

(No Model.)

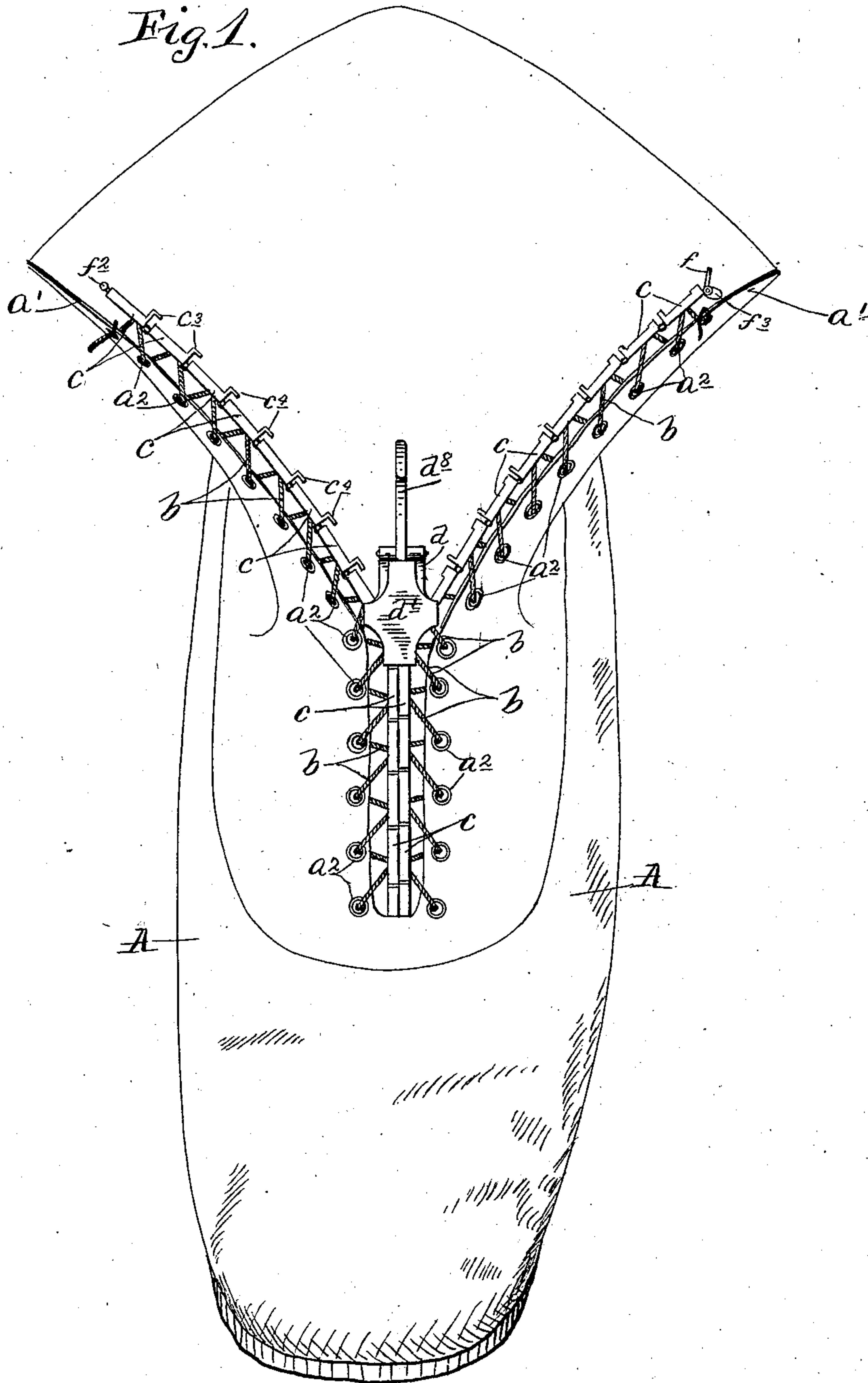
2 Sheets—Sheet 1.

