

(No Model.)

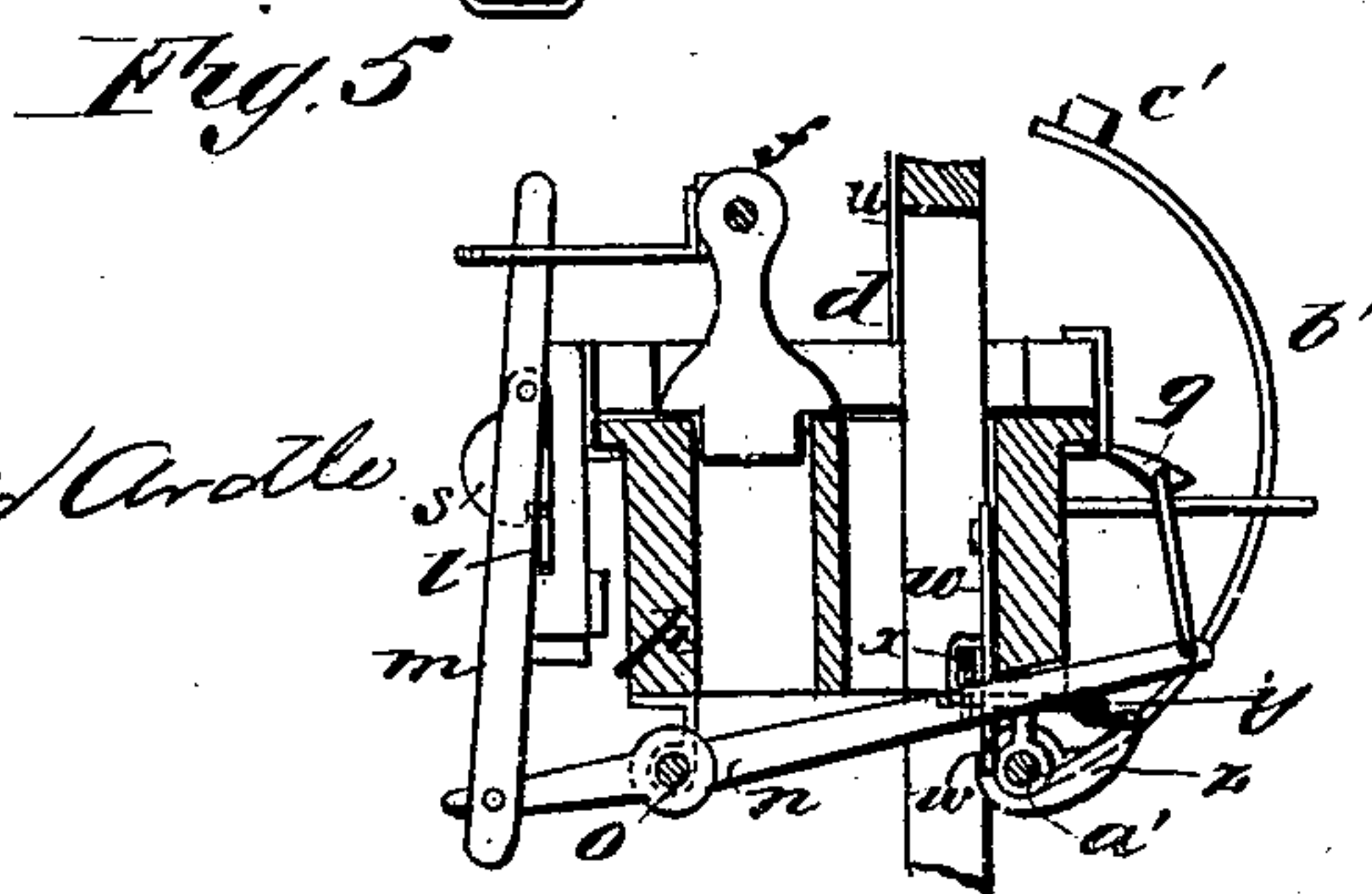
