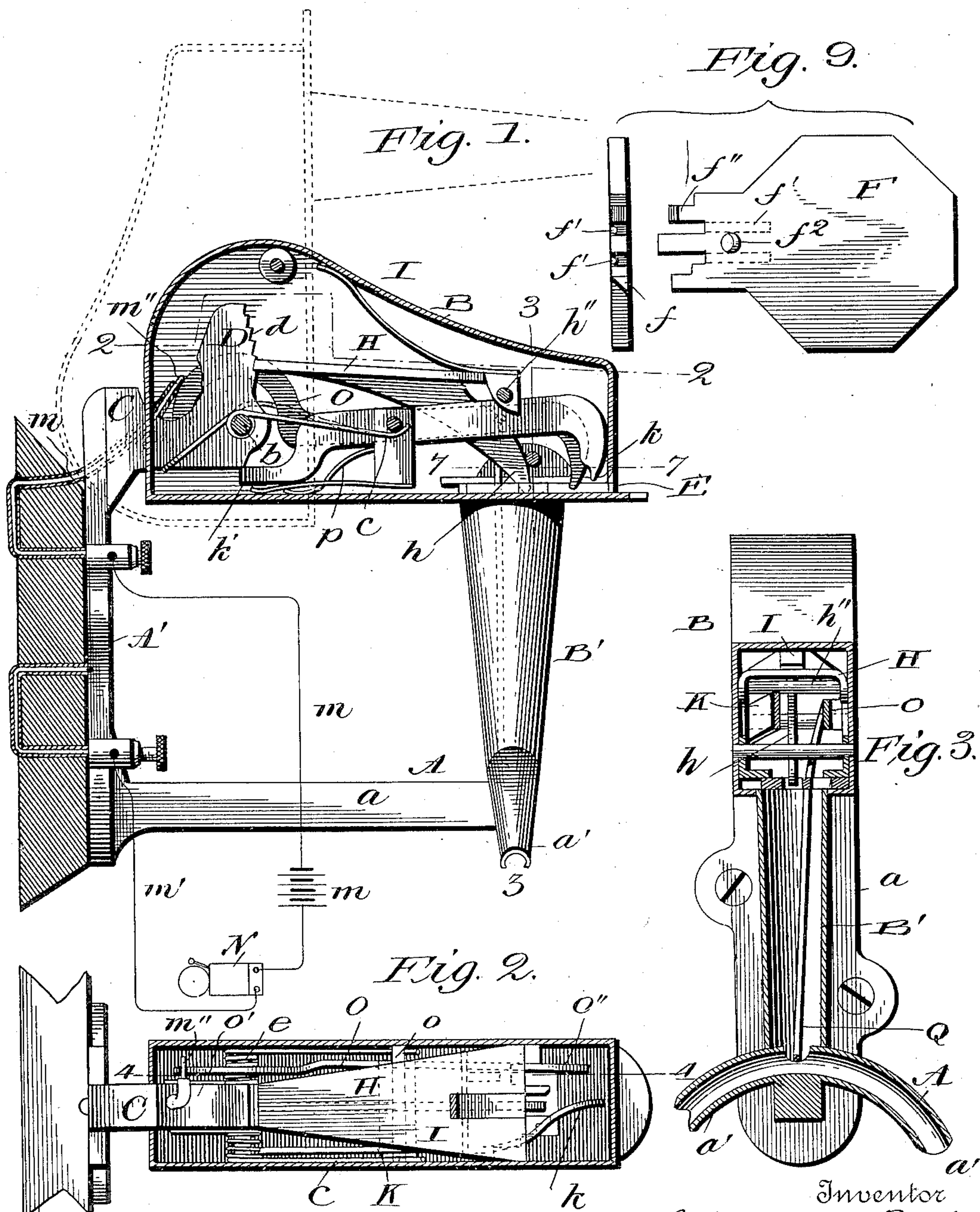
Patented Aug. 28, 1900.

J. C. BACKUS.  
LOCKING COAT HOOK.

(Application filed June 13, 1899.)

(No Model.)

2 Sheets—Sheet II.



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2 Sheets—Sheet 2.

Fig. 4.

