

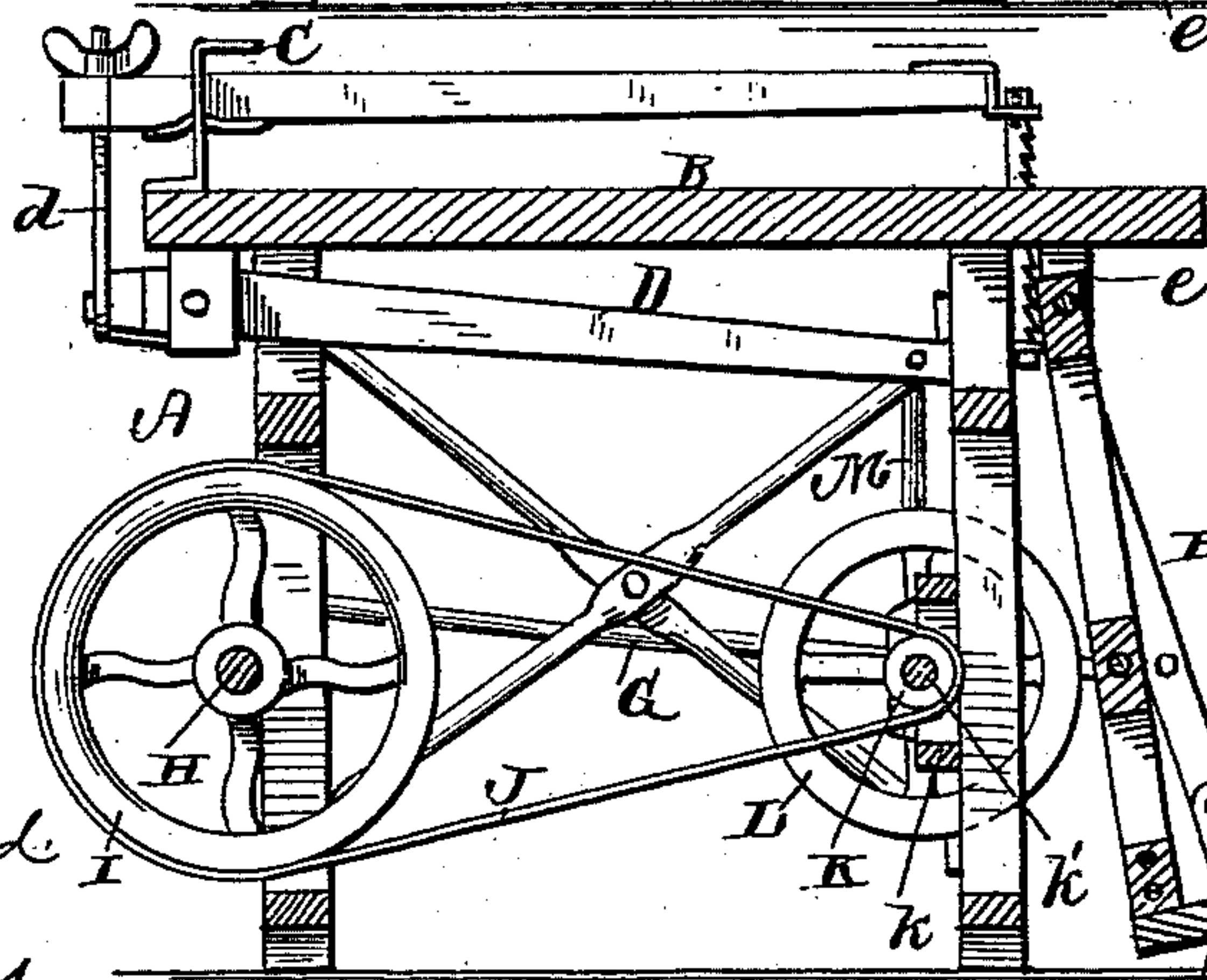
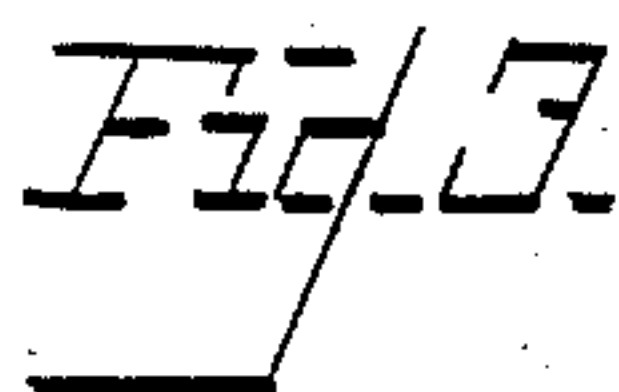
