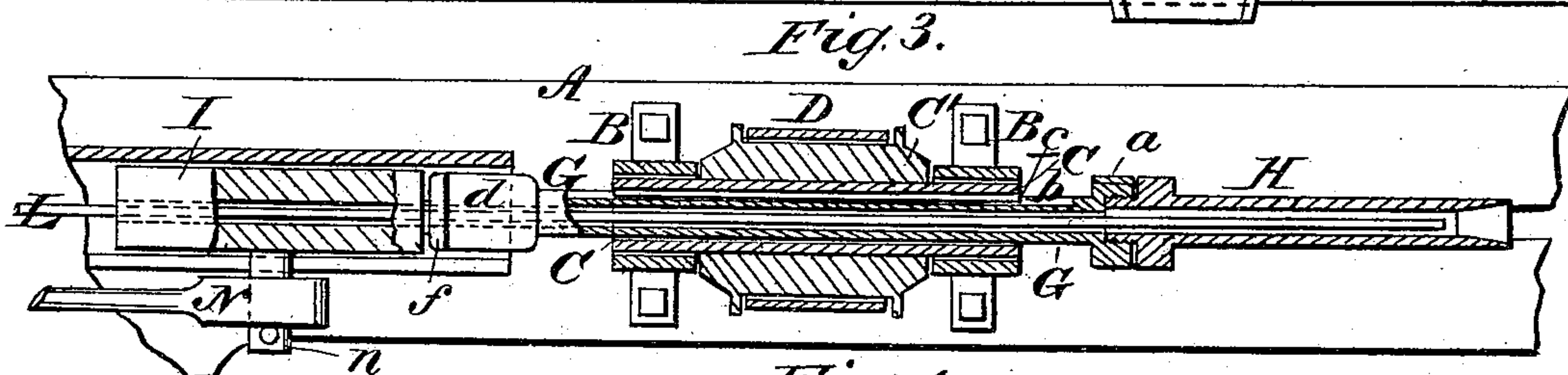
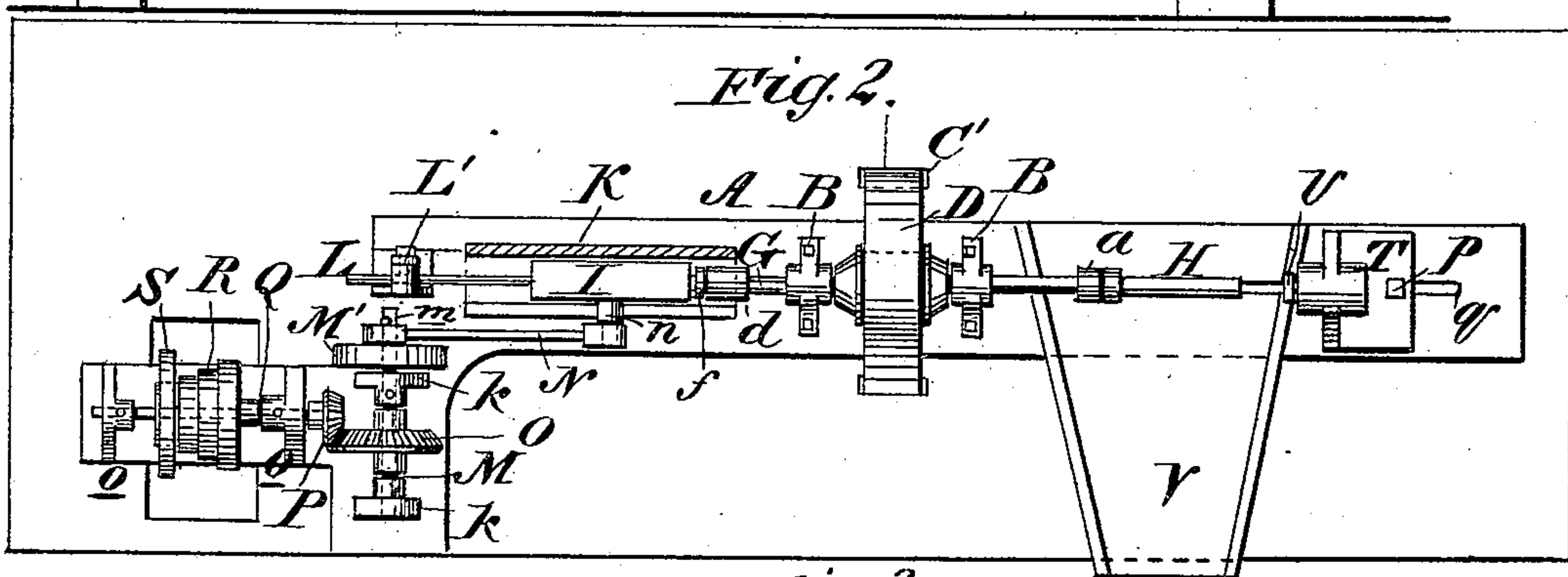