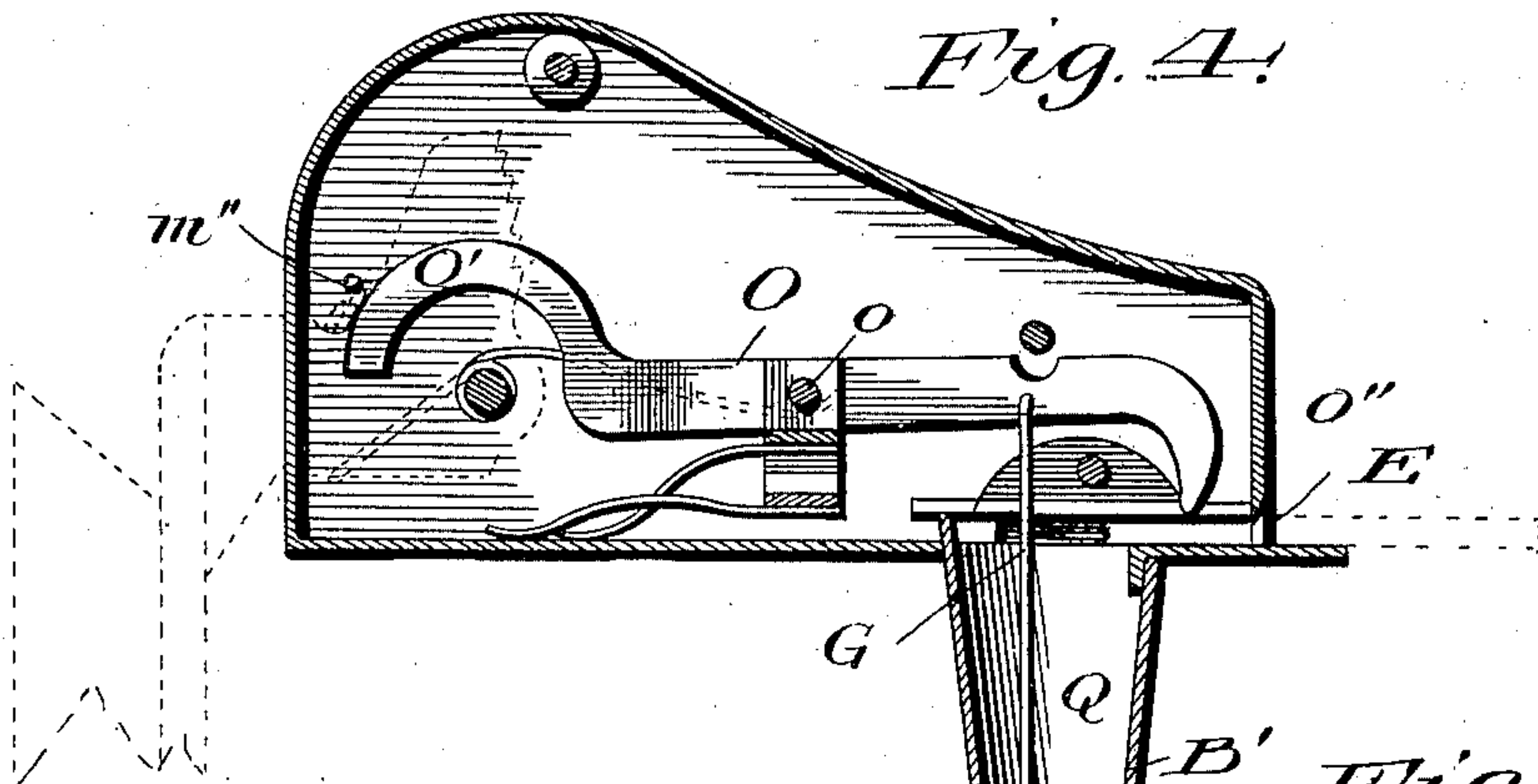


Fig. 5.

