No. 841,839.

PATENTED JAN. 22, 1907.

E. E. WINKLEY.

SOLE LEVELING MACHINE.

APPLICATION FILED NOV. 6, 1899.

2 SHEETS—SHEET 1.

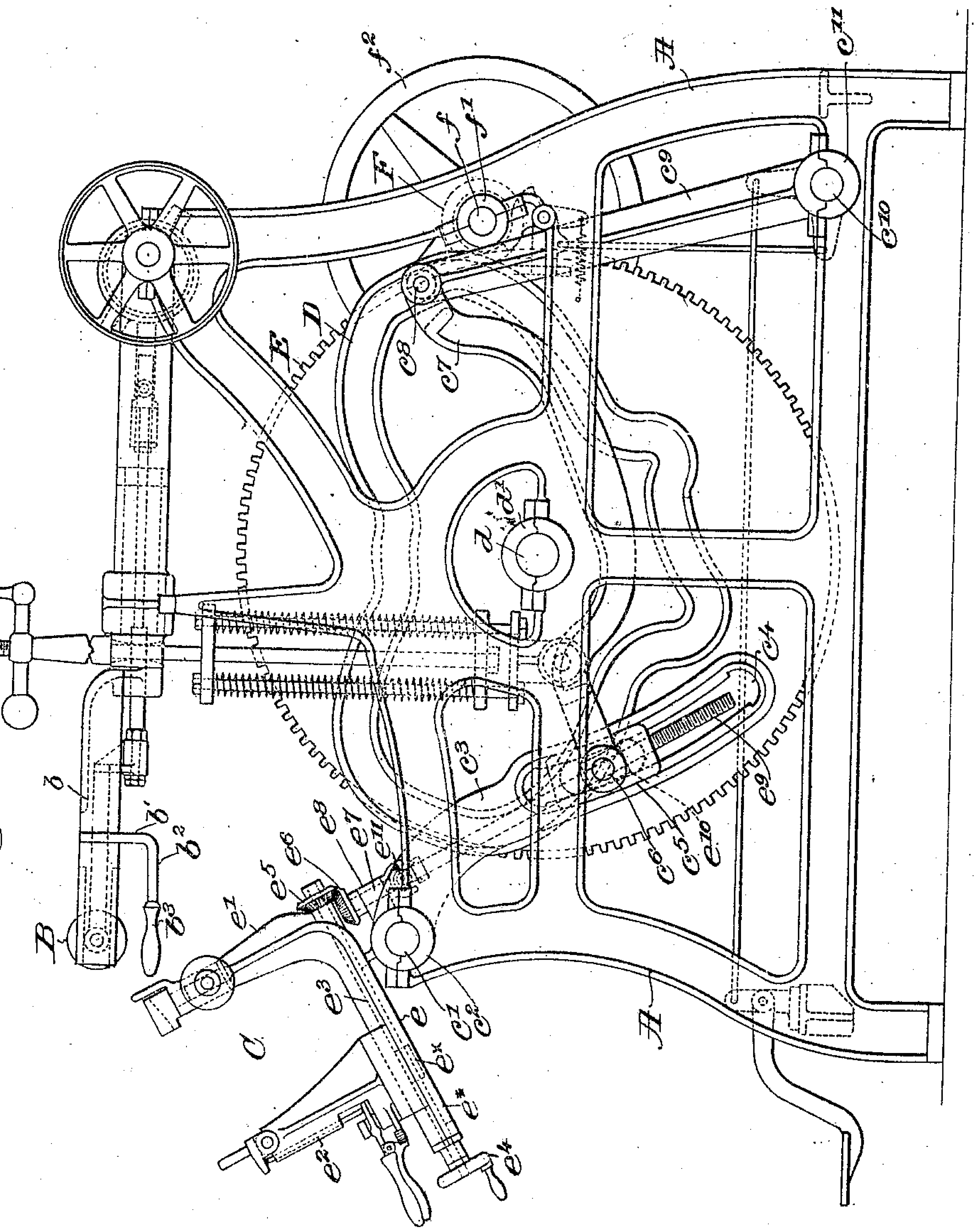

Fig. 1.