W. L. JUDSON.
CLASP LOCKER FOR SHOES.

No. 557,208.

Patented Mar. 31, 1896.

Fig. 1.



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Fig 2.

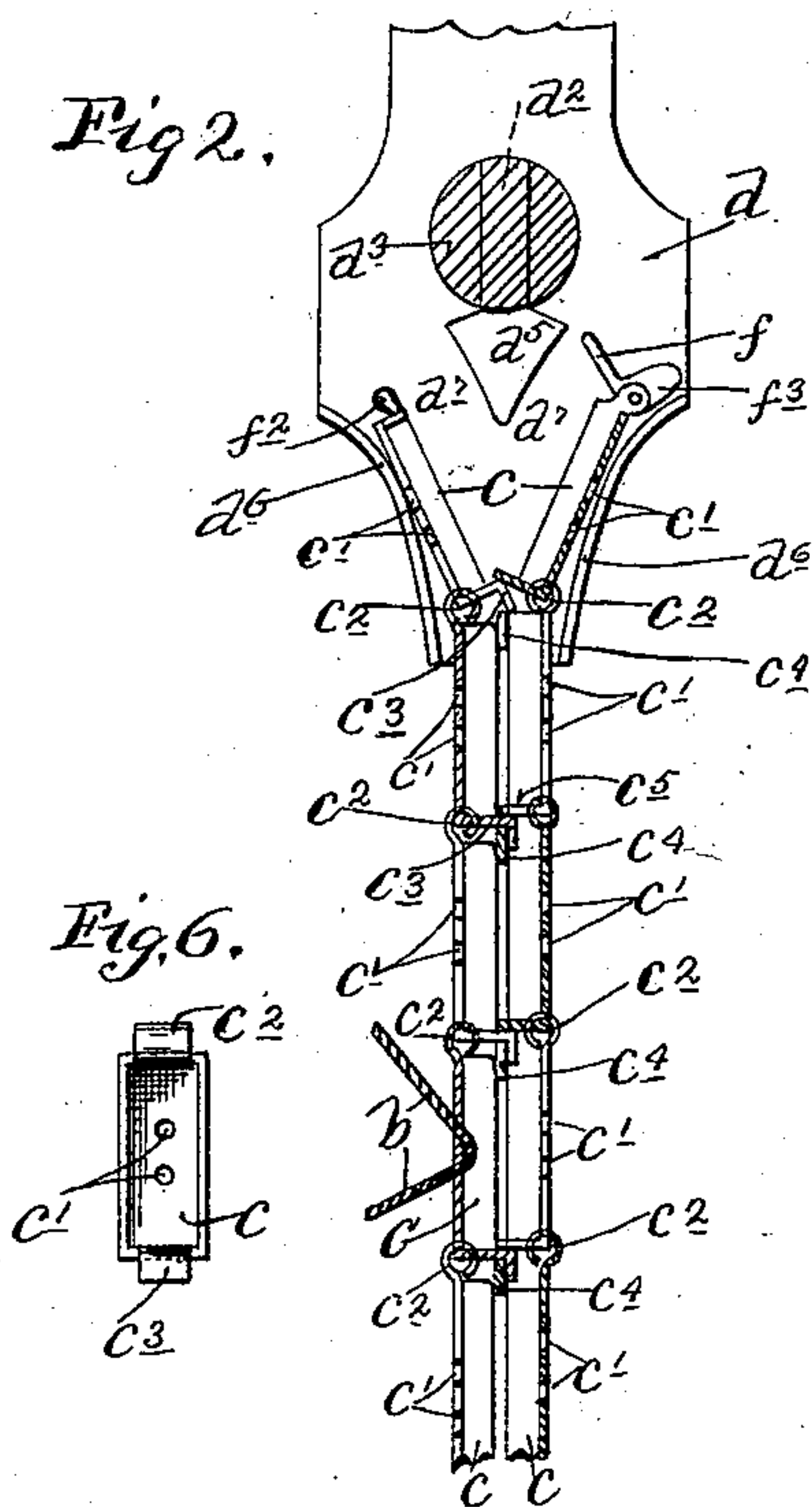


Fig. 6.

