

(No Model.)

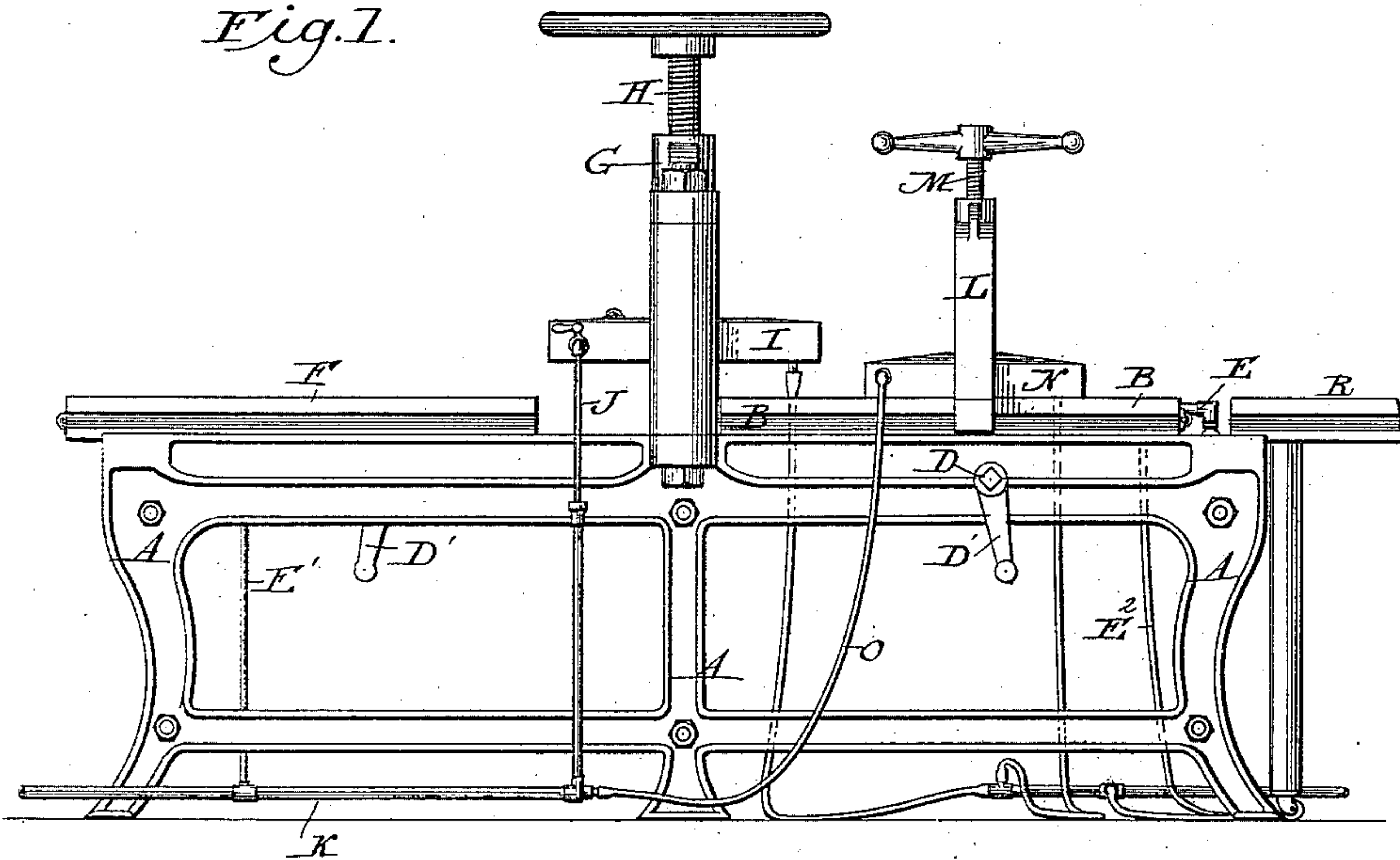
2 Sheets—Sheet 1.

