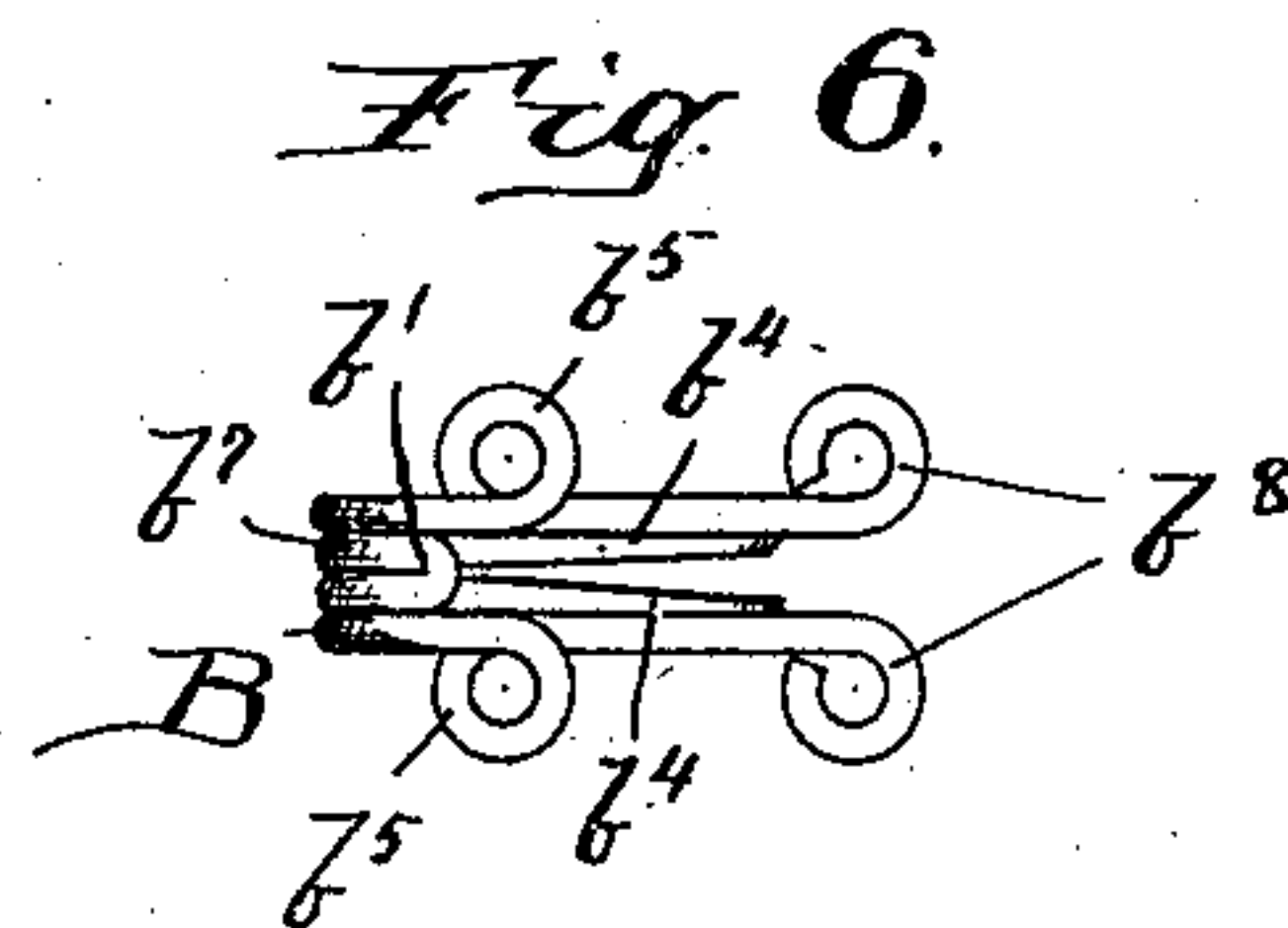