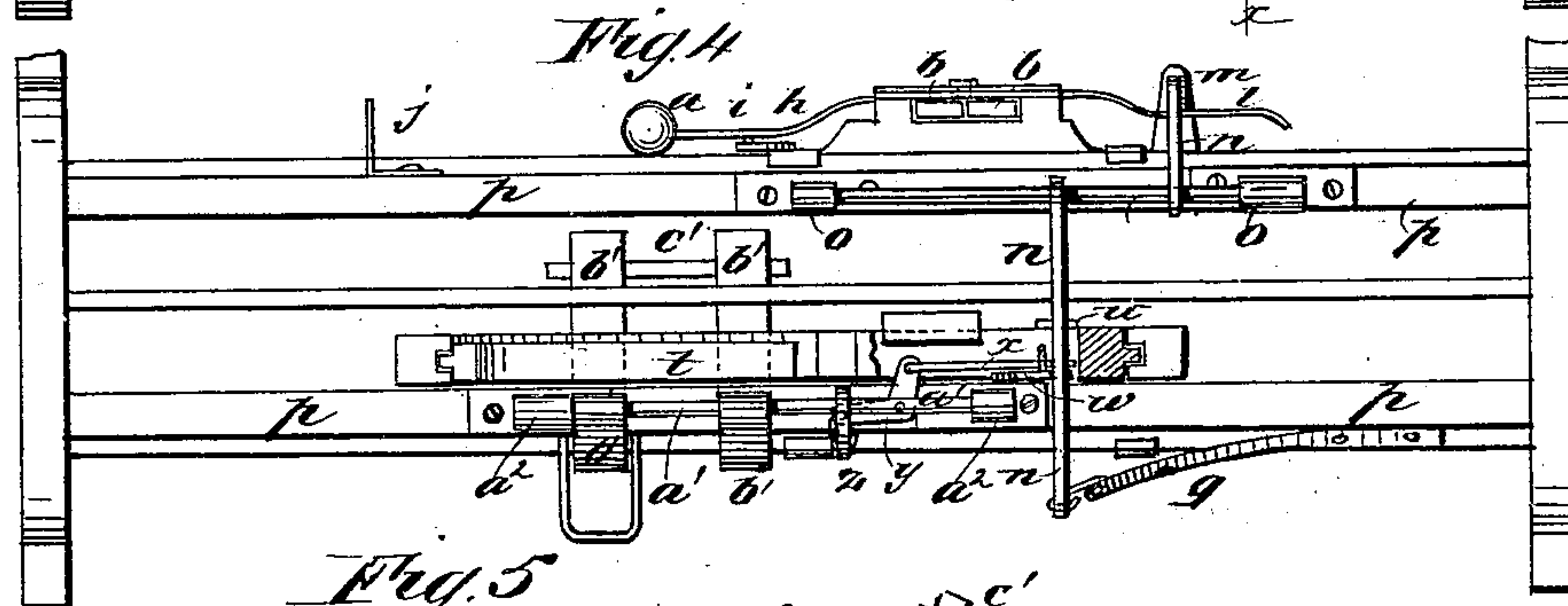