W. H. NELSON.  
STEREOTYPING MACHINE.

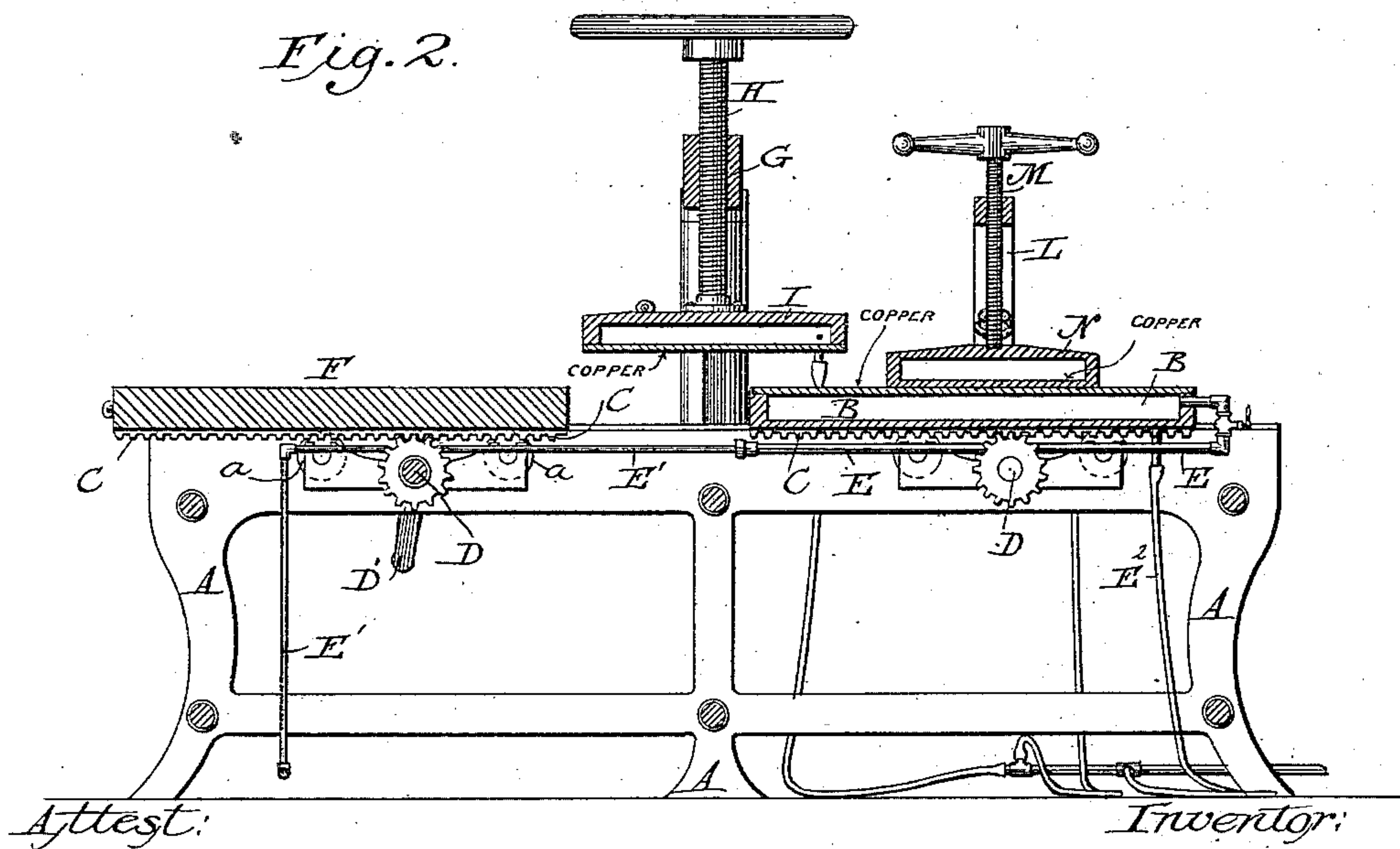
No. 379,241.

Patented Mar. 13, 1888.

