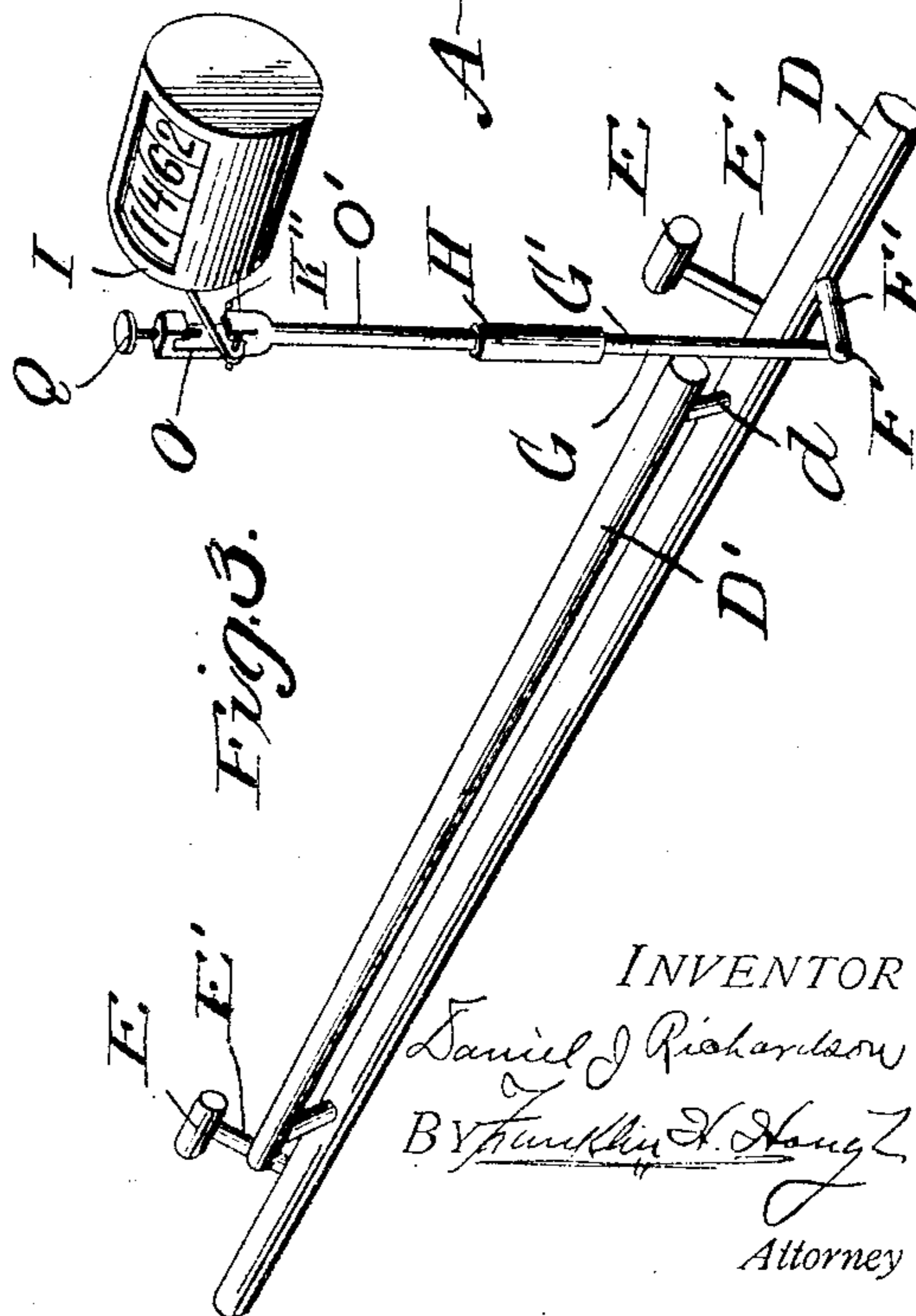
