

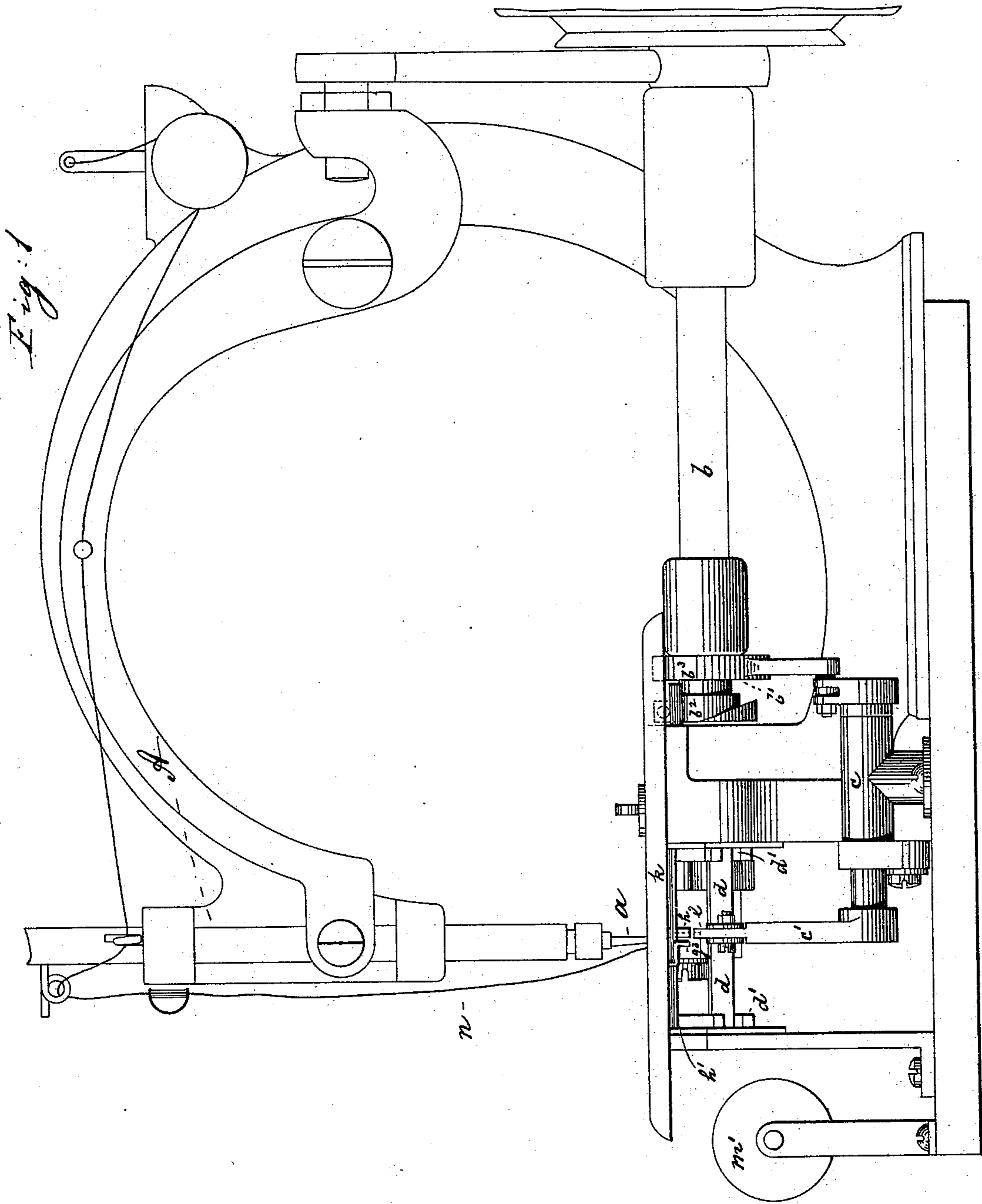
(No Model.)

3 Sheets—Sheet 1.

J. SCHAAK.  
SEWING MACHINE.

No. 507,243.

Patented Oct. 24, 1893.



