

(No Model.)

H. VAN NOSTRAND
SAW GUMMER.

No. 312,935.

Patented Feb. 24, 1885.

Fig. 1.

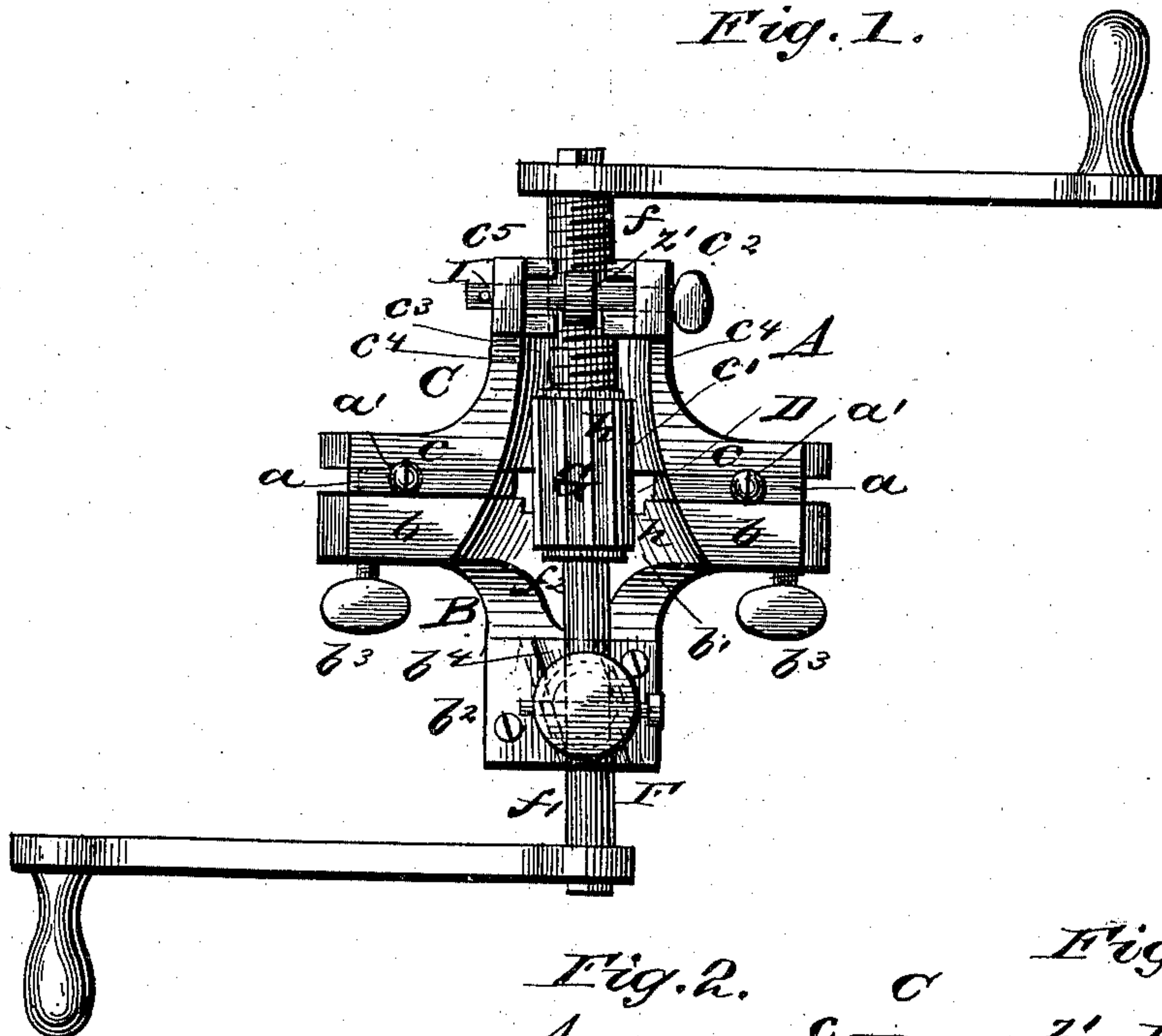


Fig. 4.

