

No. 811,835.

PATENTED FEB. 6, 1906.

L. L. FILSTRUP.
SAW DRESSING MACHINE.
APPLICATION FILED MAR. 1, 1904.

3 SHEETS—SHEET 1.

Fig. 1.

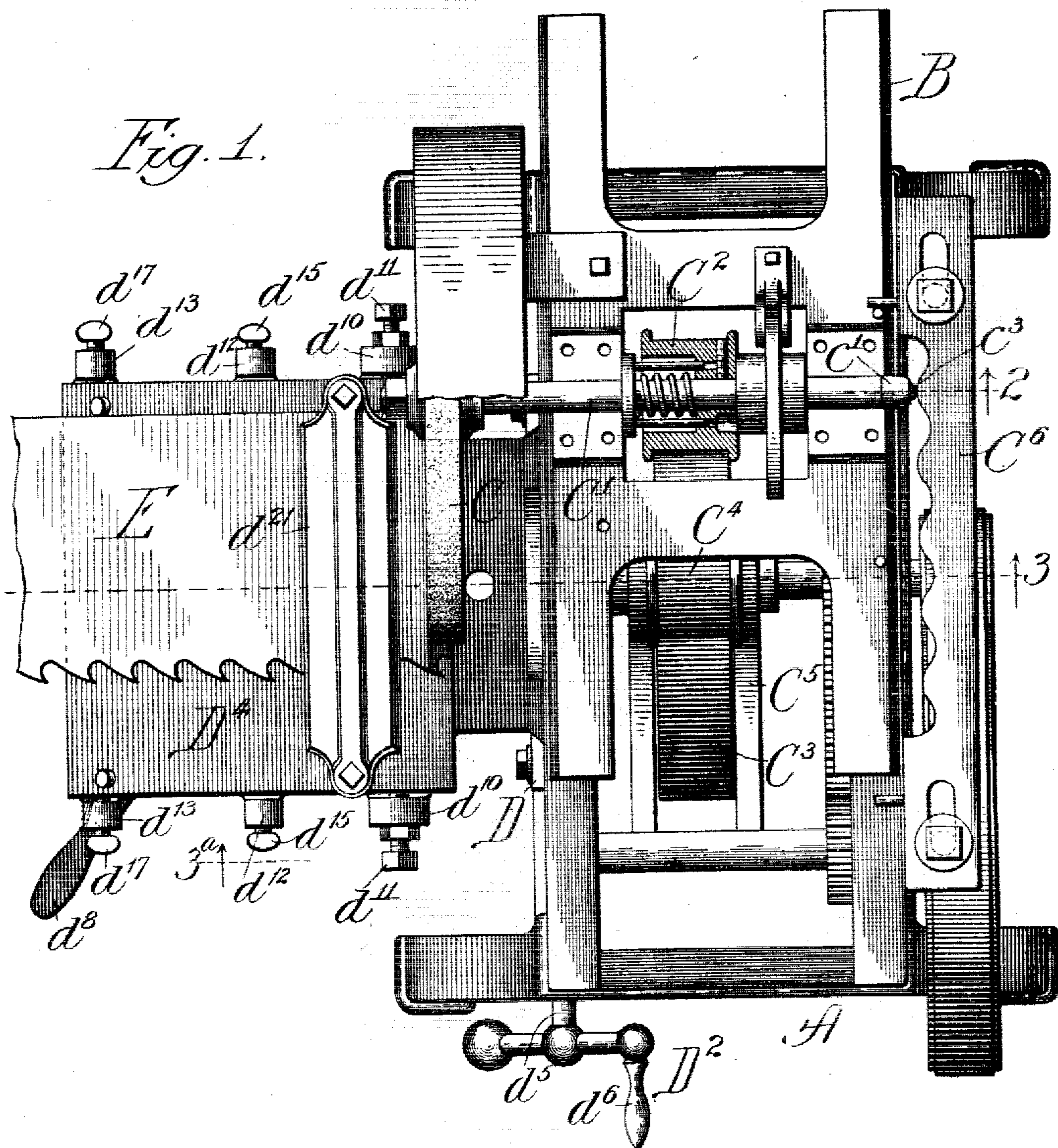
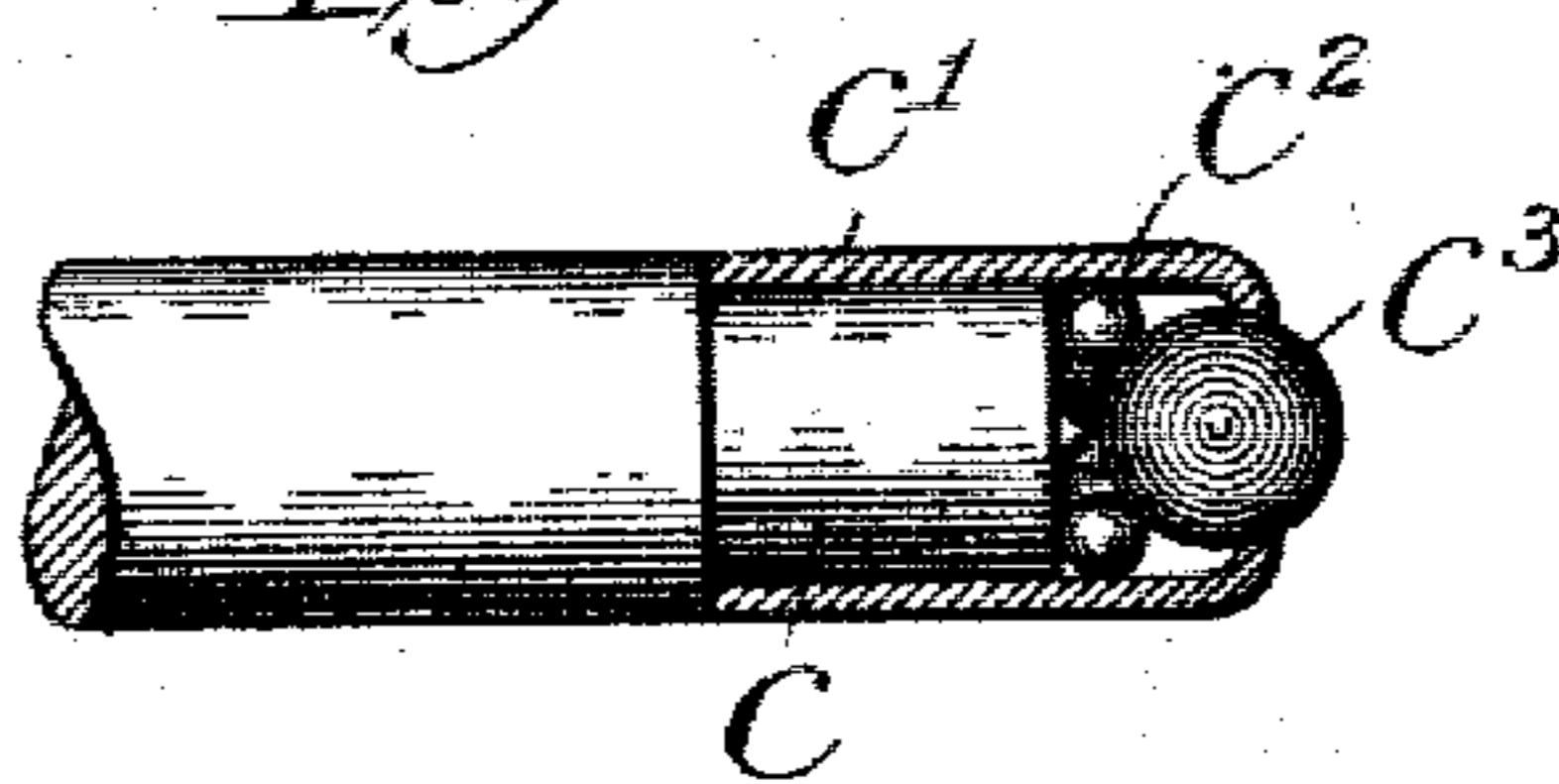


