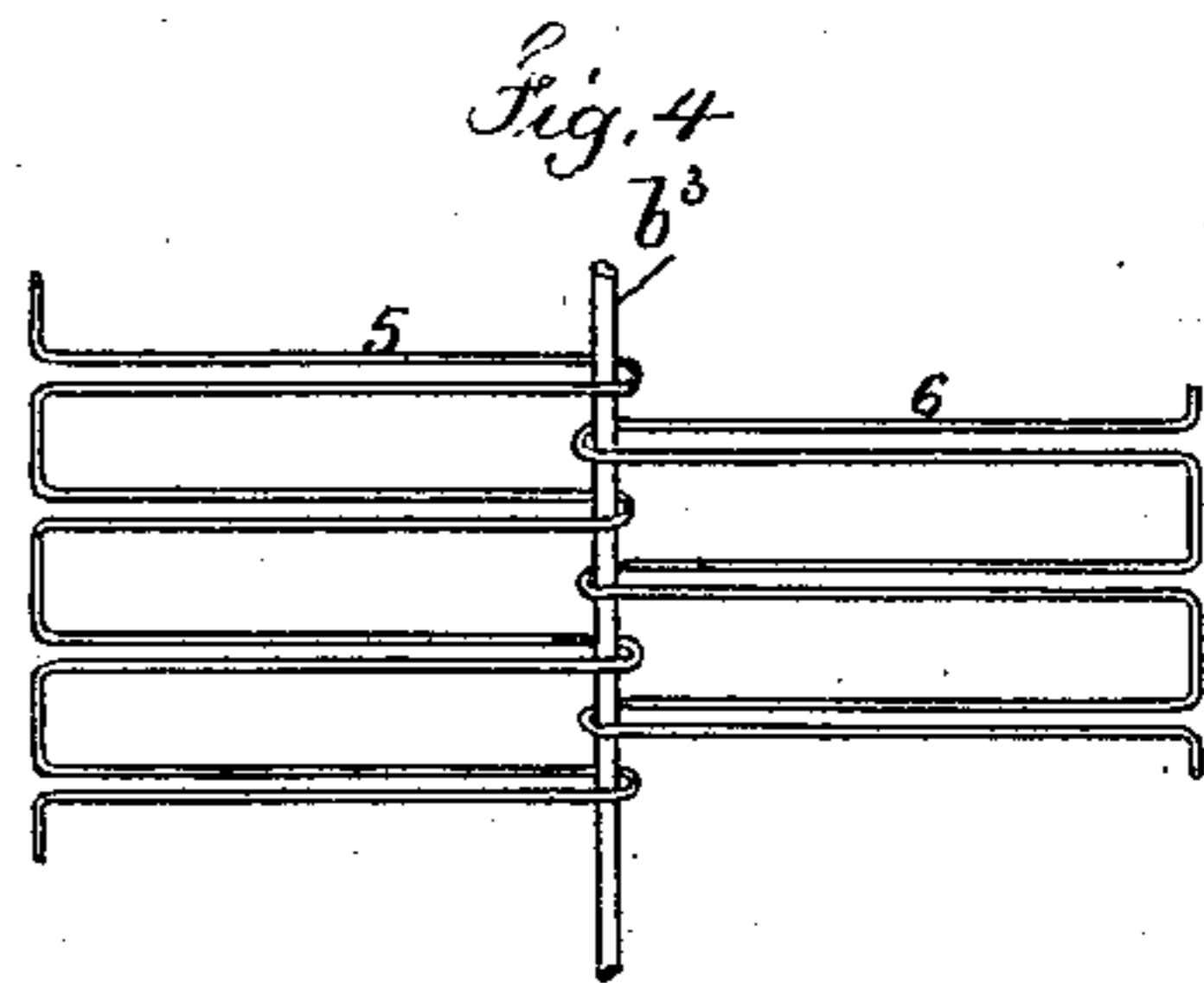