Witnesses  
*D. P. Palmer*  
*Wm. Schuch*

Inventor  
*John Schack*  
By his Attorneys *Roeder & Briesen*

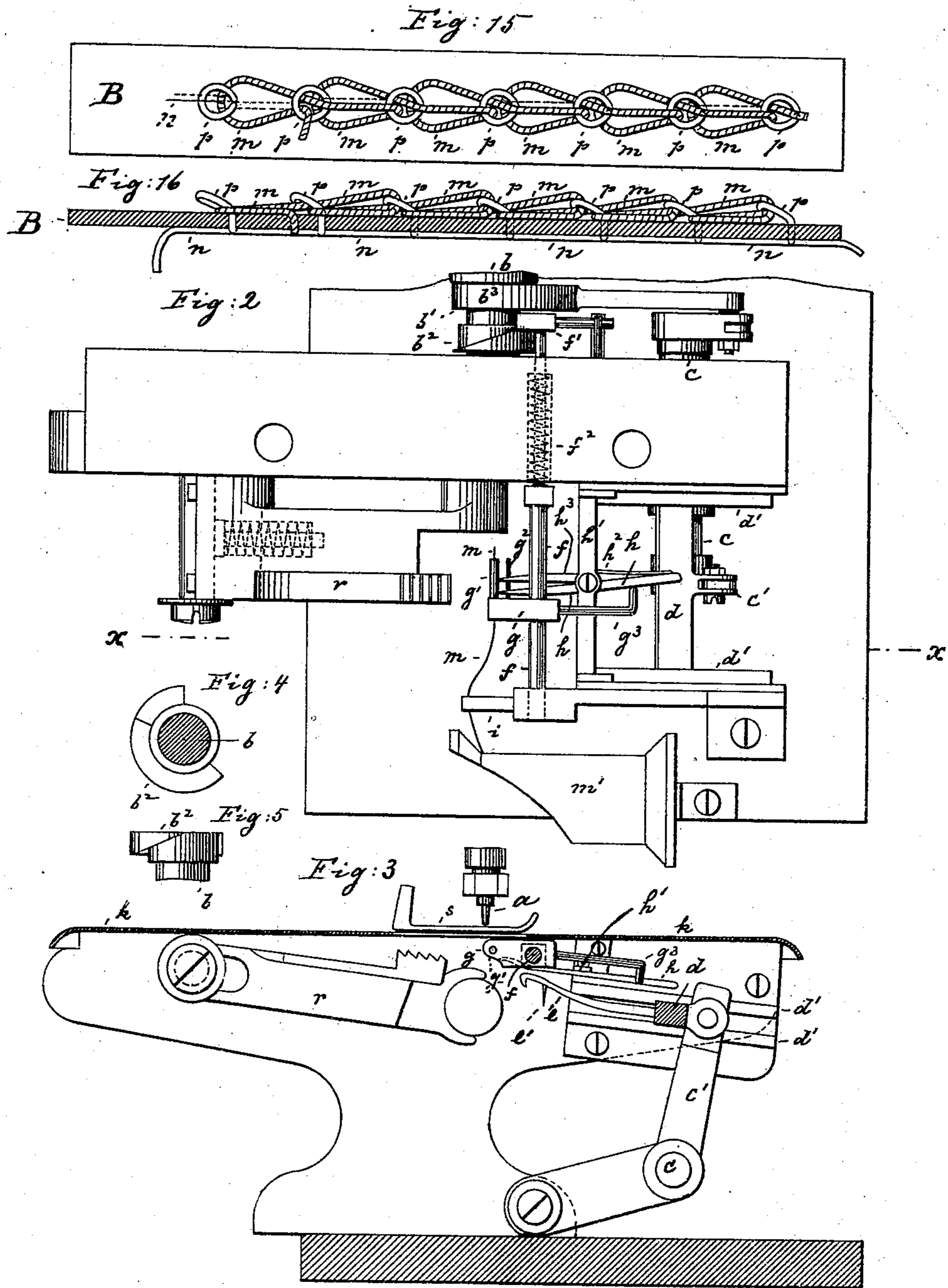
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