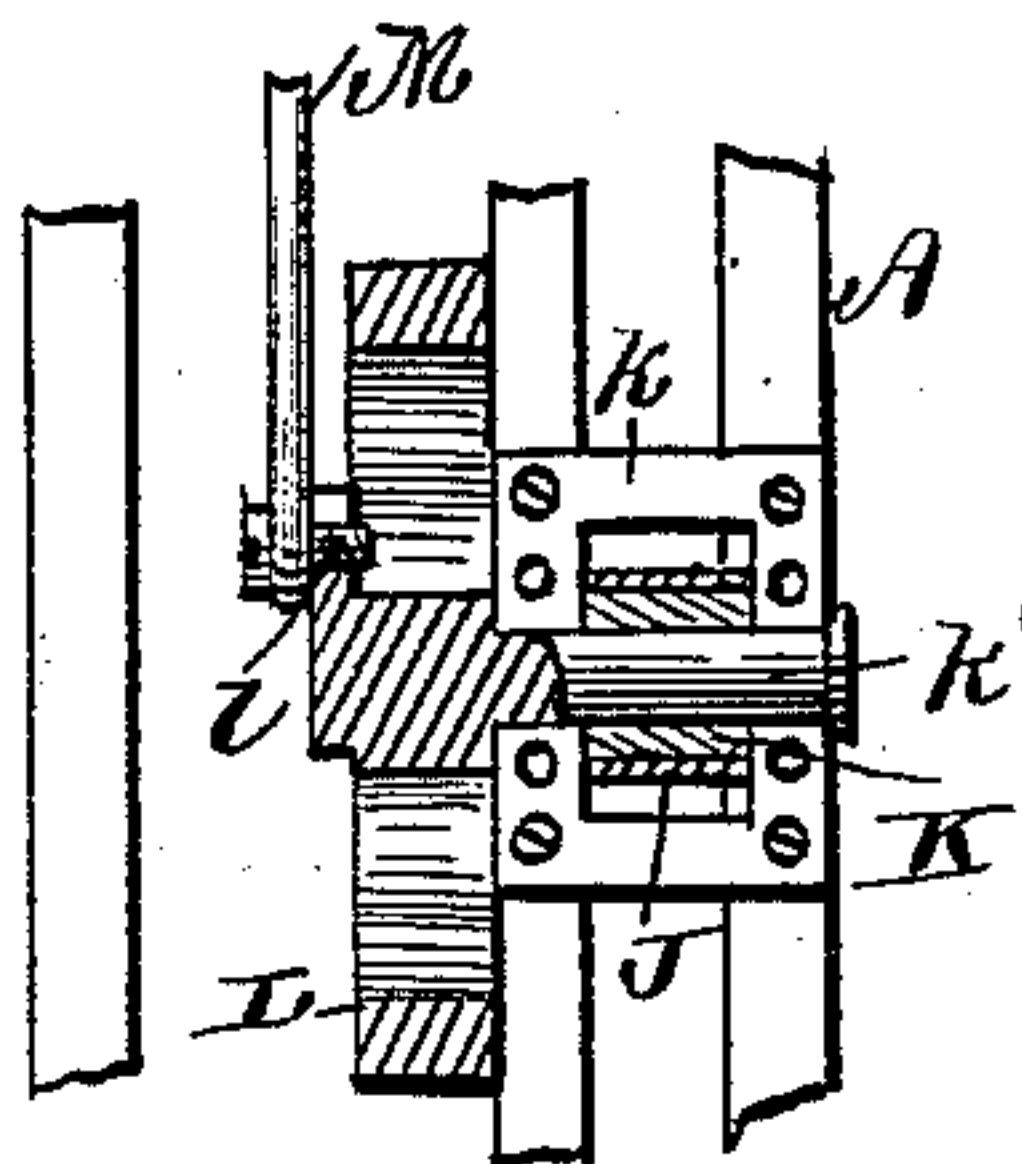