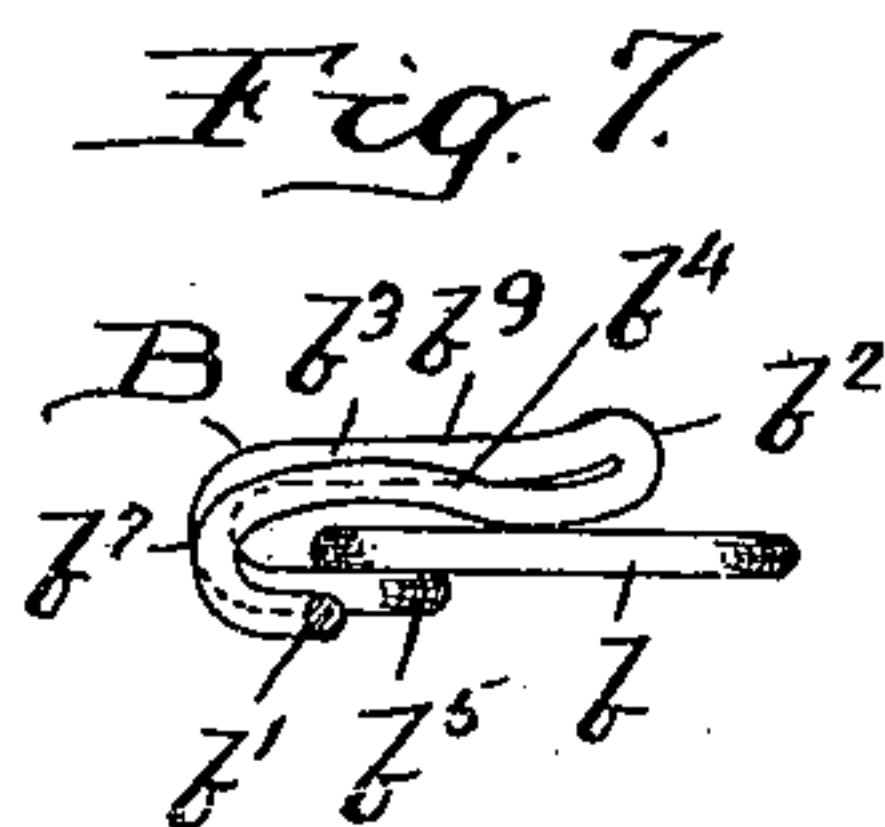
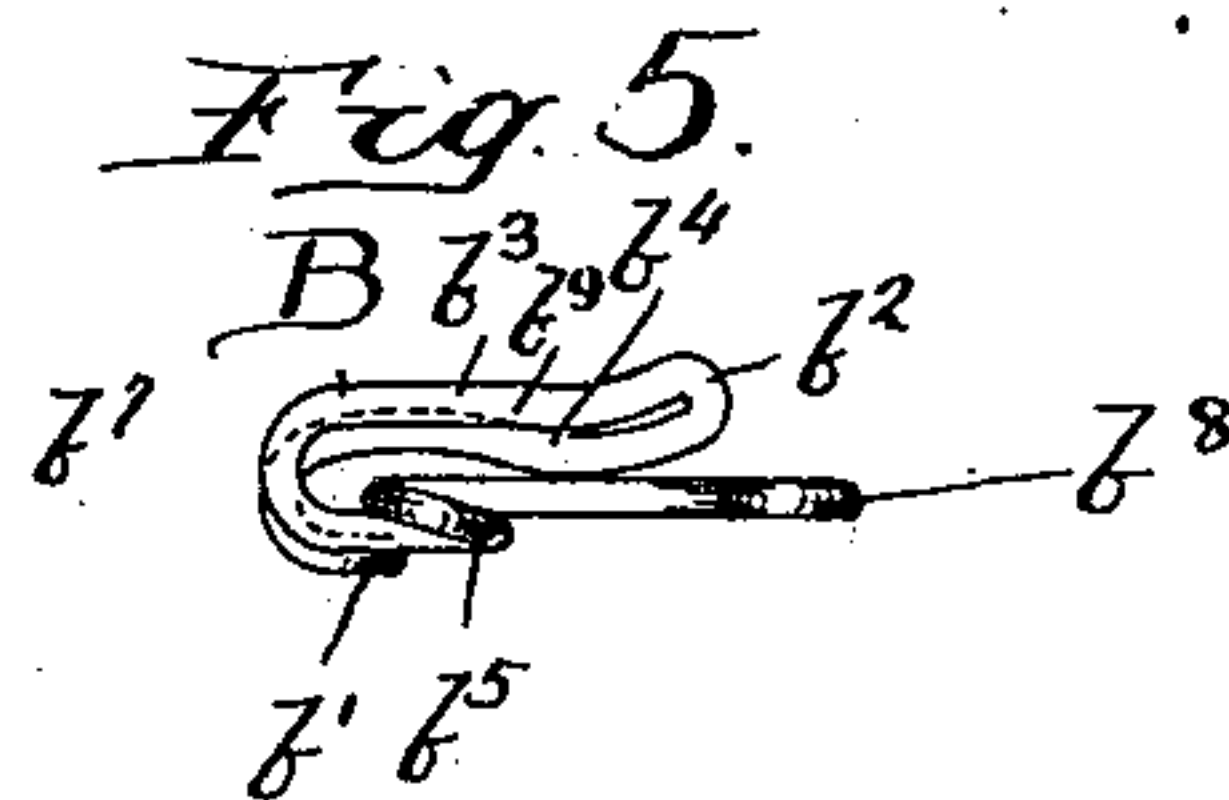