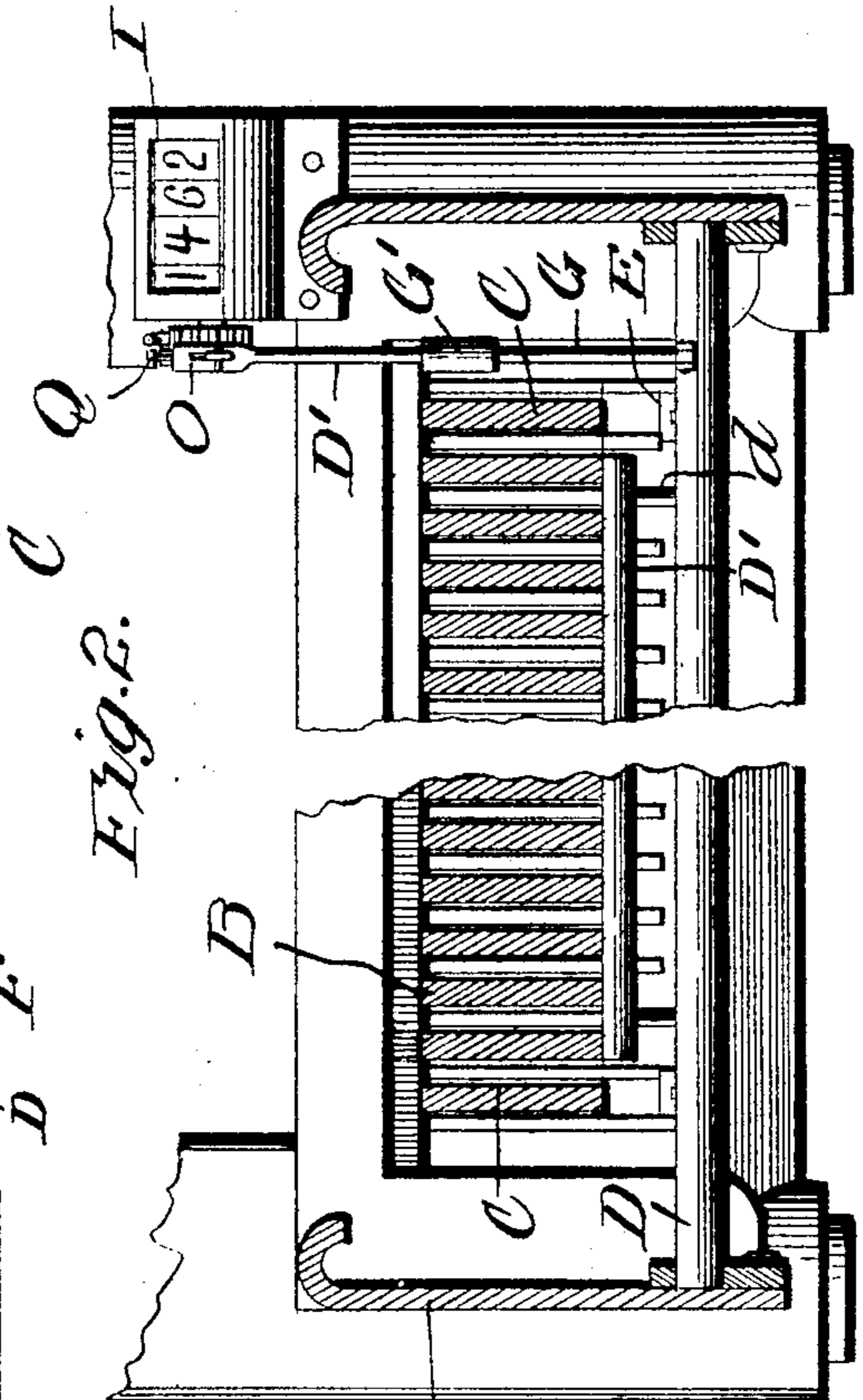
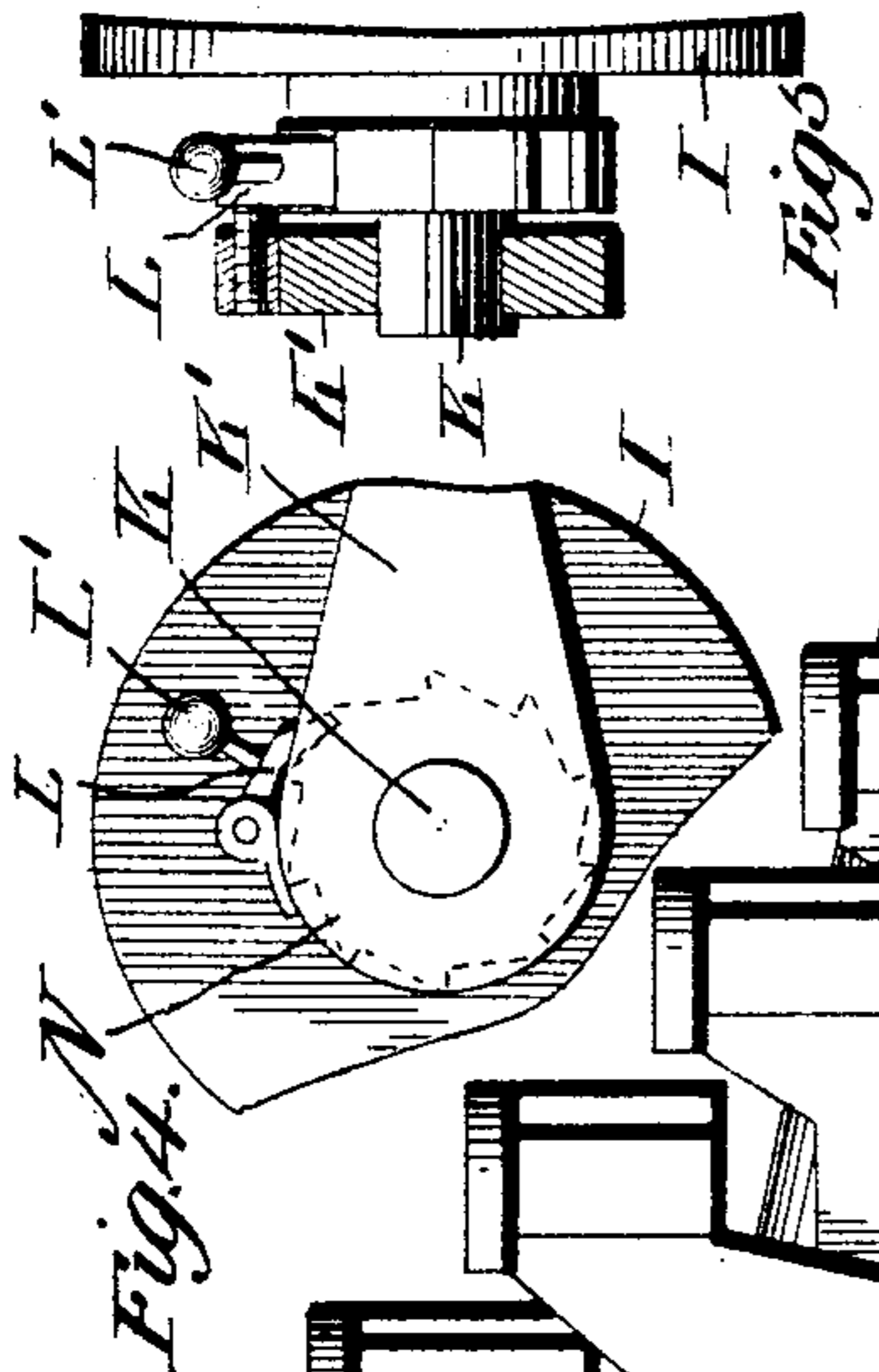
