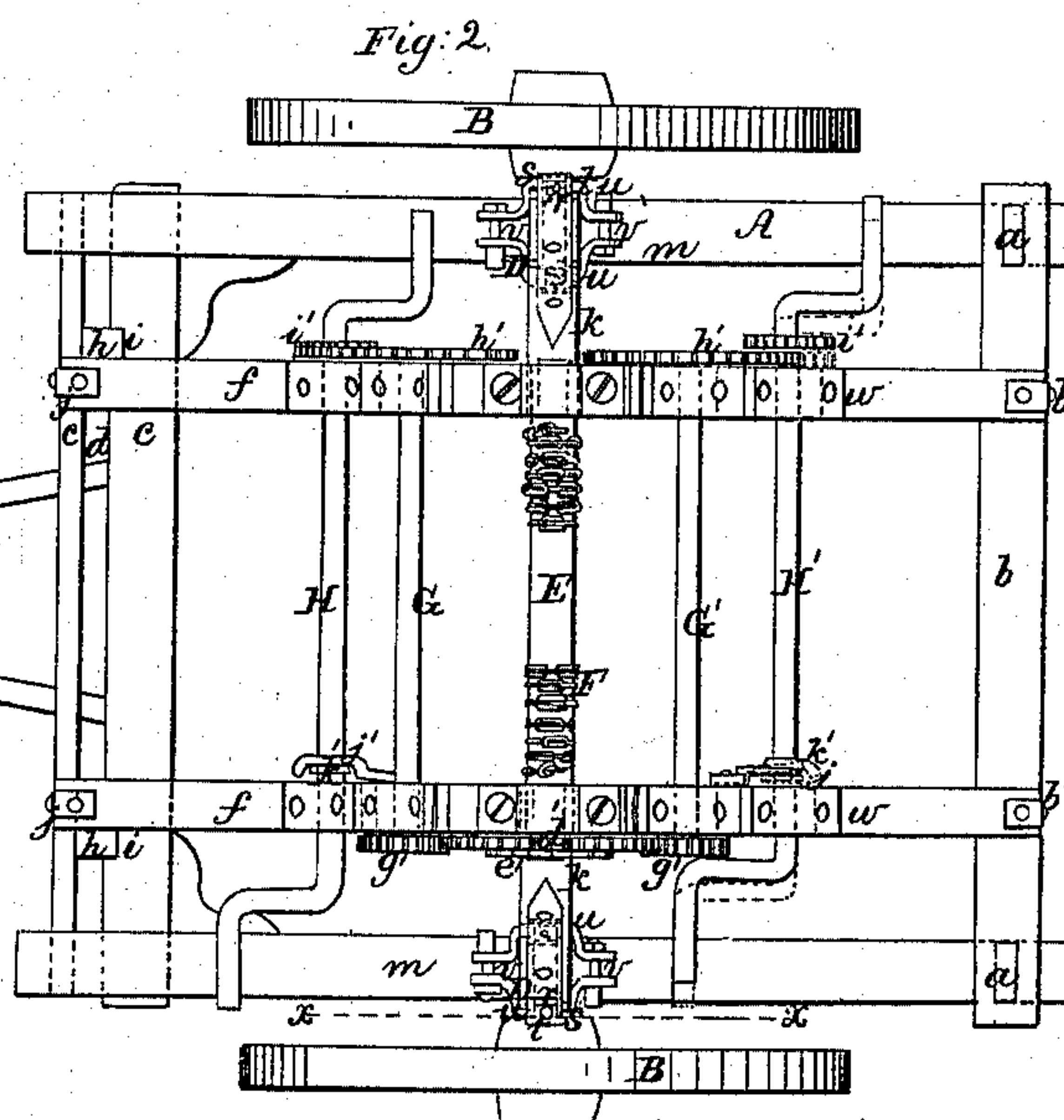
