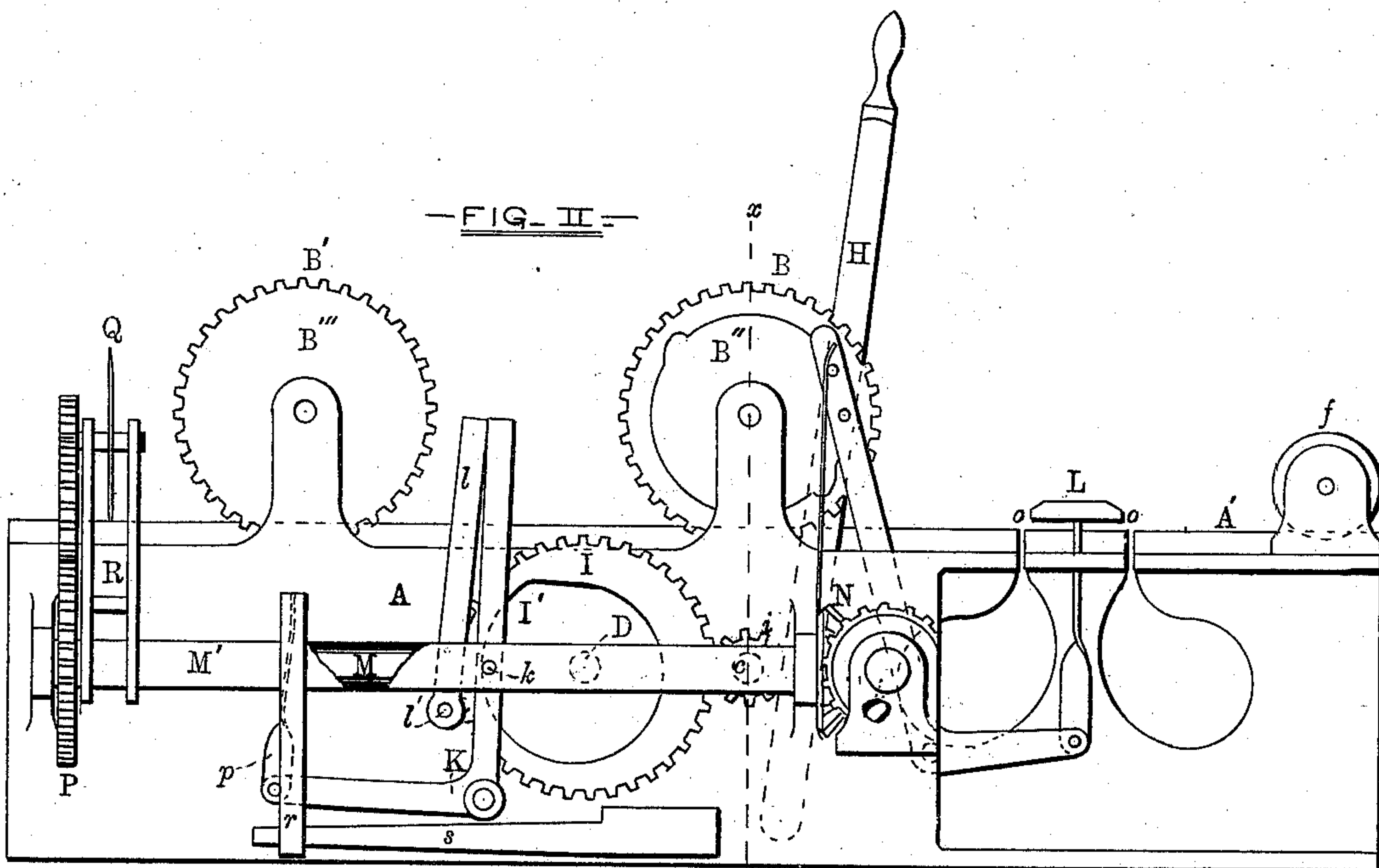
