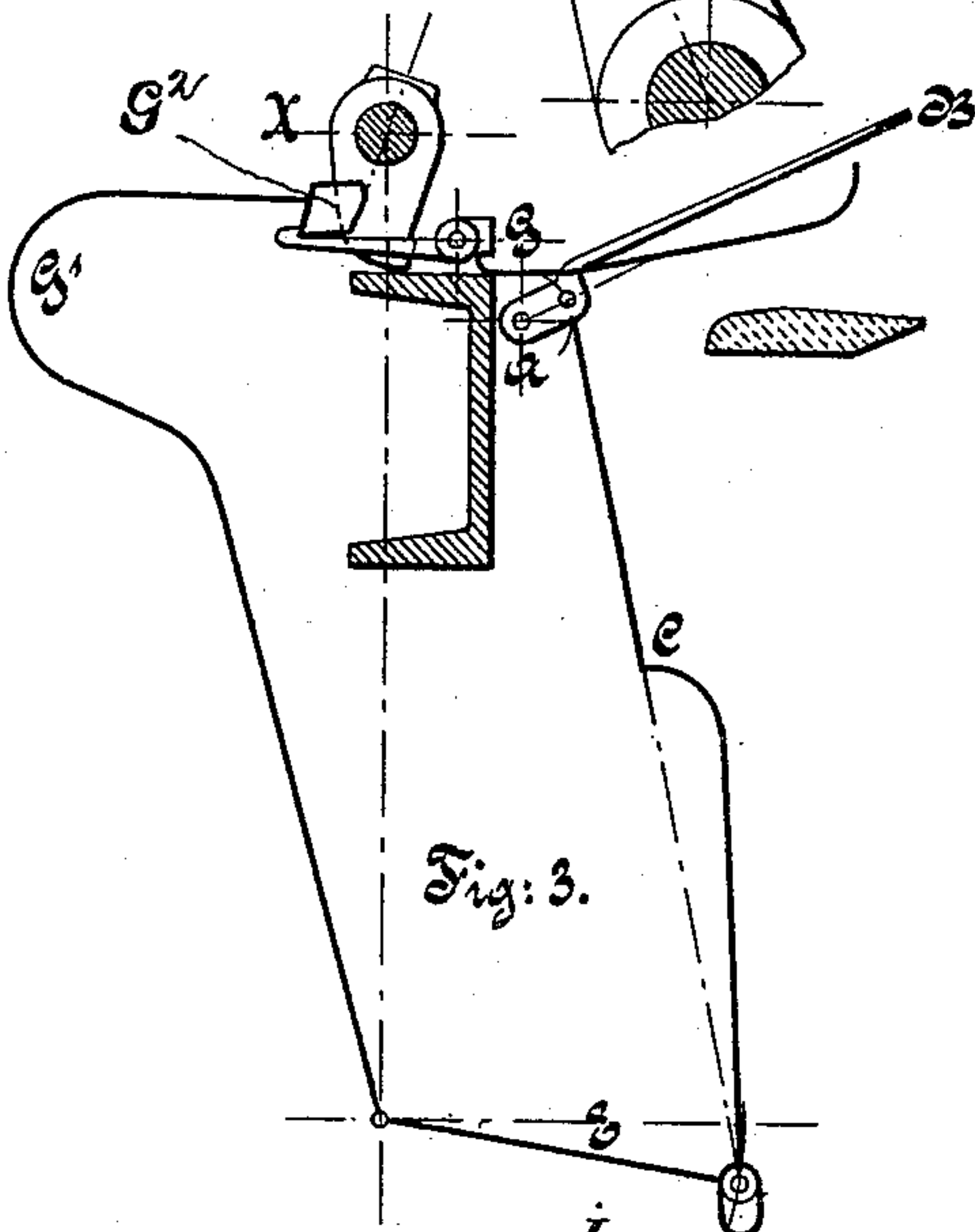