*Fig. 1.*



*Fig. 2.*



Attest:

Inventor:

*Sidney P. Hollingsworth*  
*C. A. Kennedy.*

*William H. Nelson.*  
*By his Attorney.*  
*C. I. Dodge.*

(No Model.)

2 Sheets—Sheet 2.

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Fig. 3.

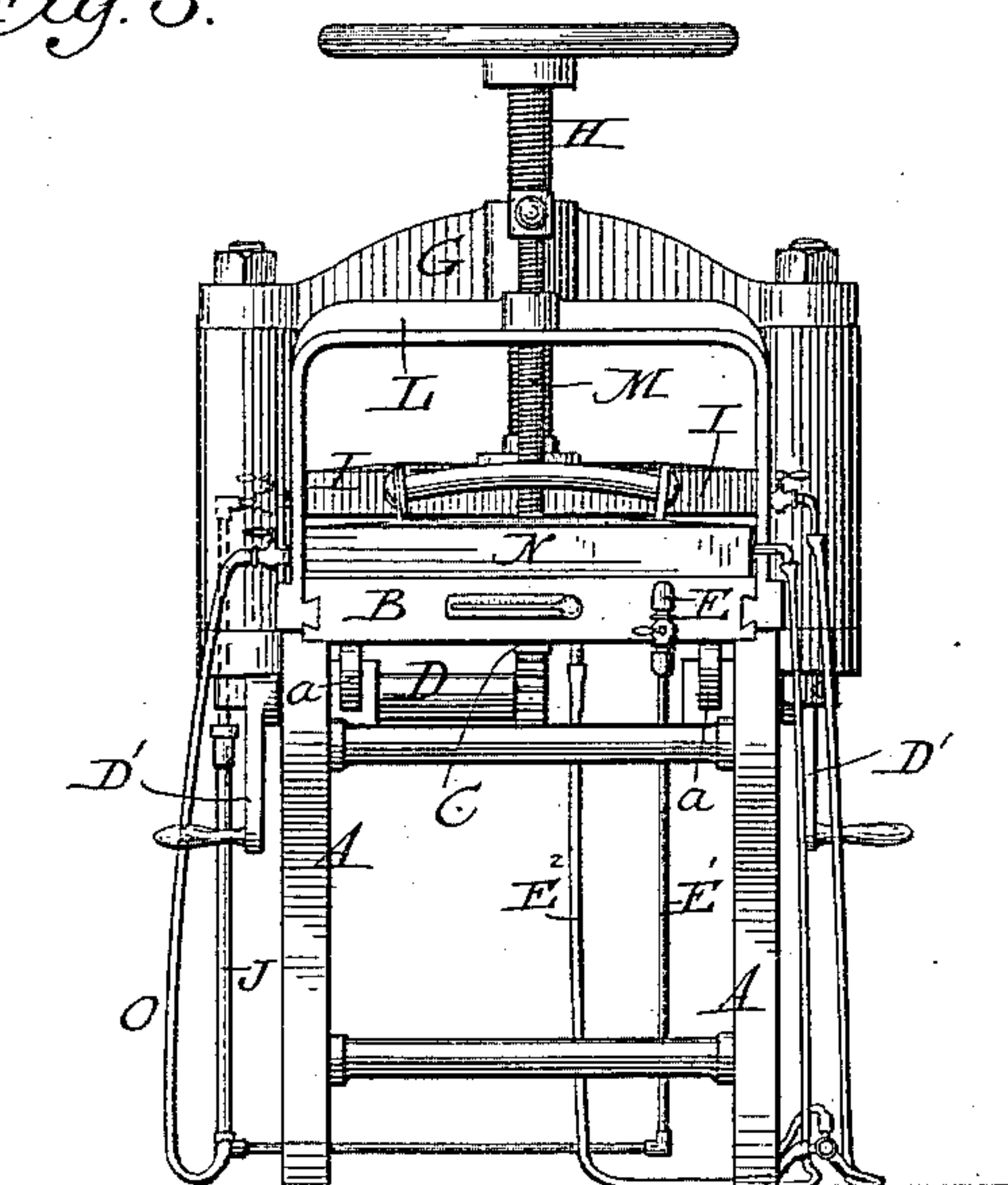


Fig. 5.