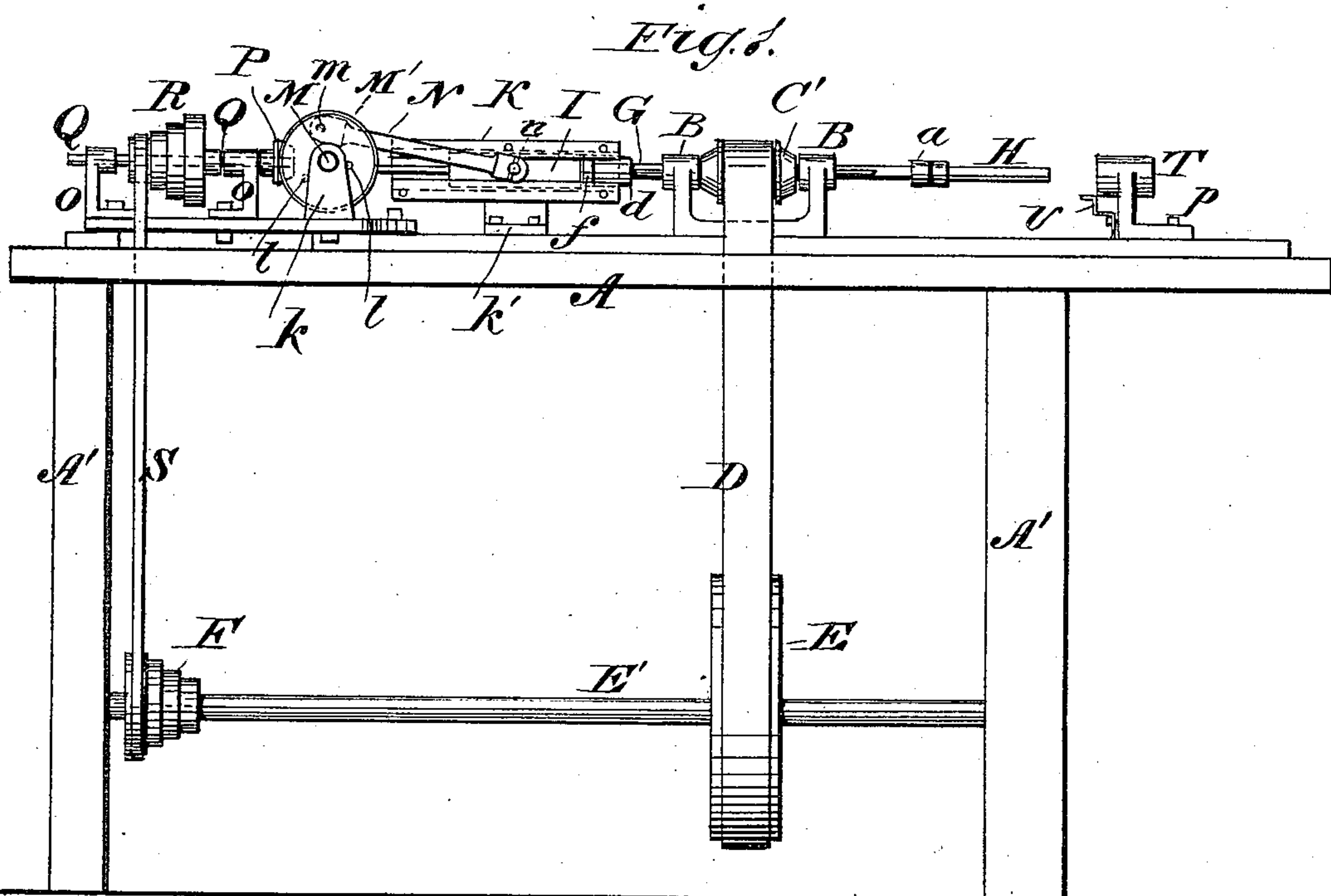