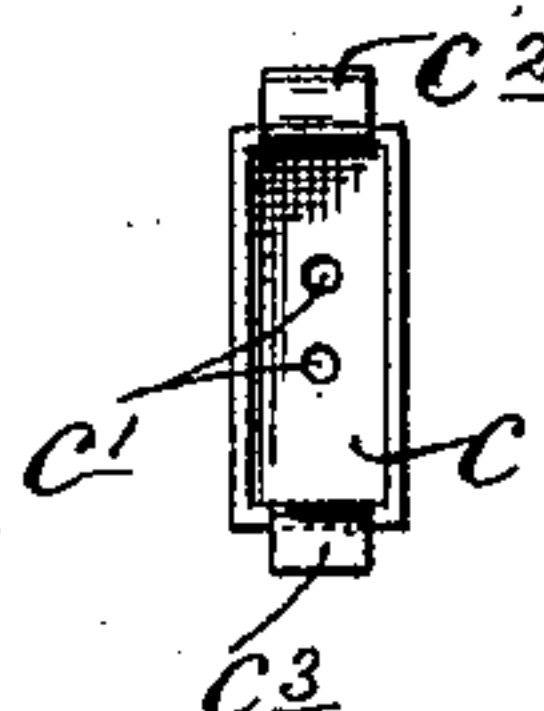


Fig 7.

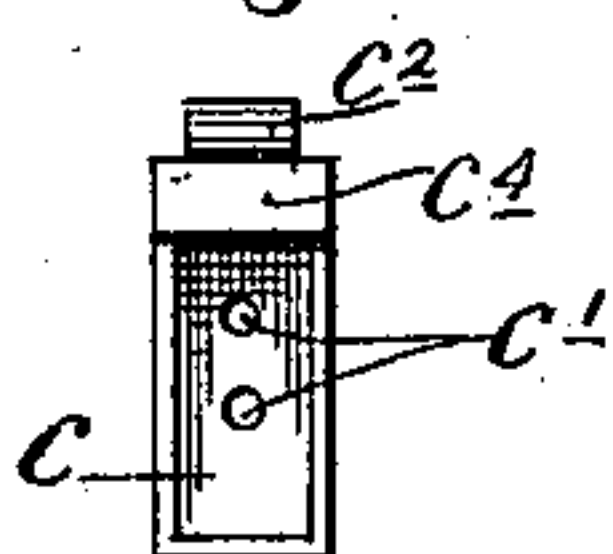


Fig. 4.

