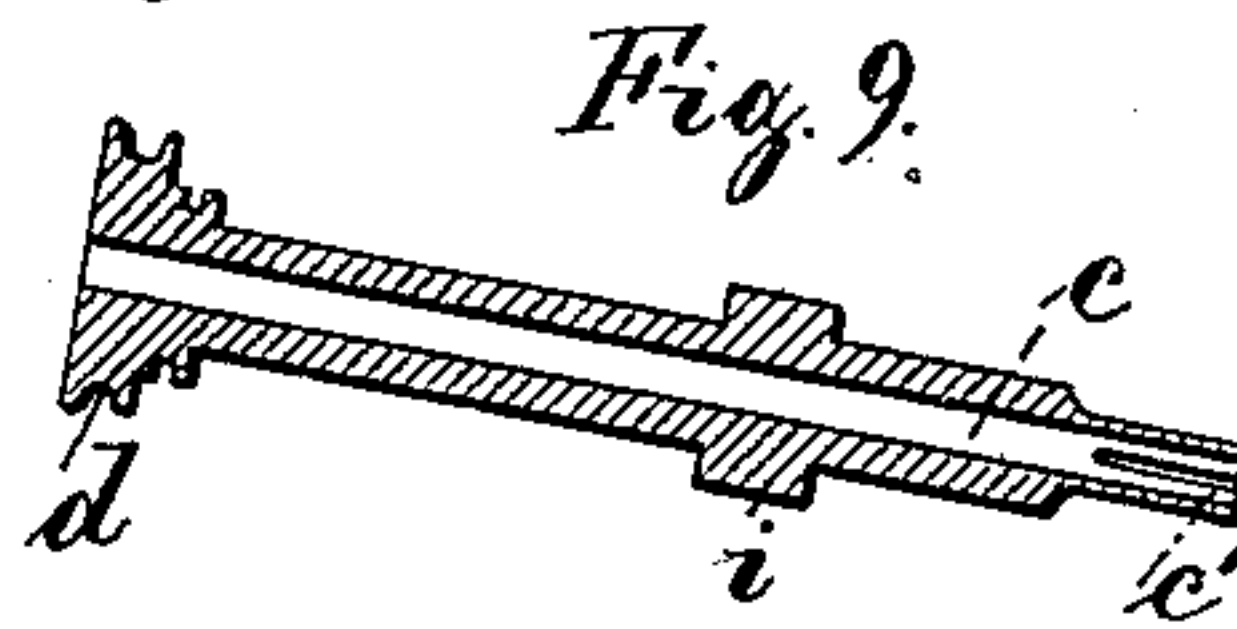