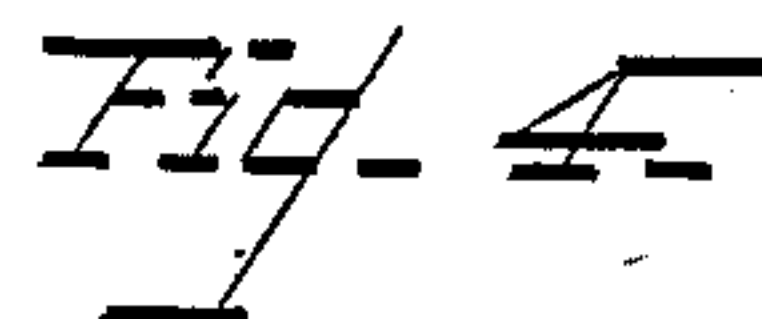
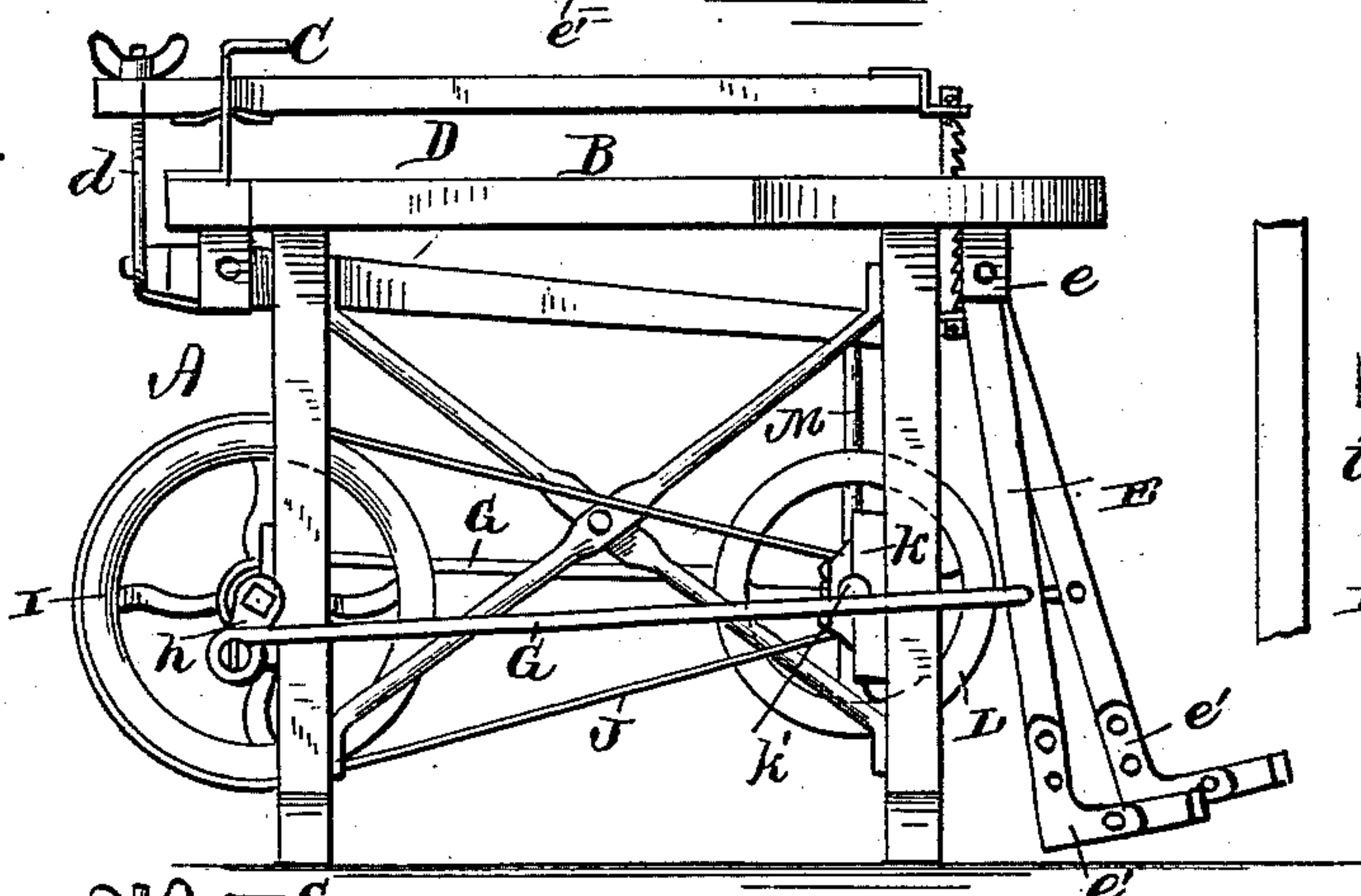