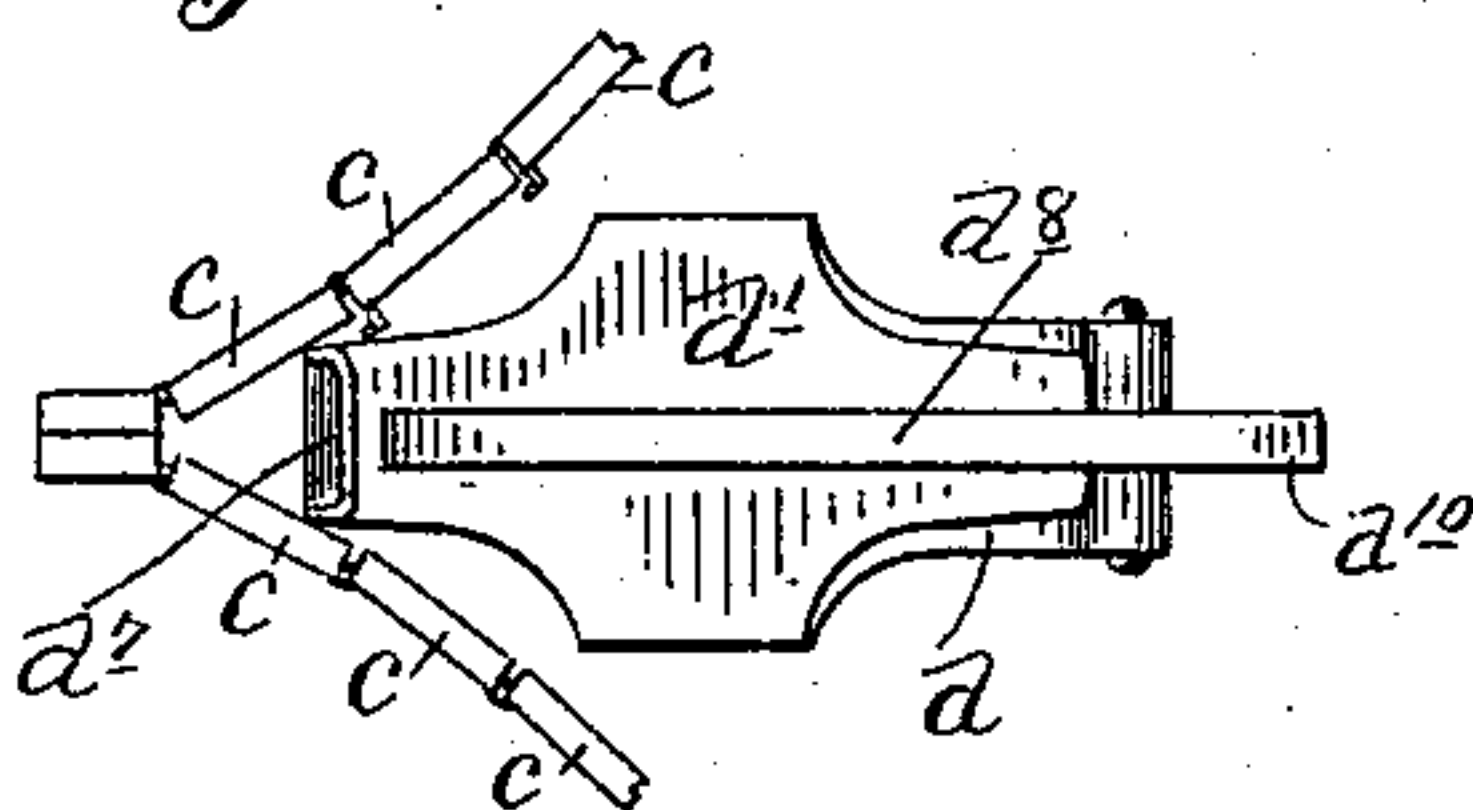


Fig. 3.