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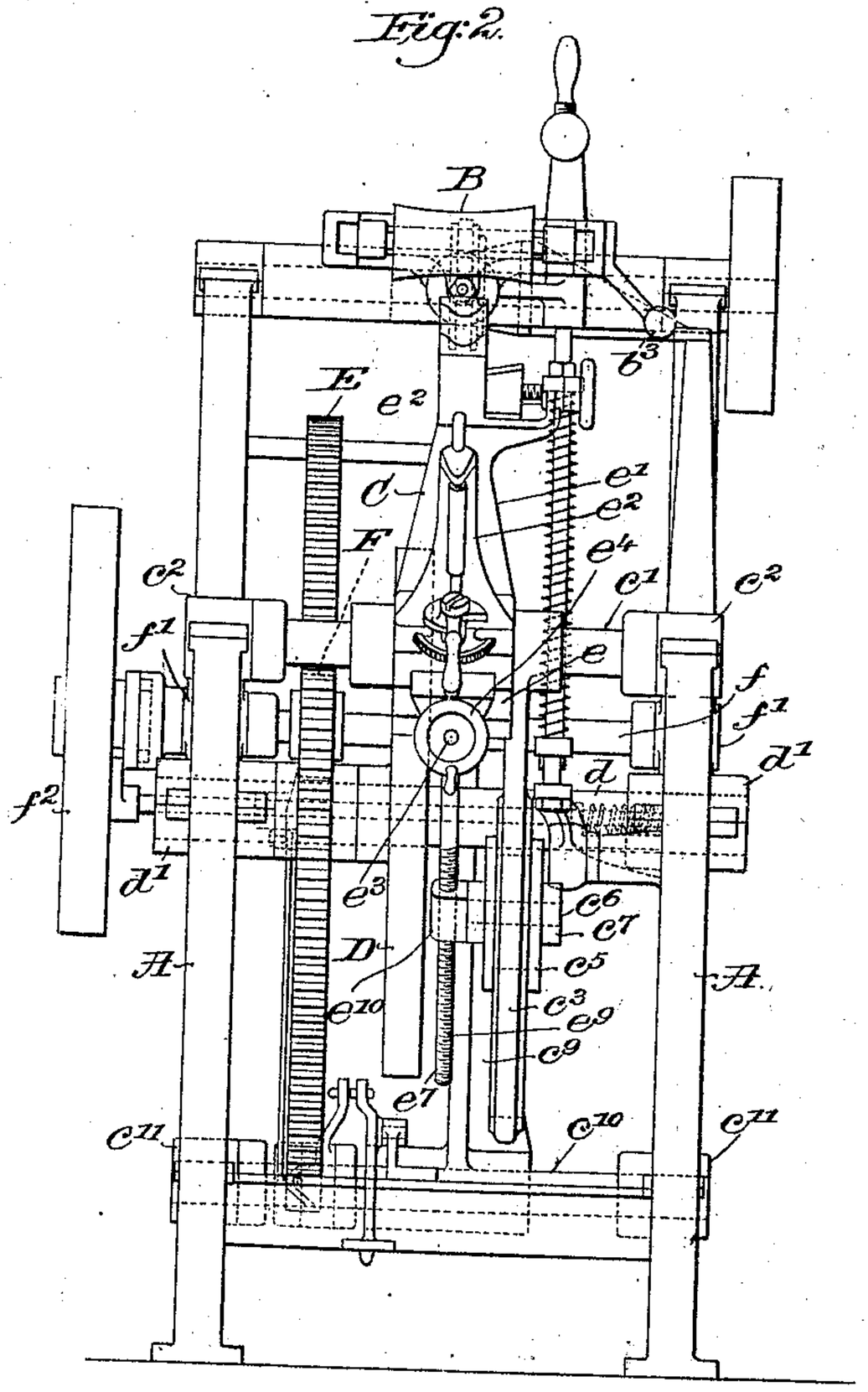
2 SHEETS—SHEET 2.

