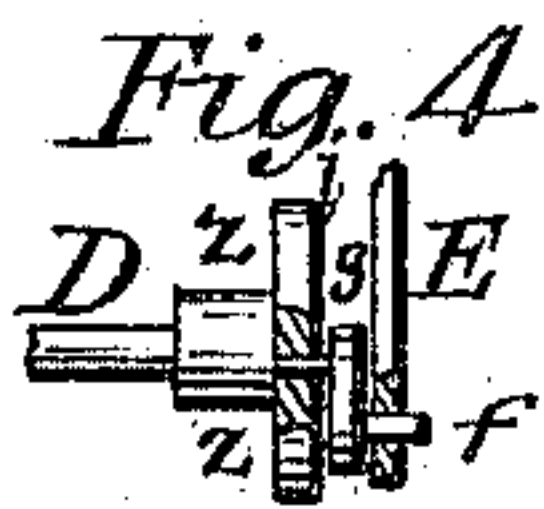
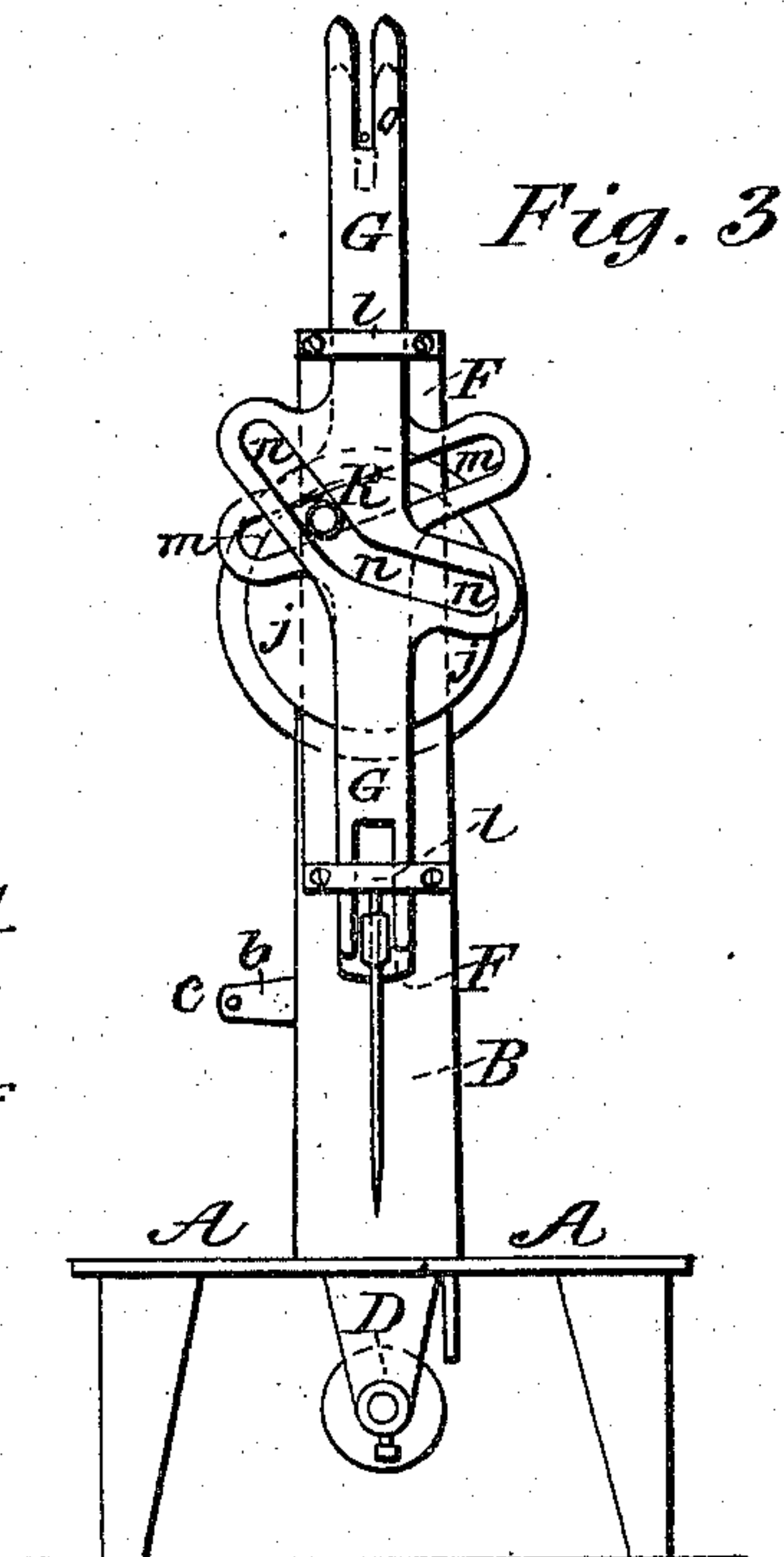
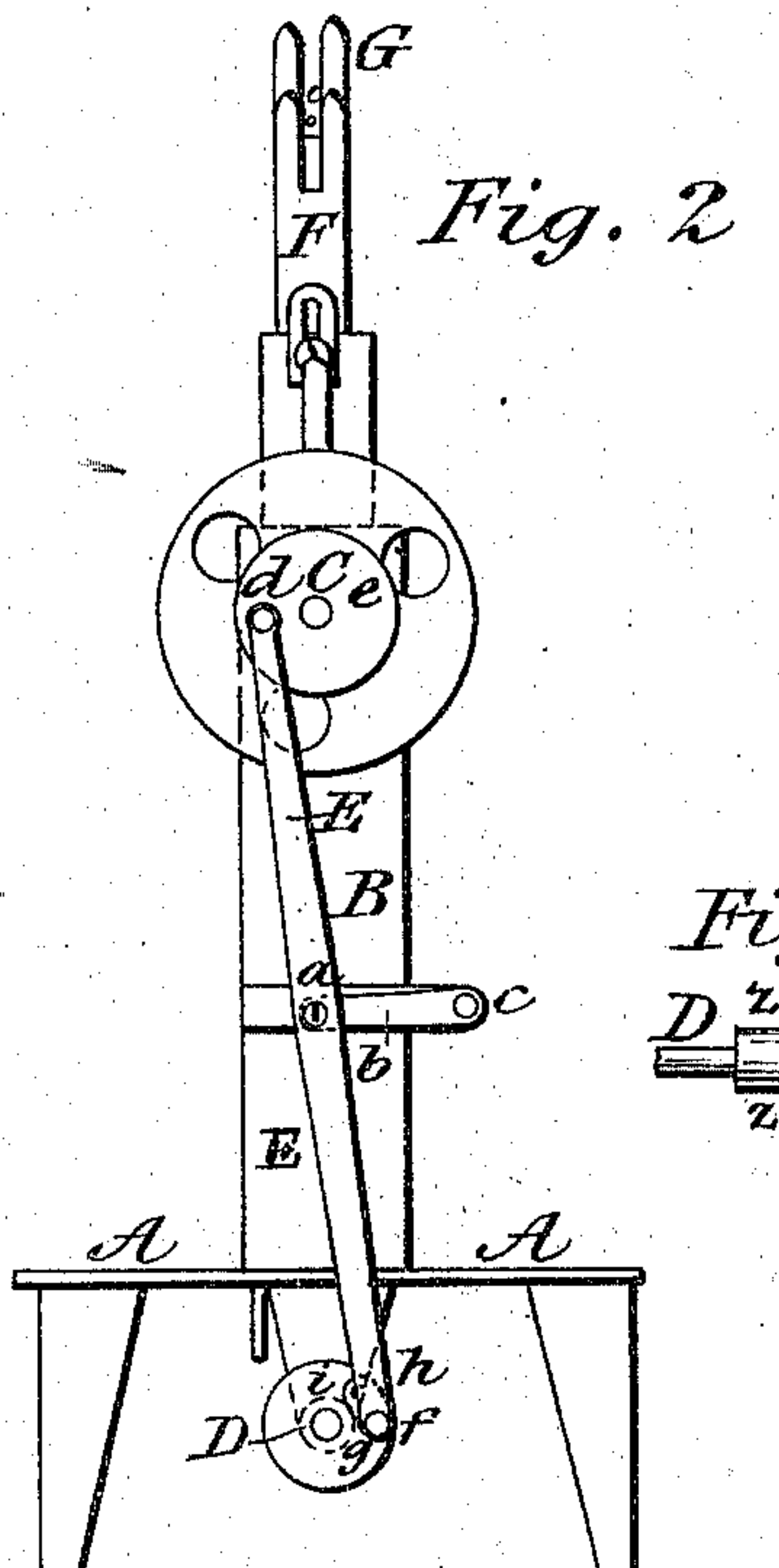