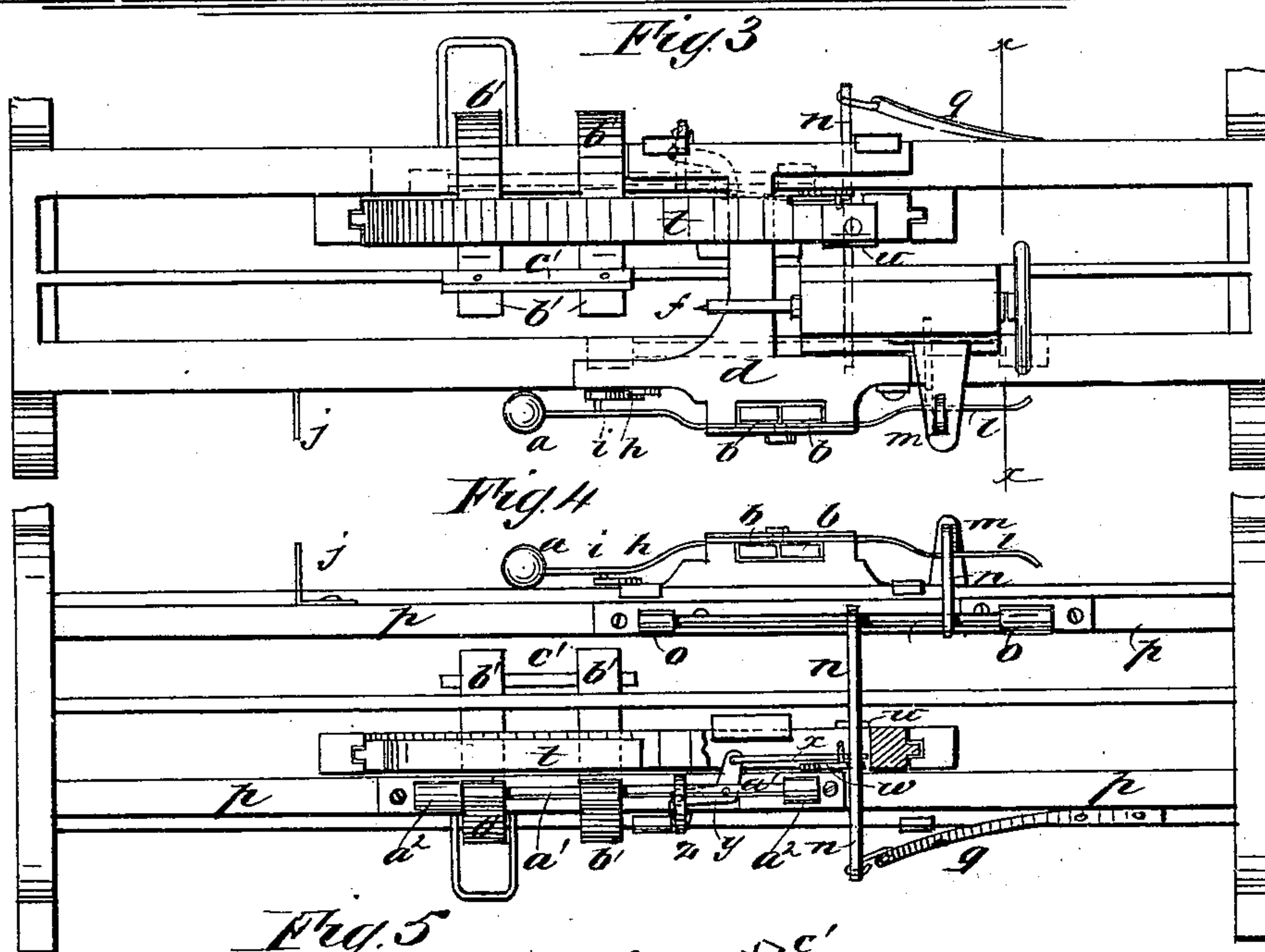