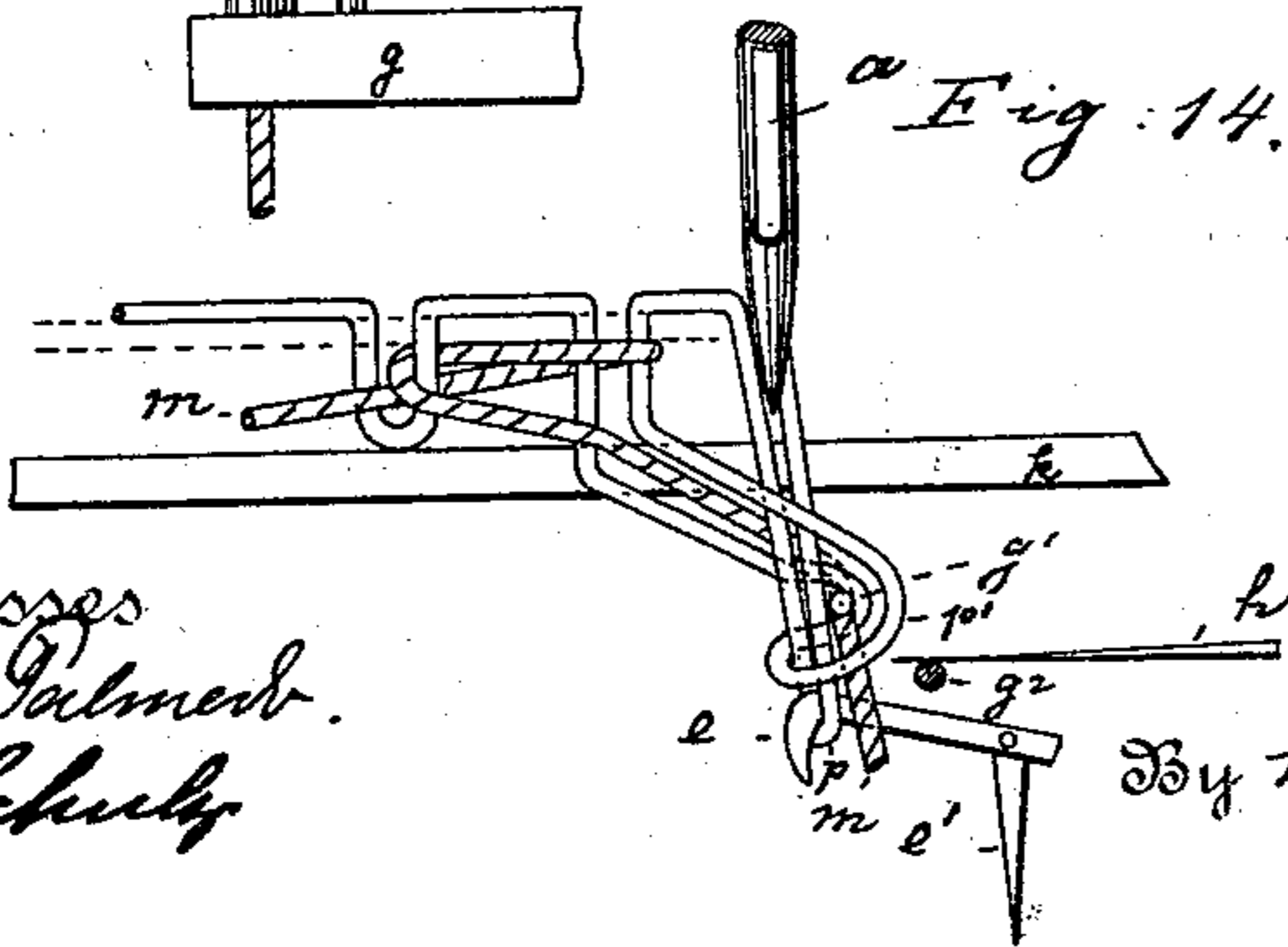
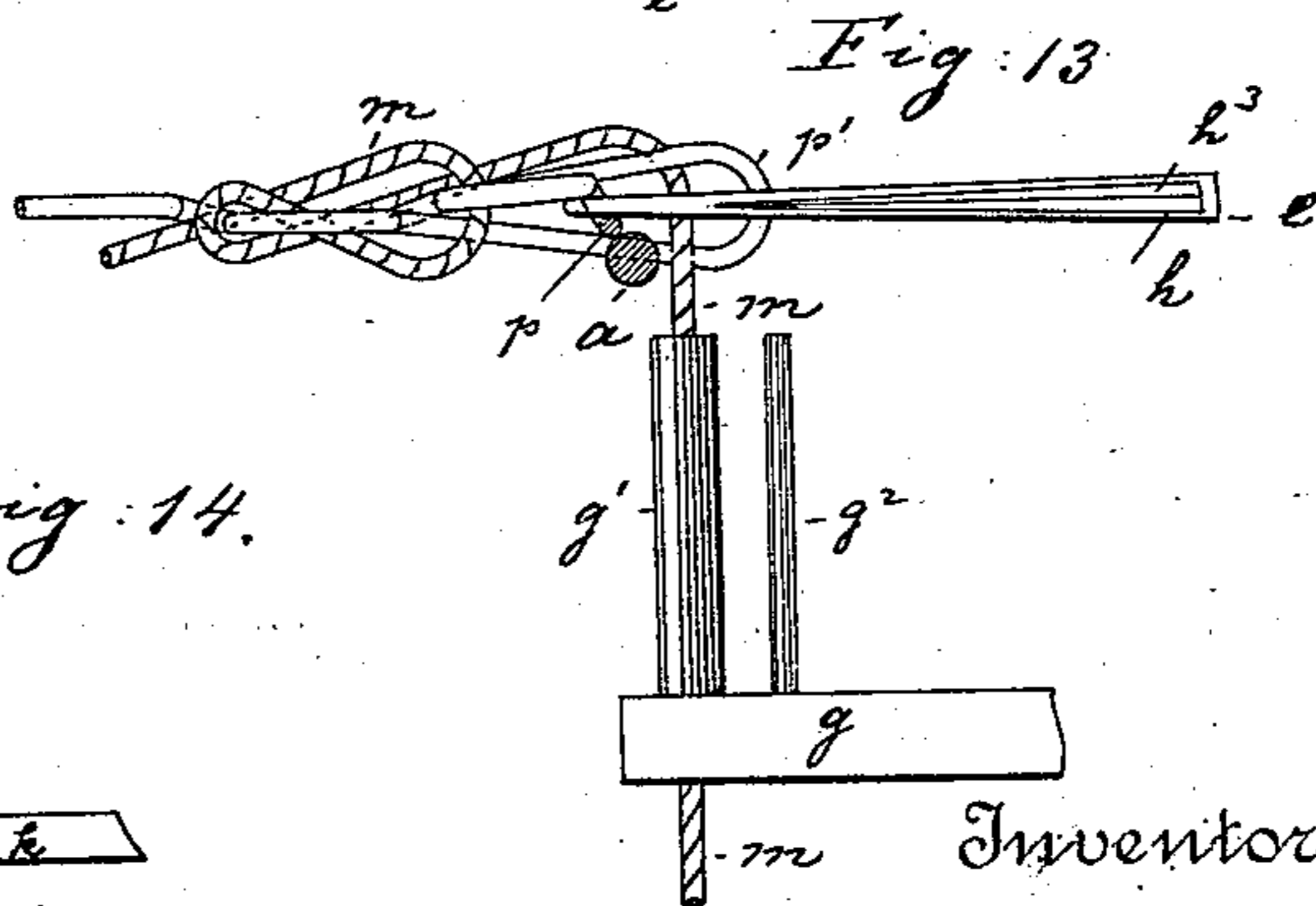
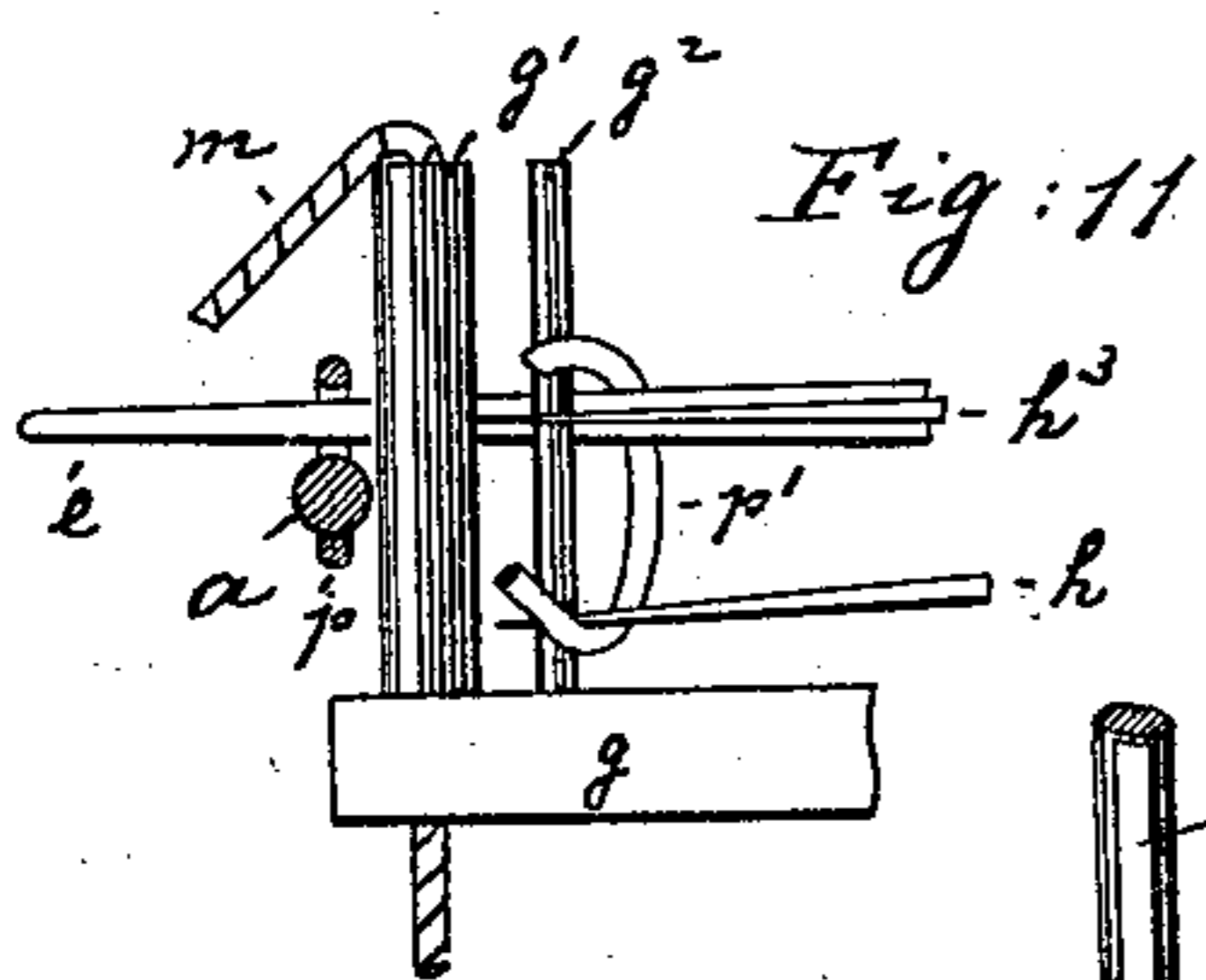