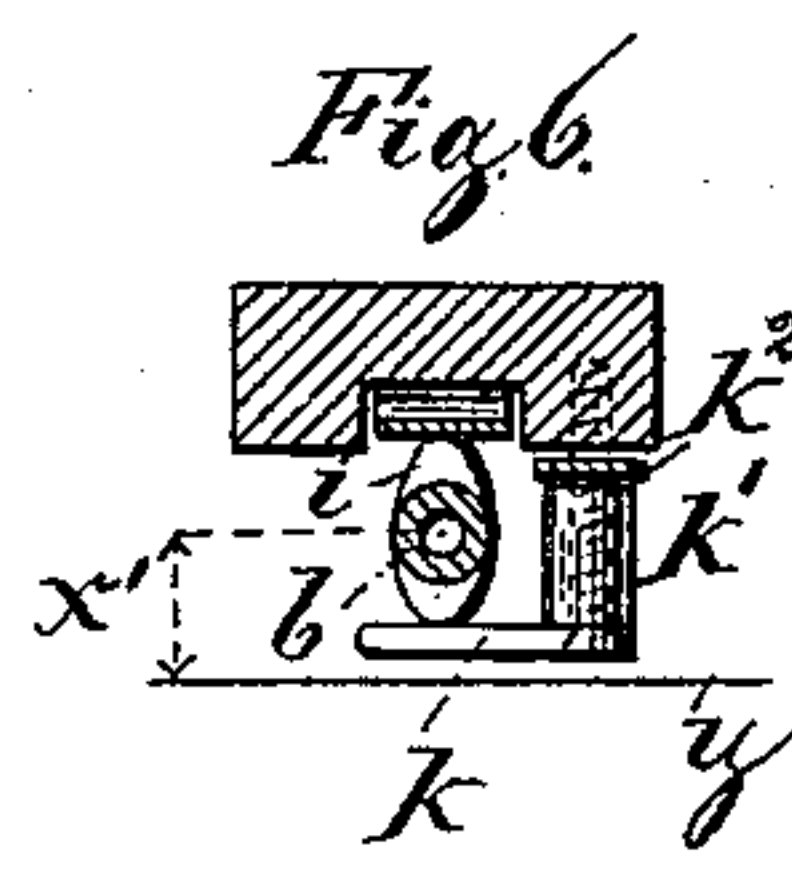
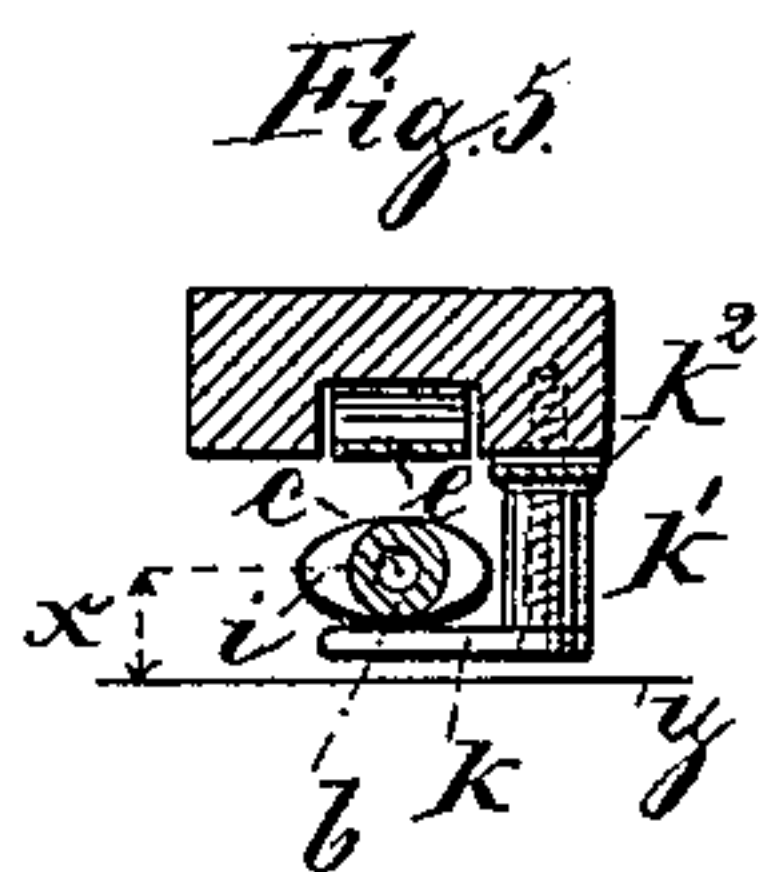