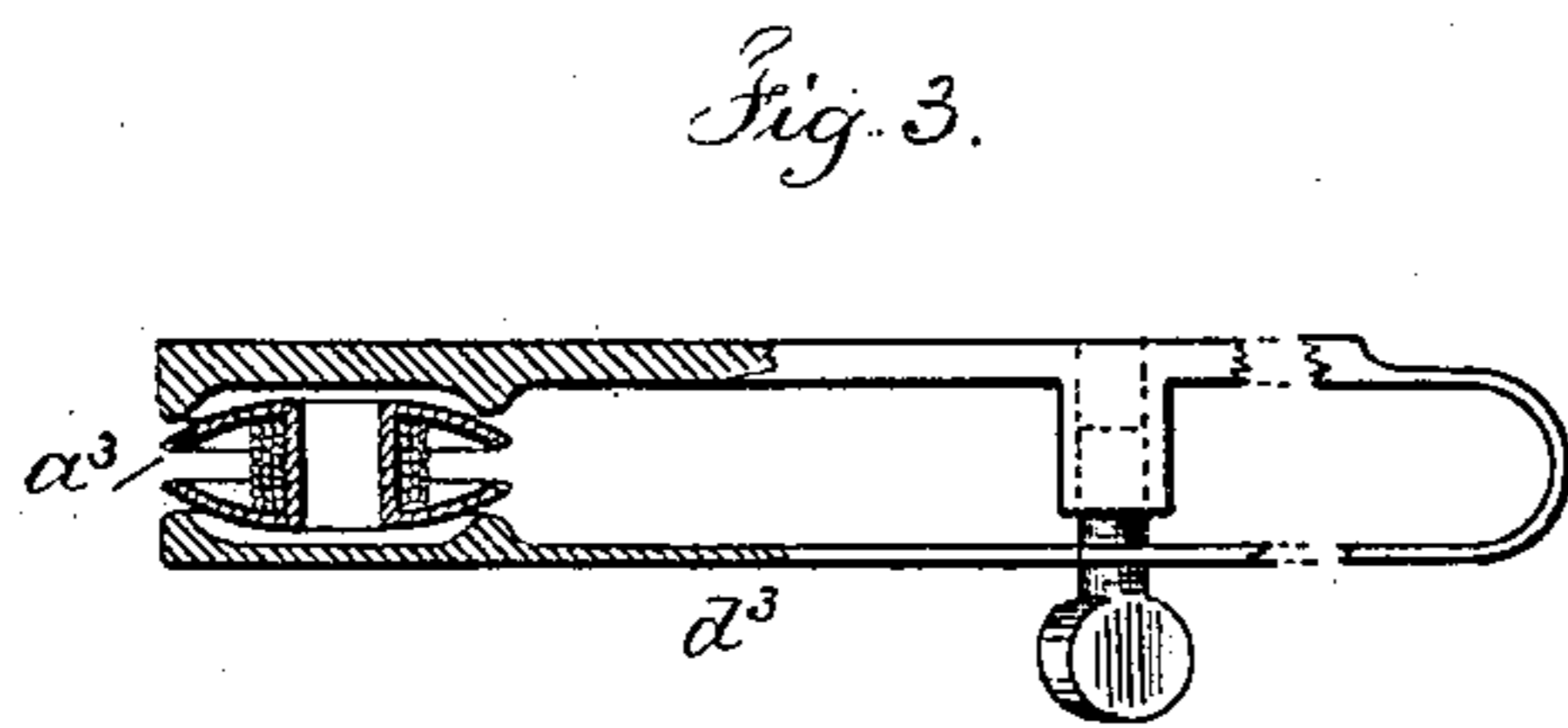