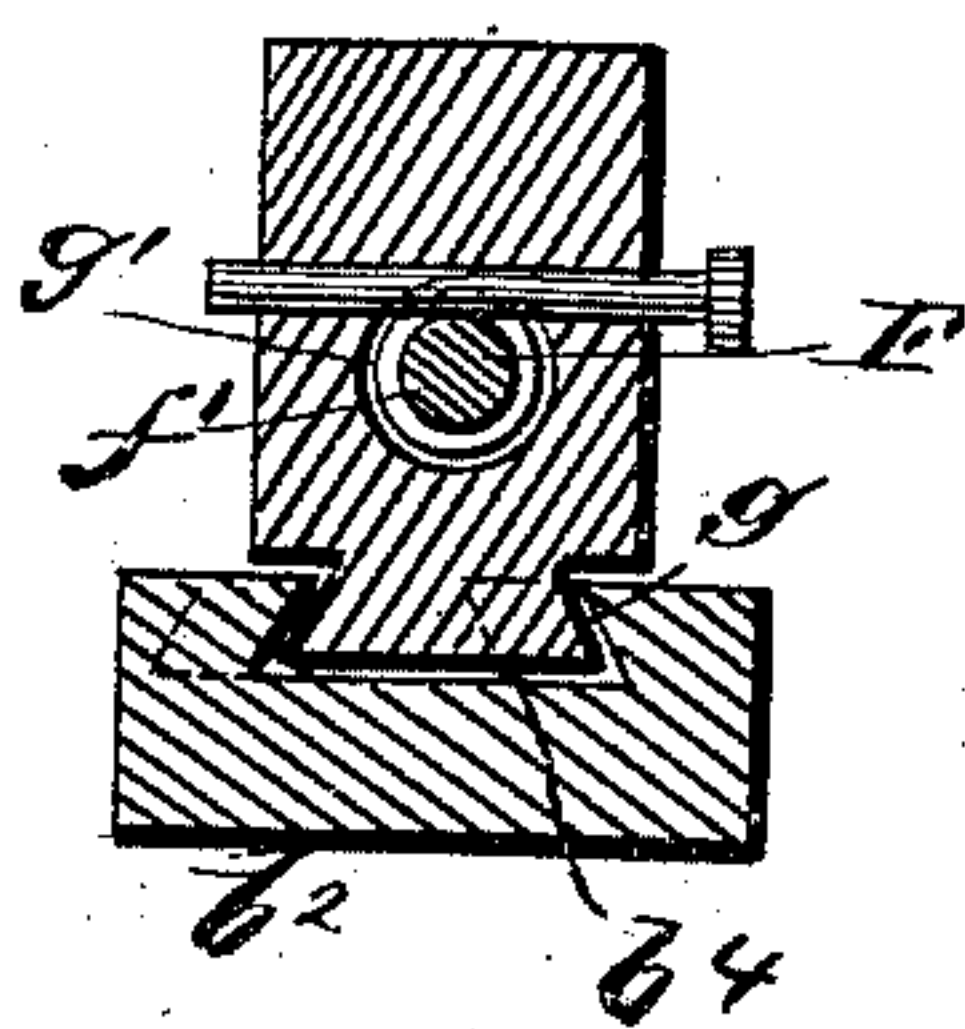


Fig. 2.