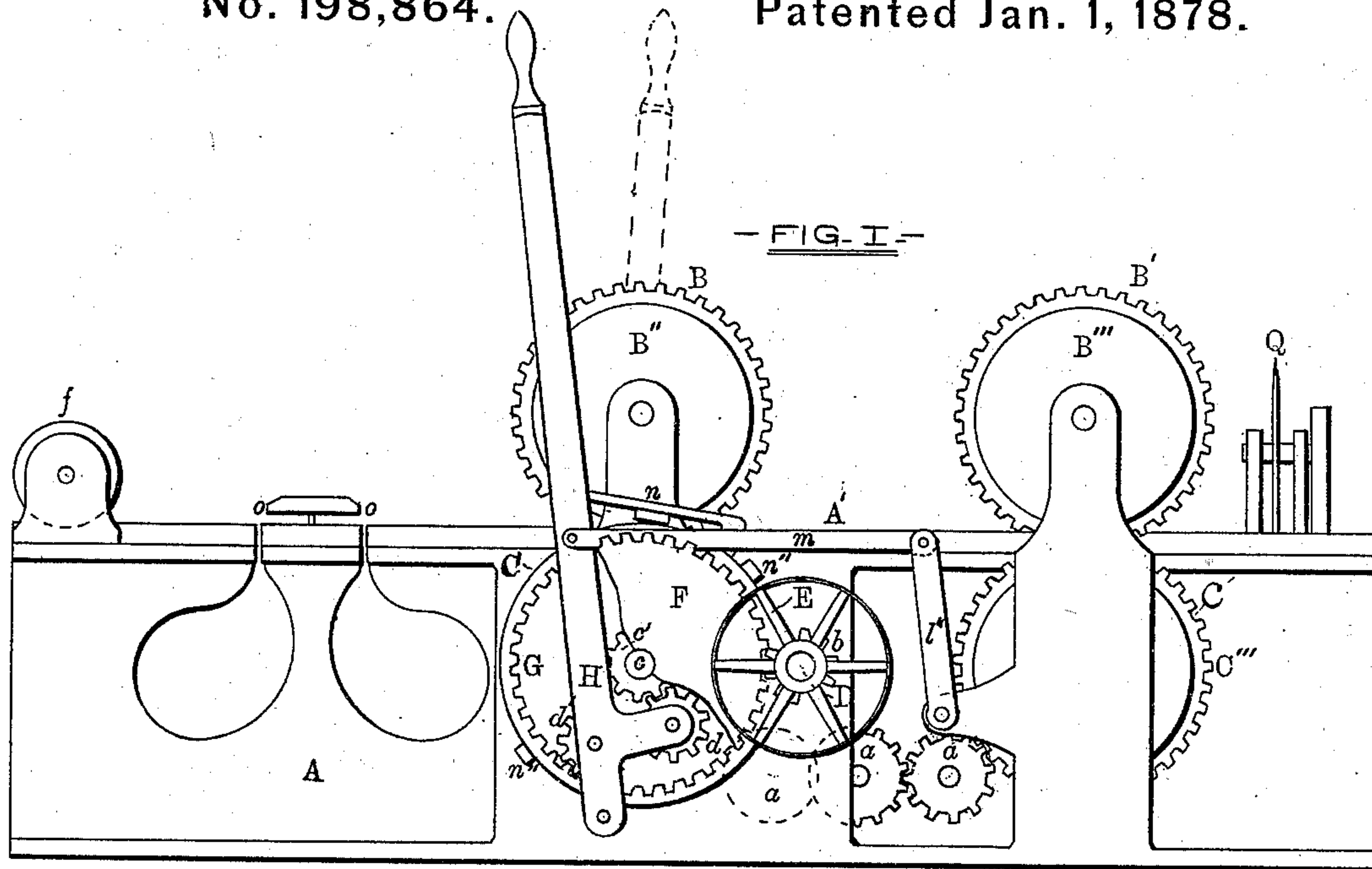