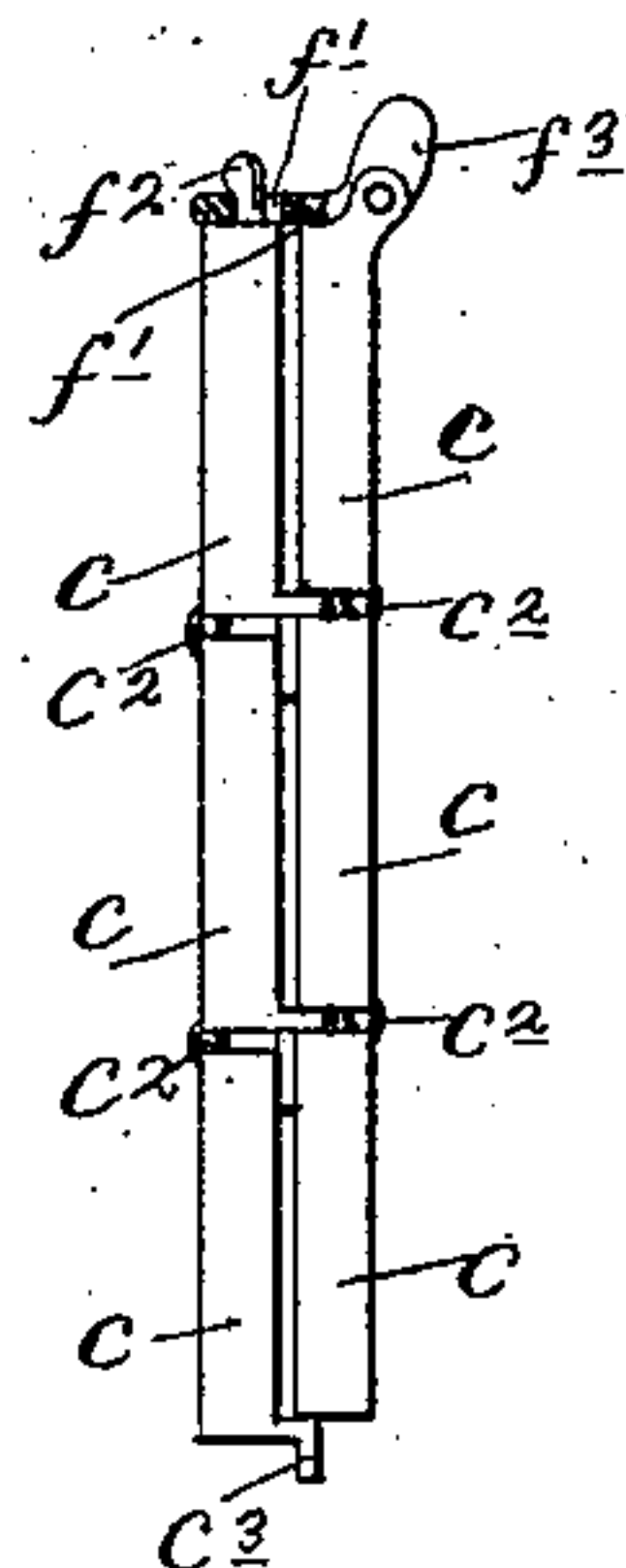
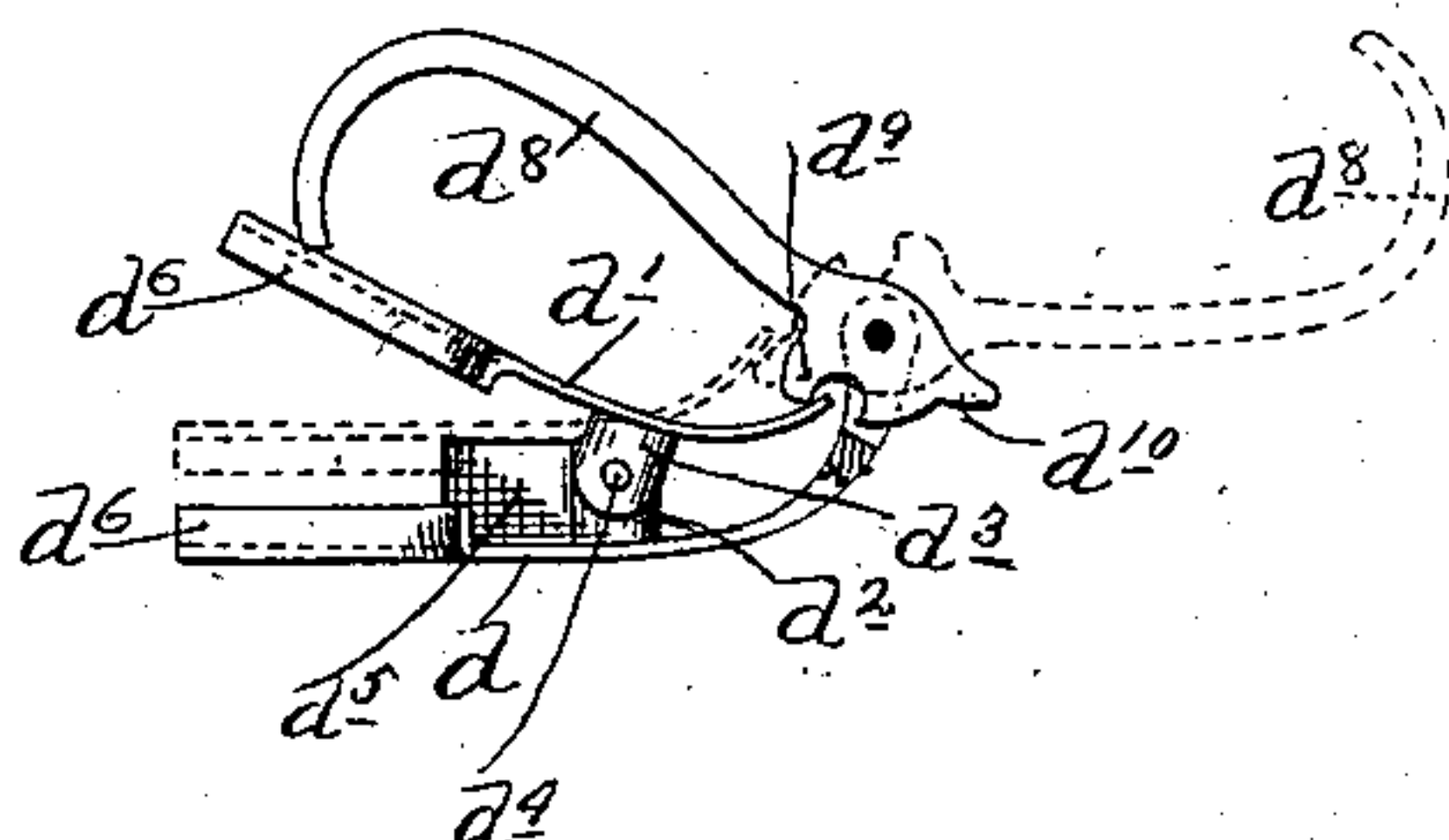