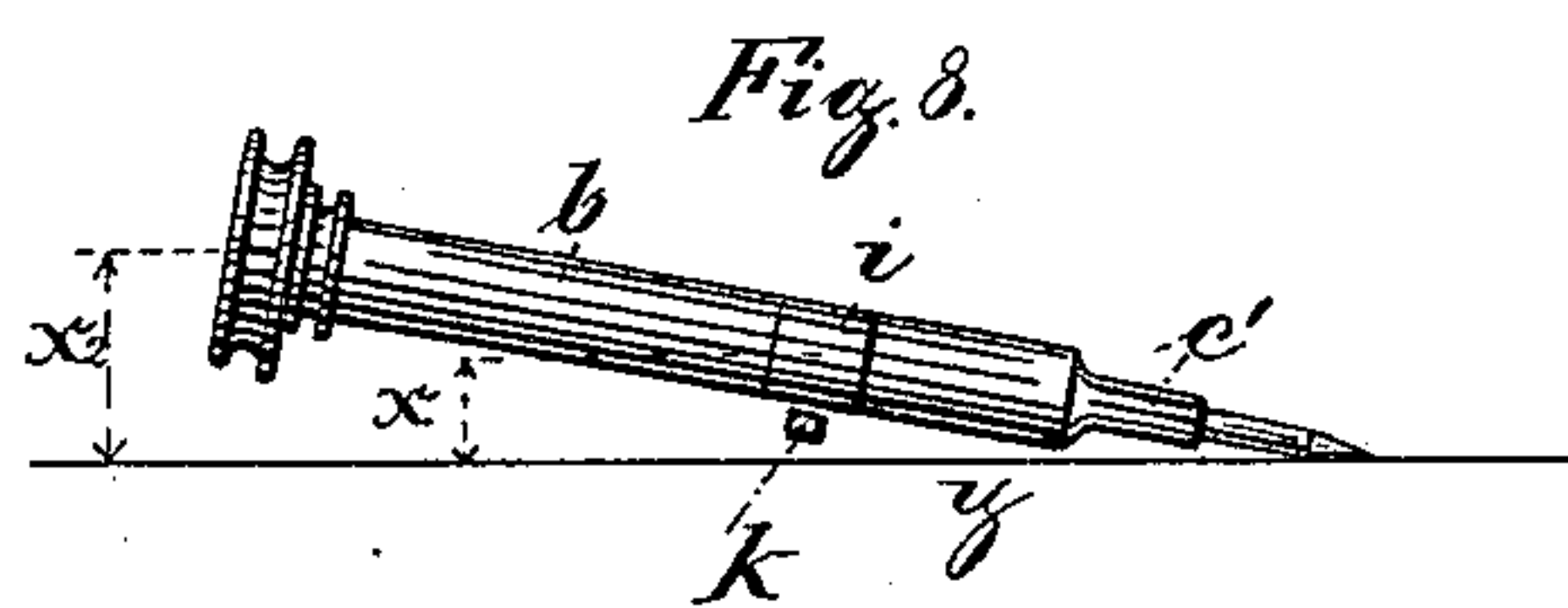