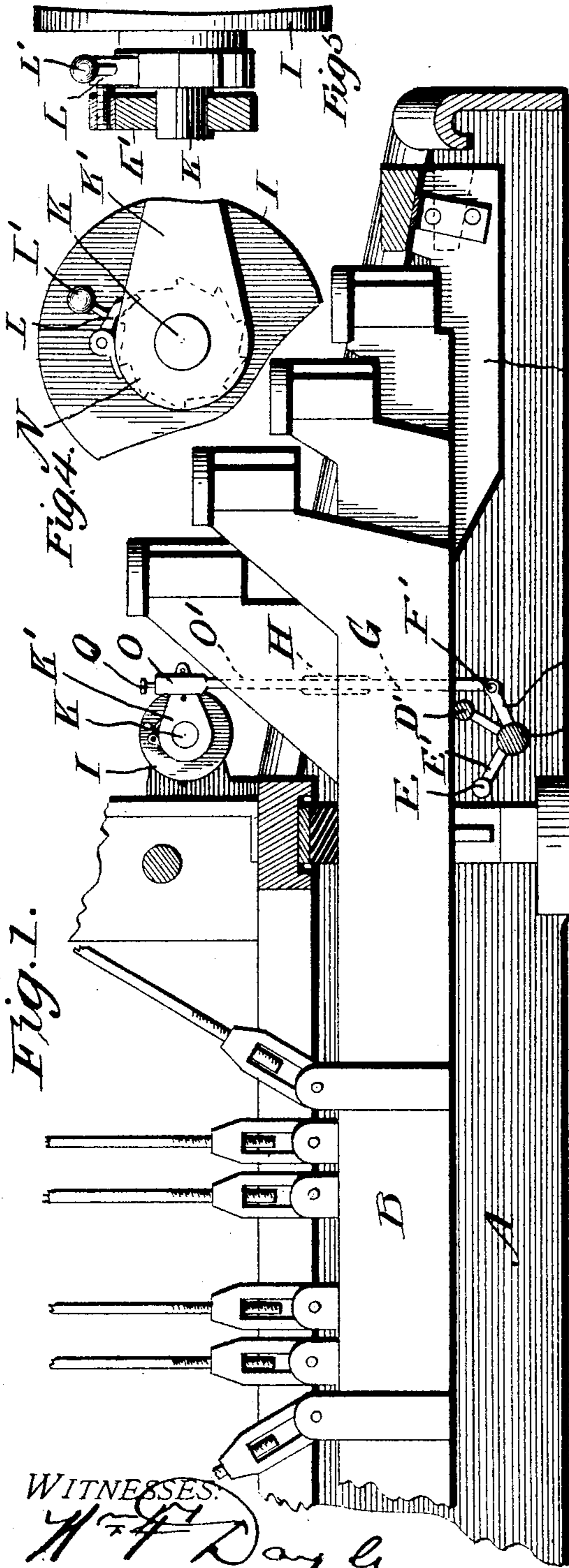