Fig. 2.



Witnesses:

Ed. O. Hayford.

John Enders.

Inventor

Lars L. Filstrup.

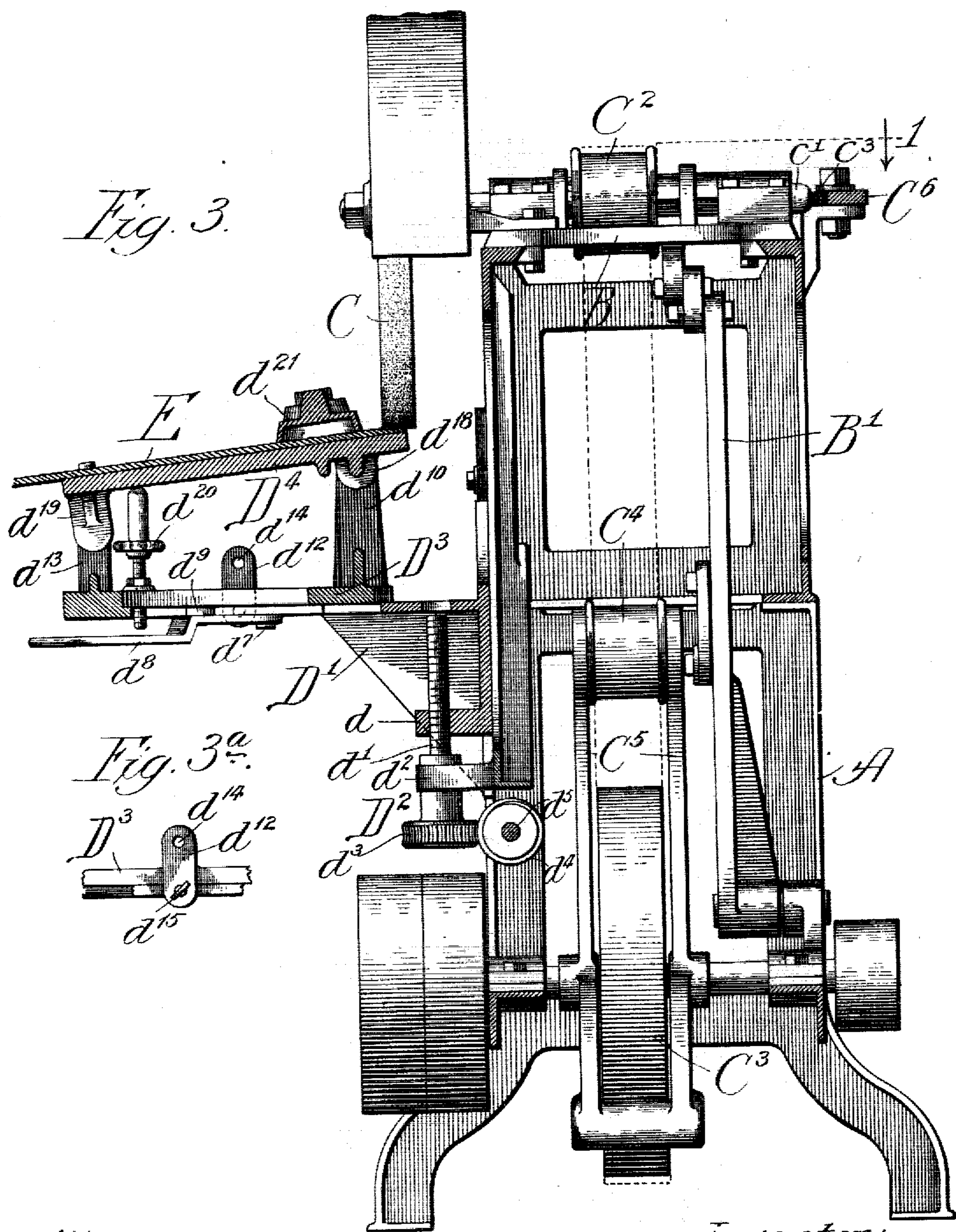
By Dyrenforth, Dyrenforth & Lee,
Att'ys.

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3 SHEETS--SHEET 2.