Fig. 2.



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UNITED STATES PATENT OFFICE.

ERASTUS E. WINKLEY, OF LYNN, MASSACHUSETTS.

SOLE-LEVELING MACHINE.

No. 841,839. Specification of Letters Patent. Patented Jan. 22, 1907.

Application filed November 6, 1899. Serial No. 735,952.

To all whom it may concern:

Be it known that I, ERASTUS E. WINKLEY, a citizen of the United States, residing at Lynn, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Sole-Leveling 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.

The present invention relates to sole-leveling machines, and more particularly to sole-leveling machines of that type comprising a vibrating sole-leveling roll and a shoe-supporting jack, such a machine being disclosed in Letters Patent of the United States No. 555,548, dated the 3d day of March, 1896.

The object of the present invention is to provide an improved means for adjusting the jack and the mechanism for imparting relative longitudinal traversing movements to the jack and sole-leveling instrumentalities for shoes of different sizes.

To the above ends the present invention consists of the devices and combinations of devices, which will be hereinafter described and claimed.

The present invention is illustrated in the accompanying drawings, in which—

Figure 1 shows a side elevation of a machine embodying the same. Fig. 2 shows the machine in front elevation.

Similar reference characters will be employed throughout the specification and drawings to designate corresponding parts.

In the drawings, A represents the frame, B the leveling-roll, and C the shoe-supporting jack, all of which, except as will be hereinafter set forth, may be and preferably are constructed and arranged as are the corresponding parts of the machine of the patent hereinbefore referred to, the present machine, it being understood, being provided with but a single roll and jack operated to level the soles of both right and left shoes.

In the present machine, inasmuch as there is but a single roll, which is used for leveling both right and left shoes, the change in the relative lateral inclination of the roll and jack is arranged to be controlled by the operator, and this may be conveniently secured by providing the laterally-tipping roll-carrier b with a laterally-projecting arm b', which is extended forward, as shown at b^2, and provided with a suitable handle b^3, whereby as the jack is oscillated to carry the shoe beneath the vibrating roll the operator may tip the roll-carrier from side to side to adapt it to the contour of that part of a shoe-sole at which it may be at any time operating, such tilting, it being understood, occurring at different times in right and left shoes.

The means for vibrating the roll and for holding it down in contact with the sole of the shoe are substantially the same as that of the machine of the patent hereinbefore referred to, and reference may be had thereto for a full description thereof.

In the present machine, like the machine of the patent, the jack C is mounted upon a shaft c', supported to oscillate in suitable bearings c^2 of the frame A, and this shaft is automatically oscillated to cause the jack to have automatic movements predeterminedly varied in extent back and forth beneath the leveling-roll. The mechanism for imparting these movements to the jack comprises an arm c^3, which is affixed to shaft c', and which at its lower end is slotted, as at c^4 and receives an adjustable block c^5, which is pivotally connected at c^6 to a link c^7, which in turn is pivotally connected at c^8 to a lever c^9, mounted on a shaft c^{10}, supported in bearings c^{11} in the frame A. The lever c^9 carries a cam-roll (not shown) which engages a cam D, fixedly secured to a shaft d, supported in bearings d' in the frame A, which shaft is rotated by means of a large gear E, mounted thereon, which meshes with and is driven by a pinion F in the driving-shaft f, supported in suitable bearings f' of the frame A, said shaft f carrying a pulley f^2, driven by a belt from any suitable source of power.