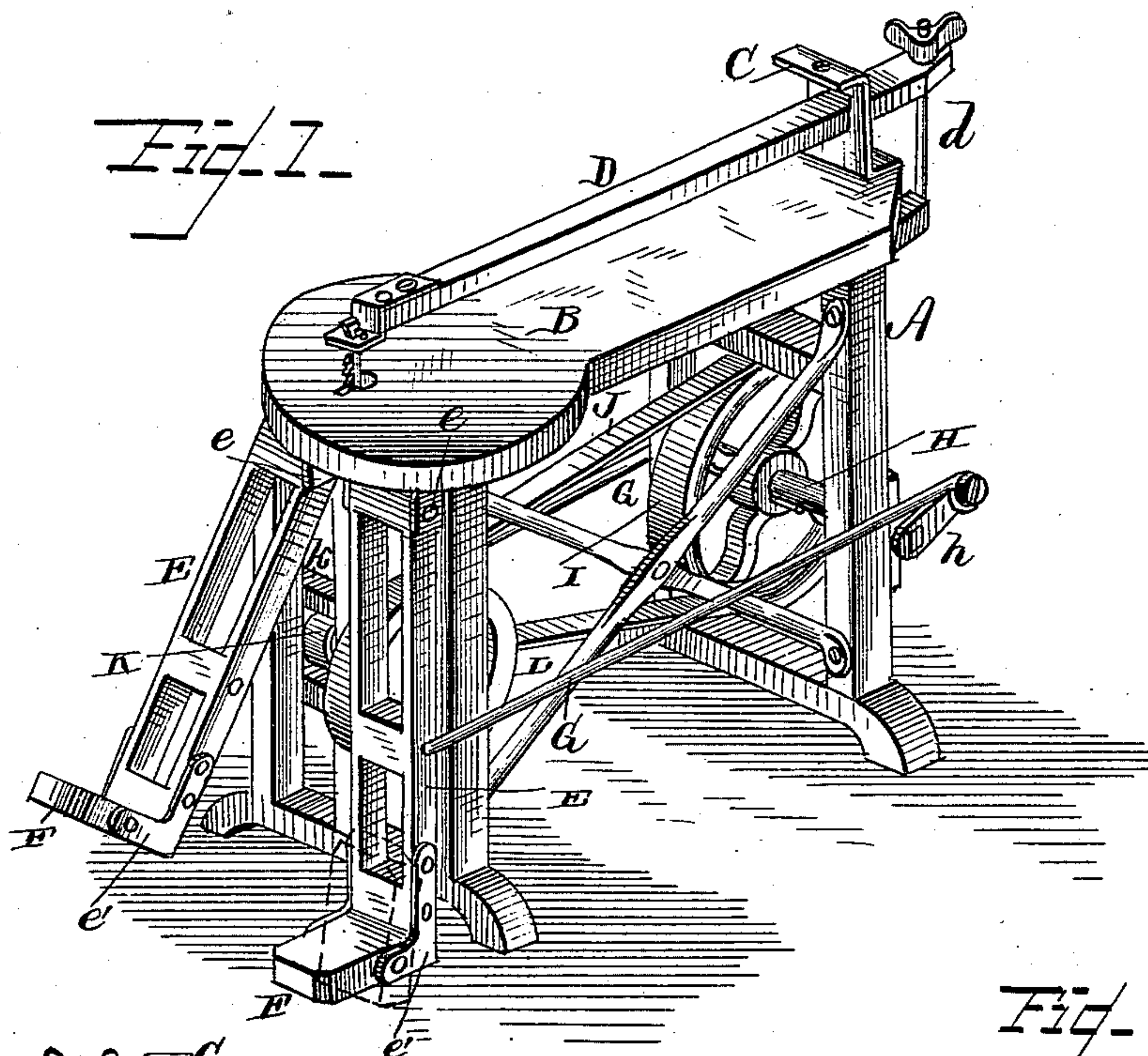
(No Model.)