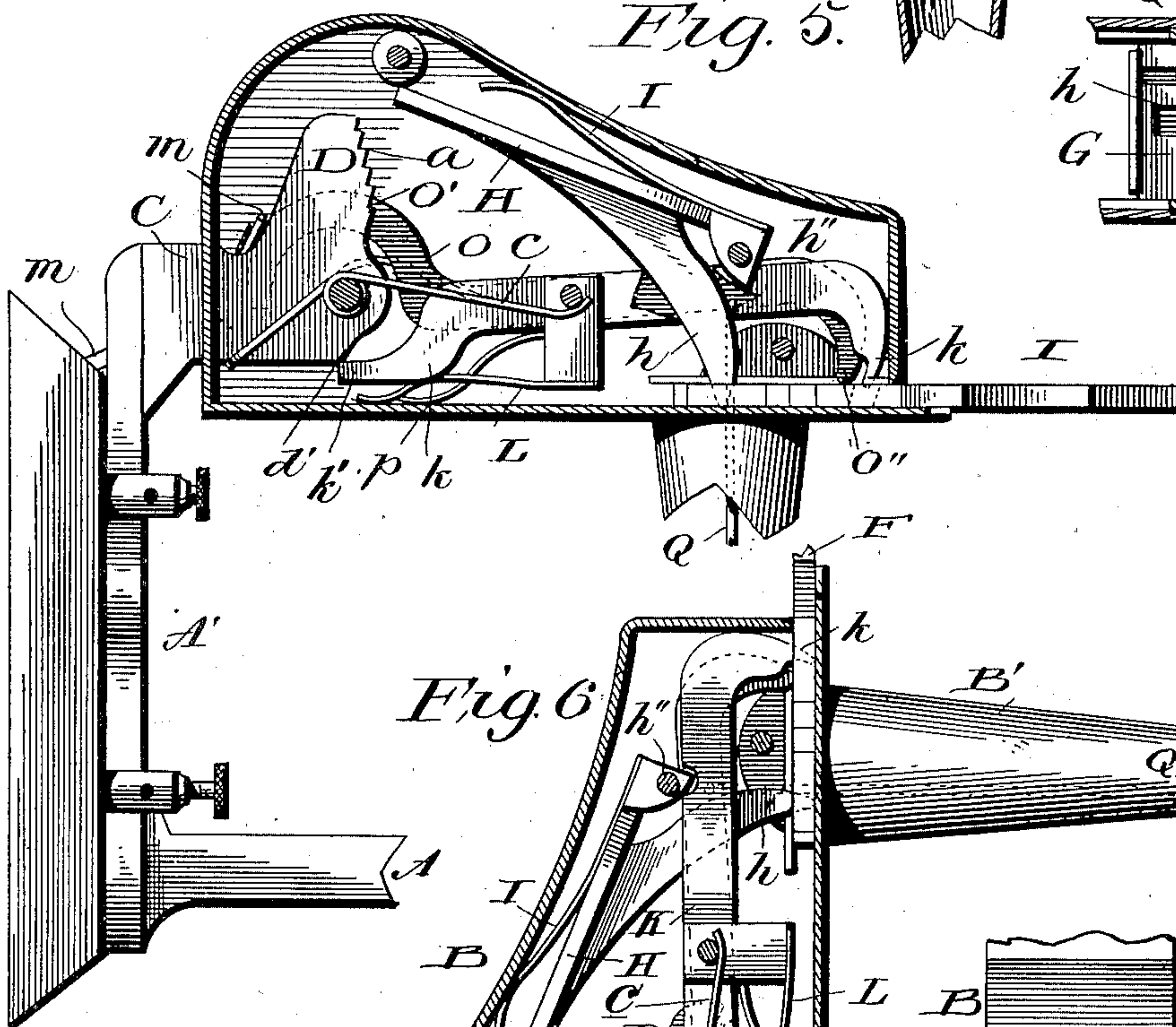


Fig. 6.