D. J. RICHARDSON.  
REGISTERING ATTACHMENT FOR TYPE WRITERS.  
APPLICATION FILED SEPT. 2, 1904.



WITNESSES:  
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# UNITED STATES PATENT OFFICE.

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## REGISTERING ATTACHMENT FOR TYPE-WRITERS.

No. 797,748.

Specification of Letters Patent.

Patented Aug. 22, 1905.

Application filed September 2, 1904. Serial No. 223,092.

*To all whom it may concern:*

Be it known that I, DANIEL J. RICHARDSON, a citizen of the United States, residing at Syracuse, in the county of Onondaga and State of New York, have invented certain new and useful Improvements in Registering Attachments for Type-Writers, &c.; 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 the letters of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in apparatus for use in connection with type-writers and designed for the purpose of registering the number of words or numerals printed; and the invention comprises a rock-shaft which is adapted to be actuated alternately by the type and spacing levers, whereby a registering apparatus may be operated for registering the words and numerals which have been printed.

The invention consists in various details of construction and in combinations and arrangements of parts, which will be hereinafter fully described and then specifically defined in the appended claims.

My invention is illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this application, and in which—

Figure 1 is a longitudinal sectional view through a type-writer, showing my attachment as applied thereto. Fig. 2 is a cross-sectional view through the frame of a type-writer and at the rear of the keys. Fig. 3 is an enlarged perspective view of the attachment. Fig. 4 is a side elevation of a detail; and Fig. 5 is an edge view of the detail shown in Fig. 4, part of the figure being in section.

Reference now being had to the details of the drawings by letter, A designates the frame of a type-writer of the ordinary construction, which is provided with series of tilting key-levers B, having keys B' upon the free ends thereof.

C C designate the tilting levers, which actuate the spacing mechanism of the type-writer and in the present instance are shown as positioned one at either side of the series of type-levers.

Journaled in suitable bearings in the frame of the type-writer is a rock-shaft D, which may be of any shape and is positioned, preferably,

underneath the series of type and spacing levers and a sufficient distance below the same so as not to interfere with the levers as they are depressed.

D' designates a bar which is supported by the bar D a short distance from and parallel with the same by means of the pins *d*. Said bar D' is shorter than the rock-shaft D for a purpose which will presently appear, and E designates short sections or bars which are mounted upon pins E', projecting from the shaft D, as shown clearly in Fig. 3 of the drawings. The pins *d* and E' project from the rock-shaft at substantially right angles to each other and radially from the shaft for the purpose of bringing either the two sections or rods E in proper positions to be actuated by the spacing-levers or the rod D' in position to be actuated by the type-levers accordingly as the shaft D is rocked in one direction or the other.