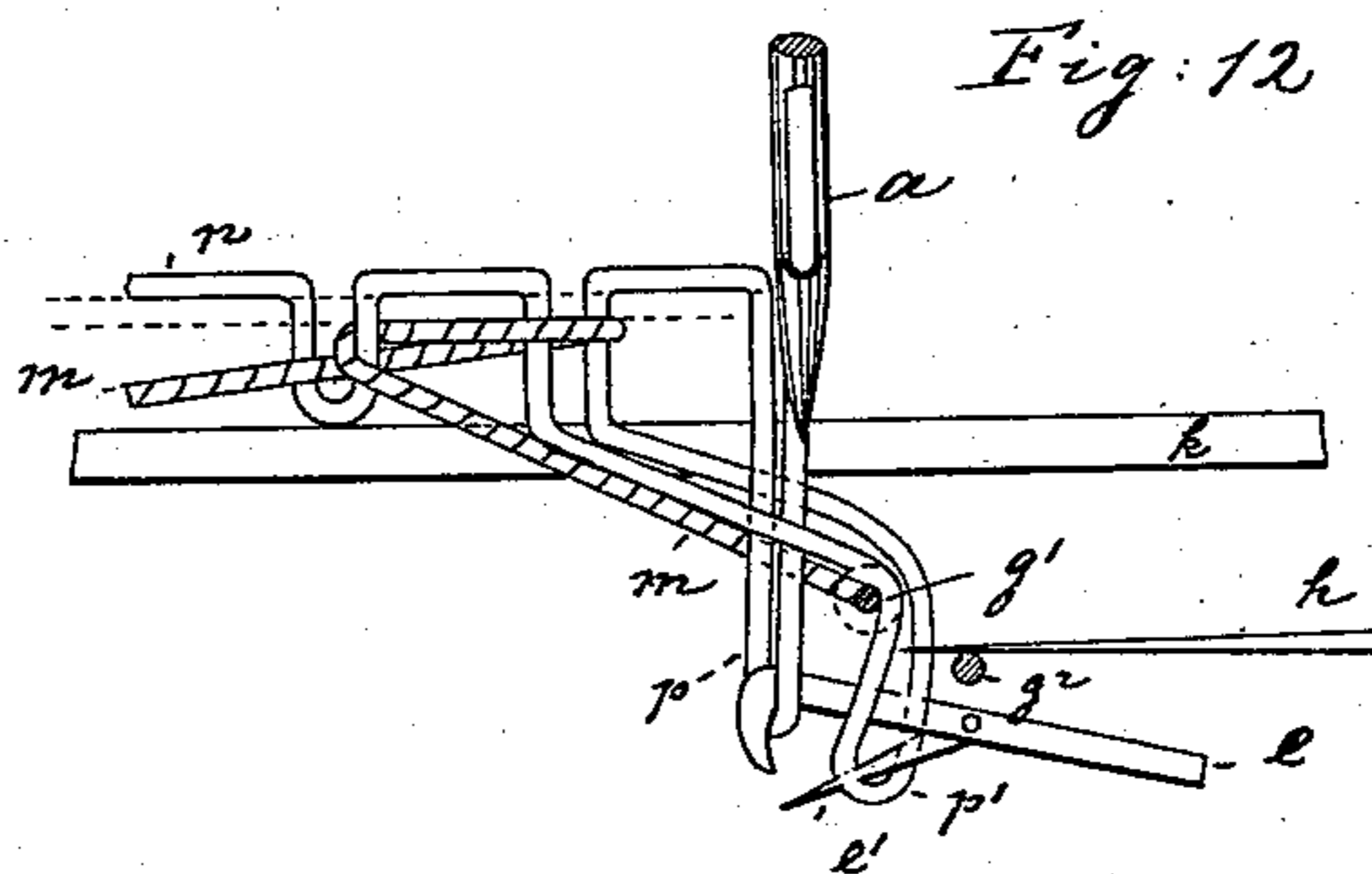
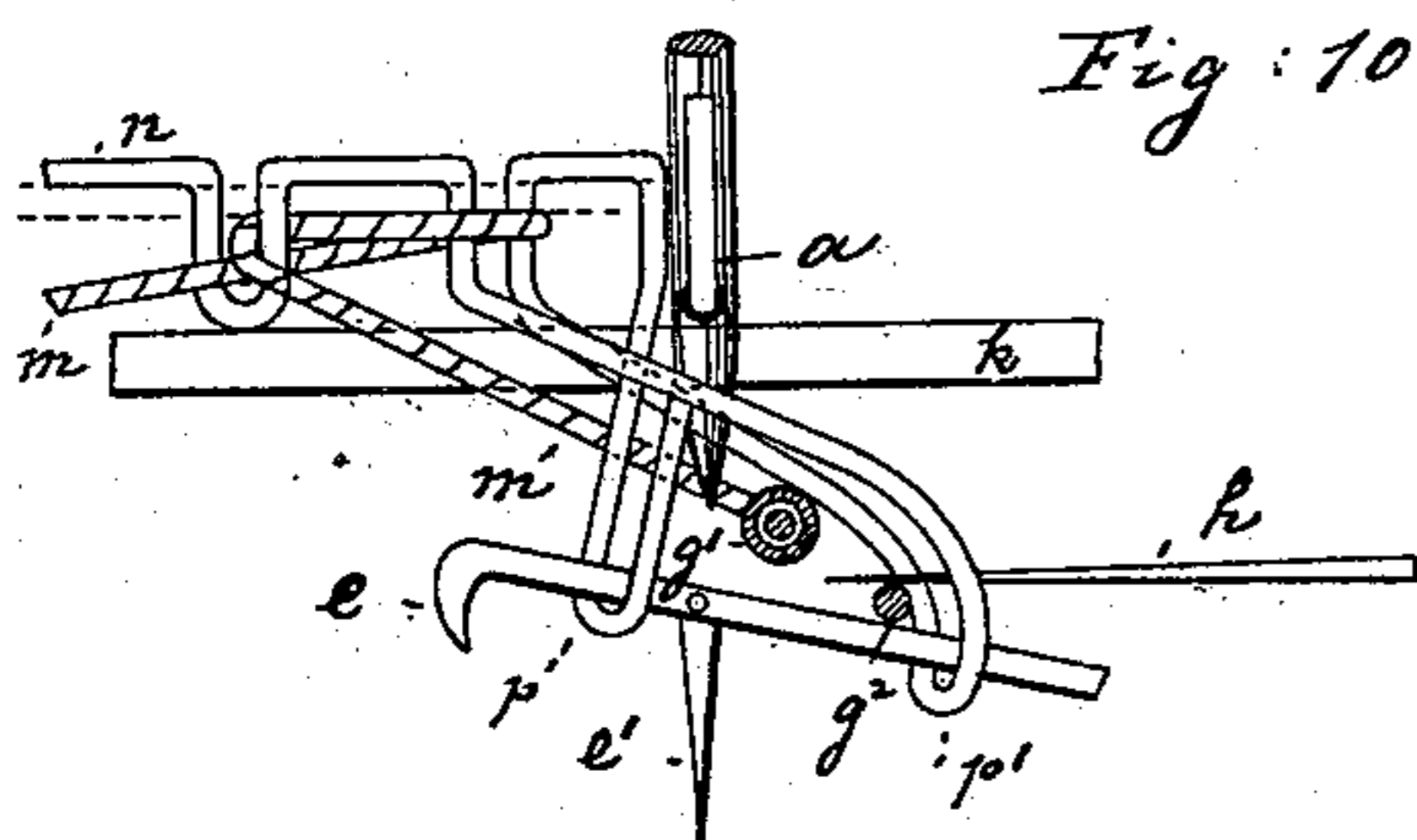
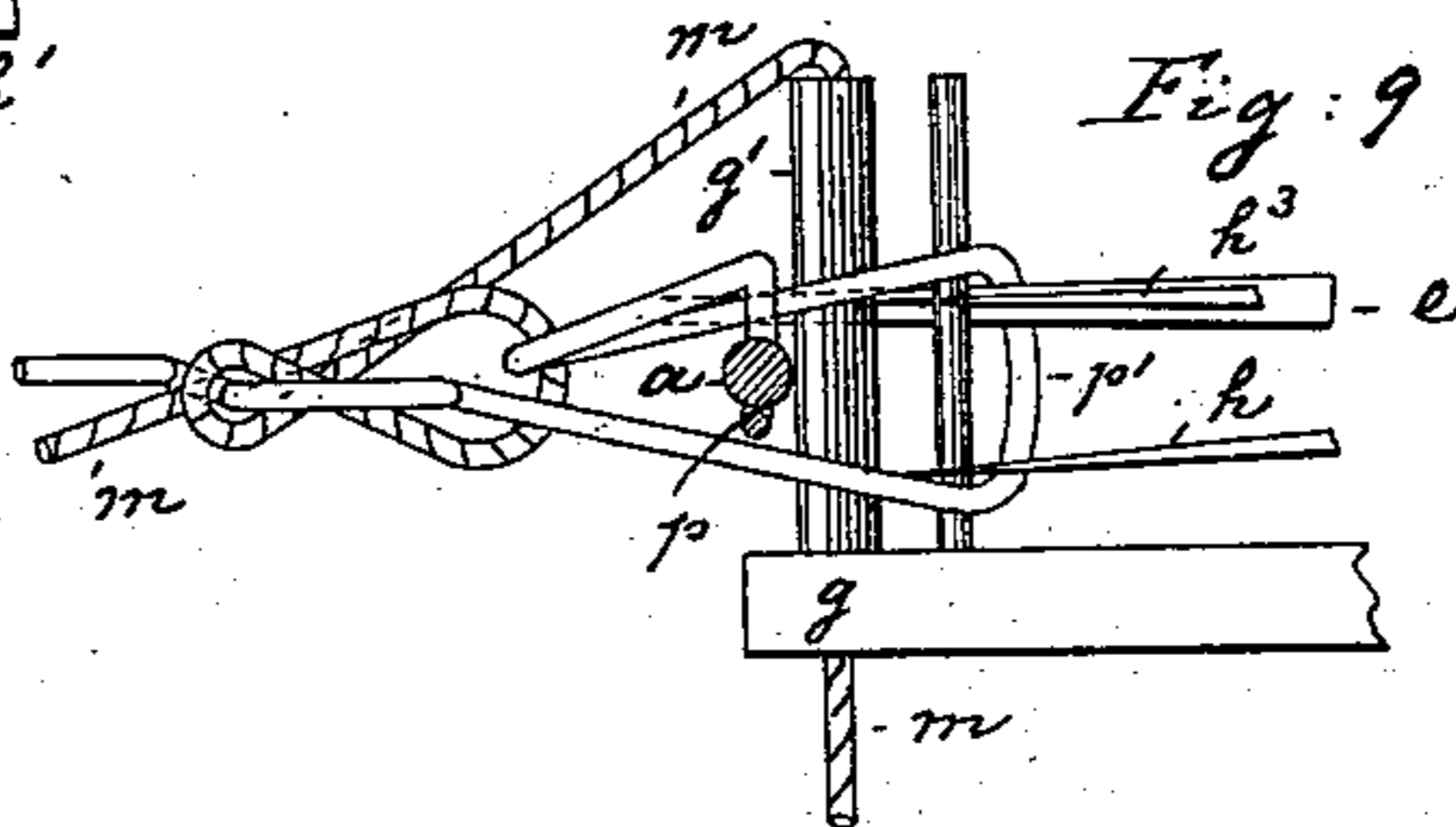