Witnesses:
E. C. Gaylord.
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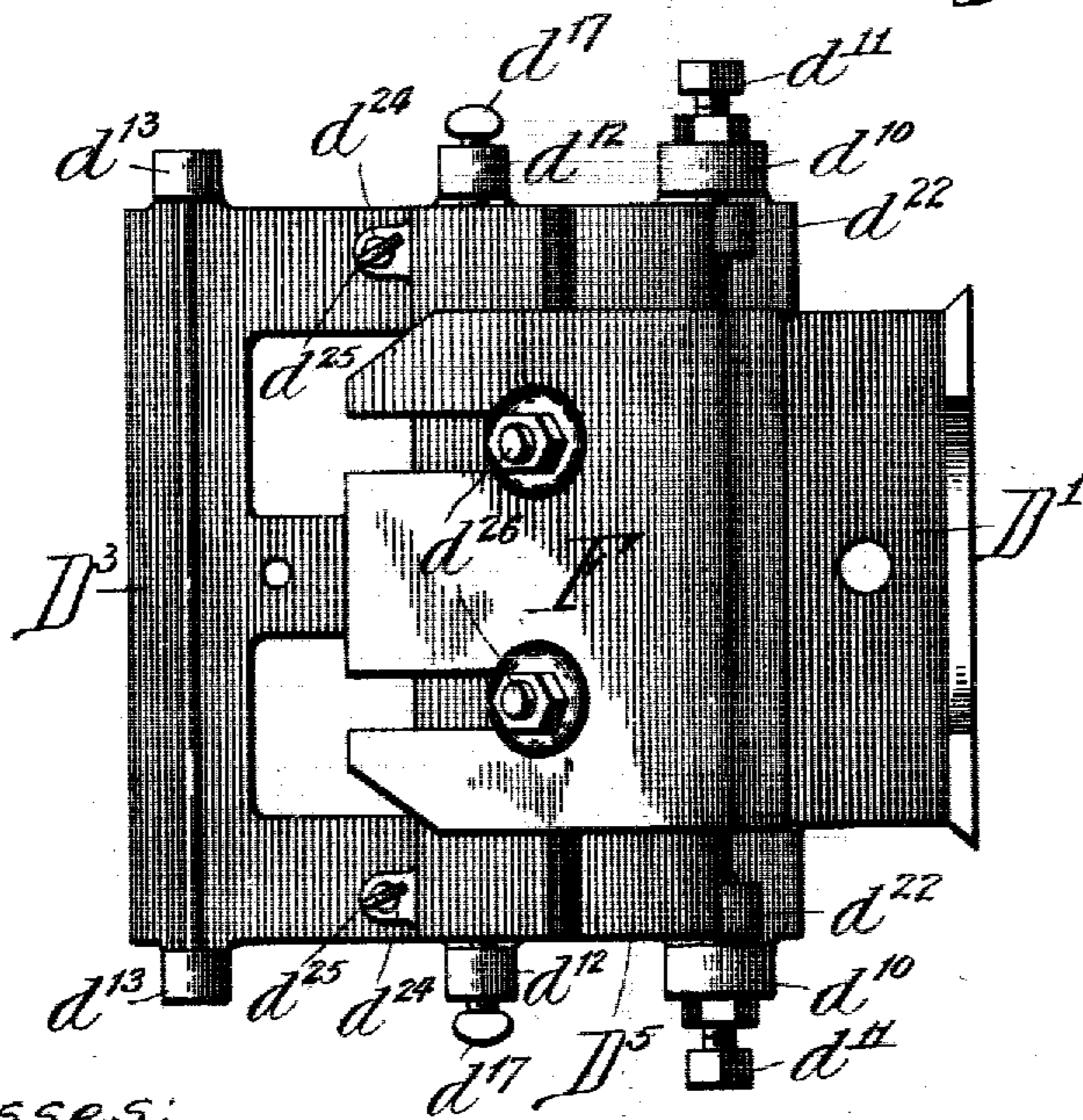
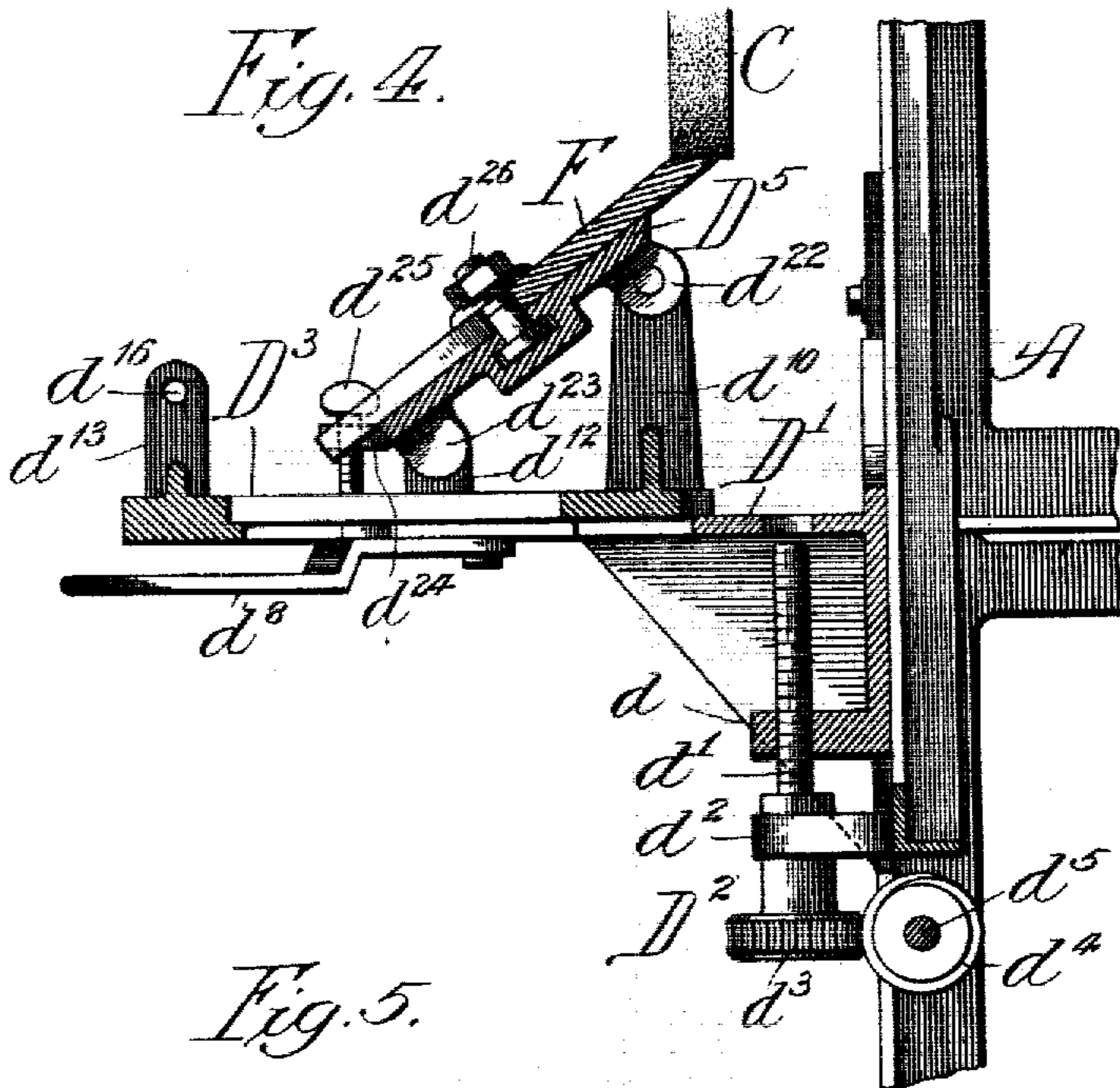
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3 SHEETS—SHEET 3.