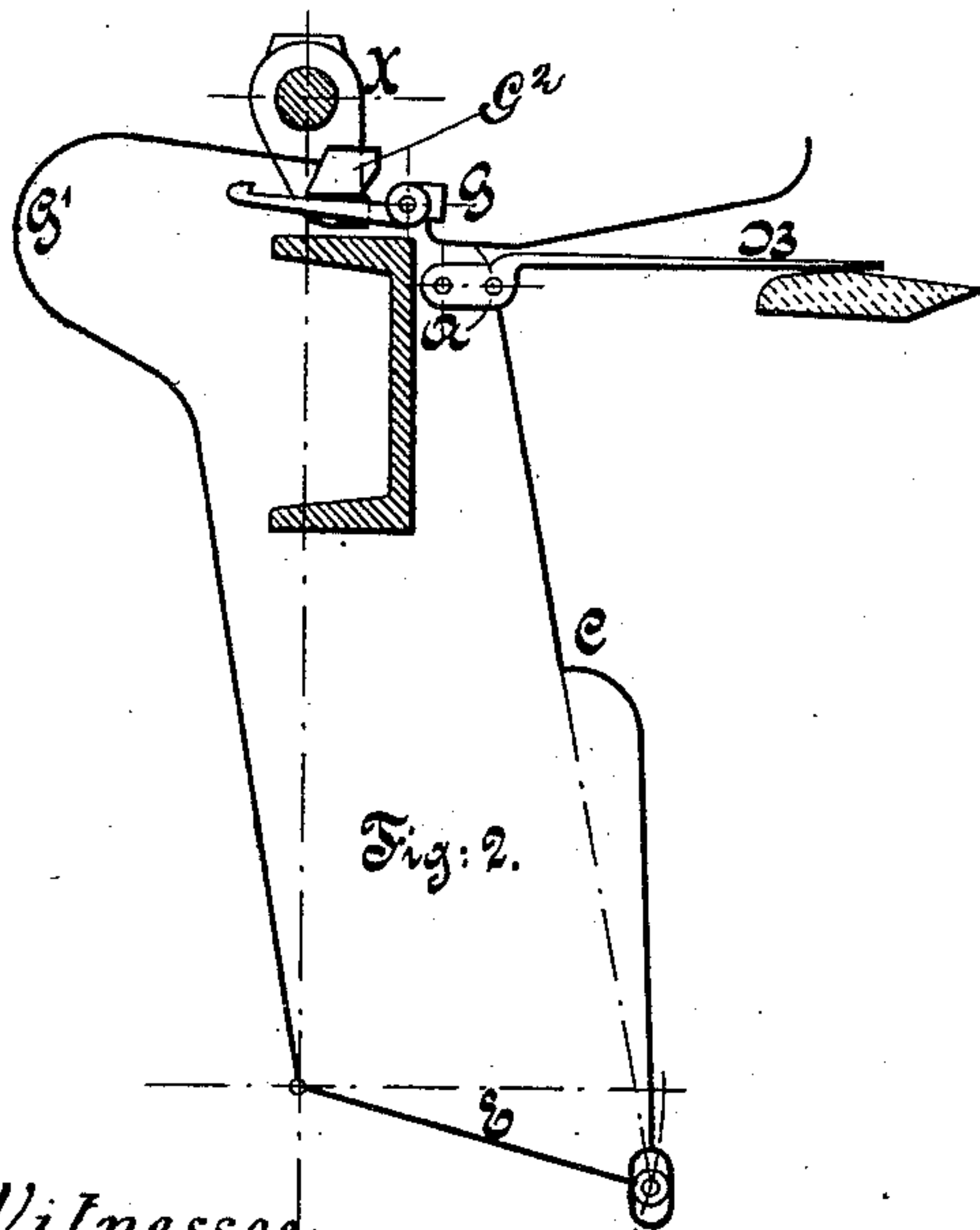
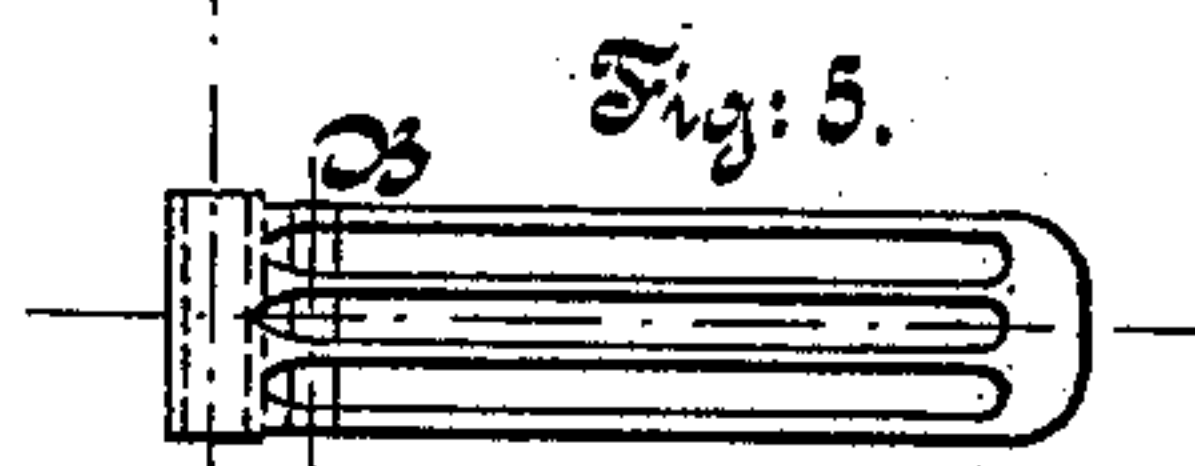