Projecting from the rock-shaft is a finger F, carrying a pin F' at the end thereof, which is pivotally connected to a rod G, which has a threaded portion fitting within the threaded union H. Mounted at any suitable location is a registering apparatus, (designated in the drawings by letter I,) which may be of any construction and so arranged that by the rotary movement of a ratchet-wheel the number of words or numerals being printed may be transferred from one wheel to another. In the drawings I have illustrated an ordinary form of total-adder having a shaft K, with a pawl-carrying arm K' journaled thereon, and K designates a pawl having a weighted member L' secured thereto, whereby the pawl may be held in engagement with the teeth of a ratchet-wheel N or thrown out of engagement therewith when it is not desired to have the registering mechanism actuated by means of the rock-shaft. The end of the arm K' rests in a recess O, formed in the upper end of the rod O', which latter has a threaded portion engaging the union or sleeve H, and by reason of said union it will be observed that the two rods G and O' may be regulated as to length. A set-screw Q is mounted in one end of the rod O' and is provided for the purpose of adjusting the movements of the rod with reference to the arm K'.

In operation as a spacing-lever on either side of the row of type-levers is depressed one or the other of the spacing-levers will contact with a section E and cause the shaft D to rock in one direction, which movement

of the rock-shaft will throw the bar D' into the position shown in Fig. 1 of the drawings, in which it will be positioned adjacent to the under edge of the row of type-levers, and as a type-lever is depressed the shaft D will rock in the opposite direction, bringing the two sections E back to their normal positions in the paths of the spacing-levers. As any one of the type-levers is depressed the rod G will be drawn down and the arm K', through its connection with said rod, will be actuated and the dog carried thereby will actuate the ratchet-wheel, and consequently will actuate the registering mechanism. As a spacing-lever is depressed the arm K' is raised and the dog carried thereby rides idly over the teeth of the ratchet-wheel.

It will thus be seen that by the provision of an apparatus embodying the features of my invention means is provided for keeping an accurate register of the number of words or numerals which may be printed upon a type-writer, the registering being effected usually by the alternate operation of the type-levers and the spacing-bars by the actuating of the rock-shaft in opposite directions.

In order to attach my device to various forms of type-writing machines, it is my purpose to provide means whereby the ends of the rock-shaft may be held in suitable bearings, which may be easily applied to or removed from the frame of the machine, and while I have shown a particular form of mechanism illustrating my invention it will be understood that the same may be varied as to details in order that it may be applied to different forms of type-writers without in any way departing from the spirit of the invention.

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

1. A registering apparatus for type-writers comprising, in combination with the frame of a type-writer, a rock-shaft having suitable bearings thereon, projections upon said shaft having angled ends, a rod, a pin carried by said shaft and to which said rod is pivotally connected, a second rod having a recessed end and adjustably connected to said pivotal rod, registering mechanism, a lever for actuating the same seated in said recess, as set forth.

2. A registering apparatus for type-writers comprising, in combination with the frame of

a type-writer, a rock-shaft having suitable bearings thereon, projections upon said shaft having angled ends, a rod, a pin carried by said shaft and to which said rod is pivotally connected, a second rod having a recessed end and adjustably connected to said pivotal rod, registering mechanism, a lever for actuating the same seated in said recess, a set-screw fitted in the recessed rod and adapted to limit the throw of the lever in said recess, as set forth.

3. A registering apparatus for type-writers comprising, in combination with the frame of a type-writer, a rock-shaft having suitable bearings upon said frame, projections upon said shaft adapted to be actuated, respectively, by the spacing and type levers of the machine, a rod pivotally connected to a projection of said shaft, a union connected to a threaded portion of said rod, a second rod having threaded connection with said union and provided with an inverted-L-shaped end, registering mechanism, a lever seated in a recess formed underneath said end, and a set-screw for limiting the throw of said lever, as set forth.

4. A recording apparatus for type-writers comprising, in combination with the frame of a type-writer having a series of type actuating and spacing levers, a rock-shaft positioned underneath said levers, a rod parallel to said shaft and secured thereto, against which any one of the type-carrying levers is adapted to contact to rock said shaft, a series of lugs projecting from the shaft at right angles to the supports for said rod and beyond the end of the rod, a finger projecting from the shaft, a rod pivoted to the finger, an interiorly-threaded sleeve fitted to said rod, a threaded rod fitted in the opposite end of said sleeve and provided with a recess adjacent to one end thereof, an adjusting-screw fitted in the end of said rod and extending into the recess thereof, recording mechanism, a rocking arm, a dog mounted upon said arm, a ratchet-wheel fixed to the shaft of said recording mechanism and engaged by said dog, said arm designed to be held in the recess of said rod, as set forth.

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

DANIEL J. RICHARDSON.

Witnesses:

A. L. HOUGH,

M. C. MAYHEW.