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Lamp-Wick Measurer and Cutter.

No. 198,864.

Patented Jan. 1, 1878.



—WITNESSES—

J. C. Hewlett
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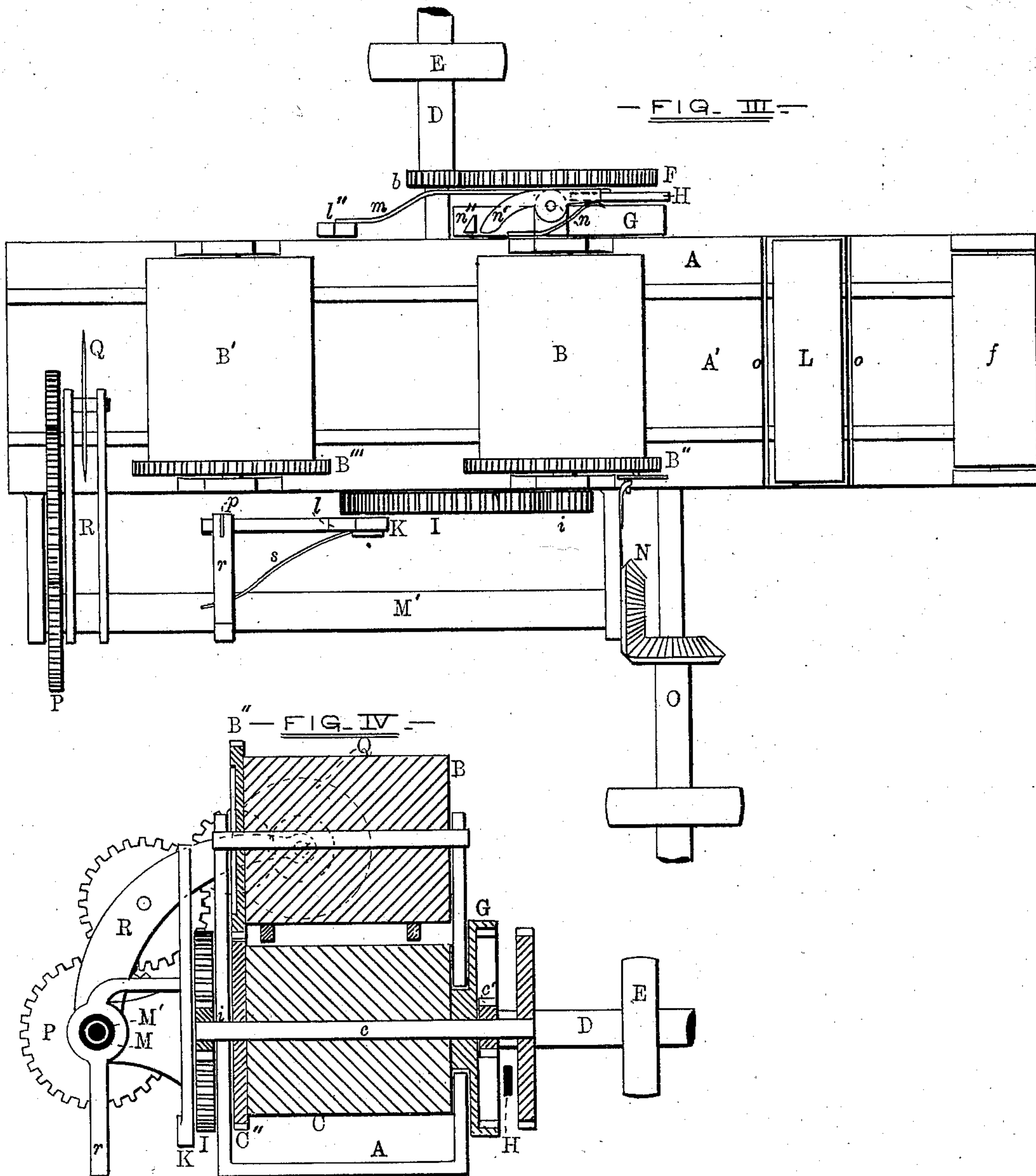
—INVENTOR—

G. Washington
by *W. W. Howard*
att'y.

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by A. M. Howard
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UNITED STATES PATENT OFFICE.

GEORGE WASHINGTON, OF WOODBERRY, MARYLAND.

IMPROVEMENT IN LAMP-WICK MEASURER AND CUTTER.

Specification forming part of Letters Patent No. **198,864**, dated January 1, 1878; application filed November 1, 1877.

To all whom it may concern:

Be it known that I, GEORGE WASHINGTON, of Woodberry, in the county of Baltimore and State of Maryland, have invented an Improved Machine for Measuring and Cutting Lamp-Wick, of which the following is a specification; and I do hereby declare that in the same is contained a full, clear, and exact description of my said invention, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

This invention relates to a machine to be used in connection with a lamp-wick-manufacturing machine, to receive the product thereof and place the same in a marketable form—that is to say, in bundles containing a certain number of wicks of a common and specified length, as will hereinafter fully appear.

In the description of the invention which follows, reference is made to the accompanying drawings, forming a part of this specification, and in which—

Figures 1 and 2 are reverse side views of the machine, certain parts thereof being shown in section. Fig. 3 is a plan of the invention, and Fig. 4 is a transverse section of the machine on the dotted line *x y*.

Similar letters of reference indicate similar parts in all the views.