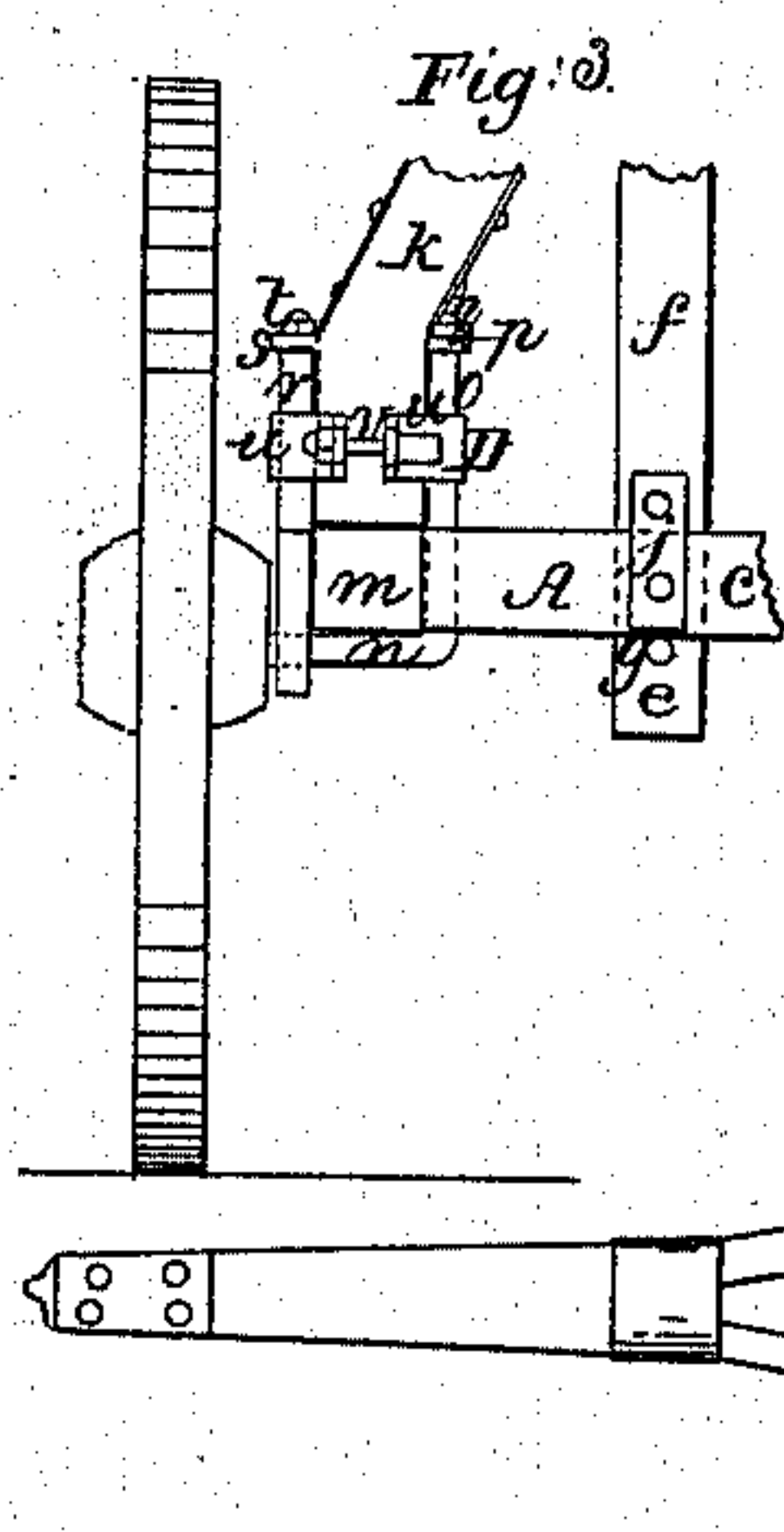