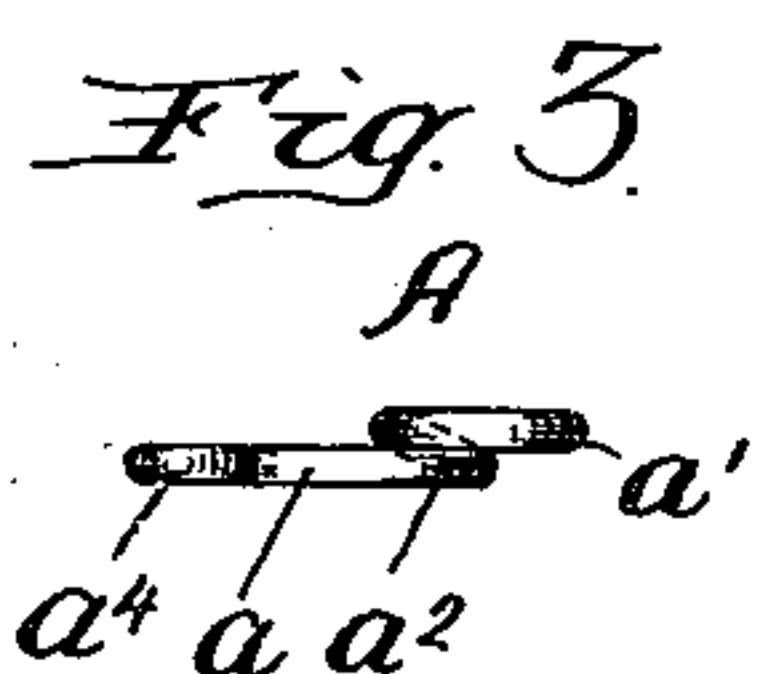