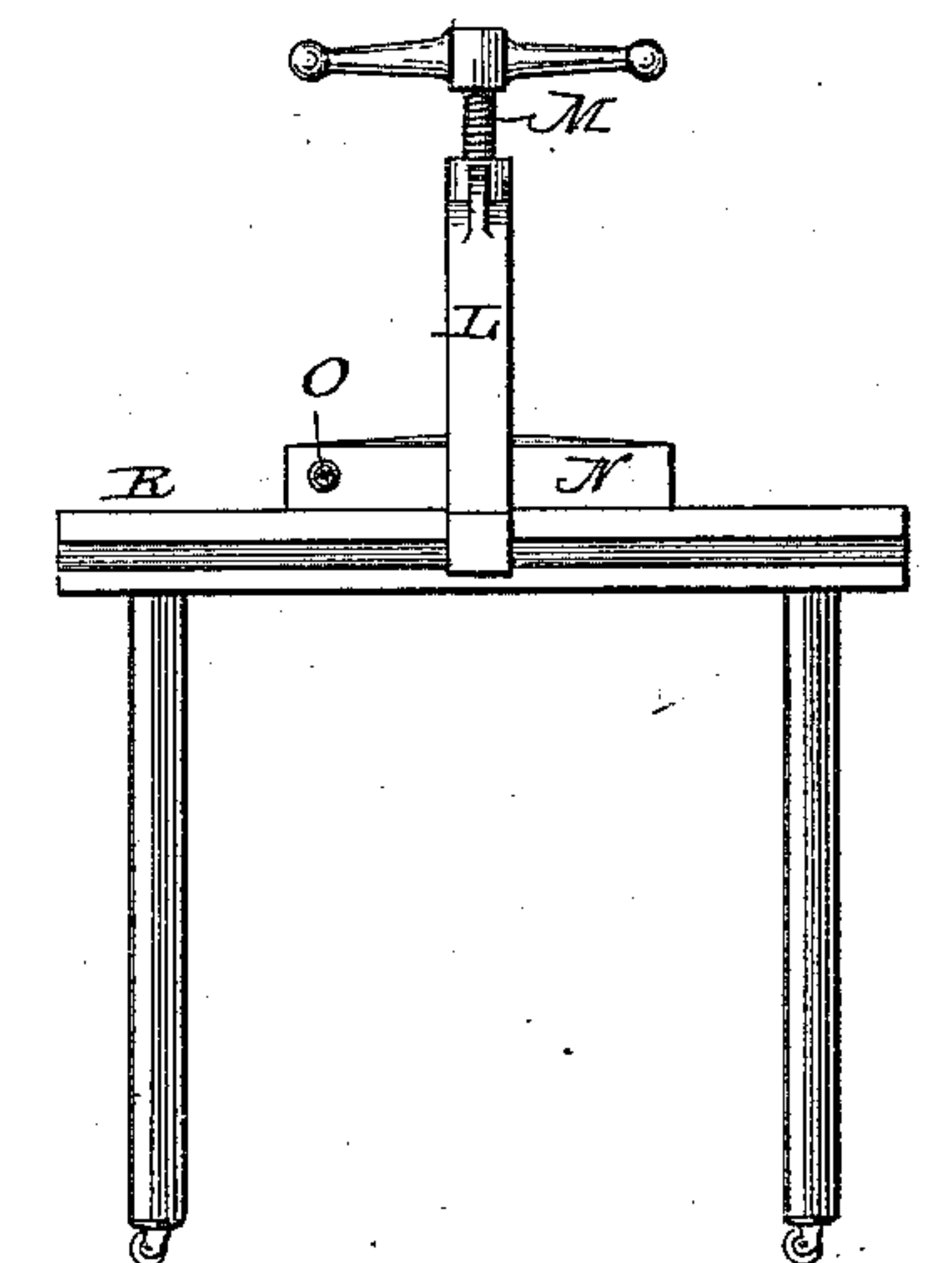


Fig. 4.

