

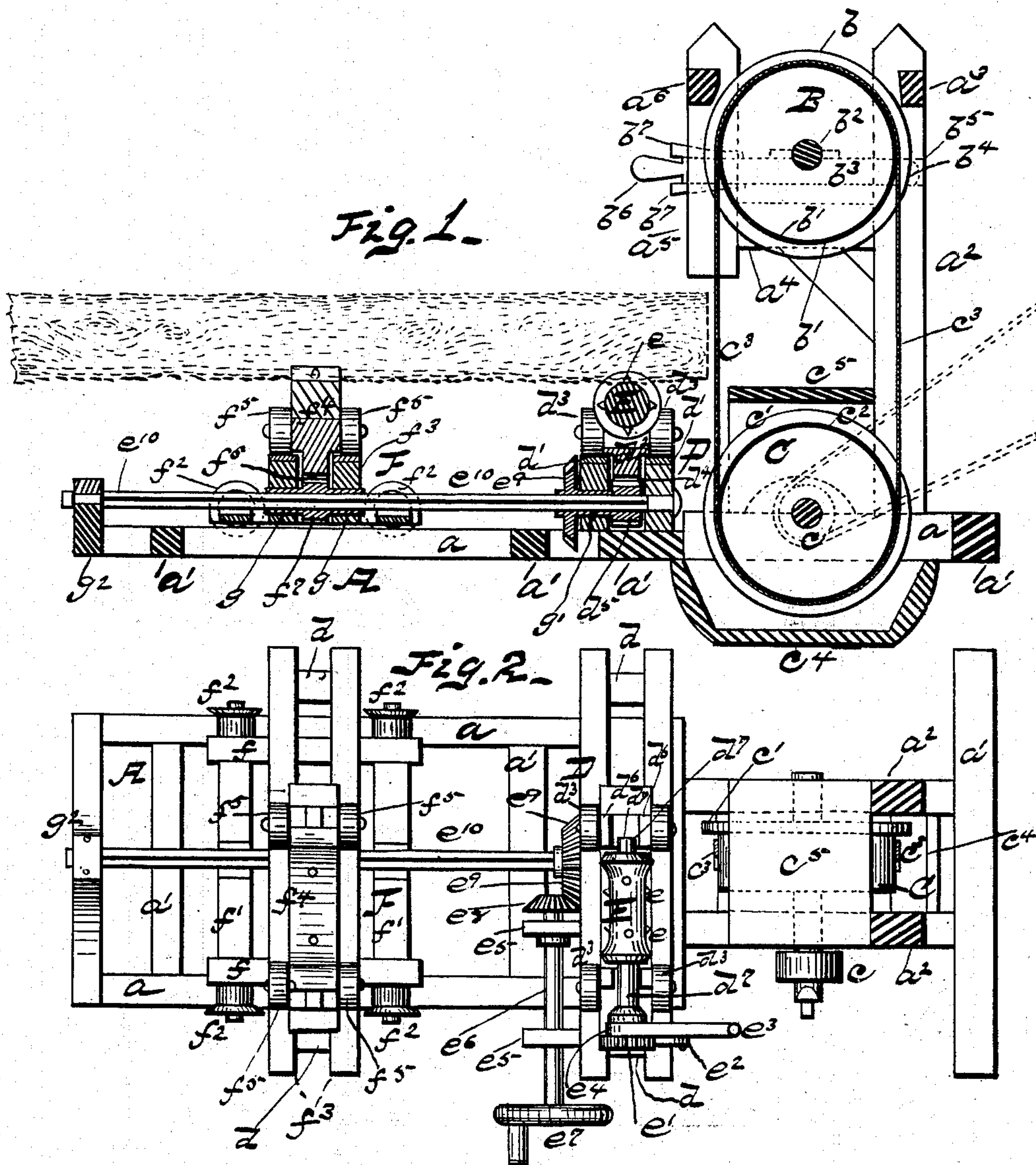
(No Model.)

2 Sheets—Sheet 1.

L. F. KETTLER.
BAND SAWING MACHINE.

No. 252,043.

Patented Jan. 10, 1882.



Witnesses.

James J. Shuh.
Philip C. Mas.

Inventor.
L. F. Kettler

By Wm. H. Bates & Co.
His Attorneys.