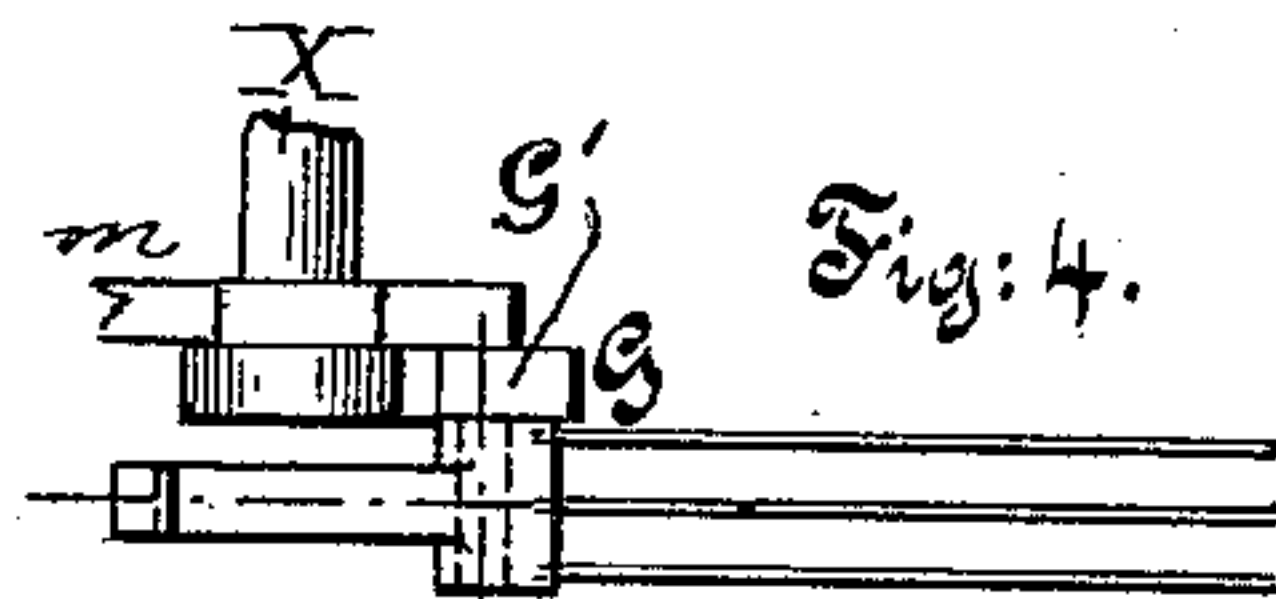