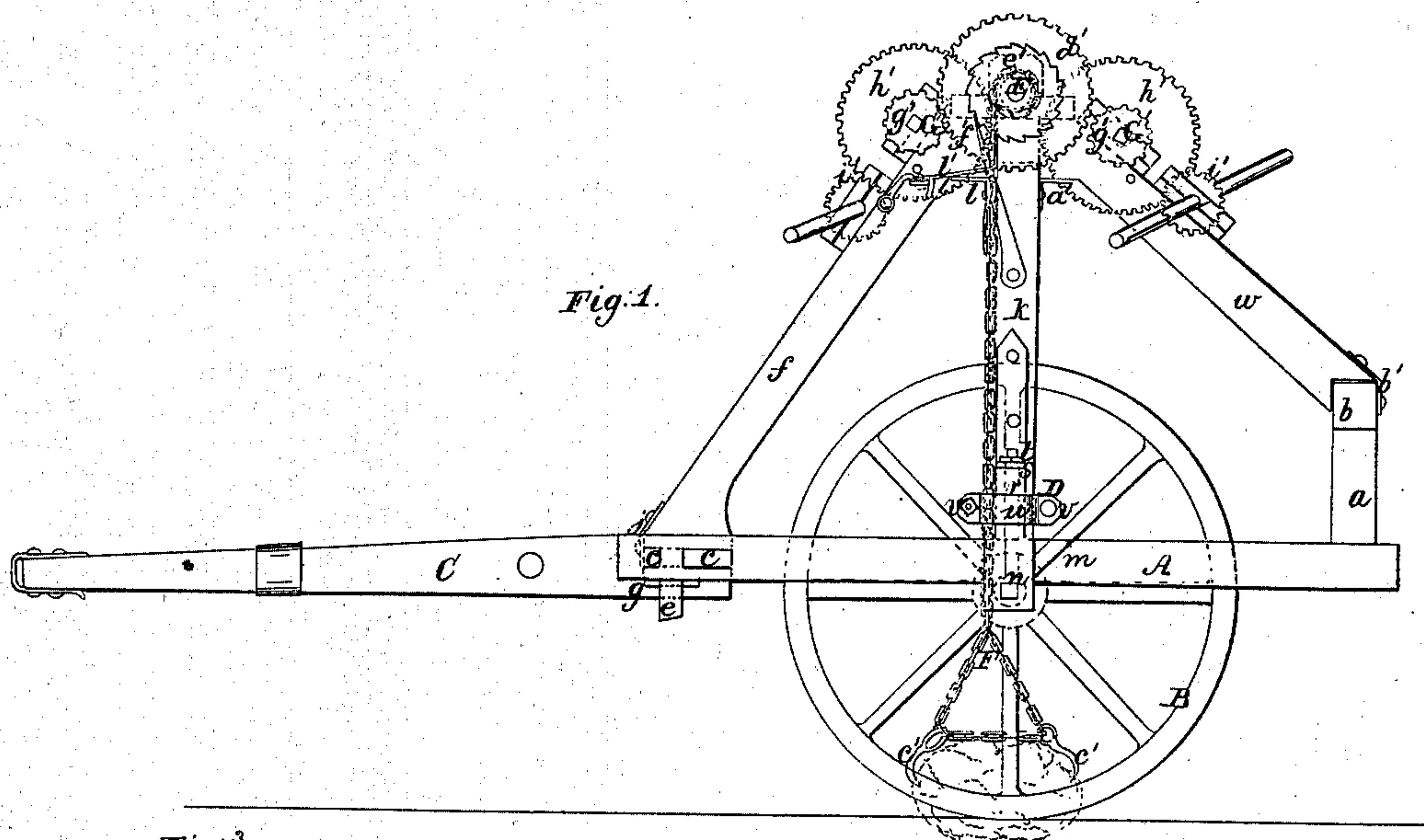