A is the frame of the machine, the upper plate of which is adapted as a trough or channel, A', to conduct the wicks from the wick-manufacturing machine (not shown in the drawings) to the upper and lower measuring-rolls, respectively represented in the drawings by B B' and C C'. The said measuring-rolls are revolved collectively—that is to say, they are so connected by gearing that the revolution of one roll causes the revolution of the entire system.

The bed of the trough or channel A' of the frame A is slotted immediately over the lower rolls C C', to allow the upper and lower rolls to operate jointly upon the lamp-wicks passing between them, and the strip forming one side of the said trough or channel is movable, in order to adjust the width of the said trough or channel to the width of the lamp-wicks to be operated upon.

To obtain the combined movement of the rolls above referred to, they are provided with

the spur-wheels B'' B''' and C'' C''', which are connected by the pinions *a*. The rolls are driven by means of the following-described mechanism: A counter-shaft, D, carrying a driving-pulley, E, is provided with a pinion, *b*, which gears with and into a spur-wheel, F, fastened to the shaft *c*, upon which shaft the roll C turns freely. An interiorly-toothed spur-wheel, G, located exteriorly of the frame, and, like the roll C, adapted to turn freely upon the shaft *c*, is permanently secured to the said roll. This wheel G is driven directly from the shaft *c* through medium of a pinion, *c'*, secured thereto, and the intermediate pinions *d d'*, supported by the hand-lever H. The pinions *d d'* are geared together, and it will be seen that by placing the hand-lever in the position shown in the drawing the pinion *d* engages with the one, *c'*, and the other pinion, *d'*, with the wheel G.

When the hand-lever occupies the above-described position, the rolls are set in motion, their movement being obtained from the driving-pulley E through the medium of the train of gearing described. Upon the movement of the hand-lever H to the position indicated by the dotted delineation thereof, the pinions *d d'* are released from gear with the pinion *c* and wheel G, and the revolution of the rolls is thereby suspended. The movement of the lever H to the position necessary to effect the engagement of the various wheels and pinions, and which produces the rotation of the rolls, is accomplished by hand; but the counter-movement of the hand-lever, or that whereby the motion of the rolls is suspended, is obtained automatically through the medium of mechanism hereinafter described.

The lamp-wicks are conducted underneath a roller, *f*, to the trough or channel A', and thence to the rolls, which are spaced to slightly compress them. The longitudinal movement of the wicks, produced by the revolution of the rolls, continues until the pinions *d d'* cease to communicate motion to the wheel G, and this discontinuance of their operation is effected as follows: A spur-wheel, I, is placed loosely upon the counter-shaft D at the end thereof opposite to that occupied by the driving-pulley, and the said wheel is driven independently of the said shaft by a pinion, *i*, secured to the

shaft *c*. The wheel *I* is provided with a groove, *I'*, into which a pin, *k*, projecting from the upper arm of a bell-crank, *K*, extends. The groove *I'* is of eccentric form, and notched at one side, in order to give to the pin *k* and the attached arm a vibratory movement, under circumstances hereinafter described. The outer end of the upper arm of the bell-crank *K* is in contact with a lever, *l*, secured to one end of a rod, *l'*, extending entirely through the frame *A*. The other end of the rod *l* is fitted with a lever, *l''*, which is connected by a bar, *m*, to the hand-lever *H*.

By reason of the upper arm of the bell-crank being constantly in contact with and exerting a tension upon the lever *l*, the hand-lever, which is held in the position shown in the drawing by means of the spring-lock *n*, has only to be removed from contact with the end of the said lock to assume a reversed position, or one whereby the pinions *d d'* are released from the wheel *G* and pinion *c'*, and the revolution of the rolls stopped.

The lock *n* consists of a spring-supported lever, having a projection, *n'*, at one end thereof, which is operated upon by angular lugs *n''* on the periphery of the wheel *G*. At each half-revolution of the wheel *G*, which represents a longitudinal movement of the wicks equal to the length of the bundles of the same, the rolls are stopped by the detachment of the lock from the hand-lever through the medium of one of the angular lugs *n''*, before referred to.