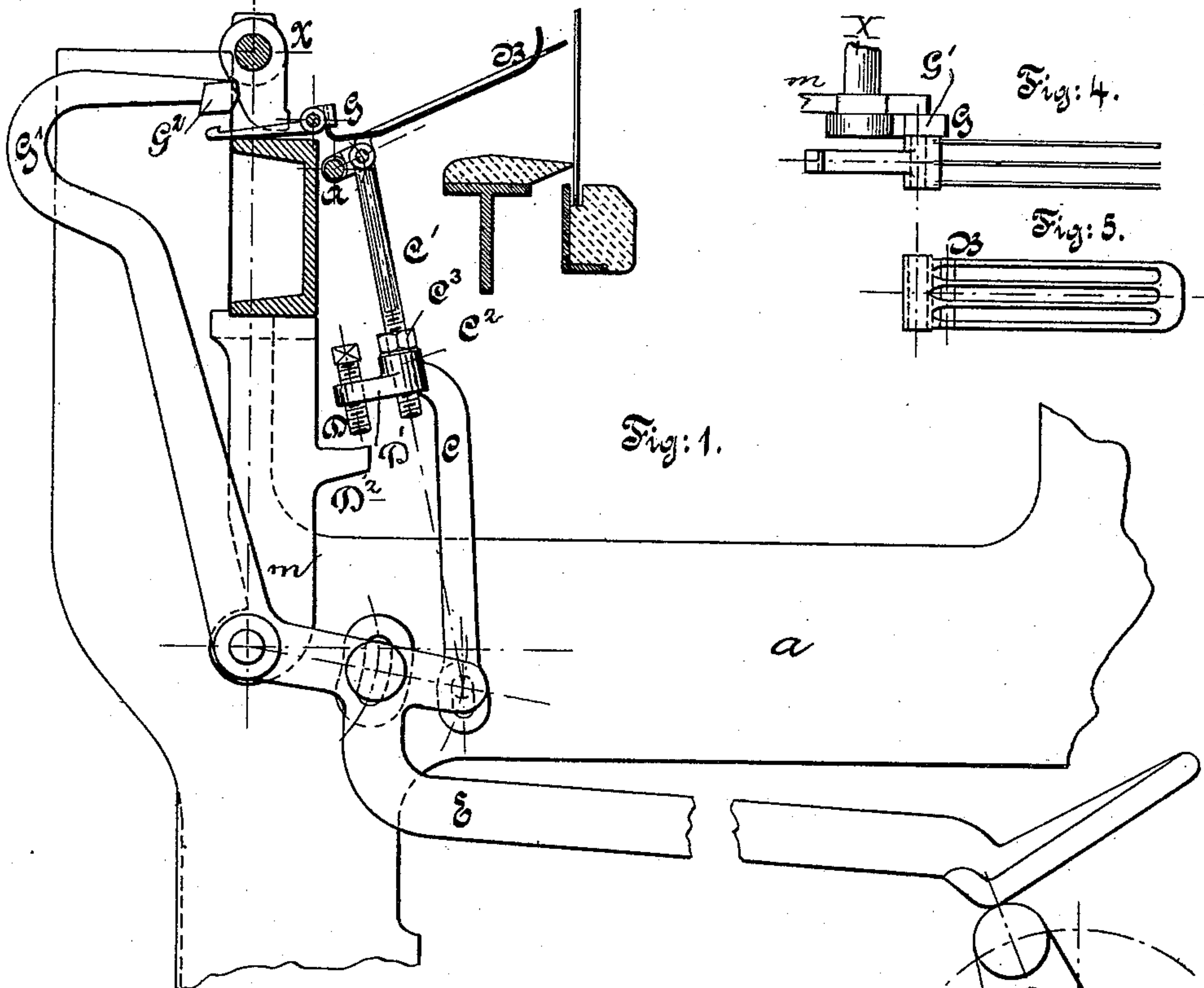