R. T. HATHAWAY.  
RAISING AND TRANSPORTING STONE.

No. 35,607.

Patented June 17, 1862.



Witnesses;  
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# UNITED STATES PATENT OFFICE.

R. T. HATHAWAY, OF NEW BEDFORD, MASSACHUSETTS.

## IMPROVEMENT IN RAISING AND TRANSPORTING STONES.

Specification forming part of Letters Patent No. 35,607, dated June 17, 1862.

*To all whom it may concern:*

Be it known that I, R. T. HATHAWAY, of New Bedford, in the county of Bristol and State of Massachusetts, have invented a new and Improved Machine for Raising and Transporting Stones; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side view of my invention; Fig. 2, a plan or top view of the same; Fig. 3, a front view of a portion of the same.

Similar letters of reference indicate corresponding parts in the several figures.

The object of this invention is to obtain a machine by which stones may be raised from the earth and transported from place to place with great facility, and at the same time be perfectly strong and durable, so as to resist the great strain to which it may be subjected in raising the stones, and to sustain them when raised.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents a rectangular frame, which is mounted centrally on two wheels, B B, and provided with a draft-pole, C, at its front part.

To the back end of the frame A there are attached two short uprights, *a a*, the upper ends of which are connected by a cross-bar, *b*, and at the front end of the frame A there are two cross-bars, *c c*, with a space, *d*, between them to receive the tenons *e* of inclined struts *f f*, the lower ends of which are secured firmly down on the cross-bars *c c* by keys *g*, passing through the tenons underneath the bars, as shown clearly in Fig. 1. Vertical keys *h* may also be driven down between the bars *c c*, the back parts of said keys being fitted in recesses *i* in the back bar *c* to prevent the outward lateral shifting of the struts. (See Fig. 2.) The lower ends of the struts are still further secured in position by metal clips *j*, attached to the front bar *c* and to the struts, as shown in all the figures. The upper ends of the struts *f f* are connected to the upper ends of inclined struts *k k* by metal brackets *l*, (shown in Fig. 1,) and the lower ends of the struts *k k* are connected centrally to the side pieces, *m m*, of the frame A, as follows: The arms *n n* of the wheels B B pass horizontally under the

side pieces, *m m*, of the frame A, and are bent upward at their inner parts, as shown at *o*, so as to bear against the inner sides of the struts *k k*, as shown in Fig. 3. The upper ends of the inner parts, *o*, of the arms *n n* pass through plates *p*, attached to the inner sides of the struts, and have screw-nuts *q* on them. At the outer sides of the lower parts of the struts there are vertical metal bars *r r*, the lower ends of which are perforated for the arms *n n* of the wheels to pass through, and the upper ends of the bars *r r* pass through metal plates *s s*, attached to the outer sides of the struts *k k*, and have nuts *t* on them. The back or inner parts, *o*, of the arms *n n* and the bars *r r* at the outer sides of the struts are clamped firmly to the struts by clips D, which are each formed of two bars, *u u*, connected at their ends by screw-bolts *v*. By this arrangement the lower ends of the struts *k k* are firmly attached to the side pieces, *m m*, of the frame A.

The struts *k k* are supported at their back sides by inclined struts *w w*, which are connected at their upper ends to the upper ends of the struts *k k* by metal brackets *a' a'*, the lower ends of struts *w w* being fitted on the cross-bar *b*, and secured thereto by metal clips *b'*.

This mode of constructing the framing of the machine renders it very strong and durable, an essential feature in a machine of this kind, where great strength is required with as little weight as possible. The securing of the struts *k k* to the side pieces, *m m*, of the frame A, as shown, not only firmly connects said struts to the side pieces, *m*, but also secures the arms *n* to the framing and adds greatly to the strength of the machine.

On the upper part of the framing there is placed a shaft, E, to which a hoisting-chain, F, is attached, having hooks *c'* at its lower end. The shaft E has a toothed wheel, *d'*, at one end of it, and also a ratchet, *e'*, the latter being in close contact with the former. The ratchet *e'*, when the machine is at work, has a pawl, *f*, engaged with it. (See Fig. 1.)

G G' are two shafts the bearings of which are attached, respectively, to the struts *f f w w*. These shafts have each at one end a pinion, *g'*, on them, both of which gear into the wheel *a'* of shaft E. On the opposite ends of the shafts G G' there are placed toothed wheels *h'*, into which pinions *i'* on shafts H H' may be made to gear when desired, or be thrown



out of gear by shoving the shafts *H H'* in their bearings, which are on the struts *f w*. The shafts *H H'* are held in position to keep the pinions *i'* both in gear or out of gear with the wheels *h'* by means of buttons *j'*, attached to the framing and bearing against collars *k'* on the shafts *H H'*. (See Fig. 2.) By this arrangement it will be seen that the shaft *E* may be operated from one or both shafts *H H'*, according to the power required to raise the stone. The chain *F* is attached to the stone to be raised in any proper way, and when it is sufficiently elevated it is drawn to the spot where it is to be laid or deposited and lowered by disengaging the pawl *f'* from the ratchet *e'*, the pawl being held in an outward position from the ratchet by means of a hook, *l'*. (Shown in Fig. 1.)

The struts *k k*, it will be seen, are directly over and in line with the arms *n n*, and the shaft *E* is in line with said struts, and the

framing is designed to be balanced on the wheels, so that when the stone is elevated the team will not be subjected to any of its weight.

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

1. The combination of the bent wheel arms or axles *n n* and bars *r r* with the side pieces, *m m*, struts *k k*, plates *s s*, and clips *D D*, in the manner and for the purpose herein shown and described.

2. The arrangement together of the lifting-shaft *E* and its gear-wheels in the center of the framing *f f w w k k*, as herein shown and described, so that the gearing and the weight to be lifted will always be evenly balanced upon the wheels, as set forth.

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Witnesses:

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