During the stoppage of the rolls and lamp-wicks, the latter are tied together by hand, slots *o* in the upper plate of the frame admitting the introduction of the fastening-cords. At the time of the stoppage of the rolls a clamp, *L*, located between the slots *o*, and operated by suitable mechanism from any one of the rolls, descends and clamps the wicks, thereby assisting the operator in binding them closely. The bound wicks, after passing through the rolls, are severed centrally between the binding-cords by a revolving sharpened disk, which is operated as follows: A revoluble shaft, *M*, is confined within bearings projecting from one side of the frame *A*, and provided at one end thereof with a miter-wheel, *N*, geared into a corresponding wheel on the counter-shaft *O*, which is provided with a driving-pulley. To the other end of the shaft *M* is attached a spur-wheel, *P*, which transmits motion through the medium of a series of similar wheels of a reduced size to the disk before referred to. The said disk, which is represented by *Q*, revolves within a double arm, *R*, keyed or otherwise secured to a hollow shaft, *M'*, inclosing the shaft *M*, and which is free to vibrate independently thereof. The hollow shaft and arm *R* are vibrated so as to throw the disk *Q* over the trough or channel *A'*, and in contact with the wicks, upon the stoppage of the revolution of the rolls, by means of the lower arm of the bell-crank *K*, which is connected, by means of a link, *p*, to a second bell-crank, *r*. One arm of the second bell-crank *r* is in contact with a

spring, *s*, which furnishes the power to move the hand-lever *H* when the same is released from contact with the spring-lock *n*, as hereinbefore described.

The operator stands in the vicinity of the hand-lever, and, upon the movement of the wicks being automatically stopped, ties the binding-cords around the same, and then starts the machine by the movement of the hand-lever, as before mentioned.

The wicks, after being tied, traverse the channel or trough to the disk *Q*, which disk, at every stroke, severs a bundle from the continuous line of tied wicks, and allows the same to fall in a completed state.

Having thus described my invention, what I claim as new, and wish to secure by Letters Patent of the United States, is—

1. In a machine for measuring and cutting lamp-wick, the combination of a frame, having the top thereof adapted as a trough or channel to receive the wicks from a wick-manufacturing machine, and a pair of upper and a pair of lower rolls, geared together and adapted to carry the said wicks longitudinally of the said trough or channel, the said rolls being provided with mechanism whereby they are automatically stopped after revolving sufficiently to cause the wicks to move longitudinally of the said trough a specified distance, substantially as and for the purpose herein set forth.

2. In combination with a pair of upper and a pair of lower rolls, connected to operate jointly and in connection with a trough or channel to conduct lamp-wicks from a wick-manufacturing machine, a circular revoluble cutting-disk, adapted, upon the automatic stoppage of the rolls, to be vibrated over and in contact with the said wicks, to sever the same, substantially as and for the purpose specified.

3. As means for communicating motion from the counter-shaft *D*, carrying the driving-pulley *E*, to the roll *C*, and for discontinuing the movement of the said roll independently of the said continuously-revolving counter-shaft, the pinion *b*, fastened to the said counter-shaft, spur-wheel *F*, secured to the shaft *c*, pinions *d d'*, supported by the hand-lever *H*, pinion *c'*, fastened to the shaft *c*, and the interiorly-toothed wheel *G*, connected rigidly to the said roll, all combined substantially as shown.

4. In combination with the vibratory hand-lever *H*, carrying the pinions *d d'*, and provided with spring mechanism to influence it into such position as to disconnect the said pinions from the pinion *c'* and interiorly-toothed wheel *G*, a suitable stop adapted to sustain the said lever in a position the reverse of that described, except when operated upon by the lugs *n''* on the periphery of the wheel *G*, substantially as and for the purpose herein set forth.

5. As means for revolving the disk *Q* independently of its position with reference to the lamp-wicks extended within the trough or

channel A', and for effecting the vibratory movement of the said disk, the revoluble counter-shaft O and shaft M, connected by miter-gearing, as shown, and the shaft M indirectly geared to the said disk, in combination with the hollow shaft M', double arm R, secured to the said hollow shaft and carrying the said disk, and the bell-crank K, one arm of which is indirectly connected to the hand-lever H, and the other to a spring furnishing power to operate the said hand-lever and the said hollow shaft and its attachments, substantially as shown and described.

6. In combination with the upper plate of the frame A, forming the trough or channel A',

and slotted to admit of the introduction of the binding-cords to the under side of the wicks, the clamp L, connected indirectly to one of the rolls receiving movement therefrom, in such manner as to admit of the compression of the wicks by the said clamp during the stoppage of the rolls, substantially as and for the purpose herein specified.

In testimony whereof I have hereunto subscribed my name this 16th day of October, in the year of our Lord 1877.

GEORGE WASHINGTON.

Witnesses:

E. BEATTY GRAFF,
JOHN FARR.