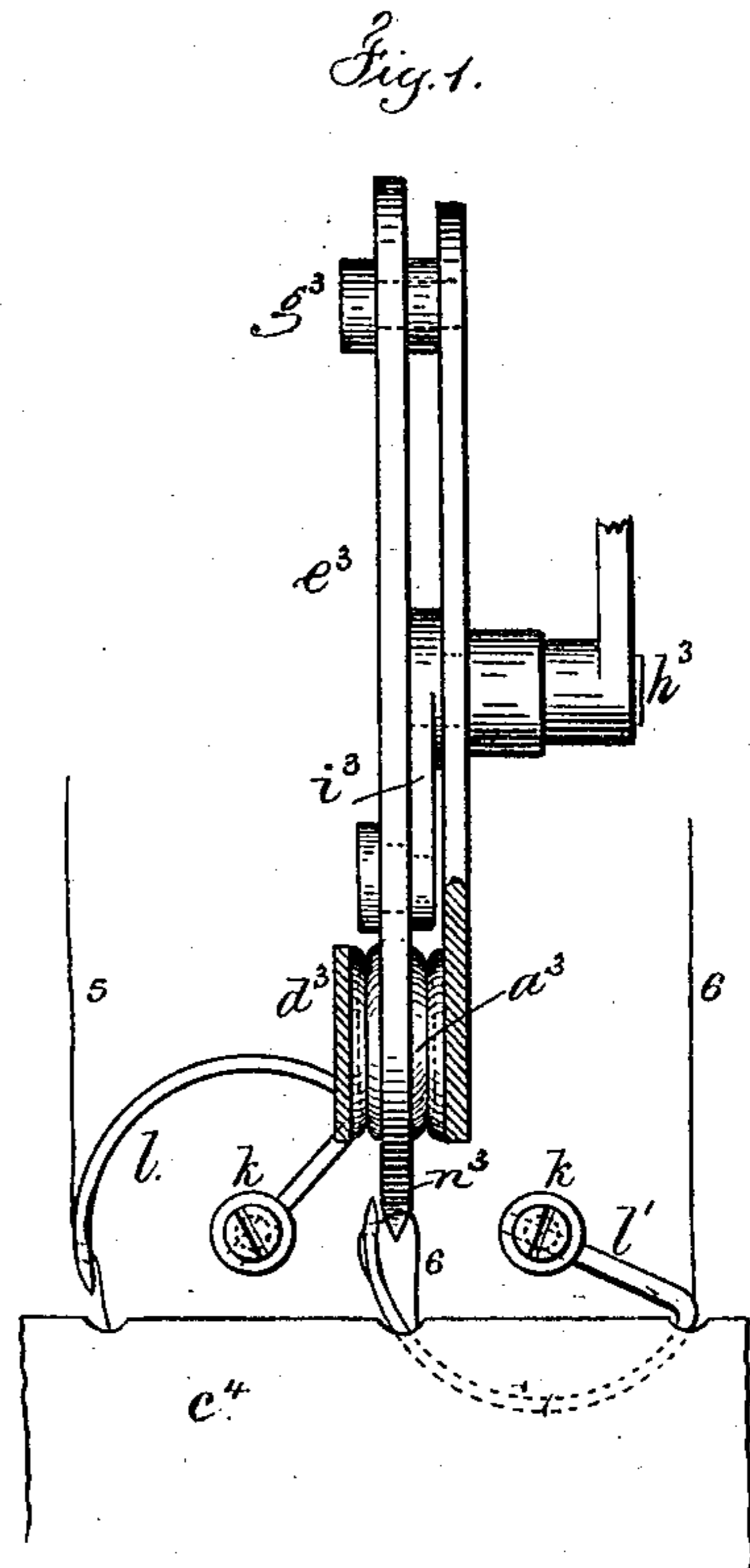