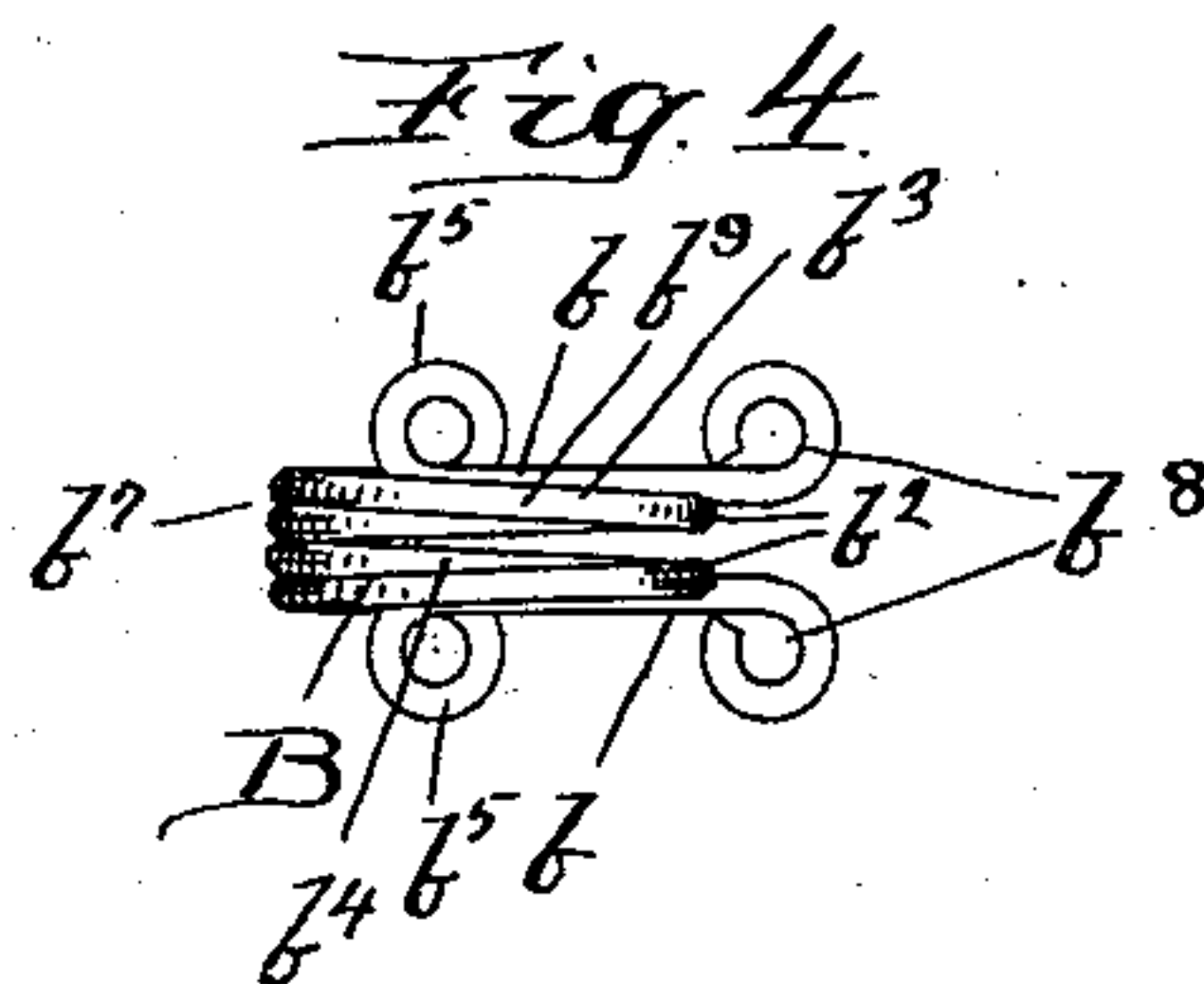
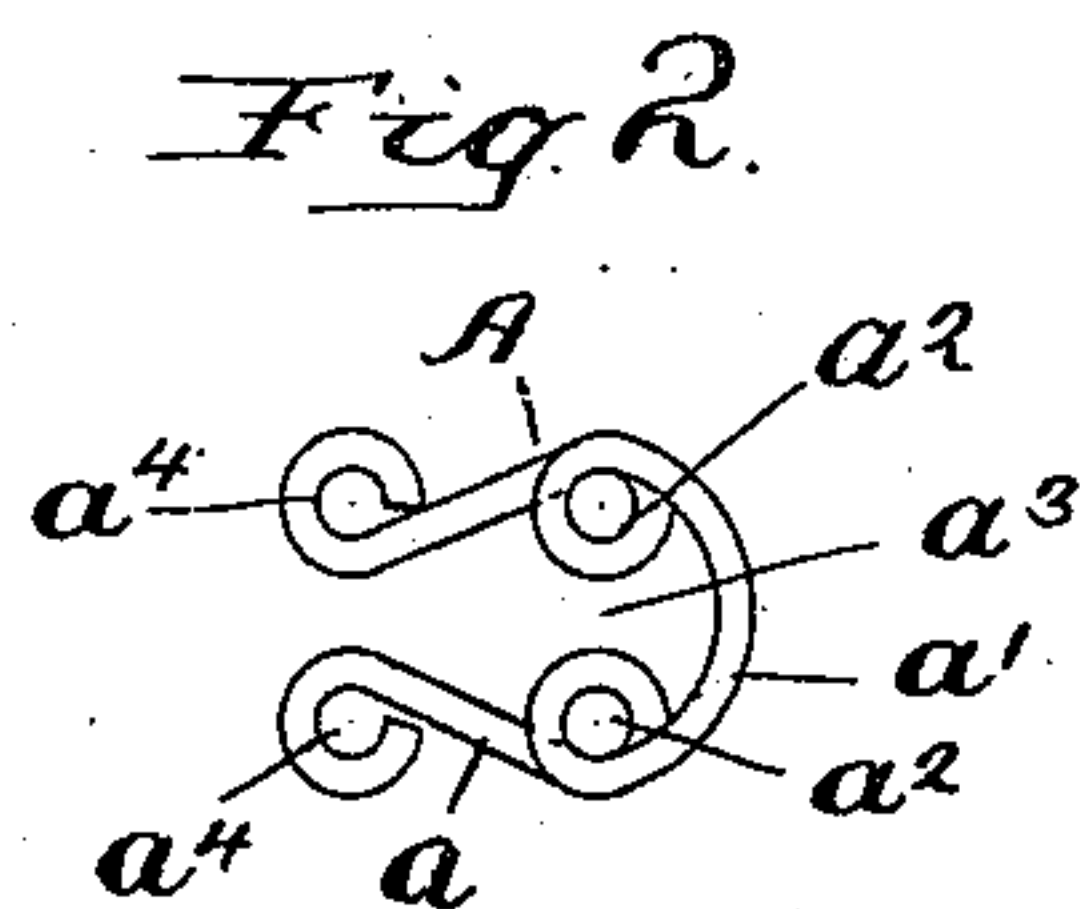