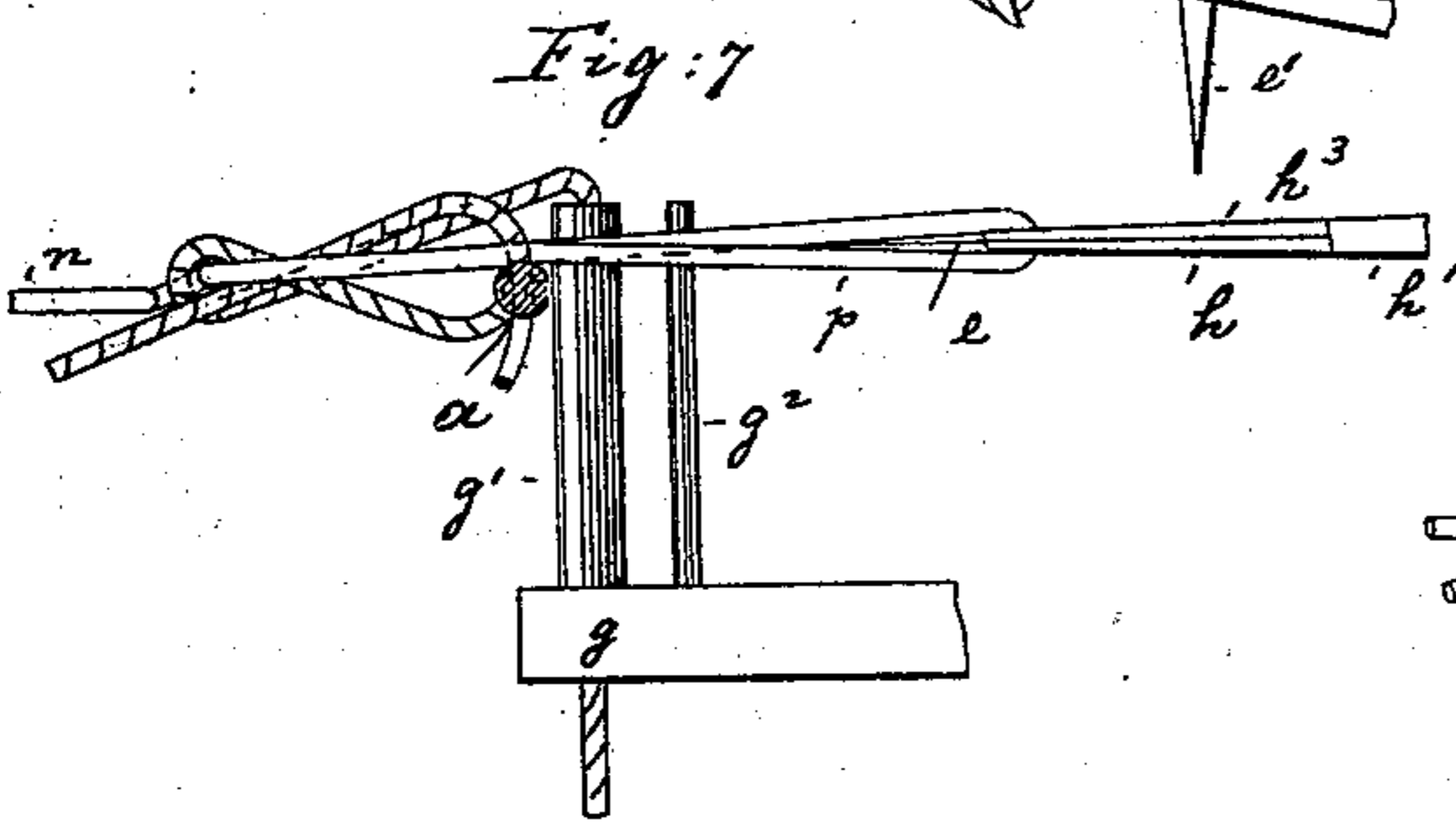
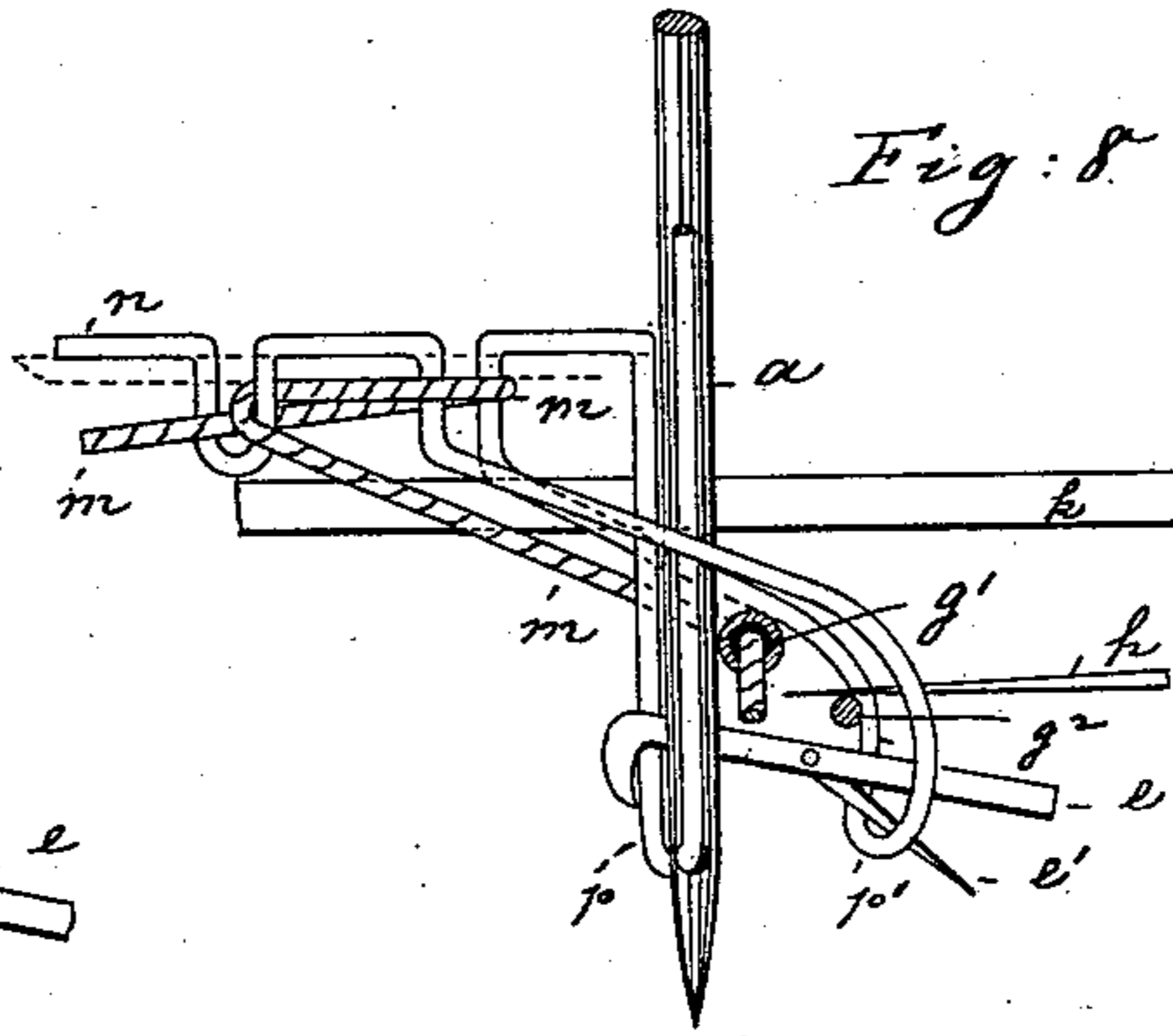