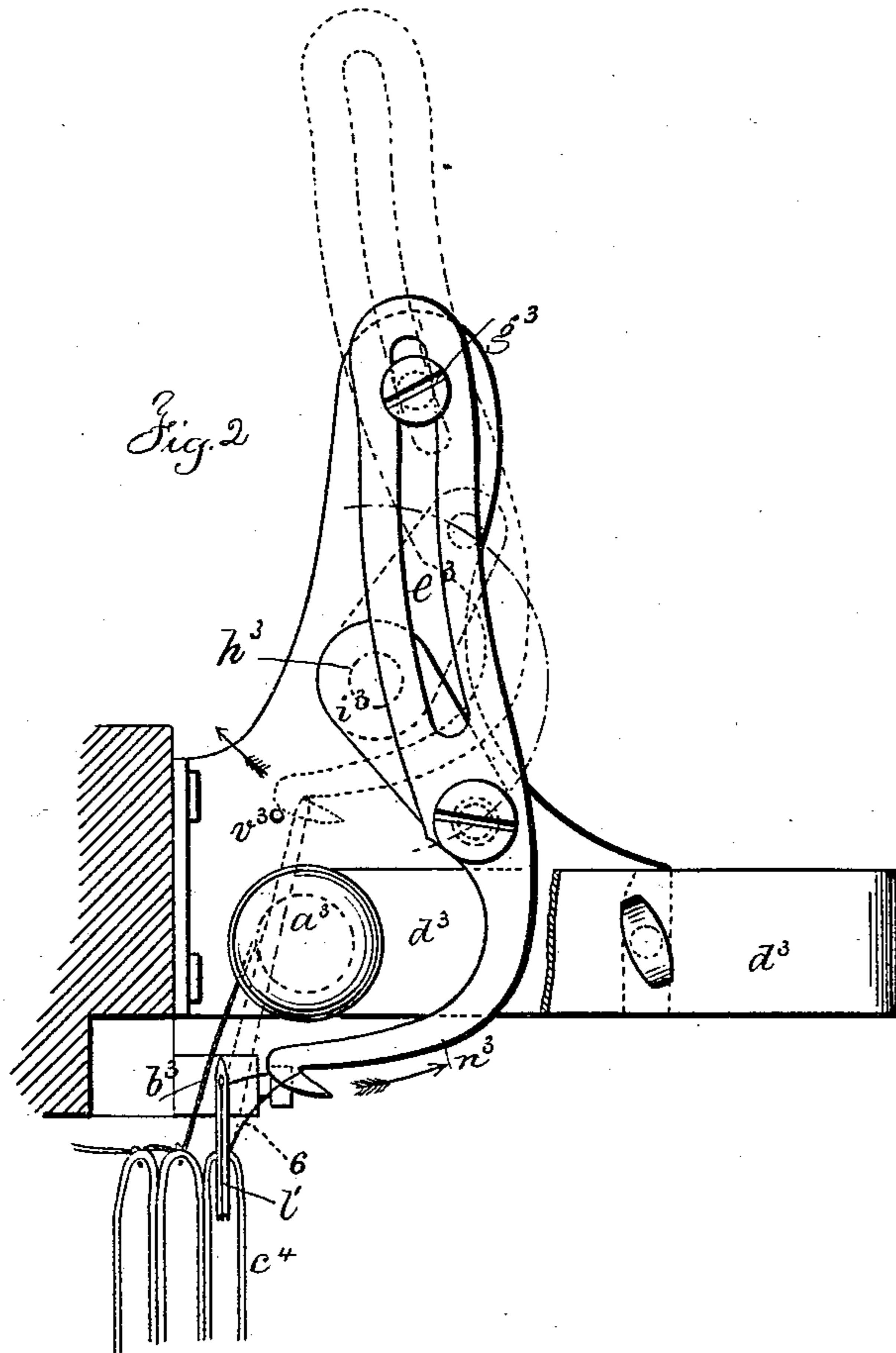