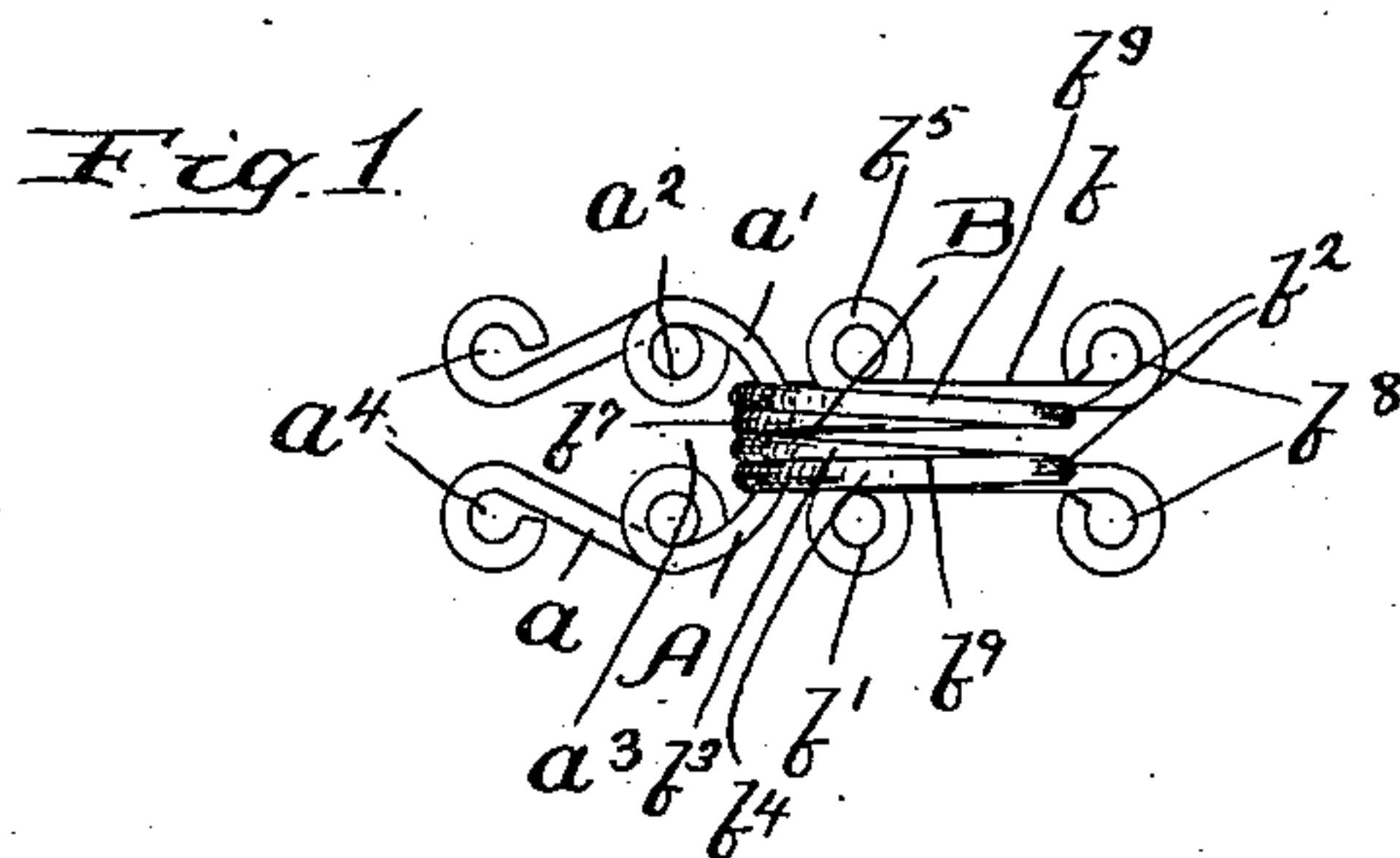