J. H. THALMANN.
STOP MOTION FOR LOOMS.

No. 424,908.

Patented Apr. 1, 1890.



Witnesses:
George A. Hooster
Dennett S. Jones

Inventor:
Julius H. Thalmann
by Louis Baggerly
his atty.

(No Model.)

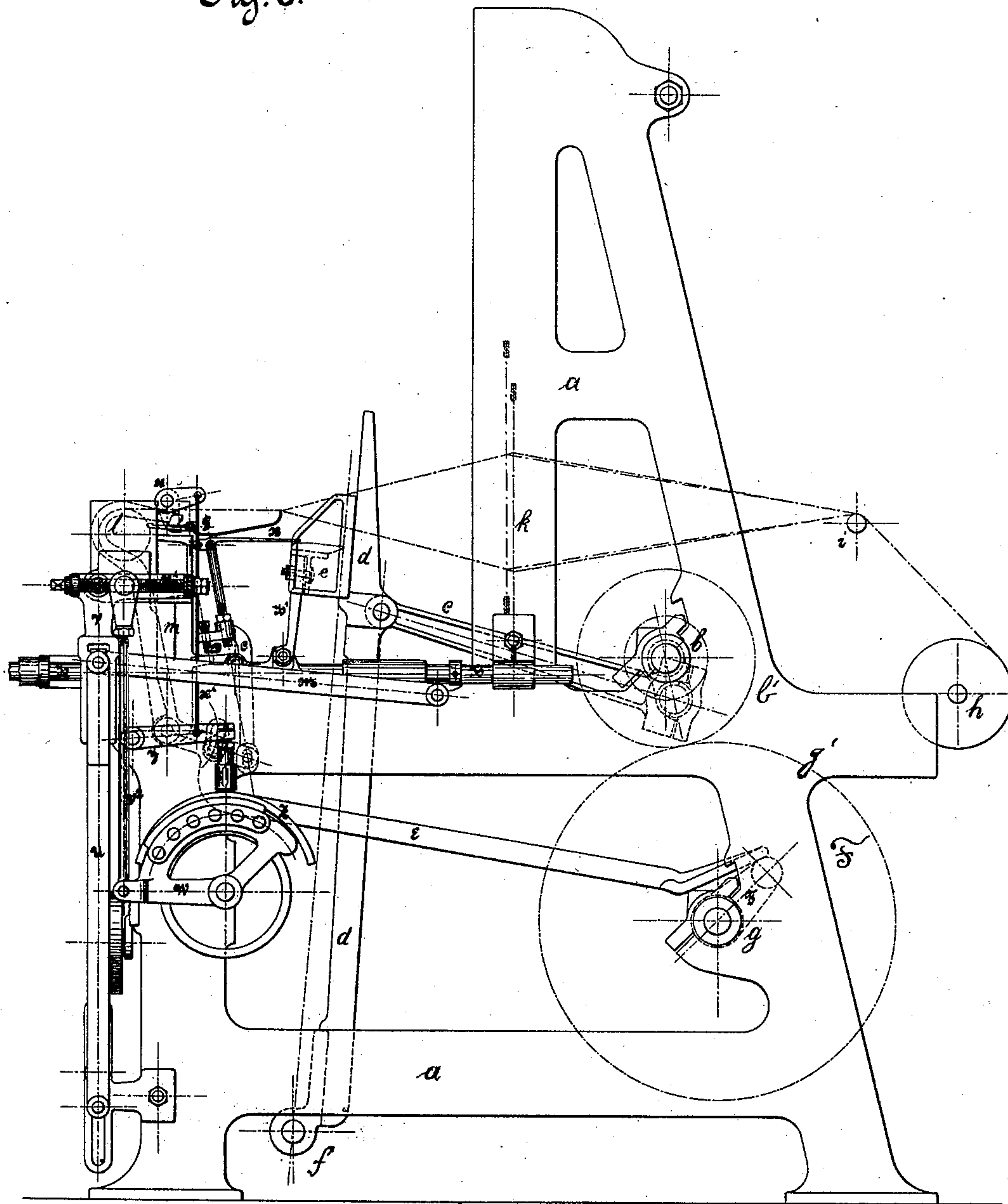
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Fig. 6.



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UNITED STATES PATENT OFFICE.

JULIUS HEINRICH THALMANN, OF FRAUENFELD, SWITZERLAND, ASSIGNOR
TO F. MARTINI & CO., OF SAME PLACE.

STOP-MOTION FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 424,908, dated April 1, 1890.

Application filed October 19, 1888. Serial No. 288,575. (No model.)

To all whom it may concern:

Be it known that I, JULIUS HEINRICH THALMANN, a citizen of the Republic of Switzerland, residing at Frauenfeld, in the Republic of Switzerland, have invented certain new and useful Improvements in Stop-Motions for Looms, (which have not been patented to myself or to others with my knowledge or consent in any country,) of which the following is a specification.

This invention relates to weft-detecting mechanism for looms, the object being to provide means whereby in the event of the weft breaking or becoming exhausted the machine may be automatically stopped.

The invention consists in the several novel features of construction and combinations of parts hereinafter fully described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a side view of a portion of a loom, with various parts shown in section, illustrating my invention. Figs. 2 and 3 are diagrammatic views of the parts shown in Fig. 1 in different positions. Fig. 4 is a plan view of the weft-fork, showing the same attached to its slide. Fig. 5 is a plan view of the grid. Fig. 6 is a side view of a loom with my improvements attached.