The above arrangement is such that a rotation of pinion F will drive the gear E and rotate the shaft d, thus rotating the cam D and through the lever c^9, link c^7, and arm c^3 oscillates the jack C back and forth beneath the vibrating leveling-roll, the path of the cam D being so formed as to impart to the jack forward and backward oscillations of a fixed and predetermined character, the oscillations varying in extent, so that the jack is moved back and forth beneath the leveling-roll in such a manner as to enable the operator to manipulate the roll to cause it to properly level all portions of the sole.

It is necessary that the relative longitudinal traversing movement of the roll and jack

be adjusted for shoes of different length, and such adjustment is secured by adjusting the block c^5, to which the link c^7 is connected, along the slot c^4 in the arm c^3, and in the machine of the drawings I have provided simple mechanism whereby the adjustment of the jack to receive a shoe of a given length will automatically adjust the block c^5 along the slot c^4 to secure the desired adjustment of the relative traversing movement of the roll and jack.

As shown in the drawings, the jack C comprises a bed e, at the forward end of which is affixed the toe-supporting standard e'. Mounted upon the bed e for a longitudinal adjustment thereon is a heel-supporting standard e^2, which has a screw-threaded boss $e^\times$ extended into a slot e^* in the bed e and engages a threaded shaft e^3, mounted in a longitudinal bearing formed in said bed. The shaft e^3 is provided at one end with a hand-wheel e^4, by means of which it may be turned, as at its opposite end it carries a bevel-gear e^5, which meshes with a bevel-gear e^6, carried by the upper end of a shaft e^7, mounted in a bearing e^8, supported by the arm c^3, and which at its lower end is threaded, as shown at e^9, and engages a threaded bearing in a swiveled block e^{10}, carried by the block c^5. The above-described arrangement is such that a turning of the shaft e^3 to adjust the heel-supporting standard e^2 toward or from the toe-supporting standard will, by means of the connecting mechanism described, effect a corresponding raising or lowering of the block c^5 along the slot c^4, and thus adjust the longitudinal rocking movements of the jack.

To provide for the free play of the parts in making the adjustment of the jack and its connection with its actuating mechanism, the shaft e^7 is formed in two sections, as shown, and connected by a universal or gimbal joint e^{11}.

Like the machine of the patent, the driving-shaft of the present machine may be provided with a suitable treadle-controlled clutch, whereby it may be set in operation, and with automatic devices to stop its operation after one cycle of operation.

The operation of the machine has been sufficiently described in connection with the foregoing description of its construction and arrangement, and a further description thereof is deemed unnecessary.

Having described the construction and mode of operation of my invention, I claim as new and desire to protect by Letters Patent of the United States—

1. In a sole-leveling machine, the combination with a jack having toe and heel supports adjustable for lasts of different length, of means for oscillating said jack with relation to a tool for acting upon a shoe supported thereby, and suitable shafts and connected mechanism for simultaneously adjusting the jack and its oscillating mechanism, substantially as described.

2. In a sole-leveling machine, the combination with a sole-leveling device, of a shoe-supporting jack comprising a toe-support and a heel-support adjustable toward and from the toe-support, a threaded shaft for adjusting the heel-support, means for oscillating the jack and adjustable connections between the jack and its oscillating means, a threaded shaft for adjusting said connection and gearing connecting the heel-support-adjus ing shaft with the shaft which adjusts the said connection, substantially as described.

3. In a sole-leveling machine, the combination with a jack having toe and heel supports adjustable for lasts of different lengths, of means for oscillating said jack with relation to a tool for acting upon a shoe supported thereby, and means for adjusting the jack and for simultaneously adjusting the jack-oscillating mechanism, substantially as described.

4. In a sole-leveling machine, the combination with a jack adjustable for lasts of different lengths, of means for oscillating said jack with relation to a tool for acting upon a shoe supported thereby, mechanism for adjusting the jack, mechanism for adjusting the jack-oscillating means, and connections between said mechanisms for actuating one mechanism from the other, substantially as described.

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

ERASTUS E. WINKLEY.

Witnesses:

T. HART ANDERSON,

A. E. WHITE.