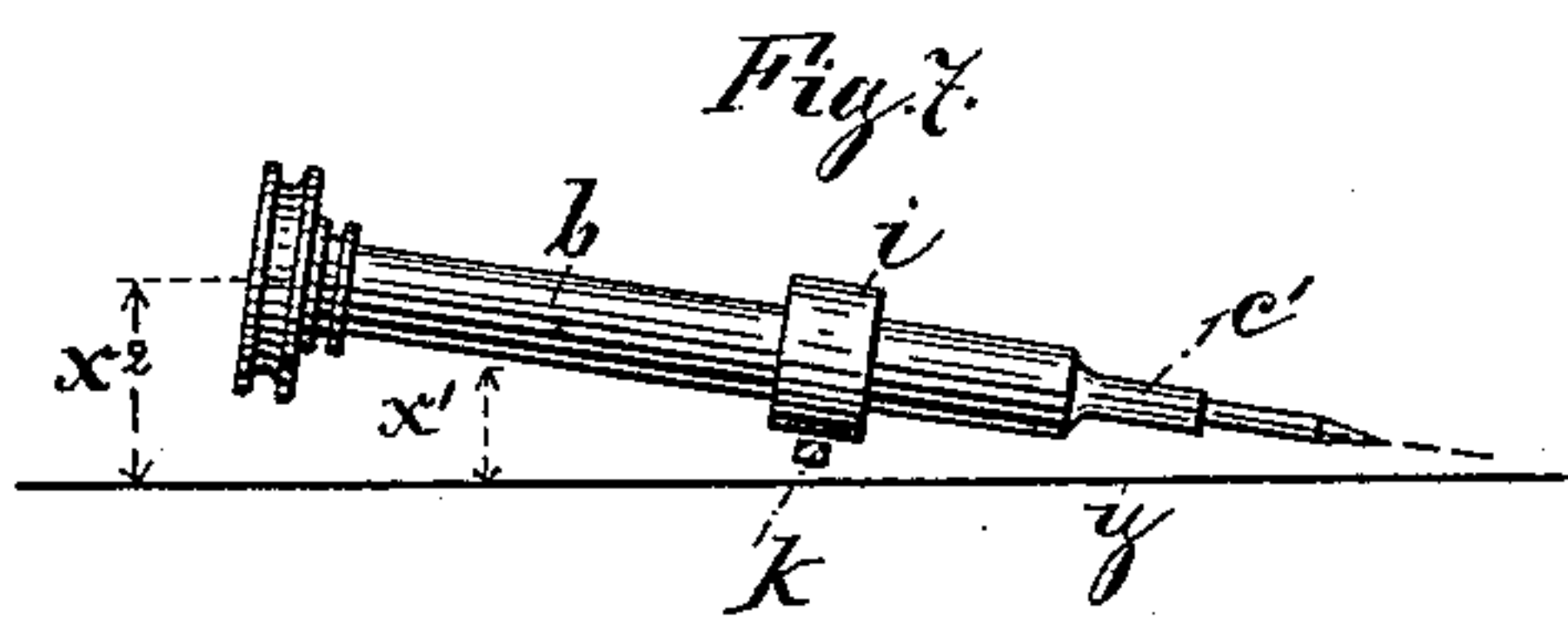