(Model.)

D. McC. SMYTH.
BOOK SEWING MACHINE.

No. 250,989.

Patented Dec. 13, 1881.



Witnesses

Chas. H. Smith
J. Hail

Inventor

David McC. Smyth
per Lemuel W. Ferrell

UNITED STATES PATENT OFFICE.

DAVID McCONNEL SMYTH, OF HARTFORD, CONNECTICUT, ASSIGNOR TO
THE SMYTH MANUFACTURING COMPANY, OF SAME PLACE.

BOOK-SEWING MACHINE.

SPECIFICATION forming part of Letters Patent No. 250,989, dated December 13, 1881.

Application filed May 16, 1881. (Model.)

To all whom it may concern:

Be it known that I, DAVID McCONNEL SMYTH, of Hartford, in the State of Connecticut, have invented an Improvement in Book-
5 Sewing Machines, of which the following is a specification.

This invention is an improvement upon the machine for which Letters Patent No. 220,312 were granted to me, and a reference is hereby
10 made to the same, by which to more fully understand the construction and operation of the present devices.

In sewing books it is sometimes desirable to lay in a thread in the saw-cuts or channels
15 at the back of the book as the sewing progresses.

The nature of my said invention consists in the combination, with the needles in the book-sewing machine, of a hook that takes a loop
20 of thread from the needle, carries it up over the shuttle, and drops it, so that it is drawn up around the cord or thread that passes off from the shuttle.

In the drawings, Figure 1 is an elevation showing a pair of semicircular needles and the looper and shuttle. Fig. 2 is a side view of the looper with part of the shuttle-holder removed. Fig. 3 is a sectional plan of the shuttle-holder and shuttle; and Fig. 4 shows
30 the sewing separate from the sheets.

The shuttle a^3 is of ordinary construction. It is circular, and the shells are convex, leaving a narrow opening around the periphery for the thread b^3 to pass away to the sewed sheets
35 c^4 . The shuttle is held loosely within the concave ends of the spring-holder d^3 , which is made so that the thread can be passed between the shuttle and holder.

The needles l l' upon shafts k are made and
40 operated similarly to those in my aforesaid patent.

The looper n^3 is made with a slotted shank, e^3 , sliding upon the pin g^3 , and there is a shaft, h^3 , with a crank, i^3 , that is pivoted to the shank
45 of the looper, and this shaft and crank have given to them about a half revolution at the proper time. The looper stands behind the

point of the needle l as it emerges from the folded sheet. It moves forward, takes a loop of the needle-thread 5, carries it up, and the
50 broad rear end of the looper spreads the loop and causes it to pass at both sides of the shuttle as the looper moves over the shuttle and drops the loop, which is drawn up by any suitable thread-tension, so that it confines the shuttle-thread or cord tightly down into the groove
55 at the back of the sewed sheet. The stationary pin v^3 insures the delivery of the loop of thread from the looper as said looper passes entirely across over said pin v^3 . The looper
60 returns to its normal position, another folded sheet is introduced, the needle l' passes through the same, the looper takes a loop of its thread 6 and passes it over the shuttle, the needle withdraws, and another sheet is presented and
65 sewed by the needle l , and so on.

It is to be understood that any number of pairs of needles may be used with a looper to each pair of needles.

I claim as my invention—

1. The combination, in a book-sewing machine, of two needles, carrying threads and acting in opposite directions, one looper, n^3 , and mechanism, substantially as specified, for actuating the same and causing it to take a
75 loop from first one needle and then the other, and a shuttle over which the loops of thread are passed, substantially as set forth.

2. In a book-sewing machine, the combination of the semicircular needles l l' , shuttle a^3 ,
80 shuttle-holder, looper n^3 , slotted shank e^3 , crank i^3 , and rock-shaft h^3 , substantially as set forth.

3. The combination, with the needles l l' , shuttle and looper, and actuating mechanism,
85 substantially as specified, of the stationary pin v^3 , to deliver the loops from the looper, as set forth.

Signed by me this 7th day of April, A. D. 1881.

DAVID McCONNEL SMYTH.

Witnesses:

GEO. T. PINCKNEY,
CHAS. H. SMITH.