(No Model.)

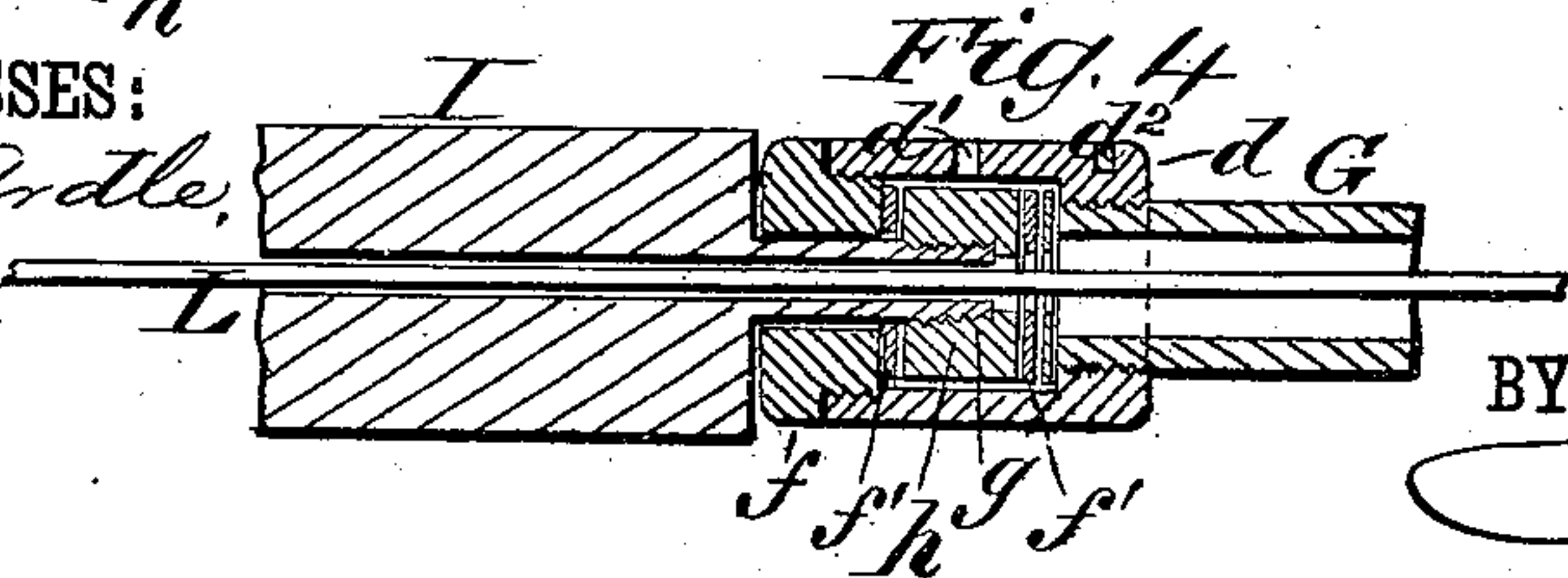
R. S. NOYES.  
Cork Cutter.

No. 241,151.

Patented May 10, 1881.



WITNESSES:  
F. M. Ordle,  
C. Sedgwick



INVENTOR:

R. S. Noyes.

BY

ATTORNEYS.



# UNITED STATES PATENT OFFICE.

RANDALL S. NOYES, OF BROOKLYN, NEW YORK.

## CORK-CUTTER.

SPECIFICATION forming part of Letters Patent No. 241,151, dated May 10, 1881.

Application filed September 23, 1880. (No model.)

*To all whom it may concern:*

Be it known that I, RANDALL S. NOYES, of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Cork-Cutter, of which the following is a specification.

The object of this invention is to provide a simple device for giving a reciprocating longitudinal movement to the rotary cutter.

The invention consists of a tubular sliding head and nut connected with the head of the tubular arbor that carries the cutter on its end, said sliding head being moved back and forth by means of a rod and crank connection, which is preferably operated through the medium of bevel-gear and cone-pulleys, so that the reciprocation of the cutter may be regulated at will and be made automatic.

Figure 1 is a side elevation of a cork-cutter with my improvement attached. Fig. 2 is a plan of the same. Fig. 3 is an enlarged partly sectional plan view of a portion of the device. Fig. 4 is an enlarged sectional plan of a portion of the device.

Similar letters of reference indicate corresponding parts.

In the drawings, A represents the bed of the machine, supported on suitable standards, A' A'; and B B are the main boxes or bearings, in which freely revolves the cylindrical bushing or sleeve C, to which motion is imparted by a belt, D, acting upon the pulley C', which is either secured upon or formed as part of the said sleeve C, said belt D being driven by the driving-pulley E, that is keyed on the driving-shaft E', which driving-shaft E' also carries the driving cone-pulleys F.