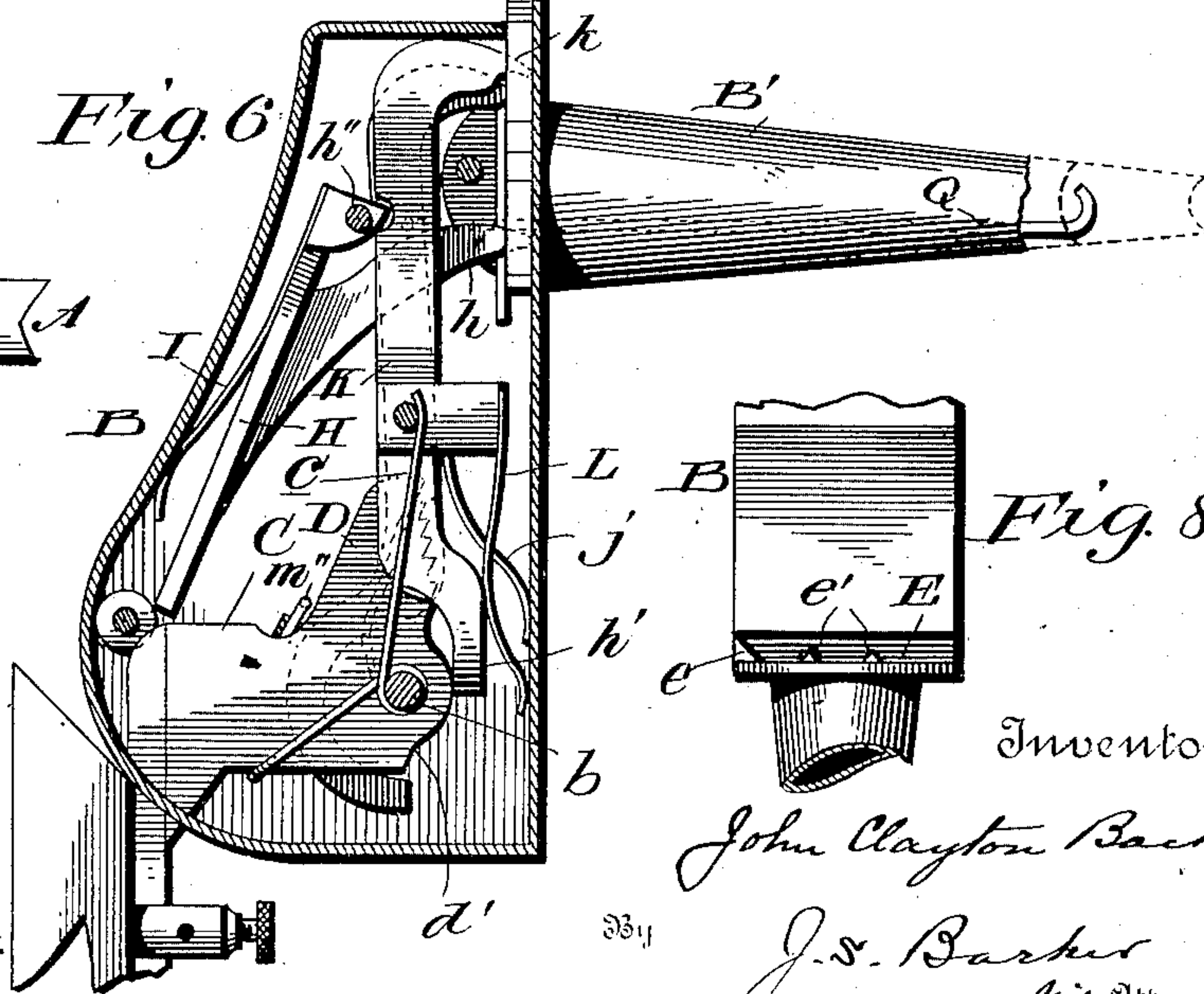


Fig. 7.

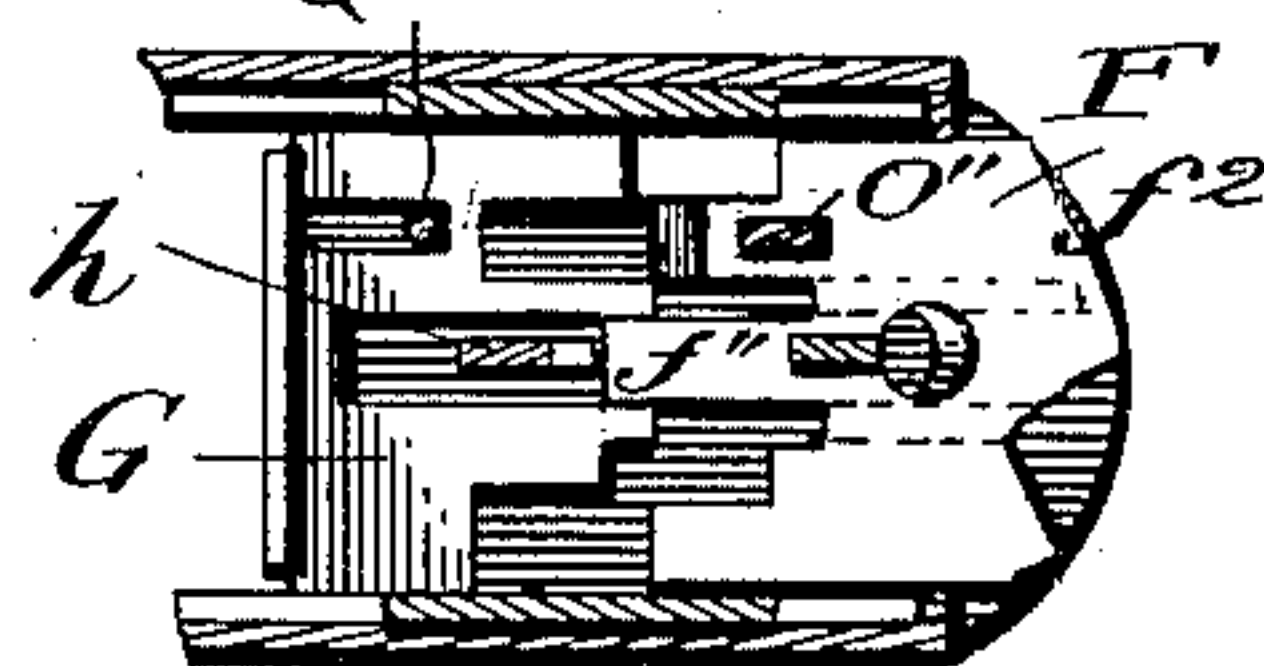
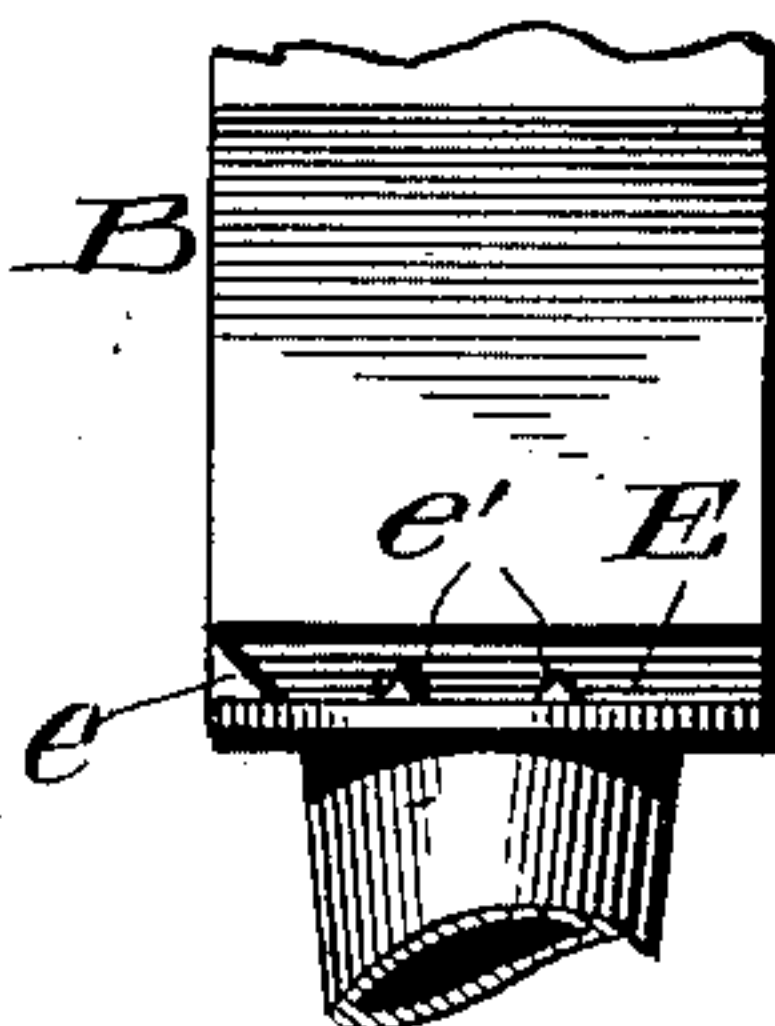