(No Model.)

W. A. TOWLER.
HOOK AND EYE.

No. 501,633.

Patented July 18, 1893.



Witnesses:
Lew. C. Curtis
H. W. Munday

Inventor:
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By Munday, Warts & Adeock,
His Attorneys.

UNITED STATES PATENT OFFICE.

WILLARD A. TOWLER, OF DETROIT, MICHIGAN.

HOOK AND EYE.

SPECIFICATION forming part of Letters Patent No. 501,633, dated July 18, 1893.

Application filed October 27, 1892. Serial No. 450,109. (No model.)

To all whom it may concern:

Be it known that I, WILLARD A. TOWLER, a citizen of the United States, residing in Detroit, in the county of Wayne and State of Michigan, have invented a new and useful Improvement in Hooks and Eyes, of which the following is a specification.

My invention relates to improvements in hooks and eyes.

10 The object of my invention is to provide a hook and eye of a strong, simple and light construction which may be securely sewed or attached to the fabric and which will not come unhooked or unfastened.

15 My invention consists in the novel construction of the hook and eye herein shown and described, and more particularly pointed out in the claims and whereby I secure the above named object or result.

20 In order that my hook and eye may be light and flexible and form no hard projection on the garment which would be inconvenient to the wearer while at the same time it shall be sufficiently strong to withstand the strain to which it would be subjected in ordinary usage, I make the hook of light flexible wire and quadruple.

To lock the hook and eye securely against accidental unfastening I provide the eye with 30 inwardly projecting coils, the space between these coils being narrower than the outer branches or members of the quadruple hook, so that the hook will thus project against these coils and thus prevent unfastening. 35 This function is further secured by a pair of coils formed on the outer branches or members of the hook and which project above the same just back of the loop of the hook, so that the loop of the eye will engage these coils, thus 40 serving to hold the loop of the eye in place in the loop of the quadruple hook. The pair of locking coils on the eye and also the pair of locking coils on the hook may also be utilized as sewing holes for the thread in sewing 45 the hook and eye to the fabric. The eye is made of one single piece of wire and the quadruple hook of another piece of wire. At the two ends of each piece of wire coils are formed for sewing holes.