H. H. HOLDEN.

POWER MOTOR.

No. 278,962.

Patented June 5, 1883.



**WITNESSES**

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INVENTOR

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# UNITED STATES PATENT OFFICE.

HENRY H. HOLDEN, OF STRATHROY, ONTARIO, CANADA, ASSIGNOR, BY  
DIRECT AND MESNE ASSIGNMENTS, TO WILLIAM COOPER AND ROBERT  
STONEHOUSE, BOTH OF SAME PLACE.

## POWER-MOTOR.

SPECIFICATION forming part of Letters Patent No. 278,962, dated June 5, 1883.

Application filed April 18, 1883. (No model.) Patented in Canada May 25, 1883, No. 14,841.

*To all whom it may concern:*

Be it known that I, HENRY H. HOLDEN, a  
subject of the Queen of Great Britain, residing  
at Strathroy, in the county of Middlesex and  
Province of Ontario, Dominion of Canada, have  
invented a new and useful Power-Motor, of  
which the following is a specification, reference  
being had to the accompanying drawings.

This invention relates to power-motors for  
driving scroll-saws, small lathes, and such other  
machinery requiring considerable power and  
a quick movement. Its object is to provide  
a safe, durable, and efficient means for forming  
a foot-power, all of which will be hereinafter  
fully set forth, and particularly pointed out in  
the claims.

In the accompanying drawings, Figure 1 rep-  
resents a perspective view of my improved  
power-motor or foot-power applied to a scroll-  
saw. Fig. 2 represents a side view of the same.  
Fig. 3 represents a longitudinal vertical view  
of the same; and Fig. 4 represents a detail sec-  
tional view through the pulley-shaft.

Like letters refer to corresponding parts in  
all the figures.

Referring to the drawings, A designates the  
frame of a scroll-saw, having the usual table,  
B, slotted bracket C, and vibrating saw-frame  
D, composed of an upper and lower part con-  
nected by a screw-threaded bolt, *d*. These  
parts are constructed in any suitable manner  
and arranged according to any of the well-  
known means heretofore used in scroll-sawing  
machines.