Witnesses:
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UNITED STATES PATENT OFFICE.

LARS L. FILSTRUP, OF CHICAGO, ILLINOIS, ASSIGNOR TO COVEL MANUFACTURING COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

SAW-DRESSING MACHINE.

No. 811,835.

Specification of Letters Patent.

Patented Feb. 6, 1906.

Application filed March 1, 1904. Serial No. 196,002.

To all whom it may concern:

Be it known that I, LARS L. FILSTRUP, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Saw-Dressing Machines, of which the following is a specification.

My invention relates particularly to improvements in details of construction of saw-dressing machines of the character described in Letters Patent No. 523,882, granted to Milo Covell July 31, 1894.

My primary object is to provide an improved table or support for the blade to be dressed, which will enable any desired bevel to be given to the blade while providing for adjustability in a plane at right angles to the grinding-wheel.

A further object is to provide for the grinding-wheel arbor an improved bearing adjacent to the reciprocating cam which serves to reciprocate the arbor of grinding-wheel.

The invention is illustrated in its preferred embodiment in the accompanying drawings, in which—

Figure 1 represents a broken plan sectional view of my improved saw-dressing machine, the section being taken as indicated at line 1 of Fig. 3; Fig. 2, an enlarged sectional view showing a detail at one end of the grinding-wheel arbor, the section being taken as indicated at line 2 of Fig. 1; Fig. 3, a vertical sectional view taken as indicated at line 3 of Fig. 1; Fig. 3^a, a view of a detail of a lock for the table upon which the blade is clamped; Fig. 4, a broken section similar to Fig. 3, but showing a substitute table employed for use in sharpening a blade of different character from the blade shown in Fig. 1; and Fig. 5, a plan view of the table shown in Fig. 4.