Referring to Fig. 6, the reference-letter *a* designates the frame of the loom, and *b* the crank-shaft, which gives by means of the rods *c* an oscillating motion to the lathe *e*, the latter being supported by the swords *d* on the shaft *f*. *g* is the lower shaft, which carries the cams for actuating the shuttle, and is connected with the crank-shaft *b* by cog-wheels *g'* *b'*, having diameters in the proportion of two to one. On the beam *h* is wound the warp, which extends over the rod *i* to the heddles *k*, which can be actuated by any suitable mechanism to form the shed. The finished cloth is led over the beam *l* to the cloth-beam upon which it is wound.

The weft-detector devices are mounted on the supports *m* on the frame of the machine. Such devices are constructed and operated as follows: On each side of the breast-beam is located a grid *B*, each of which is pivoted thereto by the bolt *A*. In the position shown in Fig. 2 the grid *B* (for convenience I shall

describe but one grid and its connected parts) is horizontal and projects over the lathe, which is in an intermediate position in its movement in such a way that the weft laid by the shuttle is compelled to lie upon the grid. Each grid has connected with it a two-part rod *C C'*, the part *C* being provided at its upper end with a shoulder *C²*, having a screw-threaded aperture therethrough, in which fits the screw-threaded end of the part *C'*, and *C³* is a binding-nut on rod *C'*. The two-part rod can be adjusted as to length, as will be readily apparent. The grid is operated by the two-part rod *C C'* and lever *E*, to which said rod is pivoted at its lower end with provision for play, said lever being moved by a cam *F* on shaft *g*, and receives thereby an oscillating motion in such manner that at one revolution of the crank-shaft the grid on the left side is raised and at the following revolution of the crank-shaft the grid on the right side. The upper end *G'* of lever *E* is curved and extended rearwardly, as shown, and carries a hook *G²*.

When the weft is continuous, and consequently the loom is working normally, the thread, following the movement of the grid *B* as the latter is lifted, will raise the rear end of the pivoted weft-fork *G* and lower the hooked front end thereof, and consequently the hook *G²* on the end of lever *E* is allowed to move forward without effect, as shown in Fig. 1. If, on the contrary, the weft fails—that is to say, if it is broken or exhausted—the weft-fork *G* will not be raised by the grid *B*, and then the hook *G²* will engage the hook-shaped front part of the weft-fork *G*. The weft-fork *G*, which is mounted upon a slide *G'* in the ordinary manner, is drawn backward and communicates its motion to an arm on the rock-shaft *X*, as shown in Fig. 3. This movement of the shaft *X* will in practice be utilized to cause the machine to stop work by actuating suitable releasing mechanism. I do not claim nor limit myself to any particular description of releasing mechanism, my invention consisting, essentially, in the mechanism by which the rock-shaft *X* is actuated.

The amount of movement of each grid *B* can be regulated exactly by means of the fine screw *D*, which is mounted in the extension

D' of the shoulder C², said screw passing through a screw-threaded aperture therein. The lower end of this screw abuts against the projection D² on the supports *m*, so that by
5 raising or lowering said screw the movement of the grid may be controlled. The loom will be started again in the ordinary manner after inserting a new bobbin by a reverse movement of the bar-shaft X, which can be effected
10 in the ordinary or any suitable manner, and which will cause the hook G² to be disengaged from the hooked end of the weft-fork and allow the rear end of the latter to be lifted and the hooked end depressed, as in Fig. 1.

15 Having thus described my invention, what I claim is—

1. In a loom, the combination of a lever, an oscillating rod pivoted thereto, a grid oper-

ated by the rod, a hook on the lever, a weft-fork adapted to be engaged by the said hook, 20 and a cam for operating the lever, substantially as described.

2. In a loom, the combination of a lever, an operating-cam therefor, an oscillating rod pivoted to the lever, a grid operated by the rod, 25 and a set-screw for regulating the downward movement of the grid, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscrib- 30 ing witnesses.

JULIUS HEINRICH THALMANN.

Witnesses:

EMIL BLUM,

WILLIAM SCHNEIDER.