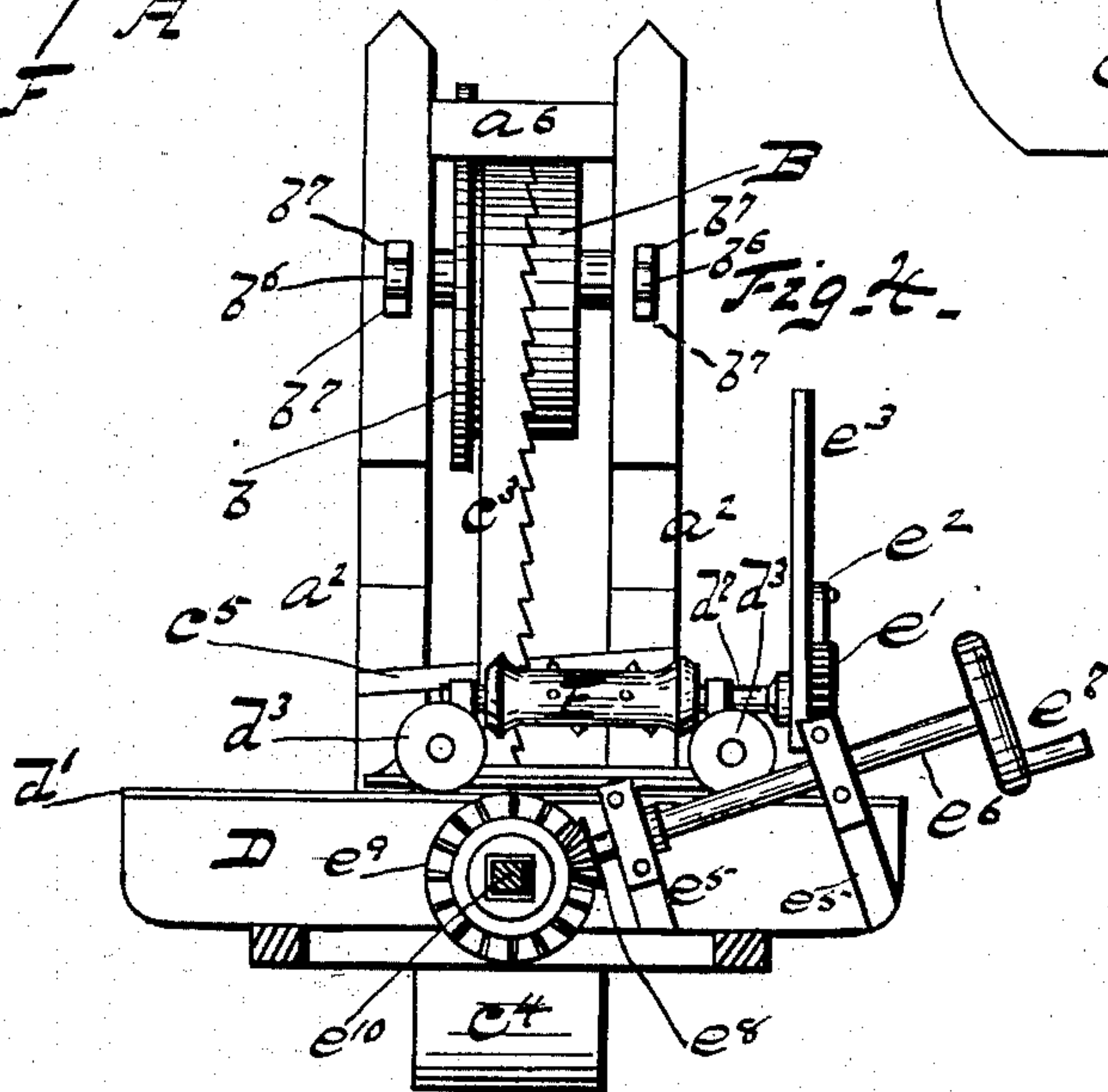
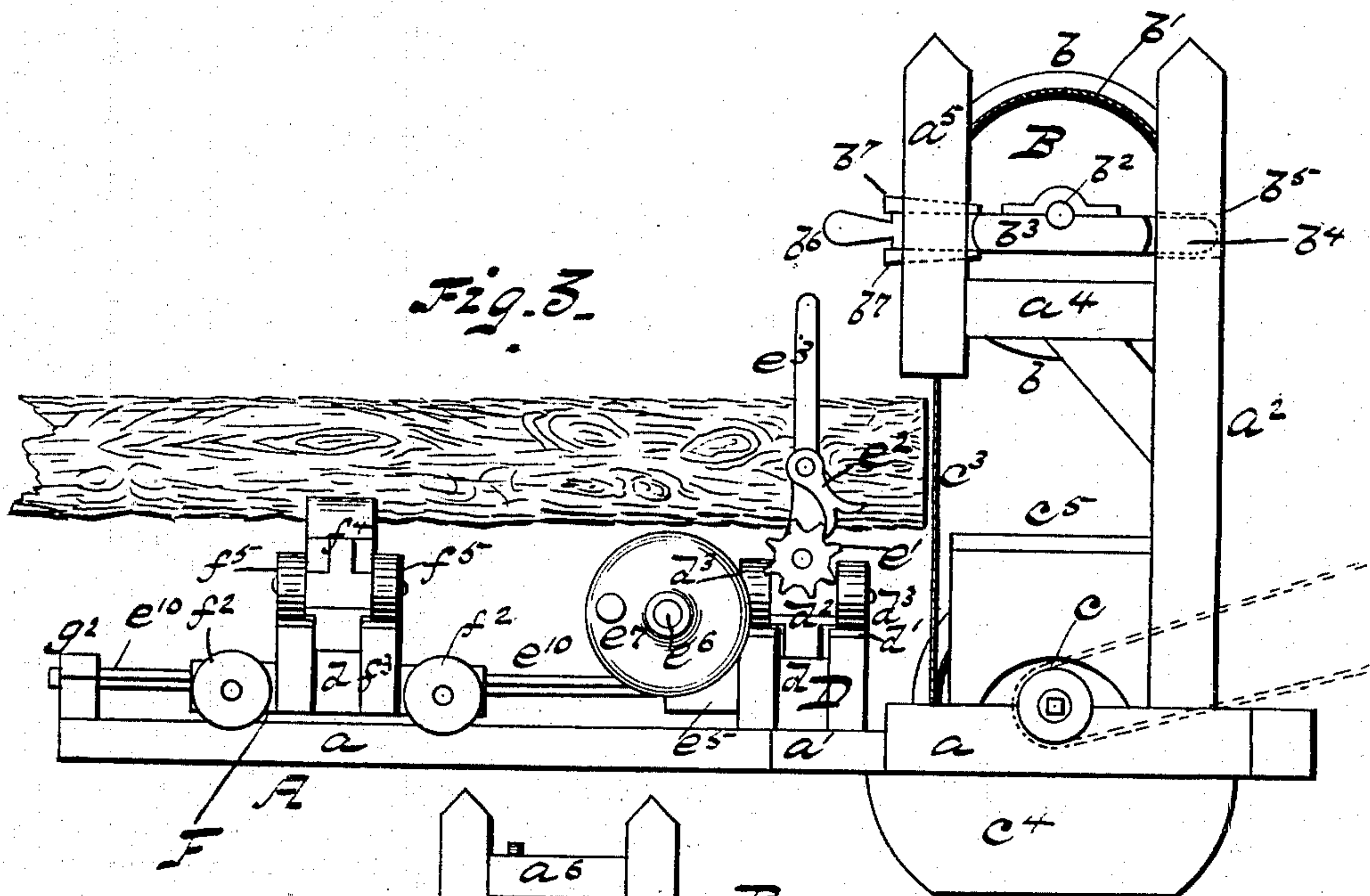
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BAND SAWING MACHINE.