G is the hollow arbor, upon the front end of which is either formed or secured the screw-head *a*, in which is inserted the cylindrical cutter H. One or more splineways, as shown at *b*, are cut through the length of the arbor G, in which a suitable spline or key, *c*, is fitted. This spline or key *c* is secured rigidly in and to the sleeve C, so that the rotary motion of the latter is imparted to the arbor G, yet allowing said arbor G free longitudinal play. On the rear end of said arbor G is formed or secured a hollow head, *d*, having an oil-hole, *d'*, and a wrench-socket, *d<sup>2</sup>*, and provided with a longitudinally-perforated screw-cap, *f*.

I is the tubular sliding head, provided on the front end with a central elongated tubular projection, *g*, which is entered through the cap *f* and screwed into the nut *h*, which is inclosed in the hollow head *d*, and held therein by the screw-cap *f*, so that the reciprocating longitudinal motion of the sliding head I is imparted to the arbor G and its connected cutter H, and *f' f'* are suitable washers introduced into the hollow head *d* to prevent rattling and wear of the nut *h*. This sliding head I moves in a guide-block, K, that is supported by a standard, K', on the machine-bed A.

L is the expelling-rod, inserted loosely within the arbor G and cutter H, and having its rear end rigidly secured in a post, L', by a set-screw or other suitable device, so that said rod L can be longitudinally adjusted.

Suitable bearings or boxes, *k k*, secured on the bed A, support a shaft, M, at right angles to the arbor G, and on an end of this shaft M is secured a disk, M', provided with several pin-holes, *l*, for receiving the pin *m*, made at unequal distances from its center for the changing of the crank-pin *m*, whereby the throw of the sliding head I, arbor G, and cutter H can be regulated.

N is the pitman or connecting-rod connecting the crank-pin *m* with the pin *n*, that extends laterally from the sliding head I.

On the shaft M is also secured a bevel-gear wheel, O, with which is geared the bevel-pinion P, that is secured on the end of the shaft Q, which is journaled at right angles to the shaft M in suitable boxes or bearings, *o o*, that are secured on the bed A.

On the shaft Q is secured the cone-pulley R, which is driven by a belt, S, from the cone-pulley F.

In front of the cutter H an adjustable sliding block, T, is secured on the bed A by a screw-bolt, *p*, that passes through said block T into a longitudinal slot, *q*, in said bed A, so that said block T can be moved and adjusted nearer or farther from the end of the cutter H, as the varying thickness of the cork or the throw of the cutter H may require, said block T being designed to support the thrust of the cutter H against the cork to be operated upon.

U represents a rest secured upon the block T at the front thereof, and designed to be ver-



tically adjustable, as the size of the cutter may require. On this rest U the cork wood from which the corks are cut is placed and supported against the block T.

5 A piece of cork wood being placed on the rest U, power is applied to the main shaft E', whereby said shaft E' is revolved and its motion transmitted through the belts D S. The revolution of the pulley C' causes the sleeve  
10 C and cutter H to revolve, and the revolution of the cone-pulley R causes the shaft Q to revolve, and thereby the shaft M and crank-disk M', whereby, by means of the connecting-rod N and sliding head I, the cutter H is alter-  
15 nately forced forward into the piece of cork wood on the rest U and withdrawn with a cork within it, and on each withdrawal of said cutter H over the expelling-rod L the cork held  
20 cutter H is brought in contact with the free end of said rod L, and thereby expelled into a chute, V, or other convenient device that may be placed to receive the corks.

By adjusting the belt S on the pulleys F R the speed of the longitudinal reciprocation of  
25 the cutter H can be increased or diminished at will, it being designed that the said cutter H shall be reciprocated as rapidly as the operator can place pieces of cork wood in position upon the rest U.

30 In other cork-cutters the cutter is recipro-

cated by hand-levers or other devices moved by hand or foot. Hence the cutting of corks is comparatively slow and irregular.

With this improved device the cutter H is moved automatically, and can be reciprocated  
35 at much higher speed than can be otherwise secured, so that a machine provided with this device can nearly or quite double its production or yield.

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

1. In a cork-cutter, the combination, with the arbor G, of the tubular sliding head I, provided with projection *g* and nut *h*, substan-  
45 tially as and for the purpose described.

2. The combination, with the arbor G, provided with hollow head *d* and cap *f*, and cutter H, of the sliding head I, provided with projection *g*, nut *h*, connecting-rod N, shaft M,  
50 and disk M', provided with crank-pin *m*, substantially as herein shown and described.

3. In a cork-cutter, the combination, with the sliding head I, nut *h*, arbor and cutter G H, and connecting-rod N, of the guide-block K,  
55 substantially as herein shown and described.

RANDALL S. NOYES.

Witnesses:

I. I. STORER,  
C. SEDGWICK.