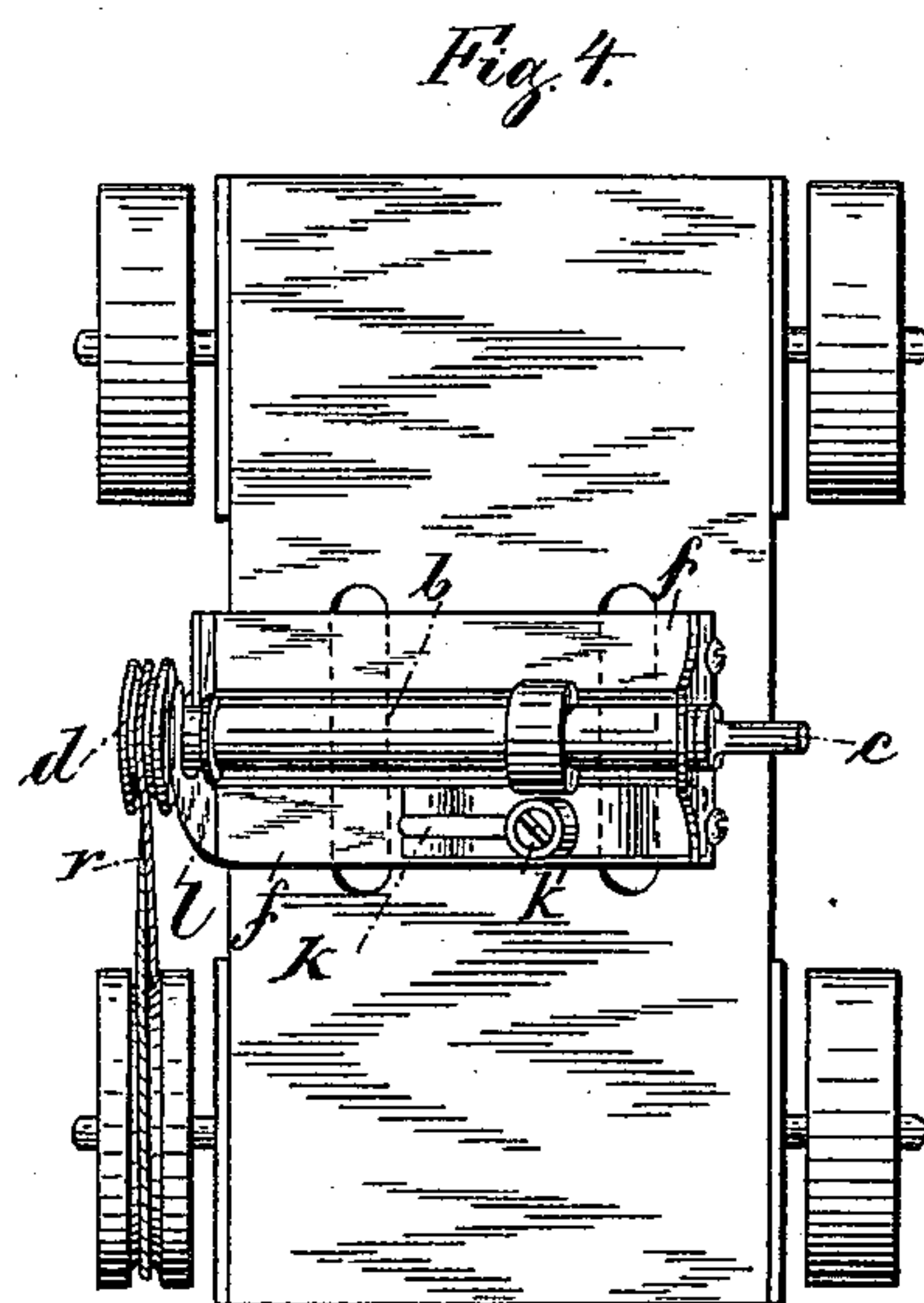