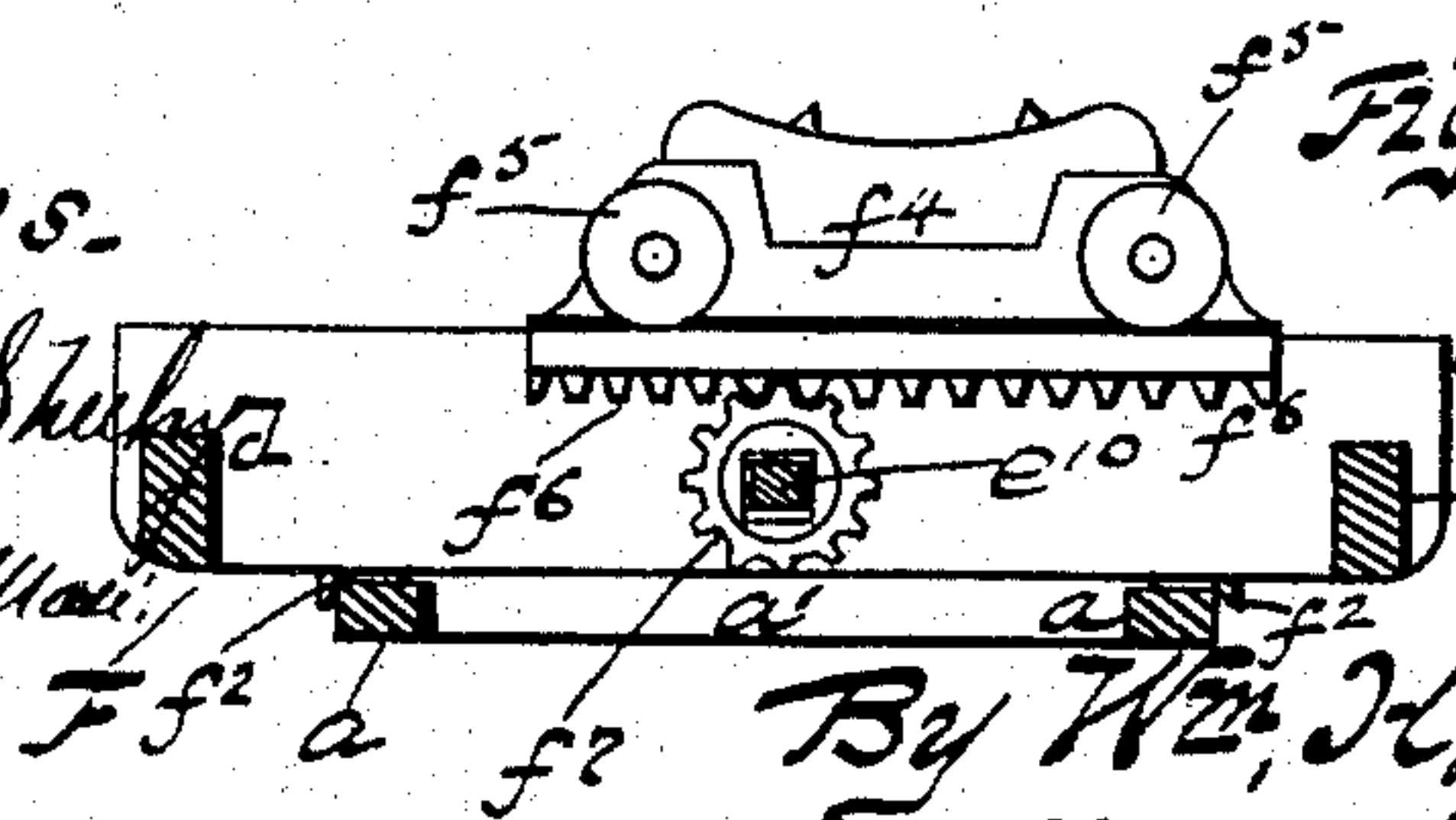
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James J. Shuler
Philip C. Cullen