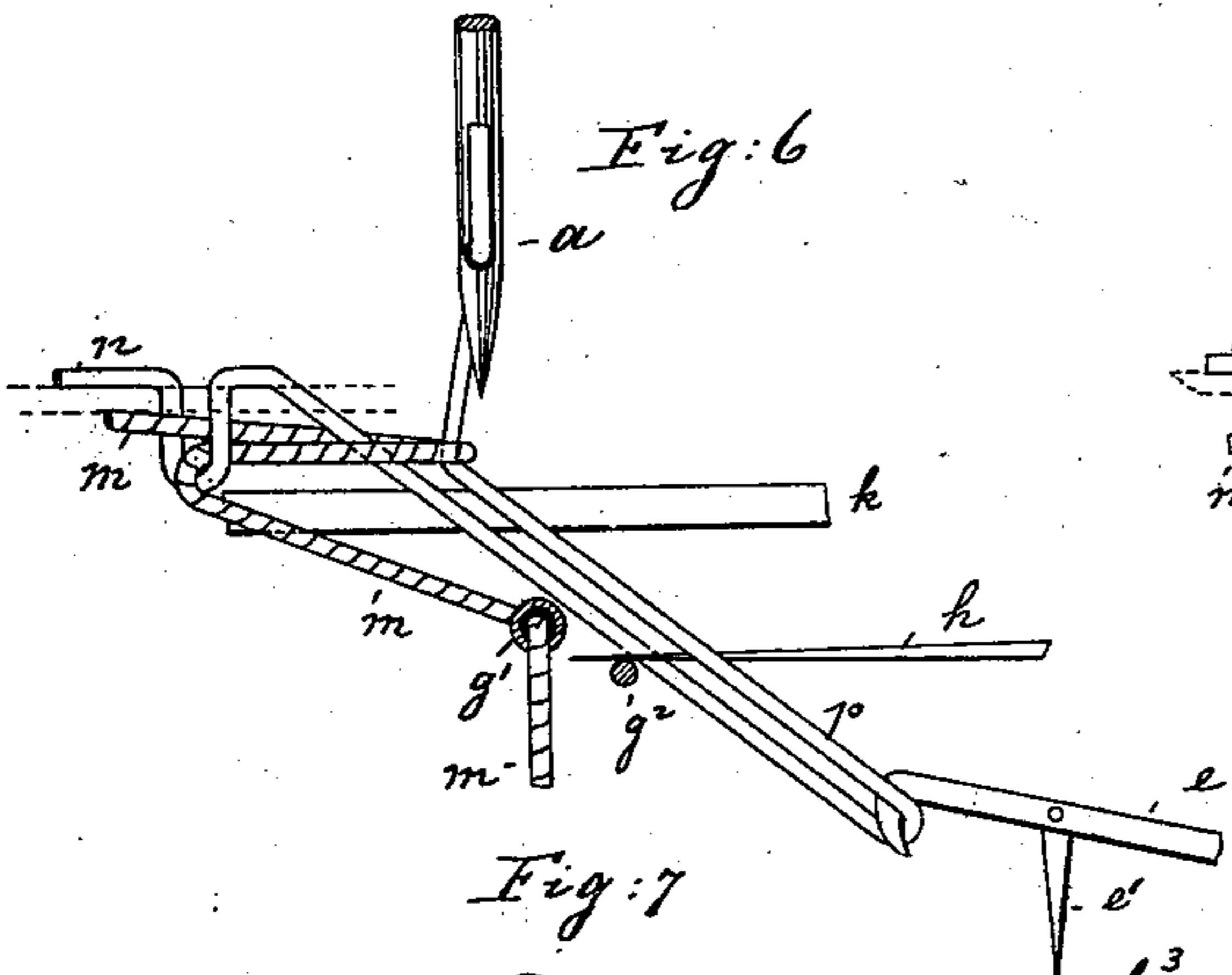
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# UNITED STATES PATENT OFFICE.