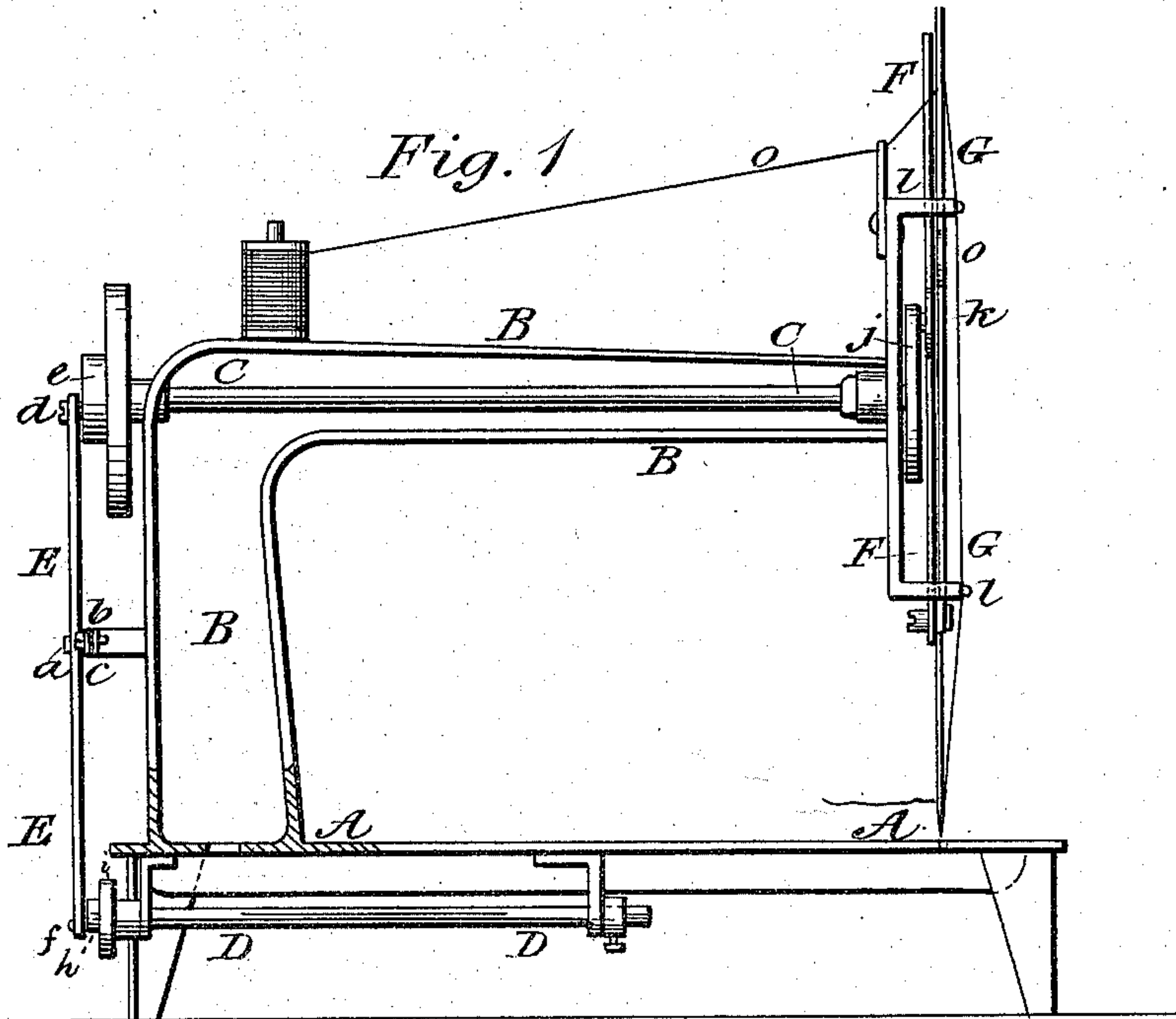