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his Attorneys.

UNITED STATES PATENT OFFICE.

LEWIS F. KETTLER, OF NEW BREMEN, OHIO.

BAND SAWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 252,043, dated January 10, 1882.

Application filed November 5, 1881. (No model.)

To all whom it may concern:

Be it known that I, LEWIS F. KETTLER, a citizen of the United States of America, residing at New Bremen, in the county of Auglaize and State of Ohio, have invented certain new and useful Improvements in Band Sawing-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention has relation to improvements in band-sawing machines; and it consists in the novel construction and arrangement of the various parts of which it is composed, whereby the logs of wood to be sawed are adjusted and fed to the saw, at the same time providing a means for adjusting the pulley over which the endless saw revolves, thereby tightening or loosening the same, as required, all of which will be hereinafter more fully explained.

The annexed drawings, to which reference is made, fully illustrate my invention, in which Figure 1 represents a vertical sectional view of my improved sawing-machine. Fig. 2 represents a longitudinal sectional view of the same. Fig. 3 represents a side view. Fig. 4 represents a cross-sectional view, and Fig. 5 is a sectional detail view.

The letter A designates the base of the machine, which rests upon the ground, and consists of two side beams, a a , and braced by cross-pieces a' a' . At one end of the frame A arise two standards, a^2 a^2 , and connected at the top by a cross-bar, a^3 , and secured by one end to said standards, are two horizontal bars, a^4 a^4 , to the outer ends of which are secured two vertical bars, a^5 a^5 , which are connected at the top by cross-bar a^6 .

B indicates the upper band-pulley, having on one side a flange, b , and a periphery formed of an elastic band, b' , and journaled at b^2 on either side in the adjustable cross-bars b^3 b^3 , the inner ends, b^4 b^4 , of which work in slots b^5 b^5 , made in the standards aforesaid, and serve as hinges for said bars, while the outer ends, b^6 b^6 , are free and work in slots made in the

vertical bars a^5 a^5 , and are provided above and below with wedges b^7 b^7 .