Fig. 8.



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# UNITED STATES PATENT OFFICE.

JOHN CLAYTON BACKUS, OF SMETHPORT, PENNSYLVANIA, ASSIGNOR OF  
ONE-HALF TO WILLIAM H. HUNGERFORD, OF SAME PLACE.

## LOCKING COAT-HOOK.

SPECIFICATION forming part of Letters Patent No. 656,688, dated August 28, 1900.

Application filed June 13, 1899. Serial No. 720,392. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN CLAYTON BACKUS, a citizen of the United States, residing at Smethport, in the county of McKean and State of Pennsylvania, have invented certain new and useful Improvements in Locking Coat-Hooks, of which the following is a specification.

My invention has for its object to improve the locking mechanism for coat and hat hooks and similar holding devices, certain of the improvements herein to be described being particularly adapted to the improvement of locking coat-hooks of the kind shown in my Patent No. 602,296, dated April 12, 1898.

My invention has also for its object to so construct and arrange such a locking device or mechanism as to adapt it to be used with an electric signaling or alarm system and to combine it with such a signal.

The invention consists in improvements in the construction of the locking device and of the combination therewith of appliances whereby it may be incorporated into a signal or alarm system, as will be hereinafter pointed out.

In the drawings I have illustrated the preferred form or embodiment of my invention, though I do not wish thereby to be limited to the precise construction, arrangement, and combinations of the various parts of the device therein shown, as they may be variously modified and changed without departing from the spirit of my invention.

In such drawings, Figure 1 is a side elevation of the invention as applied to a coat hook or support, the casing of the lock being represented in its closed position or moved toward the garment hook or support and one side being removed to show the mechanism of the lock proper, the parts of which latter are represented as being in locking position. Fig. 2 is a sectional plan view taken on the line 2 2 of Fig. 1. Fig. 3 is a vertical section taken on the line 3 3 of Fig. 1. Fig. 4 is a longitudinal vertical section taken on the line 4 4 of Fig. 2. Fig. 5 is a sectional elevation similar to Fig. 1, except that the parts of the lock proper are shown in the non-locking position. Fig. 6 is a sectional elevation, the lock-casing being represented in

its open position or moved away from the garment-support. Fig. 7 is a detail horizontal sectional view taken on the line 7 7 of Fig. 2, the key being represented as being inserted in the lock. Fig. 8 is a front elevation of the casing, showing the keyhole or opening. Fig. 9 is an enlarged plan and edge view of the key.