JOHN SCHAAK, OF WEST HOBOKEN, NEW JERSEY.

## SEWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 507,243, dated October 24, 1893.

Application filed June 28, 1893. Serial No. 479,047. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN SCHAAK, of West Hoboken, Hudson county, New Jersey, have invented an Improved Sewing-Machine, of which the following is a specification.

This invention relates to a sewing machine of peculiar construction for producing borders or fancy stitches, which are of a very ornamental appearance. Briefly stated the machine forms a series of loops by the needle thread, around and through which the chain thread is passed.

The machine works with a latch hook reciprocating backward and forward under the work plate and with a thread carrier reciprocating laterally under the work plate and which throws the chain thread across the path of the hook that interloops it with the needle thread.

In the accompanying drawings: Figure 1 is an elevation of my improved sewing machine; Fig. 2 a top view of its operating mechanism, with the work plate removed; Fig. 3 a cross section on line  $x, x$ , Fig. 2. Figs. 4 and 5 are a section and elevation of the cam  $b^2$ ; Figs. 6 and 7 end and top views of the first position of the needle; Figs. 8 and 9 similar views of the second position; Figs. 10 and 11 similar views of the third position; Figs. 12 and 13 similar views of the fourth position; Fig. 14 an end view of the fifth position. Figs. 15 and 16 show the stitch formed by the machine in top and side view.

The letter A, represents the head of the sewing machine, made of suitable construction, and carrying the vertically reciprocating needle  $a$ , as usual. Upon the work shaft  $b$ , there is mounted an eccentric  $b'$ , and a cam  $b^2$ . The eccentric  $b'$ , by means of ring  $b^3$ , rocks a shaft  $c$ , which by arm  $c'$ , reciprocates a slide  $d$ , guided in grooved rails  $d'$ . To the slide  $d$ , is secured a hook  $e$ , adapted to engage the loop of the needle thread and provided with a latch  $e'$ , similar to a knitting machine needle. The latch needle  $e$ , thus reciprocates in a plane parallel with the line of feed imparted to the fabric by the feed dog  $r$ . The cam  $b^2$ , serves to impart reciprocating motion to a shaft  $f$ , by means of arm  $f'$ , engaging the cam and a spring  $f^2$ , operating in a direction contrary to that of the cam. To the shaft  $f$ , there is secured a block

$g$ , to which there is attached a tubular thread guide  $g'$ , for the chain thread and a finger  $g^2$ . The thread guide  $g'$ , will thus reciprocate from the left to the right of the machine, while the hook  $e$ , operates from the front to the rear of the machine. Hence the paths of hook and thread guide cross at right angles, beneath the work plate the thread guide being placed a trifle higher than the hook, to permit unobstructed co-action of the parts. To the block  $g$ , there is secured a forwardly projecting bent arm  $g^3$ , that engages a finger  $h$ , pivotally secured to a fixed bar  $h'$ . The finger  $h$ , is also influenced by a spring  $h^2$ , and operates in conjunction with a fixed finger  $h^3$ , also secured to the bar  $h'$ , to constitute a spreader. The spreader  $h, h^3$ , is placed above the finger  $g^2$ , while the hook  $e$ , is placed below such finger. Thus all the parts work free and clear of each other. The chain thread  $m$  passes from its spool  $m'$ , through a suitable tension device  $i$ , and thence to the tubular thread guide  $g'$ , by which it is thrown directly in front of the needle  $a$ .

The operation of the machine is as follows: The thread guide  $g$  moves to the right in front of the path of needle  $a$ , (Figs. 6 and 7.) The needle descends and commences its ascent back of the thread guide to form a loop  $p$ , while the previously formed loop  $p'$ , of the needle thread  $n$ , has been opened by the spreader (Figs. 8 and 9). At the same time the hook  $e$  moves backward, its latch being opened by loop  $p'$ , to engage loop  $p$ , the needle ascends (Figs. 10 and 11), the hook moves forward, (having its latch closed by loop  $p'$ ) the thread guide  $g$  moves to the left (Figs. 12 and 13) while the spreader closes. The loop  $p$ , will thus be drawn around the chain thread  $m$ , and entirely clear of loop  $p'$  (Fig. 14) which will be drawn taut by the next descent of the needle. The stitch made by the machine is shown in Figs. 15 and 16. It is of course, formed upon that side of the fabric B, which faces downward, *i. e.*, which is laid upon the work table  $k$ . The needle thread  $n$  forms a series of loops  $p, p$ , projecting all toward one side and entirely disconnected at such side. The chain thread first embraces and then passes through the loop of the needle thread and forms a very beauti-

ful braid-like ornamentation. The feed dog  
r, and presser foot s, are of customary or suit-  
able construction.

What I claim is—

5 1. The combination in a sewing machine, of  
a vertically reciprocating eye pointed needle  
with a cloth feeding device, a latch hook en-  
gaging the needle thread and reciprocating in  
a plane parallel to the line of feed and with  
10 a laterally reciprocating thread guide for  
feeding the chain thread, substantially as  
specified.

2. The combination in a sewing machine, of  
a vertically reciprocating eye pointed needle  
with a cloth feeding device, a rock shaft and 15  
reciprocating shaft, a slide operated by the  
rock shaft, a hook secured to the slide and re-  
ciprocating in a plane parallel to the line of  
feed and with a thread guide operated by the  
reciprocating shaft, substantially as specified. 20

JOHN SCHAACK.

Witnesses:

F. V. BRIESEN,  
A. JONGHMANS.