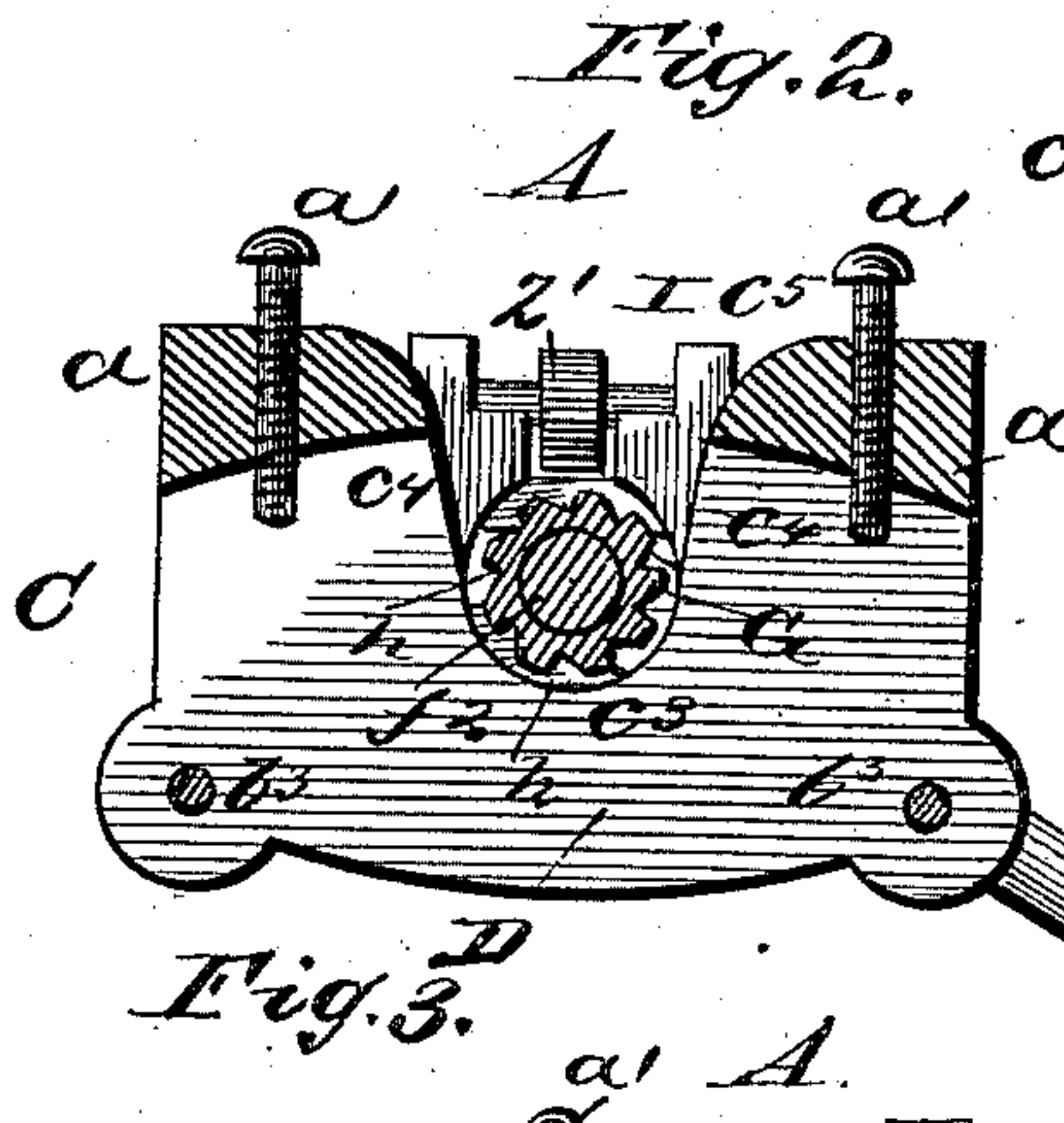


Fig. 5.