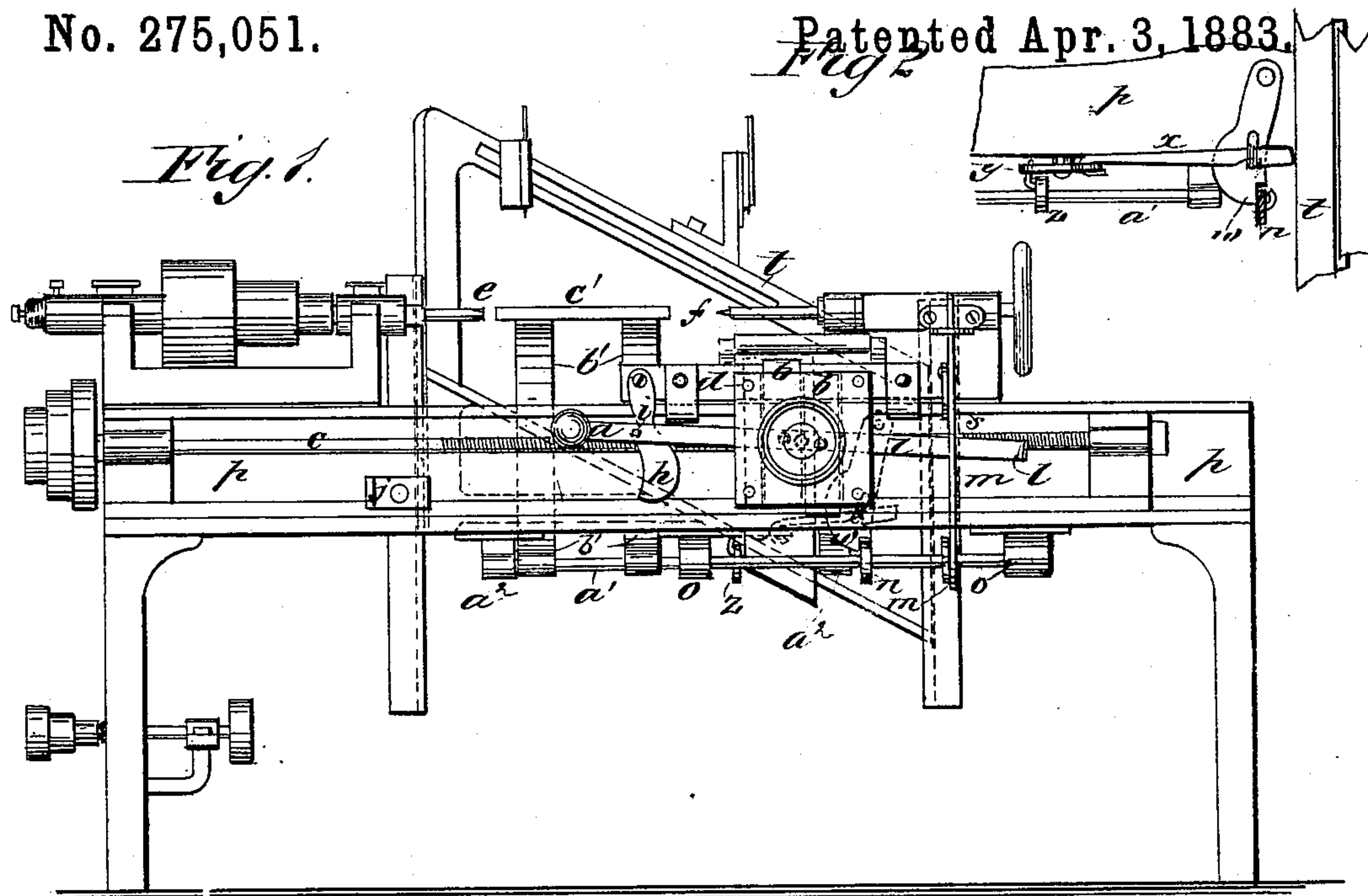
2 Sheets—Sheet 1.