In the drawings, A represents a support or receiver for the article to be held and locked, in the present instance being a support for a coat or other garment. It preferably consists of an arm *a*, projecting out from a plate *A'*, or other support, by which it may be secured to the wall, and having at its outer end the curved cross-arms *a'*, upon which the coat or garment is supported.

The lock is mounted within a casing B, which is movable toward and from the support A, being hinged at *b* to a bracket or lug C, extending outward from the plate *A'*. The case is formed with a projection B', which when caused to move down or into locking position comes into such relation with the support A as to confine the article which may be held thereby. A spring *c* operates, when free to act, to move the case B up or away from the support or receiver A, as represented in Fig. 6 and by dotted lines in Fig. 1, and, as will be understood, this is the normal position of the device when not in use.

The bracket or lug C enters the case B through an aperture in its rear and is preferably so shaped as to have a portion D within the case, which serves as the abutment with which the bolt or active locking member of the lock engages. To best provide for this abutment, the part C extends up above the pivot *b* and has its front edge serrated or roughened, as at *d*, and with this roughened face there engages the swinging bolt or active locking member H of the lock. This part H is in the form of a plate, pivoted at *h'* and provided with a finger or projection *h''*, extending into a position to be engaged by the key when the latter is properly inserted into the lock. A spring I operates to force the bolt H into engagement with the projection D to lock the parts, as indicated in Fig. 1. By causing the bracket or lug C to enter the case and forming it with the



abutment portion D the latter part always remains within the case, whether it be in the locked or the unlocked position, so that the abutment is never exposed to be broken off or tampered with.

The opening into the casing through which the key is inserted and withdrawn is indicated at E. Opposite this opening and within the casing is a block or plate G, which is so shaped as to constitute the wards of the lock. It will be understood that the disposition of the wards and the corresponding or registering parts of the key may be varied to an indefinite degree, so as to render it practically impossible to open the lock, except by one having a key fitted therefor. The ward plate or block G is preferably easily removable, so that by removing it and replacing it with another the lock may be easily changed. As represented in Fig. 8, the opening E may be contracted or partially obstructed on one side, as by means of the triangular-shaped piece *e*. This necessitates making the key with a correspondingly-beveled edge *f*, Fig. 9. By changing the position of the obstruction *e* from one side to the other and from the lower to the upper edge of the opening a number of simple variations may be made which will tend to security in the use of the device by preventing the employment of the wrong key.

*e' e'* are ribs on one of the plates of the casing, bounding the opening E, and *f' f'* are grooves in the key arranged to register with these ribs. These are used as additional means of security, and their number and position may be varied as circumstances may seem to warrant.

The end of the finger *h* of the locking-bolt H lies in a recess between two of the wards of the plate G in position to be engaged by one of the wards or pins *f''* of the key when the latter is inserted into the lock, and by reason of such engagement the locking bolt or lever H is moved out of engagement with the abutment D.

K indicates the lever, which operates to retain the key within the lock under normal conditions of disuse. It is formed with a hooked end or nose *k*, arranged to enter an opening *f''* in the key, as represented in Fig. 6, and its rear end *k'* is arranged to move in contact with a cam-face *d'*, formed on the bracket or projection C, as the case B is moved around its pivot. A portion of this cam—that part with which the end *k'* of the lever is in contact when the lock is in the position indicated in Fig. 6—is concentric with the pivot *b* and is so disposed as to permit the lever to engage with the key and hold it against withdrawal from the lock. The eccentric portion of the cam—the part with which the end *k'* is in engagement when the lock-case is turned down into locking position, as indicated in Figs. 1 and 5—causes the lever K to be so rocked as to disengage

the key to allow its free withdrawal and insertion. A spring L operates to keep the end of the lever in contact with the cam-surface *d'*.

The parts so far described are similar in function, though differing somewhat in construction and arrangement, to the parts of the device shown in my aforesaid patent.

With the device such as I have described is combined an electric signaling system, which is so arranged as to remain inactive under the normal and proper conditions of use, but which will instantly give an alarm when abnormal conditions occur or the device is improperly tampered with. Thus the normal conditions are, first, that of disuse with the key secured in the lock, and, second, the condition of use with the case locked down upon and holding an article upon the support A. If the key be removed from the lock when the latter is not in use or if an article be removed from the support A without first unlocking the case B, then the conditions are abnormal and such as demand investigation, and under such conditions an alarm is given.