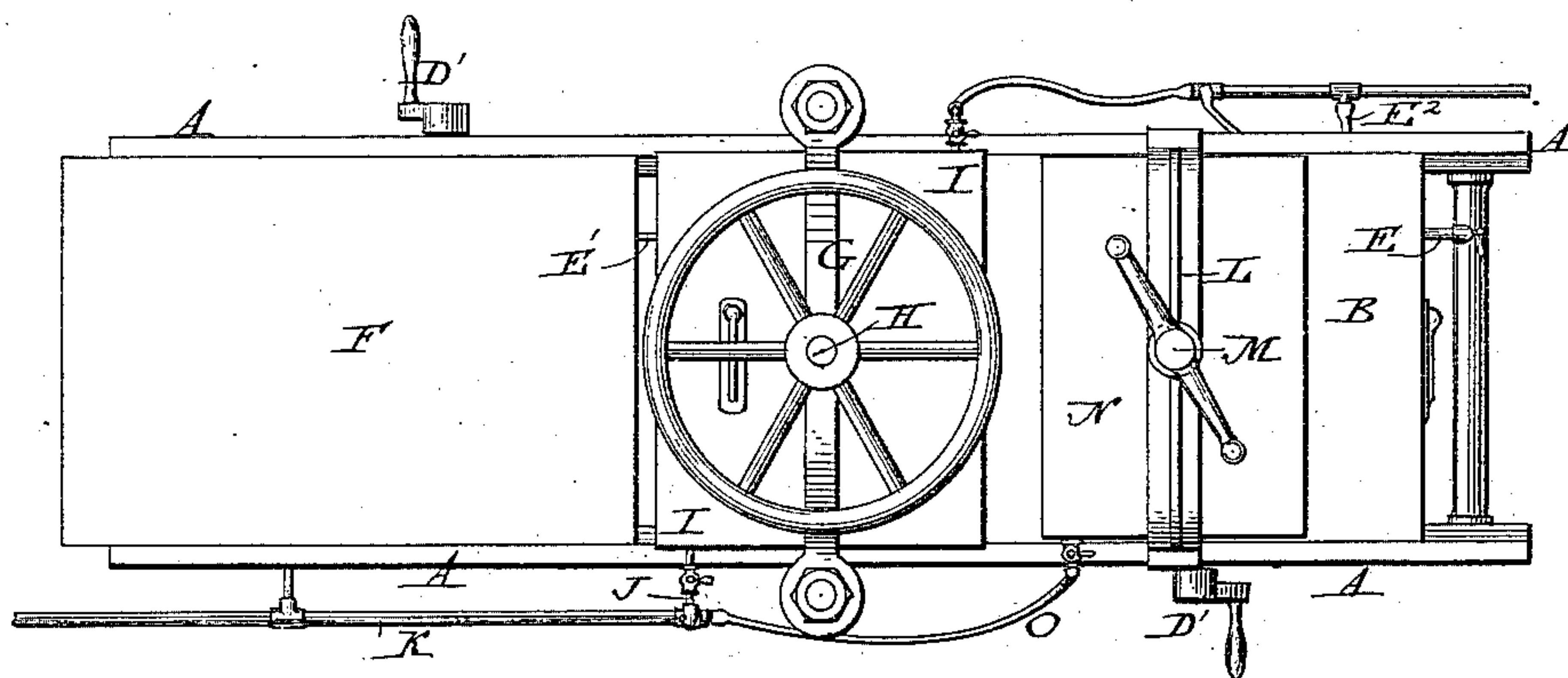