50 In the accompanying drawings which form a part of this specification, Figure 1 is a plan

or face view of a hook and eye embodying my invention. Fig. 2 is an enlarged detail view of the eye. Fig. 3 is an edge view of the eye. Fig. 4 is an enlarged detail view of the 55 hook. Fig. 5 is an edge view of the hook. Fig. 6 is a bottom view of the hook. Fig. 7 is a central longitudinal section of the hook.

In the drawings A represents the eye formed of a single piece of wire a bent at its 60 middle to form a loop a' and having two inwardly projecting coils a^2 , the space a^3 between these coils being less than the width of the quadruple hook B at its loop or bent portion thereof, so that these inwardly project- 65 ing coils a^2 on the eye will lock the hook from accidental unfastening. The coils or sewing holes a^4 a^4 are formed at the two extremities of the eye wire a . The hook B is formed of a single piece of wire b having a close fold b' 70 at its middle and each half of which wire has a second close fold b^2 to form the extremity or open end of the quadruple hook. The quadruple hook thus has two upper and outer members or branches b^3 and two inner and 75 lower members or branches b^4 . The two outer branches b^3 are further provided with outwardly projecting coils b^5 b^5 , said coils being formed or projecting above said branches or members b^3 at the loop portion b^7 thereof so 80 that they will serve as stops for the loop a' of the eye to fit against and thus lock the same in position in the loop or eye receptacle b^7 . The free ends of each branch b^3 of the quadruple hook are furnished with coils b^8 b^8 for sewing 85 holes. The outwardly and upwardly projecting coils b^5 which serve to lock the eye in place in the loop b^7 of the quadruple hook may also be utilized as sewing holes. The quadruple hook thus has four sewing holes 90 and the eye a like number. It will also be observed that the inwardly projecting coils a^2 on the eye A likewise serve to prevent the loop portion a' of the eye from lying quite flat against the cloth as these coils are formed be- 95 neath the loop a' . This facilitates somewhat the engagement of the hook and eye.

The close folds or bends b' and b^2 b^2 in the hook wire b are formed at right angles to each other so that the branches b^3 b^4 of the 100 hook, especially at the prong end of the hook, lie directly one above the other, while the two

branches $b^4 b^4$ of the hook as well as the two branches $b^3 b^3$ of the hook lie side by side. The two inner and lower branches $b^4 b^4$ of the hook should fit down upon or between the
5 branches $b^3 b^3$ at the portions $b^9 b^9$ thereof which lie in between the coils $b^5 b^5$ and $b^8 b^8$.

I claim—

1. The hook and eye comprising an eye A formed of a single piece of wire a having loop
10 a' and inwardly projecting locking coils $a^2 a^2$ and quadruple hook B formed of a single piece of wire b having a close fold or bend b' at its middle and two close folds $b^2 b^2$ one in each half to form the quadruple branches or mem-
15 bers $b^3 b^3$ and $b^4 b^4$ of the hook, the outer pair of branches $b^3 b^3$ having locking coils $b^5 b^5$ formed therein for the loop a' of the eye to project against, the space between said locking coils $a^2 a^2$ on the eye being less than the

width of the quadruple hook, substantially 20 as specified.

2. The combination with an eye A of the quadruple hook B formed of a single piece of wire b having a close fold b' at its middle and
25 two close folds $b^2 b^2$ at the prong end of the quadruple hook, said hook having two outer and upper branches $b^3 b^3$ and two lower and inner branches $b^4 b^4$, said branches $b^3 b^3$ having coils $b^5 b^5$ formed therein and projecting
30 above said branches $b^3 b^3$ at the loop b^7 of said quadruple hook to form a lock for the loop of the eye to project against, substantially as specified.

WILLARD A. TOWLER.

Witnesses:

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