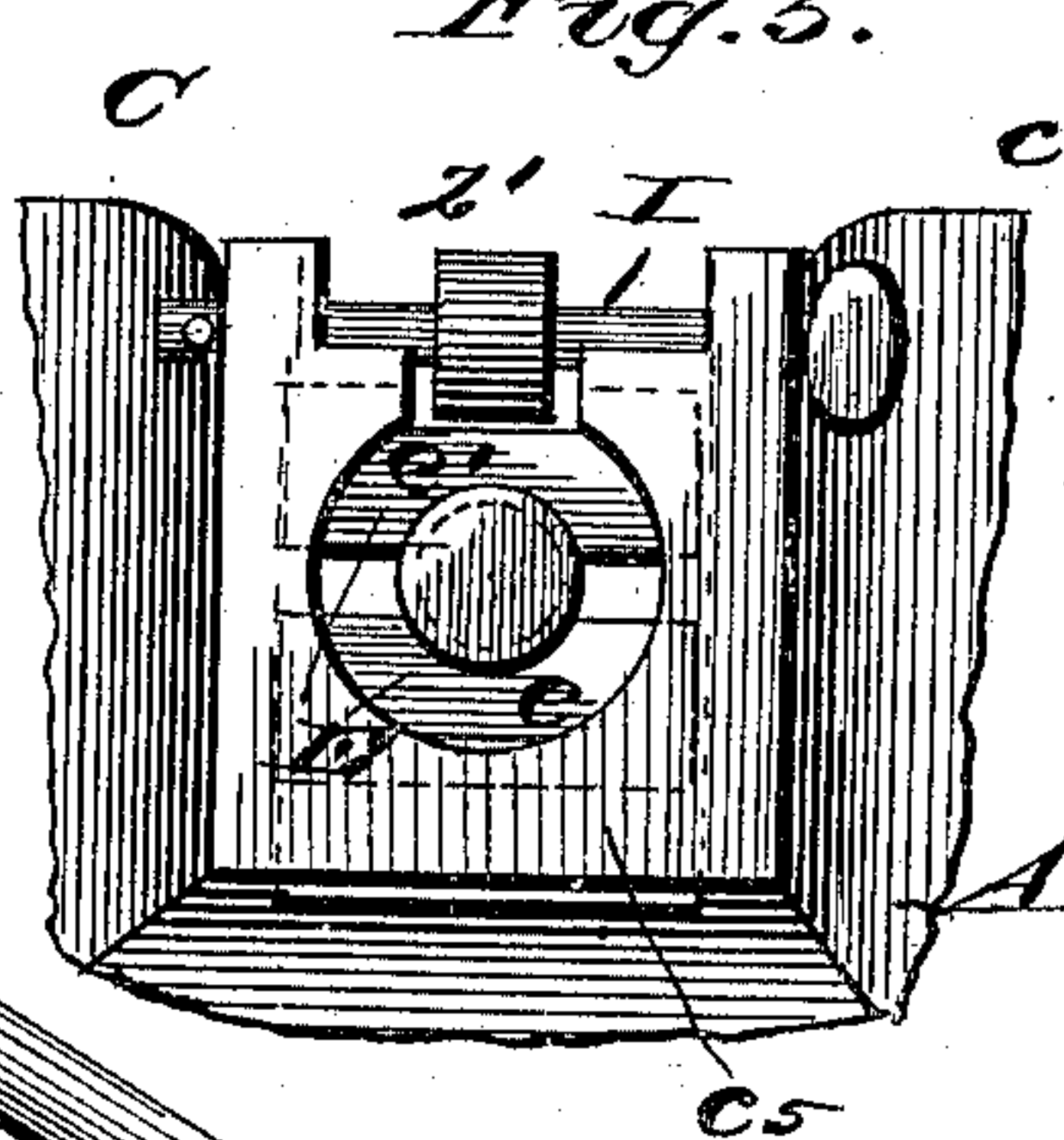
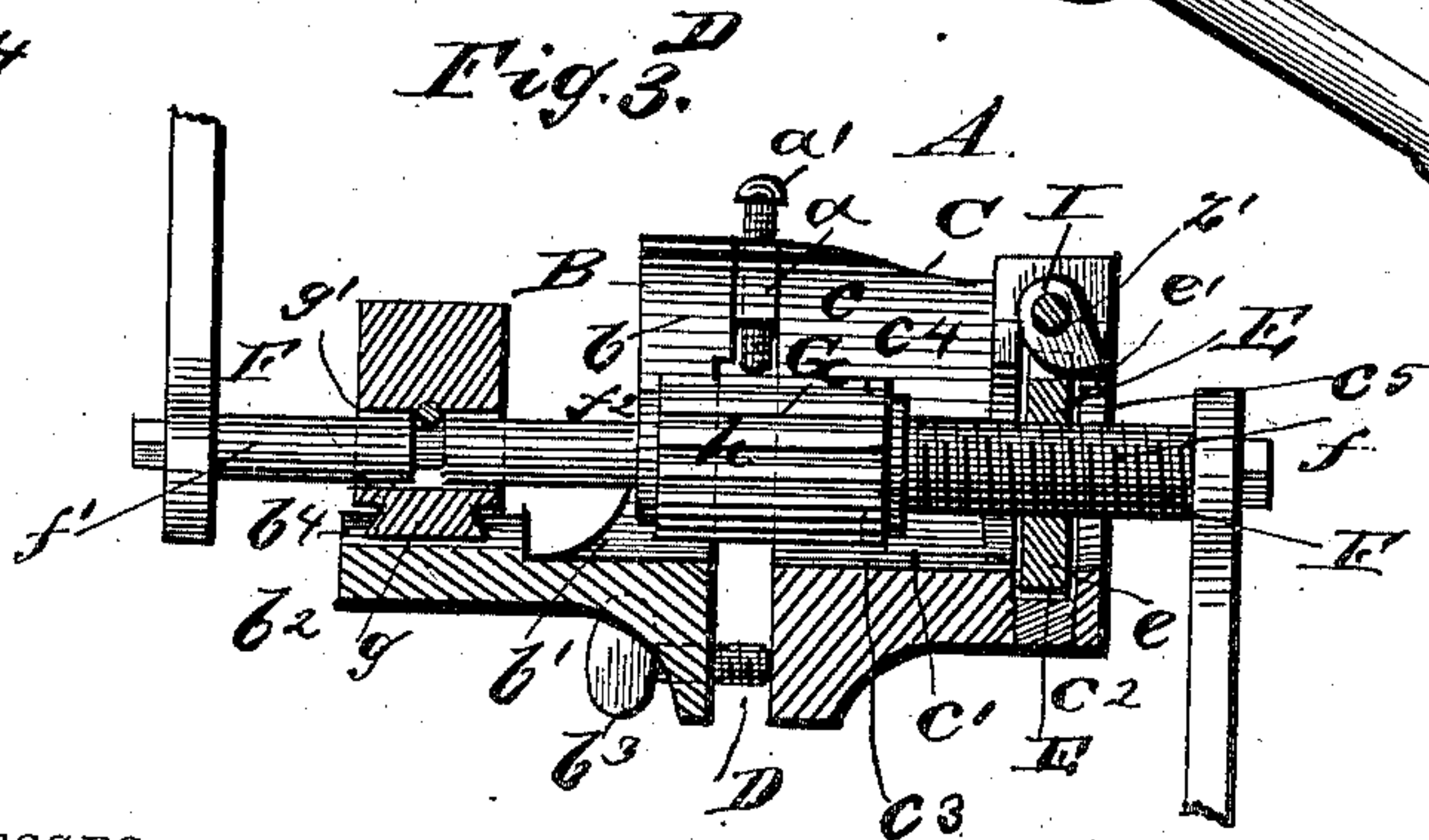