M. C. HAWKINS.
Sewing Machine.

No. 95,019.

Patented Sept. 21, 1869.



Witnesses:
J. H. Decker
D. H. Brooks

Inventor:
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UNITED STATES PATENT OFFICE.

M. C. HAWKINS, OF EDINBOROUGH, PENNSYLVANIA.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. 95,019, dated September 21, 1869.

To all whom it may concern:

Be it known that I, M. C. HAWKINS, of Edinborough, in the county of Erie and State of Pennsylvania, have invented a new and useful Improvement in Sewing-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 represents a side and partial sectional elevation of a sewing-machine provided with my improvements. Fig. 2 is a rear elevation of the same. Fig. 3 is a front elevation of the same. Fig. 4 is a detail sectional view of the pitman-connection of the lower shaft.

Similar letters of reference indicate corresponding parts.

This invention relates to certain improvements on the sewing-machine for which I filed an application for Letters Patent on the 12th day of September, 1868.

The present invention consists, first, in a novel manner of arranging and operating the take-up bar, and of combining it with the needle-bar, so as to operate in conjunction with the same; and it also consists in the combination of a peculiar operating device with said needle and take-up bars, as hereinafter fully specified.

A in the drawings represents the cloth-plate of the machine, supporting the frame B for the upper machinery, as usual.

C represents the upper shaft for driving the needle-bar. D is the lower shaft for driving the shuttle. The shaft C has its bearings in the support B, while D is arranged under the cloth-plate, as shown. The shaft C receives its motion, by belt or otherwise, from the driving-gear of the machine, and transmits motion to the lower shaft, D, by means of a pitman, E. This pitman is, at or near its middle, pivoted by a pin, *a*, to a swinging arm, *b*, which is at *c* pivoted to an arm extending from the upright part of the support B, as is clearly shown in Fig. 2. The upper end of the pitman is connected by an eccentric pin, *d*, with a wheel or crank, *e*, mounted on the shaft C. The lower end of the pitman is pivoted by a pin, *f*, to a short bar or crank, *g*, which is,

by a pin, *h*, fitted eccentrically to a wheel or crank, *i*, mounted on the shaft D, all as shown in Figs. 2 and 4. The whole pitman is, by its jointed connections *a b* and *f g h*, made, so to say, flexible, so that it will readily overcome the dead-centers, the bar *g* swinging on its pivot *h* to adjust itself to every new position of the pitman. The leverage action thus imparted to the pitman aids materially in overcoming the strain otherwise experienced in pitman-connections, and makes the same as convenient as a belt-connection, without sharing the disadvantages of the latter.

A wheel, *j*, is mounted on the front end of the shaft C, and carries an eccentric pin, K, which projects through slots in the needle-bar F and in the take-up bar G. These two bars F and G work both in the same boxes, *l l*, in front of the support B. The needle-bar has a straight slot, *m*, which is at an angle of about thirty degrees to the horizontal plane, and which extends about equally far from both sides of the bar, as shown in Fig. 3. When the needle-bar is at its greatest elevation the pin K will be in the middle of its slot *m*, and will, when moving down, work in the lower part of the slot, so as to give the needle in the beginning but a slow downward motion. In forming the loop, however, the needle will be elevated rapidly as the pin K moves up in the upper part of the slot *m*, and the loop will therefore be quickly closed to avoid entangling of threads under the cloth-plate. The take-up bar G has an angular slot, *n*, inclined in an opposite direction to the slot *m*, as shown in Fig. 3. When the needle moves down the take-up bar will, while the pin K passes to the highest point of its slot *n*, be also lowered to give the requisite slack; but during the other half of the downward motion the take-up bar will remain almost stationary. During the first half of the upward motion of the needle-bar the take-up bar will be rapidly raised as the pin K passes from the middle to the lower end of the slot *n* to produce the requisite tension; but while the needle moves rapidly up during the latter half of the upward stroke the take-up bar remains almost stationary, so as not to interfere with the formation of the loop by the needle.

The thread *o* passes through an aperture or

notch formed on the upper part of the take-up bar G, as is clearly shown in the drawings.

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

1. In combination with the needle-bar F and take-up bar G, the shaft C, crank-pin K, pitman E, crank *g*, crank-wheels *e* and *i*, and arm *b*, all arranged and operating together, as set forth and shown.

2. The combination of the needle-bar F, having the inclined slot *m*, with the take-up bar G, which has the angular slot *n*, as described, and with the crank-pin K on the shaft C, all arranged and operating substantially as herein shown and described.

M. C. HAWKINS.

Witnesses:

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