E. H. LELAND.

TURNING LATHE.

No. 275,051.

Patented Apr. 3, 1883.



WITNESSES:

Francis McArdle  
Sedgwick

INVENTOR:

E. H. Leland

BY

Munn & Co.

ATTORNEYS.

(No Model.)

2 Sheets—Sheet 2.

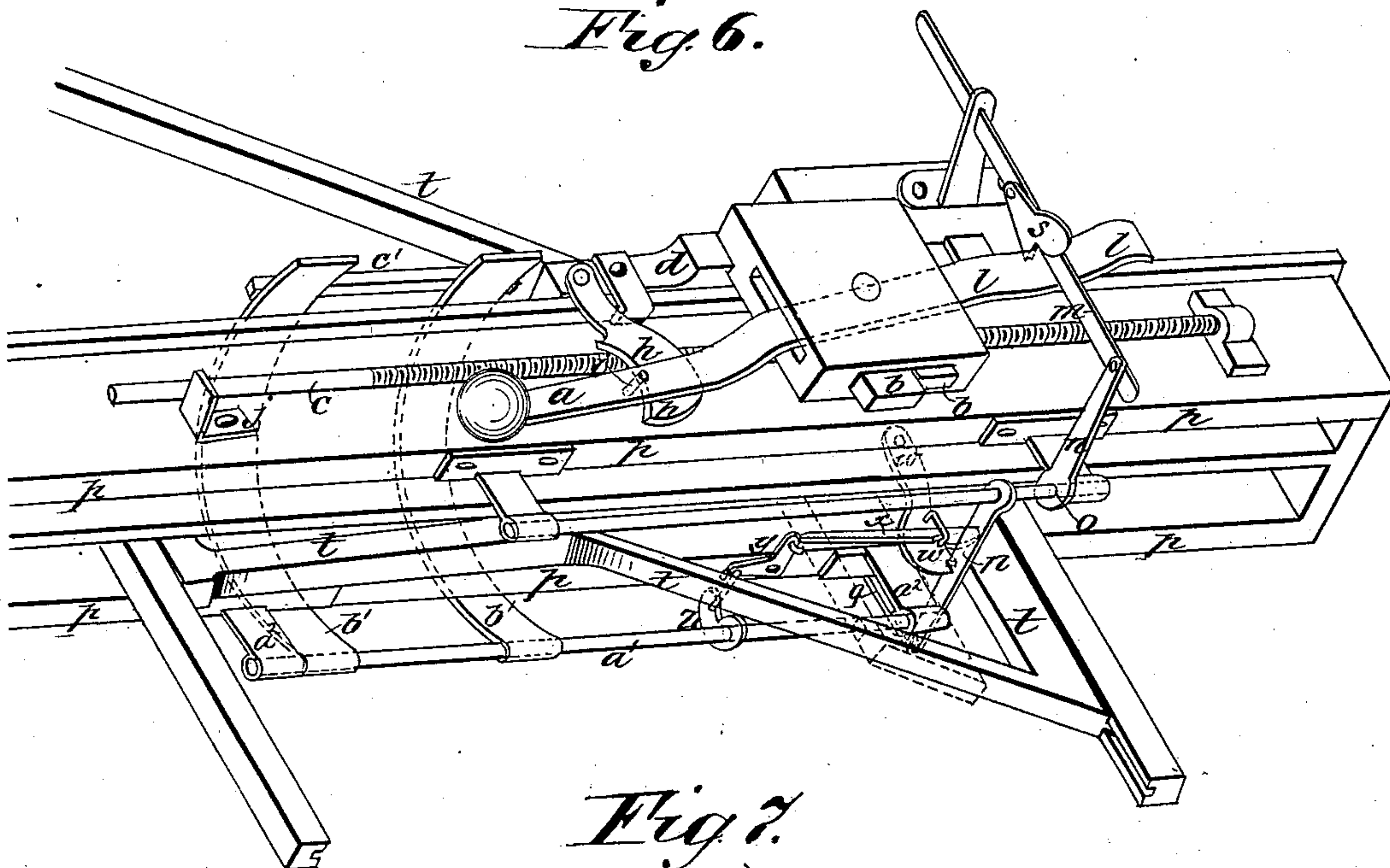
E. H. LELAND.

TURNING LATHE.