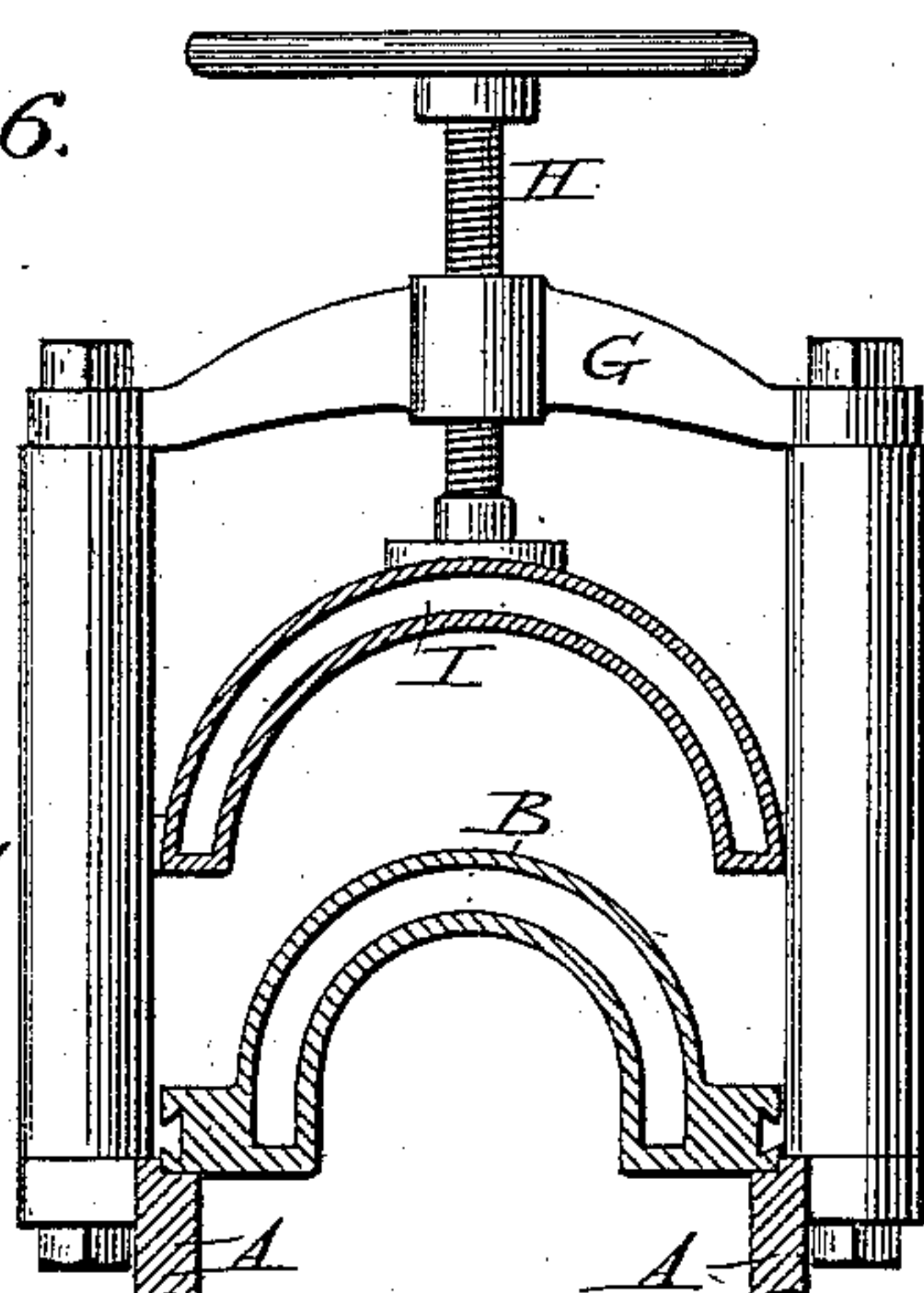