The general construction of machines to which the present improvements relate is well understood in the art, and a detailed description of only so much of the machine as is related to the improvements will suffice for an understanding of the invention.

The preferred construction is as follows:

A represents the frame of the machine; B, a carriage reciprocatingly mounted on the top of the frame and actuated through a lever B' in a well-known manner; C, a grinding-wheel carried by an arbor C', journaled upon the carriage B and capable of moving longitudinally in its bearing; C² C³, pulleys through which motion is imparted to the grinding-wheel; C⁴, an idler mounted on a pivoted weighted frame C⁵ and acting as a tension device for the belt which communicates motion from the pulley C³ to the pulley C²; C⁶, an arbor-actuating cam supported and actuated in the usual manner; D, a vertical guide connected with the front side of the frame of the machine; D', a slide or adjustable table-support connected with the guide D and vertically adjustable by means of a screw and worm-gear mechanism D²; D³, a table-base adjustable horizontally upon the support D'; and D⁴, Fig. 3, and D⁵, Fig. 4, interchangeable table-tops for use in supporting blades of different character.

The frame A is substantially of a construction now well understood in the art, and the carriage B is mounted and actuated in the usual manner. The grinding-wheel arbor C' is provided, Fig. 2, with a reduced end c, upon which fits a cap c', serving to retain an annular series of small balls c² and a larger ball c³ bearing upon the smaller balls. The end of the cap c' is perforated, allowing the ball c³ to project into contact with the cam C⁶, as shown in Fig. 1. This construction provides an antifriction-bearing, which enables the corrugations of the cam C⁶ to pass the bearing freely in the operation of reciprocating the grinding-wheel arbor.

The guide D and slide D' have dovetail connection, as shown, and the slide is provided with a perforated threaded boss d, in which works the screw d', actuated by the worm and gear adjusting mechanism. The screw d' is supported by a boss d² on the front side of the frame and is equipped at its lower end with a worm-wheel d³, meshing with a horizontal worm d⁴, having a stem d⁵ projecting beyond one end of the frame and equipped with a handle d⁶. The support D' has a horizontal top portion constituting a guide, upon which is mounted the table-base D³, the parts having suitable dovetail connection, as shown in Fig. 3^a. Connected with the support D' by a pivot d⁷ is a hand-lever d⁸, joined by a pivot d⁹ with the base D³, a slot being provided at one of the pivotal connections in the usual manner. The base D³ is provided at the lateral edges of its inner end with lugs or standards d¹⁰, which receive pivotal screws d¹¹, is provided intermediately at its lateral

edges with lugs d^{12} , and is provided at the lateral edges of its outer end with lugs d^{13} . The lugs d^{12} , Figs. 3 and 3^a, are provided at their upper ends with threaded perforations d^{14} and at their lower ends with threaded perforations receiving set-screws d^{15} , which serve to clamp the table-base on its guide. The lugs d^{13} are provided, Fig. 4, with threaded perforations d^{16} . A pair of set-screws d^{17} is provided, which are used interchangeably in the perforations d^{14} and d^{16} to clamp the table-top, depending upon which table-top is used, at any desired degree of inclination.

The table-top D^4 is provided at the lateral edges of its inner end with pivotal lugs d^{18} , perforated to receive the inner ends of the pivotal screws d^{11} , and said table-top is provided at the lateral edges of its outer end with downwardly-projecting lugs d^{19} , whose outer surfaces contact with the inner surfaces of the lugs d^{13} of the table-base.

The table-base is provided with a set-screw d^{20} , having an upwardly-projecting stem bearing beneath the central portion of the outer end of the table-top D^4 , as shown in Fig. 3. This set-screw may be removed when the table-top D^5 is substituted for the table-top D^4 . The table-top D^4 is equipped with a clamp d^{21} of well-known construction.

The table-top D^5 is provided at the lateral edges of its inner end with downturned lugs d^{22} , which are perforated to receive the inner ends of the pivotal screws d^{11} , has downturned lugs d^{23} at the lateral edges of its outer end adapted to contact with the inner surfaces of the lugs d^{12} of the table-base, and is provided with forwardly-projecting lugs d^{24} , receiving adjusting-screws d^{25} , whose lower ends bear upon the upper surface of the table-base, as shown in Fig. 4. The table-top D^5 has a smooth upper surface and is provided with a slot receiving the heads of clamping-bolts d^{20} , which serve in securing a blade, such as a hog-knife or planer-knife, in place.