At the front end of the machine the treadles  
E are pivoted at the top to brackets or plates  
*e*, secured to the under side of the table B.  
Suitable plates, *e'*, are attached at the lower  
ends of the treadles and extend a little below  
the same, and foot-pieces F are pivoted in said  
plates, so as to fold up against the face of the  
treadles when the machine is not in use. As  
seen, the said treadles move freely forward and  
backward, and are provided with rods or pit-  
men G, connecting said treadles with the crank-  
arms *h*, arranged on opposite ends of shaft H  
and extending in opposite directions. This  
shaft H is mounted in the frame of the machine  
in any suitable manner, and carries the main

driving-wheel I, which is provided with a belt,  
J, connecting said wheel to a revolving spool  
or pulley, K, mounted in a bracket, *k*, attached  
to the front end of the machine. The shaft *k'*  
of this pulley is extended on one side to carry  
the wheel L, smaller in diameter than the main  
wheel. Said wheel L is provided on one side  
with a crank-pin, *l*, and a connecting rod or  
link, M, connects the same with the lower arm  
or lever of the vibrating saw-frame. By ap-  
plying power to the treadles they operate the  
pitmen G, which communicate motion to the  
driving-wheel I. The pulley K is thus oper-  
ated by means of the belt-connection with the  
driving-wheel, and the shaft of said pulley im-  
parts motion to the wheel L, which communi-  
cates a reciprocating motion, by means of the  
link-connection M, to the lower arm of the vi-  
brating saw-frame.

A belt-groove may be provided in the pe-  
riphery of the wheels and pulley, and by va-  
rying the diameters of said wheels and pulley  
a greater or less rapidity of movement of the  
operating parts of the machine will be obtained,  
as is well known.

In using a foot-power constructed according  
to my invention the operator places his feet  
upon the foot-pieces of the treadles and bears  
or pushes one of them away from him to com-  
mence its revolution, and then, by alternately  
bearing and drawing upon the treadles he is  
enabled to keep up a continuous movement,  
which, as before stated, is communicated to the  
apparatus to be driven. Only one treadle may  
be used, as found desirable, and when such a  
construction is employed the apparatus should  
be modified to conform thereto. Any other  
power may be substituted for the treadles to  
drive the pitmen G—for instance, power from  
an engine—without departing from my inven-  
tion.

My foot-power or power-motor is very sim-  
ple in its construction and efficient in its op-  
eration. When operated as above described it  
forms a much easier and more natural motion  
for the feet of the operator than the foot-powers  
heretofore in use, since by my arrangement  
a natural swing backward and forward is ob-  
tained. Thus great power can be obtained by



the expenditure of a comparatively slight force applied to the treadles.

It is obvious that numerous modifications and arrangements of the foregoing may be made without departing from the spirit or scope of my invention.

It is also obvious that my improved power-motor can be applied to sewing-machines, turning-lathes, and like machinery, and, indeed, with slight modifications, can be adapted to be used as a power-motor for other machines than those operated by foot-power.

Having thus described my invention, what I claim is—

1. In a power-motor, the combination of the driving-wheel connecting with a pulley, said parts being mounted at each end of a suitable frame, and the pulley-shaft *k'*, carrying a smaller wheel connecting with the machinery to be driven, a treadle for operating said parts, and a pitman connecting the treadle and driving-wheel, as set forth.

2. In a power-motor, the combination of the

driving-wheel connecting with a smaller wheel, said parts being mounted at each end of a suitable frame, a link for connecting the said smaller wheel with the machine to be driven, pitmen attached at one end to cranks on the ends of shaft *H*, and mechanism for operating said pitmen, as set forth.

3. In a power-motor, the combination of the driving-wheel *I*, carried by the shaft *H*, a belt connecting said wheel with a pulley, *K*, on shaft *k'*, a wheel, *L*, carried by the said shaft *k'*, and connecting with the machinery to be driven, crank-arms *h* on the ends of said shaft *H*, pivoted treadles *B*, to which power is applied, and a pitman or pitmen connecting said treadles with the said crank-arms, as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

HENRY H. HOLDEN.

Witnesses:

CORNELIUS COOPER,  
JOHN S. DUFFIE.