Fig. 6.



Attest:

*Sidney P. Hollingsworth*

*H. R. Kennedy*

Inventor:

*William H. Nelson*

*By his Attorney*

*P. T. Dodge*



# UNITED STATES PATENT OFFICE.

WILLIAM H. NELSON, OF WASHINGTON, DISTRICT OF COLUMBIA.

## STEREOTYPING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 379,241, dated March 13, 1888.

Application filed July 15, 1887. Serial No. 244,400. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM H. NELSON, of Washington, in the District of Columbia, have invented certain Improvements in Stereotyping Machines, of which the following is a specification.

The aim of my invention is to provide a mechanism by which stereotype molds or matrices in plaster-of-paris, papier-maché, or other suitable material may be expeditiously and accurately formed and dried ready for use in casting the stereotype-plates, and this whether of flat or of curved form. To this end I employ a vertically-adjustable hollow platen, with means for supplying the same with a heating or cooling fluid, and with a lower surface composed of copper or other good conductor of heat and an upper surface lined with asbestos or other non-conductor. This platen is supported above a suitable frame or table, on which is arranged a reciprocating bed, combined with means by which it may be carried beneath or moved from under the platen at will. This movable bed is also made hollow, with an upper surface of copper or other superior conductor of heat, and is combined with telescopic pipes through which it may be supplied with a heating or cooling fluid, such as steam or water. I employ in connection with the reciprocating bed anti-friction rollers to render its movement easy under all conditions, and racks, pinions, and hand-cranks, by which it may be conveniently moved. I also provide a supplemental cooling-bed and combine therewith a hollow platen adapted to be heated by steam or other fluid, and provided with a pressure device by which it may be seated on the mold while the latter is supported on the cooling table or bed. I further provide a supplemental table and other accessories, which will be hereinafter described.

In the accompanying drawings, Figure 1 represents a side elevation of my improved machine. Fig. 2 is a longitudinal vertical section through its center. Fig. 3 is an end elevation. Fig. 4 is a top plan view. Fig. 5 is an end elevation of the supplemental cooling-table and the overlying platen or heating-chamber. Fig. 6 is a sectional elevation representing the manner in which the machine may be constructed with curved beds for the purpose of producing matrices for curved ste-

reotype-plates to be used on cylinder presses, and commonly known as "turtles."

Referring to the drawings, A represents a stationary main frame, which may be of any suitable form and construction, adapted to support the parts hereinafter described. At its top this frame is provided with parallel ways or guides along its two sides, to support a bed or table, B, which is mounted thereon and arranged to move freely thereover from end to end. As shown in Fig. 2, this bed is made hollow and connected to one end of a supply-pipe, E, which is arranged to slide over or telescope upon the end of a stationary pipe, E', which extends to a main supply-pipe, K, through which steam, water, or other heating fluid may be passed into the bed when required.

A second pipe, E<sup>2</sup>, leading from the bottom or other suitable point in the bed, serves to deliver the fluid therefrom. By means of these two pipes a constant circulation of the fluid through the bed may be maintained, if desired. The delivery or waste pipe may be united by a flexible or telescopic connection with a receptacle or a pipe leading to a sewer or elsewhere.

The under side of the bed B is provided with a longitudinal rack, C, adapted to engage pinions secured to transverse shafts D, mounted in the main frame and provided with operation-cranks D' on their outer ends. There are two of these shafts and pinions—one at each end of the machine—so that the bed will engage one or the other of the pinions, according as it is carried to one end or the other of the frame. To assist in supporting the bed and reducing the friction, anti-friction rollers *a* are mounted in bearings on the inside of the main frame and arranged to bear at the periphery on surfaces planed on the under side of the bed.

At the top of suitable posts rising from the sides of the main frame I secure a cross-head, G, sustaining at its middle a vertical hand-screw, H, which in turn carries at its lower end the hollow platen I; overlying the middle of the frame in suitable position to admit of the bed B being brought beneath it. This platen, which is adjustable vertically by means of the screw, is connected to one end of a telescopic pipe, J, which in turn connects with the pipe K, supplying steam or hot water, as before



mentioned. Each of the pipes is provided with a cock, by which the delivery of the fluid may be limited or stopped at will.