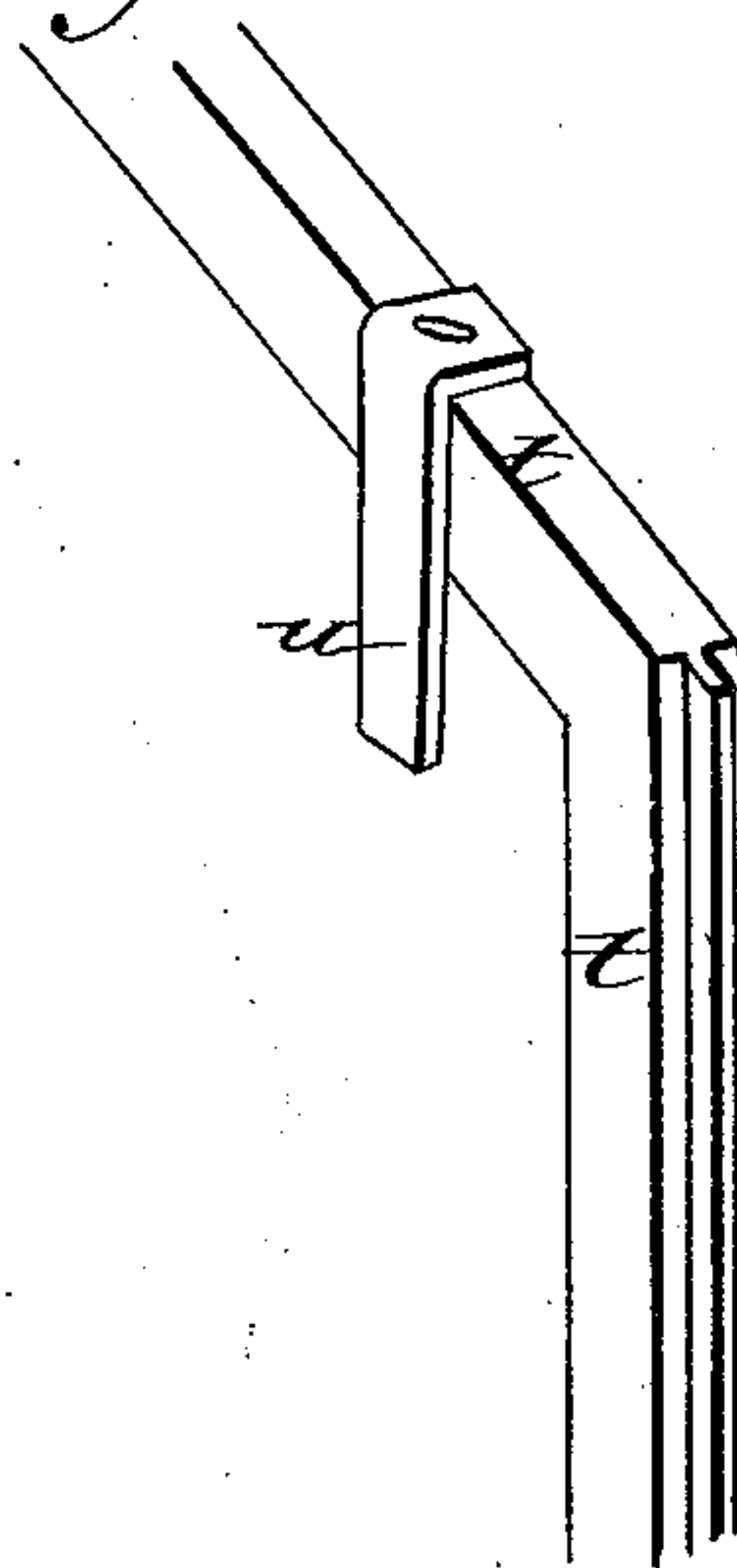
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*Fig. 6.*



*Fig 2*



WITNESSES :

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# UNITED STATES PATENT OFFICE.

EDGAR H. LELAND, OF EAST TEMPLETON, MASSACHUSETTS.

## TURNING-LATHE.

SPECIFICATION forming part of Letters Patent No. 275,051, dated April 3, 1883.

Application filed December 20, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, EDGAR HUBBARD LELAND, of East Templeton, in the county of Worcester and State of Massachusetts, have  
5 invented a new and useful Improvement in Turning-Lathes, of which the following is a full, clear, and exact description.

My invention consists of the contrivance of  
10 apparatus for automatically lifting the lever that clutches the feed-nut with the feed-screw in automatic lathes for turning chair-stocks; also, an automatic contrivance for setting the  
lifting contrivance, the object being to save  
15 the attendant the labor of lifting said lever each time a new piece is put in the lathe, which has to be so frequently done as to make the labor severe, all as hereinafter fully described.

Reference is to be had to the accompanying  
20 drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of the said lathe with my improvements applied. Fig. 2 is a  
25 detail, in side elevation, showing part of the apparatus for automatically setting the lifting apparatus for said lever. Fig. 3 is a plan view of the lathe. Fig. 4 is a plan of the lathe in-  
verted, with a part in horizontal section; and  
30 Fig. 5 is a transverse section on the line  $x x$  of Fig. 3. Fig. 6 is a top view; and Fig. 7 a detail view, showing the sash with its attachment for bearing down the lever.