The manner of use of the machine will be readily understood by those skilled in the art.

When it is desired to use the machine as a scarfing-machine for dressing the ends of a band-saw preparatory to brazing the same, the table-top D^4 is employed, the inner end being supported on the pivotal screws d^{11} , the desired inclination of the table-top being given by the adjusting-screw d^{20} and the table-top being securely clamped to the table-base by the screws d^{17} , bearing against the lugs d^{13} . Figs. 1 and 3 show one end of a band-saw E , clamped to the table-top D^4 by means of the clamp d^{21} . In the first portion of the grinding operation it is desirable to secure the arbor of the grinding-wheel against longitudinal movement in the usual manner and move the table out and in manually by means of the hand-lever d^8 while the grinding-wheel is being reciprocated by its carriage, the object of this movement being to prevent

uneven wearing of the grinding-wheel. When the finishing touches are being given to the bevel produced on the end of the blade, the table is clamped in the proper position by means of the screws d^{15} and the grinding-wheel arbor is caused to oscillate or reciprocate in the usual manner, the table being vertically adjusted, so that the wheel will grind lightly. This insures a smooth even bevel. When it is desired to grind a blade, such as the hog-knife F , the table D^4 is removed and the shorter table D^5 applied, it being desirable in this instance to secure a greater inclination of the table than is possible with the table D^4 . The inclination of the table D^5 is adjusted by means of the screws d^{25} , and the screws d^{17} having been removed from the lugs d^{13} are employed to clamp the table-top securely to the lugs d^{12} of the table-base.

It will be understood that changes within the scope of my invention may be made. Hence no undue limitation should be understood from the foregoing detailed description.

What I regard as new, and desire to secure by Letters Patent, is—

1. In a machine of the character described, the combination of a frame, a table-support connected therewith and provided with a horizontal guide projecting perpendicular to the adjacent side of the frame, a table-base mounted on said guide to move toward or away from said side of the frame, a table-top pivotally connected with said table-base near the inner edge thereof, and adjusting means connecting the table-top and table-base, whereby the inclination of the table-top may be varied, for the purpose set forth.

2. In a machine of the character described, a table-support equipped with a guide, a table-base mounted on said guide and provided at the inner portion with pivot-supports, interchangeable table-tops provided at their inner portions with means for attaching them to said pivot-supports, and means at different positions on the table-base for securing the outer portions of the table-tops, whereby either table-top may be used, as desired.

3. In a machine of the character described, the combination of a table-support equipped with a horizontal guide, a table-base mounted on said guide, means for moving the table-base on its guide, pivot-supports at the lateral edges of the inner portion of the table-support, a table-top pivoted thereon at its inner end, means for adjusting the outer end of the table-top vertically, and means for clamping the table-top to the table-base after adjustment of inclination, for the purpose set forth.

4. The combination of a table-support provided with a guide, a table-base adjustably connected with said guide, a table-top pivotally connected with the inner end of said table-base, an adjusting-screw for varying the

height of the outer end of the table-top with relation to the table-base, and clamping-screws serving to secure the table-top to the table-base after adjustment of the inclination
5 of the table-top.

5. A table-base for a machine of the character described, comprising a horizontal member provided at its inner end with lateral upturned pivotal lugs, intermediately
10 with lateral upturned lugs for securing the outer end of a relatively short table-top, and at its outer end with lateral upturned lugs for securing the outer end of a relatively long table-top.

15 6. The combination with the frame and grinding-wheel of a machine of the character described, of a table-support adjustable vertically with relation to the frame, and provided with a guide at right angles to the
20 grinding-wheel, a table-base adjustably connected with said guide, and interchangeable table-tops for said table-base, for the purpose set forth.

7. A table-base for the purpose set forth, comprising a member equipped with guide- 25 connecting means and provided at its inner end with a pair of relatively high perforate pivotal lugs, intermediately with a pair of relatively low perforate securing-lugs, and at its outer end with a pair of perforate secur- 30 ing-lugs of intermediate length, for the purpose set forth.

8. In a machine of the character described, the combination with the frame thereof, of a vertically-movable table-support, a vertical 35 screw connected therewith and equipped with a worm-wheel, and a horizontal worm engaging said worm-wheel and provided with a stem projecting past one end of the frame and equipped with a handle, for the purpose 40 set forth.

LARS L. FILSTRUP.

In presence of—

F. M. WIRTZ,

WALTER N. WINBERG.