F represents a solid supplemental table or bed, which I designate a "cooling-table," intended more especially for use with wood-cuts, electrotypes, or stereotypes, to prevent the warping or checking of their wooden portions. This is removably mounted on one end of the frame, and is provided on its under side with a rack, by which it may be moved to and fro on the frame after the manner of the hollow bed B. The edges of the cooling-bed F and bed B are grooved or otherwise formed to receive the lower ends of a yoke or cross-tree, L, which supports at its middle a hand-screw, M, carrying a hollow platen or drying-chamber, N, connected to a telescopic or other pipe, O, leading to the steam or water supply. The yoke L admits of the platen N being adjusted lengthwise of the beds B and F, which latter, together with its platen, may be removed from the frame and used independently at will.

The lower faces of the chamber N and platen I and the upper face of the bed F are all constructed of copper, while their other walls are constructed of iron or other appropriate material and lined internally or coated externally with asbestos or equivalent non-conducting material, the object being to facilitate the radiation of heat through the active surfaces, but prevent losses by radiation in other directions. The copper faces are preferably attached by screws or otherwise in such manner as to admit of their being readily removed, if required.

Each of the hollow chambers is provided with a thermometer, by means of which the attendant is enabled to determine the temperature.

My machine, as represented in the figures above described, is intended for book-work and similar work in which flat stereotypes are employed.

R represents an auxiliary or supplemental bed or table supported upon legs having casters, so that it may be conveniently moved from place to place. It is made of such height and size that it may be brought to and joined with the end of the main frame, and that when thus joined its upper surface will lie on a level with the surface of the beds B and F, so that the "forms" may be transferred from either of these beds to the auxiliary table, or vice versa, at will. In connection with this auxiliary chamber I use the auxiliary drying-chamber, constructed in the same manner as the platen I, provided with a handle by which it may be carried or adjusted at will, and also provided with flexible pipes to permit the circulation of the steam or hot water there-through. I groove the edges of this table, so that the yoke L and chamber N may be used therewith when demanded.

For stereotype-plates for newspaper-print-

ing on cylinder presses the bed and platen may be curved in cross-section, as represented in Fig. 6, the construction being in other respects the same as that already described.

The mode of operating my apparatus is as follows: To form and dry clay or plaster-of-paris molds from which to cast stereotypes, the chase containing the type to be molded, commonly known as the "form," is placed on one end of the auxiliary table R and the flask applied as usual in stereotype-work. After having filled the flask with clay or plaster to form the mold, the chase is moved to the other end of the table, so that the mold may harden somewhat and acquire a proper consistency to admit of a drying-blanket being placed upon it. The blanket being then applied, the form and mold are either placed under chamber N or slid onto the drying-bed B and carried under the platen I, which is set down thereon. A heating medium is then admitted to the bed B and platen I, and the drying operation continued until the mold is in proper condition for use in casting, and the formation of other molds in the meantime carried on on the table R. The production of papier-maché matrices is carried on in like manner, except that the papier-maché is beaten into the type in the ordinary manner and blanketed, after which it is carried beneath the platen.

Having thus described my invention, what I claim is—

1. In a stereotyping mechanism, the combination of a bed or frame, a hollow horizontally-sliding bed thereon, and a hollow vertically-adjustable platen thereover.

2. A stereotyping mechanism provided with a hollow sliding bed, a solid sliding bed, and a hollow vertically-adjustable platen, with conductors for delivering fluid into the hollow bed and platen, whereby the form and matrix may be subjected to pressure upon the solid or upon the hollow heated bed, as occasion may demand.

3. In a stereotyping mechanism, the frame, the hollow sliding bed thereon, the hollow vertically-adjustable platen thereover, and the telescopic pipes connecting with said bed and platen, respectively, as described.

4. In a stereotyping mechanism, the supplemental bed or table F and its hollow platen or drying-chamber N, in combination with the adjusting-screw and the screw-supporting yoke L, movable lengthwise of the bed or table, whereby the platen may be carried thereover from one end to the other.

In testimony whereof I hereunto set my hand, this 21st day of June, 1887, in the presence of two attesting witnesses.

WILLIAM H. NELSON.

Witnesses:

F. T. CHAPMAN,  
ANDREW PARKER.