In my system I prefer to employ a normally-open electric circuit, which includes a battery M and a signal-bell N and one end of which terminates in the metallic parts of the casing or lock mechanism, the wire *m'* connecting these with the battery, while the other terminal of the battery is an exposed contact *m''*, insulated from the casing and lock, though preferably located within the casing and connected with the battery by a wire *m*. A movable contact member, preferably in the form of a lever O, mounted within the casing B, is in electrical connection with the wire *m'* and is so arranged as to make and break contact with the terminal *m''*, accordingly as it is moved from one position to another, and a spring *p*, which acts upon the said lever, tends to move the lever into position to make the contact and complete the circuit. This lever O is held from engagement with the contact *m''* under normal and proper conditions—that is to say, when the key is properly in the lock and the device is not in use or when the garment or other article is upon the support A and the lock in position to confine it thereon. Under other conditions the contact should be and is made and a signal given. The lever is fulcrumed at *o* and has one arm *o'* so disposed that it may be made to contact with the exposed terminal *m''* of the electric circuit. This contact end of the lever is concentric with the fulcrum *b* of the case B, so that the swinging of the latter does not affect the contact relations of these parts *o'* and *m''*, whether they be in engagement or not. The other arm *o''* of the lever O extends into the path of the key, so that the lever is moved to break the contact at *m'* when the key is properly inserted into the lock, one of the key-wards being beveled to facilitate its moving under



the end of the lever-arm *o* and rocking it on its fulcrum sufficiently to disengage the contact *m''*.

In addition to the means which are controlled by the presence of the key in the lock for giving an electric signal I have also provided means which are so arranged that the presence of an article upon the hook or support A operates to break the circuit whenever the locking parts are in position to retain or confine such article, while the removal of the article without first properly unlocking the device results in the circuit being completed and an alarm given. The means for effecting these results which I prefer are those illustrated in the drawings, and consist of a rod Q, connected with the contact member O and arranged to extend beyond the casing B and into a position to be engaged by an article upon the support A whenever the casing is brought down into locking position. I prefer that the rod Q should extend through the projection B' of the casing, which is made hollow for this purpose, the lower or free end of the rod extending a short distance beyond the end of such projection when the rod is moved outward under the action of the spring which operates the contact-lever, as indicated in Figs. 1 and 3. When the casing B is brought down into locking position, the projecting end of the rod Q comes into engagement with the garment or article upon the support A and is forced or held thereby within the projection B', this resulting in holding the contact-lever O out of engagement with the contact *m''*. If now the garment should be removed from the support without first inserting the proper key through the opening *e* into the casing, the result will be that the lever O and rod Q will be moved under the action of the spring *p* until the contact is made at the point *m''*, when an alarm will be given by the bell. It will thus be seen that by means of this part of my invention security is afforded against the unauthorized removal of an article from the support A without there being instantly given a signal or warning.

It will be understood that the bell may be located close to or at a distance from the locking device, that a visual or other style of signal may be used in lieu of a bell, and that a normally-closed circuit may be used instead of one normally open, as shown.

When the device is in the normal position of disuse, as represented in Fig. 6, the key F operates to hold the contact-lever out of engagement with the contact *m''* in the manner already described, the rod Q being drawn into the projection B' by reason of the position of the contact-lever. Should the key be removed from the lock while it is in this position or should the casing be brought into the position shown in Fig. 1 and the key removed without placing an article upon the support A, the lever K being unsupported by the key will be moved by its spring, the

circuit will be completed, and an alarm will be given, showing that there has been some unauthorized or abnormal use of the device requiring investigation.

While I have described the preferred arrangement of parts constituting an alarm system and have shown them applied to a locking device for a coat or garment support, it will be evident that the principles of my invention may be embodied in devices differing in detail of construction and arrangement from that shown and that both the locking features of my improvements and the signaling devices may be adapted to other devices than coat or garment supports—such, for instance, as supports for umbrellas—with very slight modifications of parts, such as will readily suggest themselves to those skilled in the art.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination with a support for an article, of a locking device therefor, a signal, and means operated by the article being supported for controlling the signal, substantially as set forth.

2. The combination with a support for an article, of a locking device therefor, an electric signal, and means operated by the article being supported for controlling the circuit in which the said signal is arranged, substantially as set forth.

3. The combination with a support for an article, of a movable locking device for confining the article on such support, an electric signal, a circuit in which the signal is included, and means operated by the article being supported for controlling the circuit, the said means being brought into operative relation when the locking device is moved into position to hold the article, whereby should the article be disturbed while the locking device is in such position, a signal will be made, substantially as set forth.