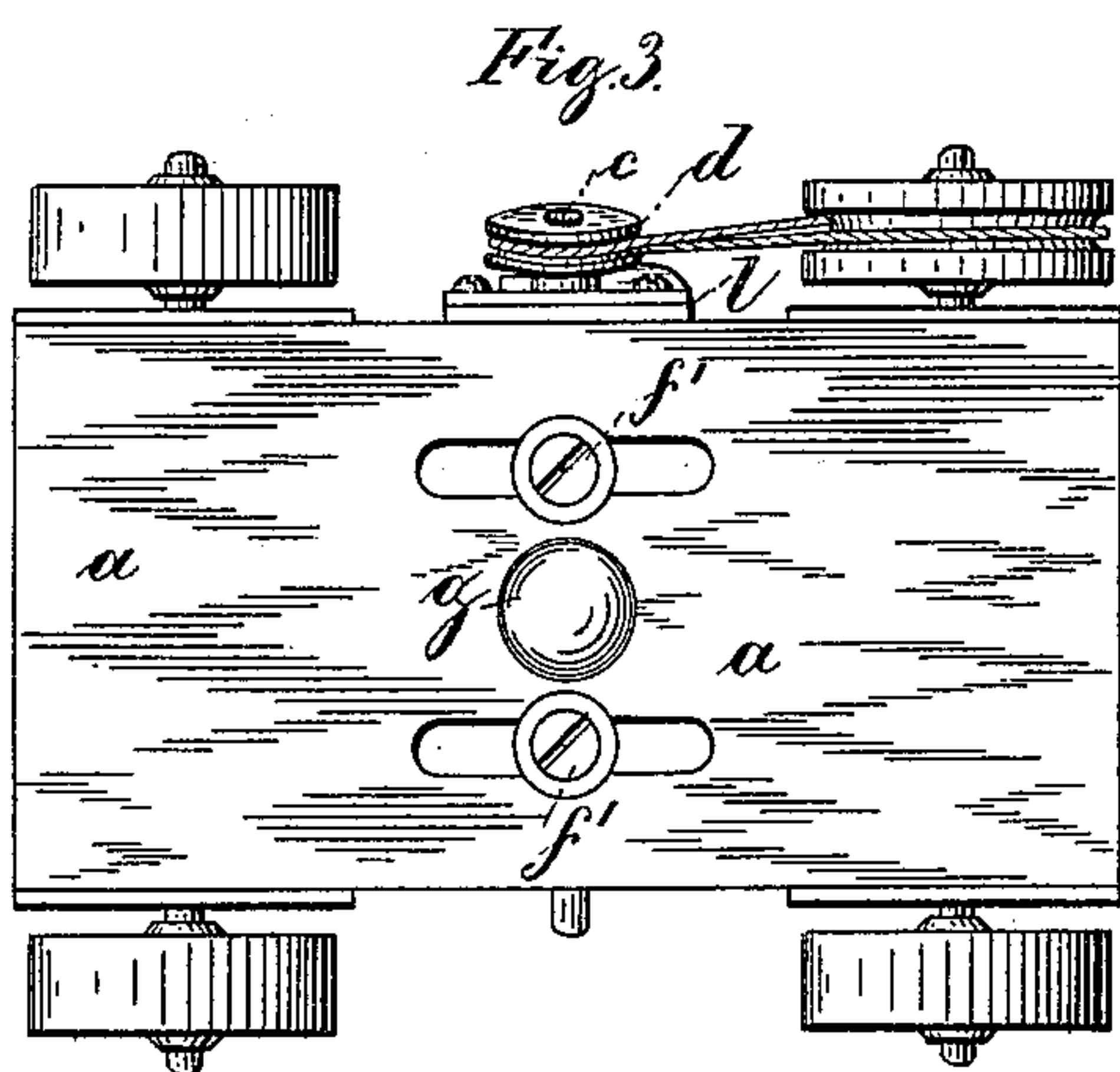
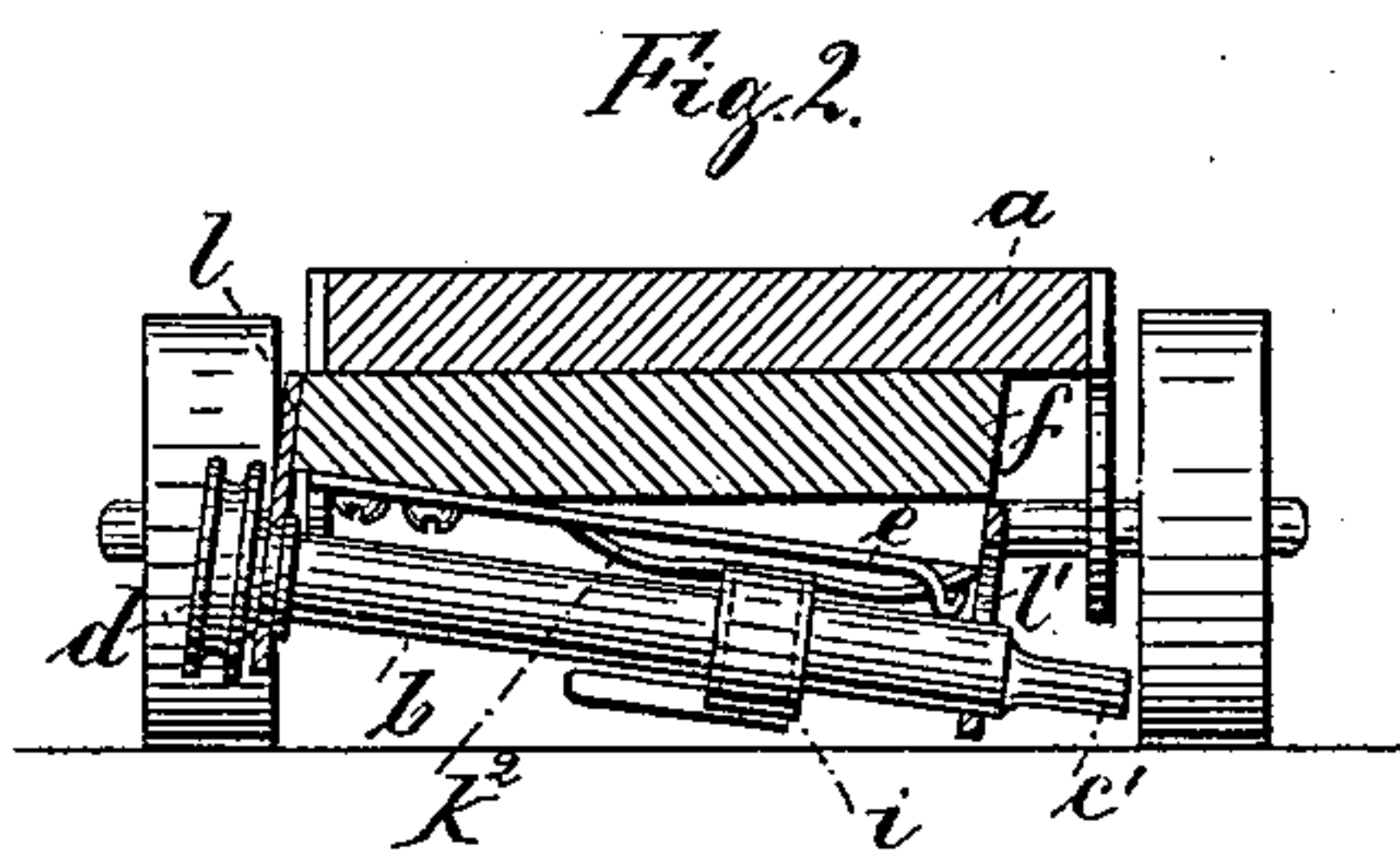