Fig. 5.



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UNITED STATES PATENT OFFICE.

WHITCOMB L. JUDSON, OF CHICAGO, ILLINOIS, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO THE UNIVERSAL FASTENER COMPANY, OF ILLINOIS.

CLASP-LOCKER FOR SHOES.

SPECIFICATION forming part of Letters Patent No. 557,208, dated March 31, 1896.

Application filed October 2, 1894. Serial No. 524,734. (No model.)

To all whom it may concern:

Be it known that I, WHITCOMB L. JUDSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Clasp-Lockers for Shoes, &c.; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to devices for detachably connecting the flaps of shoes or other articles.

To this end my invention consists in the novel features of construction hereinafter fully described, and defined in the claims.

The locker herein described was especially designed for use with the particular forms of coupling devices shown and claimed in a companion application, filed by me of date October 2, 1894, under Serial No. 524,733.

The locker herein disclosed, as well as the coupling devices and the adjustable connection of the same to the flaps of the shoes, are within the generic claims contained in my former patents of date August 29, 1893, and numbered, respectively, 504,037 and 504,038.

My present invention is illustrated in the accompanying drawings, wherein, like letters referring to like parts—

Figure 1 is a perspective view looking from the front, showing the shoe with my device in working position thereon, the flaps being partly opened. Fig. 2 is a longitudinal sectional view of the locker as about to pass off from the chains, the links of which have been coupled together thereby. Fig. 3 is a plan view of the upper ends of the chains as fastened together by the device. Fig. 4 is a plan view of the locker and chains, with the locker in position to enter the chains and engage the same. Fig. 5 is a side elevation of the locker, with the parts in the same position as Fig. 4, in full lines, and in the opposite or clamping position in dotted lines; and Figs. 6 and 7 are details in plan of the male and female links of the chains laid out flatwise with their inner faces upward.