C indicates the lower band-pulley, journaled in the side beams, a a , and provided with a driving-pulley, c , and a side flange, c' , and also an elastic periphery, c^2 , around which the saw c^3 revolves. Said lower pulley, C, is placed within a casing, c^4 , that is secured to side beams, a a , and above the same, and secured to the beams a a and standards a^2 a^2 , is a table, c^5 , having one side thereof somewhat lower than the other side, for a purpose hereinafter explained.

D designates stationary blocks running crosswise the machine and in front of the saw, and spaced and held to one another by cross-pieces d d . The upper portion thereof serve as tracks d' d' , upon which travels a truck, d^2 , provided on the sides and near the ends thereof with wheels d^3 d^3 d^3 d^3 , and on the under side with a rack-bar, d^4 , that engages a pinion, d^5 , on a shaft, hereinafter mentioned. On the upper face of the truck aforesaid are journal-bearings d^6 d^6 , in which are placed the journals d^7 d^7 of a roller, E, that is provided with teeth e for gripping the log in conveying it to the saw.

On one end of the journal d^7 d^7 is secured a toothed wheel, e' , in which engages a pawl, e^2 , pivoted to a hand-lever, e^3 , that has its lower end, e^4 , loosely connected to the journal aforesaid. To one side of the block D are secured brackets e^5 e^5 , in which is journaled a shaft, e^6 , having a crank, e^7 , on one end, and a bevel gear wheel, e^8 , on the other end, that meshes with a larger gear-wheel, e^9 , on a shaft, e^{10} .

F indicates a carriage, consisting of side pieces, f f , and cross-pieces f' f' , and provided on either side with flanged wheels f^2 f^2 f^2 f^2 , that travel upon the side beams, a a . Said carriage has secured thereon a block, f^3 , of similar construction to the block D, above described, and is provided with a truck, f^4 , having wheels f^5 f^5 f^5 f^5 , and on its under side a rack-bar, f^6 , that engages a pinion, f^7 , on the shaft e^{10} .

The pinion f^7 , above mentioned, is constructed with a hub, g , on either side, which are journaled in the block f^3 , and have a square opening in the center to engage the square shaft e^{10} . Also, the pinion d^5 is provided with a hub,

g' , that is journaled in the block D, and connects the larger gear-wheel e^9 with said pinion, thereby causing both to revolve together when operated.

5 The shaft e^{10} , hereinbefore mentioned, is made square, as shown in the figures of the drawings, and passes through the blocks D and f^3 , and is loosely secured at one end to the cross-piece g^2 of the machine and at the other end
10 to the block D.

Having thus given a description of the various parts of which my sawing-machine is constructed, I will proceed and explain the operation.

15 The power is applied to the belt-pulley c , thereby revolving the band-pulley C, and carrying therewith the band-saw c^3 , at the same time communicating motion to the upper pulley, B. The saw being in motion, a log is
20 placed upon the roller E, (one end,) and the opposite portion rests upon the truck f^4 , and by means of the hand-lever e^3 is drawn forward, at the same time carrying the carriage F therewith, until sufficiently across the teeth
25 of the saw, after which the crank e^7 is revolved by the operator, thus, through the medium of the bevel-gear e^8 , causing the gear-wheel e^9 to revolve, and carrying therewith the pinion d^5 and pinion f^7 simultaneously, thus imparting
30 motion to the trucks d^2 and f^4 by said pinions operating with the rack-bars d^4 and f^6 , and carry therewith the log until a portion is severed by the saw c^3 and rolls from the table by the same being slanted as described, after

35 which the crank e^7 is reversed and the trucks are returned to the first position, and the lever e^3 again being operated again sends the log forward to be sawed.

It will thus be seen by the foregoing description that I construct a band sawing-machine 40 with the pulleys provided with rubber, and adjusting means for tightening or loosening the saw, and the construction of the different parts is simple, and easily operated. Also, it will be observed that my machine can be used for 45 sawing the tops of trees as well as the trunk, and by placing the trucks or attaching similar ones lengthwise with the blade of the saw my machine can be used as a lumber-saw.

Having described my invention, what I claim, 50 and desire to secure by Letters Patent, is—

In a band sawing-machine, the combination of the truck d^2 , mounted on the blocks D, operated by the pinion d^5 , engaging with the rack-bar d^4 of the truck f^4 , traversing the carriage F, and the pinion f^7 , engaging with the rack-bar f^6 of the bevel-gear wheel e^9 , meshing with gear-wheel e^8 , crank e^7 , and hand-lever e^3 , roller E, and shaft e^{10} , the whole operating as herein shown, and for the purpose 60 set forth.

In testimony whereof I affix my signature in presence of two witnesses.

LEWIS F. KETTLER.

Witnesses:

PETER TOMHAFF,
WILLIAM LANFERSIECK.