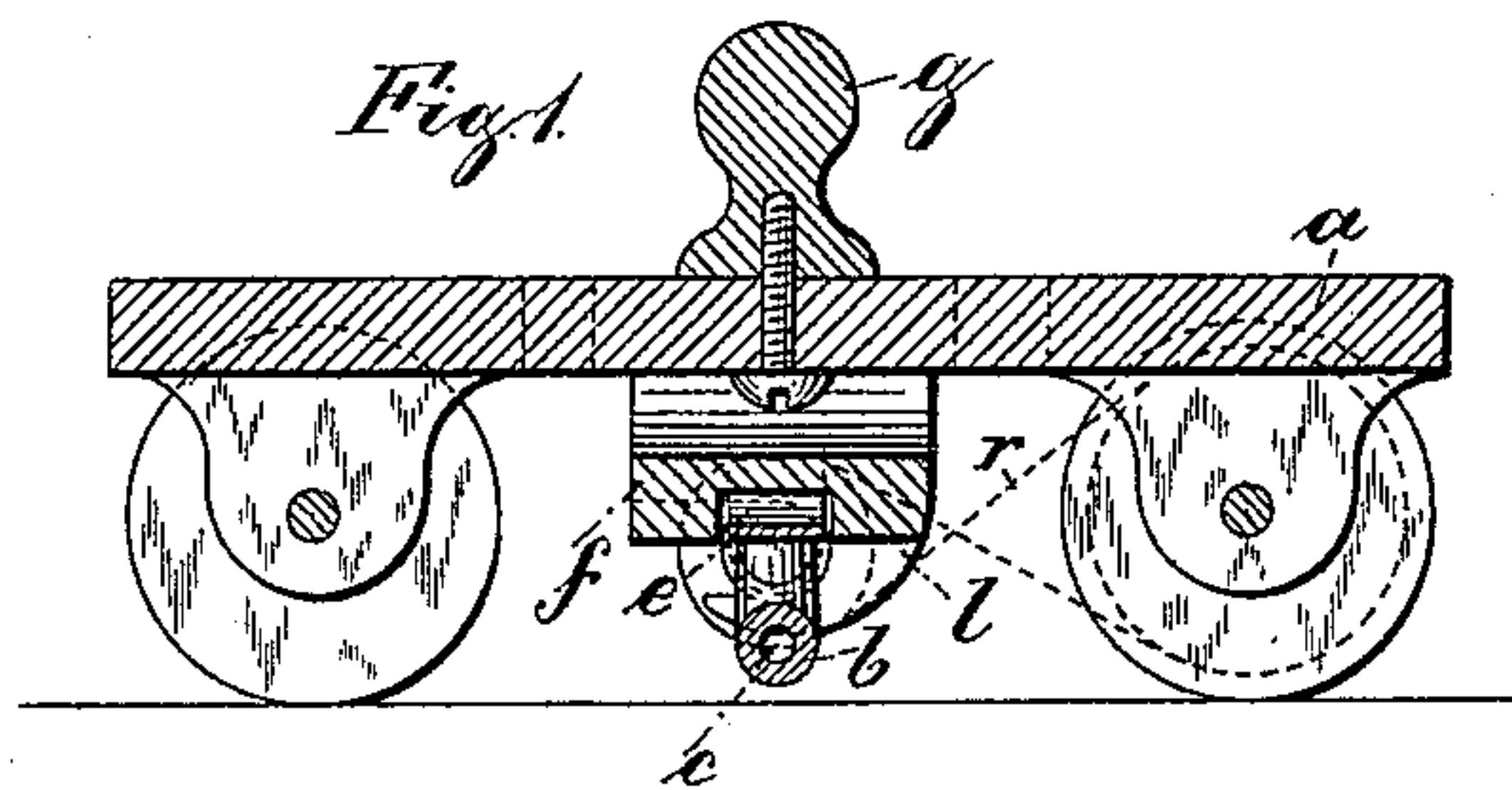