A represents the body of the shoe, and a' represents the flap portions of the same, which

are shown as provided with ordinary eyelets a^2 . Lacing-strings b adjustably connect to the said flaps a series of links c , the said strings passing through the flap-eyelets a^2 and through eyelets c' in said link. The links c of each chain are pivotally connected at their ends by joints c^2 . The links c of one chain are provided each with a hook-like projection c^3 , which engages over the upper inner edge or cross-bar portion c^4 on the links of the opposite chain when the parts are in their coupled position. It will be convenient to call the links having the hook-like projections c^3 the "male" links and to call the links having the bars c^4 the "female" links. The female links are also provided with straight projections c^5 . The parts c^3 and c^5 project toward each other from the facing links of the two chains, in the respective planes of the respective joints c^2 connecting the adjacent links of the respective chains. Hence the said joints c^2 of the two chains do not lie in exactly the same transverse line, but are slightly offset with respect to each other; and when the said links are brought together, supposing the action to be begun at the lowermost pair of facing links and continued upward, pair after pair in succession, the hooks c^3 from the male links will turn in to the open upward ends of the female links and will engage with the bars c^4 , and when thus coupled the projection c^5 will overlap the backs of the hooks c^3 and hold the said coupled parts c^3 and c^4 in engagement with each other, against strain or movement in all directions, as long as the topmost or head pair of links are fastened together. Otherwise stated, the parts c^3 and c^4 on the facing links of the two chains are coupling parts, which become locked in their coupled position by the parts c^5 on the female members of the next adjacent headward pair of links. Hence when the links of the two chains have been coupled together and the head links thereof fastened in their coupled position the chains and the shoe-flaps will be securely united, but in such a manner that if the head links be unfastened the whole series of links may be uncoupled with a single instantaneous action by pulling apart the two chains or flaps in the same way as one would tear apart two pieces of cloth or paper.

The parts of the chains so far described in detail are identical in construction and action with one species of chains disclosed in my companion case.

5 Directing attention now especially to Figs. 3, 4, and 5, the locker is composed of a bottom plate d , upper plate d' , pivot-lugs d^2 and d^3 , with pivot-pin d^4 pivotally connecting the said plates d and d' intermediate their ex-
10 tremities, an angular block d^5 facing marginal flanges d^6 on the jaw portions of said plates, cam-channels d^7 , formed by the parts above described, which are divergent at their upper portions from the point of the angular
15 block d^5 and are convergent and open into each other at their lower portions, so as to form a common channel or passage below the said block, and a finger-pull d^8 having cam-surfaces d^9 and d^{10} for operating the locker,
20 as will presently more fully appear.

Having regard to the action of the locker d d' , &c., when the parts are in the position shown in full lines in Fig. 5 the top plate d' will be operated upon by the cam-surface d^9
25 of the finger-pull d^8 , and the lower end of the plate d' will be opened or spread apart from the lower plate d , and hence a comparatively large opening will be provided between the jaws of the plates, which will per-
30 mit the chains to be entered sidewise into the cam-channels d^7 by introducing the locker from above at the crotch or junction-point of the two chains, as shown in Fig. 4. By then throwing the finger-pull d^8 over into its
35 pulling position, or in line with the body of the device, the cam-surface d^{10} will act on the plate d' , and the parts of the locker will be in the position shown in dotted lines in Fig. 5. The jaw portions of the plates d d' will
40 thereby be held closed to their limit, and the chains will be held within the cam-channels d^7 . By then pulling the locker upward on the chains the facing links of the two chains will be coupled together under the camming
45 action of the locker, as shown in Figs. 1 and 2.