4. The combination of a support adapted to receive a garment, of a locking device for such support to confine the garment thereon, an electric signal, and means controlled by the garment and brought into operation when the locking means are in proper position for confining the garment upon the support, for controlling the circuit of the signal, such means being arranged to be operated to give a signal should the garment be removed without first properly unlocking the said locking device, substantially as set forth.

5. The combination with a support for an article, of a locking device for confining it on such support, an electric signal, a circuit in which the said signal is located, a contact making and breaking device for the electric circuit, a spring for operating the said device in one direction, and means controlled by the article being held for operating it in the opposite direction, substantially as set forth.

6. The combination with a support adapted



to receive a garment or the like, a movable case containing a locking device adapted to hold the article upon the support, an electric signal, a circuit in which the signal is included, a circuit-breaker within the said case arranged to be held in position to break the circuit under normal conditions, and means for automatically making contact and completing the circuit, thereby giving a signal, under abnormal conditions, substantially as set forth.

7. The combination with a support for an article, of a lock therefor, means for retaining the key in the lock when the latter is in normal condition of disuse, an electric signal, and means for causing the signal to operate when the key is removed from the lock under abnormal conditions that is to say, without the lock being brought into locking position, substantially as set forth.

8. The combination with a lock, of an electric signal, a circuit in which the signal is situated, and means, arranged within the case of the lock, situated in the path traversed by the key when being inserted into the lock, and arranged to be moved to control the circuit by the insertion and removal of the key which operates the lock, substantially as set forth.

9. The combination with a lock, of an electric signal, a circuit in which the signal is situated, and a spring-actuated, circuit-closing means situated within the case of the lock, and tending normally to close the circuit and operate the signal, and arranged to be moved by the key whenever inserted into the lock to break the circuit, substantially as set forth.

10. The combination with a lock, of an electric signal, a circuit in which said signal is situated, and a circuit-closing lever arranged within the case of the lock adapted to close and open the circuit of the said signal situated in front of the key-opening, and in the path of the key and arranged to be operated by the normal insertion and removal of the key into and from the lock, substantially as set forth.

11. The combination with a lock mechanism, a casing therefor mounted upon a pivotal support about which it is adapted to turn, an electric circuit, a device for opening and closing the said circuit substantially concentric with the pivotal support of the lock-case, and arranged to be operated by the key of the lock, substantially as set forth.

12. The combination with the casing, and the lock mechanism mounted therein, of an electric circuit having its terminals within the casing, a lever, O, mounted within the casing and arranged to open and close the circuit, the said lever extending into the path of the key, whereby it is engaged and operated when the key is inserted into the lock, and

a spring for operating the said lever, substantially as set forth.

13. The combination of a casing pivoted to a fixed support about which it is adapted to move, a lock mechanism mounted therein, an electric circuit having one terminal supported by the fixed support of the lock-casing, and the other carried by the lock-casing, and a contact-making lever, O, having an end, o', substantially concentric with the pivot of the casing and arranged to make contact with the fixed terminal of the circuit, the lever also having an arm or portion adapted to be operated by the key, substantially as set forth.

14. The combination with a support for an article, of a locking device therefor, a signal, an electric circuit for operating the signal, means operated by the article being supported for controlling the circuit in which the said signal is arranged, and means operated by the key of the locking device for controlling the circuit, substantially as set forth.

15. The combination with a support for an article, of a locking device therefor, a casing inclosing the locking device, a signal, an electric circuit for operating the signal, means situated within the said casing and operated by the key of the locking device for controlling the said circuit, and means outside of the said casing and adapted to be operated by the article being supported for controlling the circuit, substantially as set forth.

16. The combination with a support for an article, of a locking mechanism, a pivoted case in which the same is mounted, a hollow projection carried by the case and adapted to confine an article upon the said support, an electric signal, a circuit in which the signal is included, means within the casing for closing and opening the circuit, and a rod for operating such means extending through the said projection and adapted to engage with the article being held, substantially as set forth.

17. The combination of a bracket or lug, C, provided with a projection, D, a case, B, pivoted to the said bracket or lug so as to inclose such projection whatever be the positions into which the case may be moved, and a pivoted locking-bolt, H, arranged within the casing and adapted to engage with the said projection of the bracket or lug to which the case is pivoted, substantially as set forth.

18. The combination of a pivoted locking-bolt, a key-confining lever, K, a contact-lever, O, the said parts being arranged to be engaged by a key, a casing inclosing the said parts, an abutment with which the said locking-bolt engages, and an electric contact with which the said lever O engages, substantially as set forth.

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Witnesses:

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