Fig. 3.



WITNESSES

Philip C. Massi
E.H. Zoller

INVENTOR

by H. Van Nostrand
Anderson & Smith
his Attorneys

UNITED STATES PATENT OFFICE.

HAZEN VAN NOSTRAND, OF GLOVERSVILLE, NEW YORK.

SAW-GUMMER.

SPECIFICATION forming part of Letters Patent No. 312,935, dated February 24, 1885.

Application filed May 10, 1884. (No model.)

To all whom it may concern:

Be it known that I, HAZEN VAN NOSTRAND, a citizen of the United States, residing at Gloversville, in the county of Fulton and State of New York, have invented certain new and useful Improvements in Saw-Gummers; and I do 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.

Figure 1 of the drawings is a plan view of my device. Fig. 2 is a vertical sectional view of the same. Fig. 3 is a transverse section. Figs. 4 and 5 are detail views.

The invention relates to that class of gummers in which the saw-blade passes into a slit or recess in the device, and is engaged therein by set-screws or other proper means while being operated upon; and its object is to provide the device with a cutter, preferably of cylindrical form, which, without the saw-blade being moved, will bite continuously into the edge of the same, and which may be run at a high rate of speed without heating.

The invention essentially consists in providing the gummer with a crank-shaft for carrying the cutter, one end of which shaft is threaded and passes through a proper nut to make the cutter travel across the edge of the saw-blade. The other end of the crank-shaft passes at right angles through and rotates in a guide part provided with a dovetailed foot. The said foot, driven by the crank-shaft, travels in a dovetailed groove, into which it fits snugly, outward and laterally, in the direction to carry the cutter attached to the shaft deeper in between the teeth of the saw-blade, which is fixed by set-screws or other proper means at right angles to said shaft and cutter, the cutter being cylindrical and fixed concentrically upon the shaft.

The invention further consists of certain details of construction, hereinafter more fully described.

In the accompanying drawings, A represents the frame of the device, composed of the two lateral parts B and C, having between their inner surfaces the slit or recess D, to accommodate the saw-blade. The said parts are

separated at the top by the end clips, *a a*, provided with the vertical set-screws *a' a'*, which bear upon the upper edge of the saw-blade and regulate its height.