The top of the angular block d^5 acts as a stop to limit the closing movement of the plate d' , thereby insuring clearance between the flanges d^6 for the lacing-strings b .

50 The head-links of the chains, when this form of locker is employed for continued use by the wearer, must be provided with some form of fastening device for holding the chains in their coupled position. As herein
55 shown, one of the head-links is provided with a pivoted detent f , having an eye f' adapted to engage with an end stud f^2 on the other link, and is also provided with a projecting cam-surface f^3 , adapted to be acted upon by
60 the locker in passing off from the head-links of the chains, as shown in Fig. 3. From an inspection of Fig. 2 it will be obvious that there is sufficient clearance in the common part of the cam-channels d^7 below the angular
65 block d^5 to permit the detent f to be turned over so as to engage its eye f' with the head f^2 on the other link under the camming ac-

tion of the locker before the locker passes entirely off from the chains.

When it is desired to uncouple the chains, 70 all that is necessary is to throw the detent f , or other locking device, into its open position and pull apart the two chains, when all the links will become uncoupled in succession with an instantaneous action. This opening 75 or uncoupling movement of the chains may be accomplished as quickly as a chain-stitch thread-seam can be unraveled.

In case the locker d d' herein described is to be employed simply as a tool for the manu- 80 facturer's use to effect the first coupling of the chains, in order to apply a permanent slider of the kind shown in my companion application, a fastening device is not required on the head-links of the chains, inasmuch as that 85 function is served by the permanent slider itself when secured in its uppermost position, which may be provided for in any suitable way. This is the chief use for which this locker was intended. 90

It will of course be understood that this locker is equally applicable to chains having the other species of links disclosed in my companion case or to any other form of coupling-links within the generic idea of the in- 95 ventions disclosed in my companion case and my prior patents hereinbefore identified.

What I claim, and desire to secure by Letters Patent of the United States, is as follows:

1. The coupling-chains composed each of 100 the links c pivotally connected by the end joints c^2 , the links of one of which chains have male coupling parts c^3 and the links of the other of which chains have female coupling parts c^4 engageable by said parts c^3 and are 105 also provided with the locking parts c^5 for lapping and locking the said parts c^3 and c^4 in their coupled positions, substantially as described.

2. The combination with a pair of sidewise- 110 coupling chains, of a locker having cam-channels through which the chains pass, for coupling the chains under the movement of the locker, and composed of a pair of plates or parts which open and close with respect to 115 each other, for permitting the sidewise entrance of said chains into said cam-channels, substantially as described.

3. The combination with a pair of chains having coupling parts on their facing links, 120 of a cam-action locker comprising a pair of pivotally - connected plates having facing flanges on their jaw portions, and an angular block fixed to one of said plates and facing the other plate with its point downward, which 125 parts coöperate to form a pair of cam-channels which are convergent and opening together at their lower portions, and divergent at their upper portions, and which will permit a sidewise entrance of the chains into 130 said cam-channels, when the plates are open, substantially as described.

4. The combination with a pair of sidewise-coupling chains, of a locker having cam-chan-

nels through which the chains pass for coupling the same under the movement of the locker, which locker is composed of a pair of plates or parts which open and close in respect to each other, for permitting the side-wise entrance of said chains into said cam-channels, and a cam operative, at will, to throw said plates into their open or closed position, substantially as described.

10 5. The locker comprising the pivotally-connected plates d, d' having the flanges d^6 , and the angular block d^5 fixed to one of said plates and facing the other thereof with its

point downward, which parts coöperate to form the cam-channels d^7 , and the finger-pull 15 d^8 pivoted to one of said plates and having the cam-surfaces d^9, d^{10} , operative on the other of said plates, for opening and closing the plates, substantially as described.

In testimony whereof I affix my signature 20 in presence of two witnesses.

WHITCOMB L. JUDSON.

Witnesses:

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FRANK D. MERCHANT.