It is to automatically raise the weighted lever  $a$  and cause the blocks  $b$ , which represent  
35 the feed-nut, to clutch with the feed-screw  $c$  to set the carriage  $d$  in operation when the work has been duly placed between the head-centers  $e$  and the tail-center  $f$ , that I seek to accomplish, so as to spare the attendant the  
40 labor which has to be done so frequently in these machines as to be very irksome, it being necessary to raise the said lever every time a piece is put in the centers and engage the lever with the catch  $h$  by the pin  $i$ , where  
45 it rests until the carriage has run its course toward the head-stock, when the pendent end of the catch comes in contact with the stop  $j$ , which trips it and allows the lever to fall and disconnect the carriage from the feed-screw  
50 preparatory to the sliding of the carriage back for beginning on a new piece to be turned. The weight on the lever  $a$  must be sufficient

to promptly shift the clutch-nut when said lever is so tripped, and hence is too heavy for  
being lifted frequently by the attendant with  
55 comfort. I therefore propose to make an extension,  $l$ , of said lever  $a$  in the opposite direction from its pivot along past a vertical bar,  $m$ , carried at its lower end on the front  
60 arm of a bent lever,  $n$ , pivoted at  $o$  to the under side of the lathe-bed frame  $p$ , said lever  $n$  extending by its rear arm out beyond the other side of the lathe, where it is connected  
with a weighted cord or a lifting-spring,  $q$ , to  
65 raise the rear arm of lever  $n$  and thrust bar  $m$  down at the proper time, so that by its latch  
the bar  $m$  will press down extension  $l$ , and consequently raise lever  $a$ , the same as if lifted  
up by the attendant.

To set the lever  $n$  and hold and trip it at  
70 the proper time the sash  $t$ , which is depressed by the carriage when the latter moves forward toward the head-stock, has a piece,  $u$ , attached to it, which bears said lever  $n$  down when the  
75 carriage nears the end of its movement in that direction, so that the latch  $w$ , pivoted on bed  
 $p$ , swings over and sets and holds said lever  
 $n$ , with latch  $s$  of bar  $m$  sufficiently elevated  
80 to allow extension  $l$  of lever  $a$  to pass under said latch  $s$ , when the carriage  $d$  is shifted  
back after lever  $a$  has fallen and disconnected  
the clutch-nut. Then, for tripping lever  $n$ , for  
85 enabling the aforesaid weight or the spring  $q$  to raise lever  $a$ , for locking the nut  $b$  upon  
the feed-screw, to run the carriage forward, I  
have connected latch  $w$  by a hooked rod,  $x$ ,  
90 with a bell-crank,  $y$ , also pivoted to bed  $p$ , said crank  $y$  being connected to an arm,  $z$ , of the  
rock-shaft  $a'$ , pivoted at  $a^2$  beneath the rear  
side plate of the bed  $p$ , to which shaft  $a'$  the  
95 arms  $b'$  of the centering-bar  $c'$  are attached,  
on which the pieces to be put in the lathe and  
turned are swung forward between the centers,  
the arrangement being such that when the  
centering device is swung back after the  
100 piece is centered it will work the bell-crank  
so as to pull the latch  $w$  from lever  $n$  immediately after the piece has been fixed between  
the centers and set in motion, so that the lever  
 $a$  will be lifted by the lowering of bar  $m$   
by spring  $q$  through lever  $n$ , as above described,  
and the carriage thus set in gear at the proper time.

The method of shifting the carriage back to

the tail-stock, the function of the sash, and the arrangement of the cutting-tools need not be described, as they are all the same as in the machines now used.

5 Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The lever *a*, having the extension *l*, in combination with the lever *n*, carrying on a front arm the vertical bar *m*, with latch *s*, and  
10 connected by a rear arm with a lifting-spring, *q*, whereby lever *a* may be automatically raised, as described.

2. The sash *t*, having the piece *u*, and the swinging latch *w*, pivoted on bed *p*, in combination with the lever *n*, carrying bar *m*, with  
15

latch *s*, the lever *a*, having extension *l*, and the carriage *d*, whereby the lever *n* is set, held, and tripped, as described.

3. The latch *w* and bell-crank *y*, both pivoted to the bed *p* and connected by a hook-rod, *x*, in combination with a rock-shaft having the arm *z*, connected with said crank, and the centering-bar having the arms *b'*, whereby the crank may be so operated as to pull the latch from lever *n* at the time and for the purpose specified. 20 25

EDGAR H. LELAND.

Witnesses:

WM. A. PUTNAM,  
GEORGE P. WHITCOMB.