The part B is composed of the two upright end arms, *b b*, having between them the depression or recess *b'* and an outward projection, *b²*, standing centrally at right angles from its outer surface flush with the bottom of the recess *b'*. *b³ b³* are horizontal set-screws passing through the part B near the ends of its lower edge to fix the saw-blade when it is in proper position. *b⁴* is a dovetailed groove made in the upper surface of the projection *b²* or in the upper surface of a piece attached to the same. The said groove inclines from within outward in the direction opposite to that in which the teeth of the saw point when the latter is in position.

The part C is provided with two upright arms, *c c*, similar to and opposite the arms *b b*, and having between them a recess, *c'*, similar and opposite to *b'*. The clips *a a* rest between the said opposite arms and form the top wall of the recess D. *c²* is an outward projection from the part C, standing centrally at right angles to its outer surface, and composed of the horizontal floor or bottom *c³*, flush with the bottom of the recess *c'* and the vertical sides *c⁴ c⁴*, which rise from the edges of said floor to the top of the arms *c c*. The projection *c²* has fixed transversely in its outer end between the sides a proper box, *c⁵*, to carry the nut E, which is divided in its transverse diameter into the parts *e* and *e'*. The lower part, *e*, rests within the lower part of the box, with its upper edge horizontal. The upper part, *e'*, has its upper edge squared, and is made vertically adjustable within the upper part of the box by means and for a purpose hereinafter described.

F is the crank-shaft, having at opposite ends arms *f f'*. The arm *f* is externally threaded to engage the internal threads of the nut E, and has its outer end squared for the attachment of a crank. The arm *f'* at the opposite end of the shaft is somewhat longer than the arm *f*, has its outer end squared for a similar purpose, and has a bearing in a guide-post hereinafter described. The central portion, *f²*, of the crank-shaft passes concentrically through the cutter G, and also through the guide-post,

which is provided at its lower end with a dove-tailed foot, g , which fits snugly and moves longitudinally within the dovetailed groove b^4 . The guide-post is also provided with an opening, g' , through which the arm f' passes, and in which it freely turns, being fixed in the proper position therein by means of a pin passing through the guide-post and engaging in a circumferential groove on said arm, or by other proper means.

G is the cutter, cylindrical in form, and provided with the longitudinal cutting-edges h h , so as to form a burr. The said cutter is fixed concentrically upon the part f^2 of the crank-shaft in such manner that it may be removed, if desired, and another of different size and shape substituted.

I is a horizontal transverse rod passing through the upper part of the sides c^4 c^4 , above the box, containing nut E , and carrying between said sides the cam z' , which may be turned down upon the upper squared edge of the part e' of the nut when it is desired to make said nut closely engage the threaded arm f , the upper edge of the box c^5 being cut away to allow it free passage. The rod I is preferably threaded where it passes through either of the sides c^4 , so as to hold the cam firmly against the upper part of the nut.

The operation of the device is as follows: The saw-blade being set in proper position by means of the screws a' a' and b^3 b^3 , the cam z' is turned down upon the upper part of the nut, which thereupon engages the threaded arm f of the crank-shaft. The cranks are then turned in the proper direction, and by the joint action of the nut and arm f the cutter is rotated so as to travel across the edge of the saw-blade between two adjacent teeth. The joint action of the nut and arm f also causes the guide-post G to travel longitudinally in

the groove b^4 , and consequently the cutter is drawn continuously deeper between the teeth and bites deeper into the saw-blade. When one cut has been made, the cam is released from the nut, and the arm f consequently disengaged from the same. The crank may then be slid by hand into proper position to begin another cut.

The cutter during the operation brings to bear at every revolution a different part of the surface upon the edge of the saw-blade, and consequently can be rotated at a high rate of speed without being heated by friction.

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

1. In the saw-gummer, the combination, with the crank-shaft F , provided with the arm f' and with the threaded arm f , which has a bearing in a nut properly attached to the frame of the device, of the cylindrical cutter H , guide-post G , and the supporting-frame having dovetailed groove b^4 , substantially as specified.

2. In a saw-gummer, the combination, with a crank-shaft having a proper bearing at one end, and provided at the other end with the threaded arm f , of the nut E , composed of the parts e and e' , the box c^5 , and rod I , provided with the cam z' , substantially as specified.

3. The combination, with the main frame, reamer-shaft, and means for operating the same, of the nut E , co-operating with the threaded section of the shaft, the rod I , and cam z' , substantially as specified.

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

HAZEN VAN NOSTRAND.

Witnesses:

A. A. HELLWIG,
D. SCIDMORE.