(No Model.)

F. W. SABEL.  
PENCIL SHARPENER.

No. 448,839.

Patented Mar. 24, 1891.



Witnesses.  
Gustav S. Litzmar.  
W. Harvey Muzzy

Inventor.  
Friedrich Wilhelm Sabel  
by  
Wm H T Babcock  
Attorney



# UNITED STATES PATENT OFFICE.

FRIEDRICH WILHELM SABEL, OF COBLENTZ, GERMANY.

## PENCIL-SHARPENER.

SPECIFICATION forming part of Letters Patent No. 448,839, dated March 24, 1891.

Application filed October 28, 1890. Serial No. 369,558. (No model.) Patented in Germany May 26, 1889, No. 50,694, and in France September 23, 1889, No. 200,911.

*To all whom it may concern:*

Be it known that I, FRIEDRICH WILHELM SABEL, a subject of the Emperor of Germany, and a resident of the city of Coblenz, Prussia, Germany, have invented an Improvement in Pencil-Sharpeners, (for which I have obtained Letters Patent in Germany, No. 50,694, dated May 26, 1889, and in France, No. 200,911, dated September 23, 1889,) of which the following is a specification.

The object of the present invention is a pencil-pointer by means of which the point of lead-pencil cores for pantographs can be shaped centrally true; but the apparatus is also appropriate to sharpen engraving-needles for lithographers and chalcographers, as well as to point lead-pencils covered with wood, and also slate-pencils.

Figure 1 shows the apparatus in longitudinal section; Fig. 2, in cross-section; Fig. 3, in a view from above, and Fig. 4 in a view from below. Figs. 5 to 9 are details.

Under the plate *a* of a little four-wheeled carriage is lodged a small tube *b*, Fig. 9, in a slanting position and able to revolve. This tube is adapted to receive the needle or pencil to be sharpened. One end of it is lodged in a lateral cheek *l* in such a way that it can be vertically moved up and down in the guide *l'*, Fig. 2. A rotary motion is imparted to the tube *b* by means of a crossed belt or cord *r*, running over the pulley *d* from one of the wagon-wheels, or by means of cog-wheels when the carriage is moved upon a surface.

The needle or pencil to be pointed passes loosely through the inner space *c* of the tube and is held tight at the lower end in the slit and clamping sleeve end *c'*. The end of the pencil passing beyond *c'* must be drawn out far enough so as to touch the surface upon which the carriage rolls, and against which it is slightly pressed by a spring *e*, the sleeve *e'* being arranged to go up and down in a guide *l'*. By pushing the pencil to be pointed more or less out the shaping-angle can be regulated within the desired limits. If the surfaces upon which the carriage is rolled are made of emery, sand-paper, stone, file-cut, or other surface appropriate for grinding, the

end of the pencil resting upon them will be shaped, and will result in a true conical point. In order to allow also flat-pointing—*i. e.*, to give a flat point to a pencil, as many draftsmen prefer—the tube *b* is provided with an oval collar *i*, which strikes against a finger *k*, pivoted upon *k'*, Figs. 4, 5, and 6. If *k* is so turned that *i*, during the revolutions of tube *b*, can strike the fixed arm or finger *k*, Fig. 5, the tube *b* will be pressed upward in its revolution, Fig. 6. This will be done twice per every revolution from a distance *x* to a greater distance *x'* from the surface *y*; but as *b* has its fulcrum in *l*, Fig. 2, *b* will be led from position Fig. 8 into position Fig. 7, while the distance *x* remains the same in both cases. Thus the pencil-point is lifted off the grinding-surface *y*, and as it is done twice per revolution the result will be a flat point. The finger *k* rests upon a flat spring *k<sup>2</sup>*, and by turning the screw *k'* the height of *k* may be regulated, whereby the form of the flat pencil-point may still be varied.

The piece *f*, carrying the guide-cheeks for pipe *b*, can be displaced on the carriage longitudinally, in order to regulate the tension of the driving-cord. The piece *f* is secured in its correct position by two screws *f'*, Fig. 3, passing through longitudinal slots in the plate *a*. A knob *g* upon the carriage is used as a handle to move the carriage.

I claim—

1. In a pencil-sharpener, the combination of a carriage mounted on wheels with a pencil-holding tube journaled under said carriage at right angles to its motion and in such a manner as to drop one end to the level of the surface upon which said wheels are running; a spring to keep said holder down on said surface, a connection between said holder and one of said carriage-wheels, whereby said holder is rotated, and a roughened surface upon which said carriage moves, all substantially as set forth.

2. In a pencil-sharpener, the combination of a carriage mounted on wheels with a pencil-holder journaled thereto in a slanting position and in such a manner as to allow its angle of inclination to be altered, a connec-

tion between said holder and one of said carriage-wheels, whereby said holder is rotated, an eccentric collar mounted on said holder, a finger pivoted so as to engage with said collar and raise said holder twice during every revolution, and a roughened surface upon which said carriage moves, all substantially as set forth.

In testimony whereof I have hereunto

signed my name in the presence of two subscribing witnesses.

FRIEDRICH WILHELM SABEL.

Witnesses:

J. C. SOMES,

*Kfur. u. Stadtverordnete,*

WILH. HEIN. HARTMANN,

*Kfur.*