

(No Model.)

C. S. GROVE.
DIE THROWING DEVICE.

No. 518,316.

Patented Apr. 17, 1894.

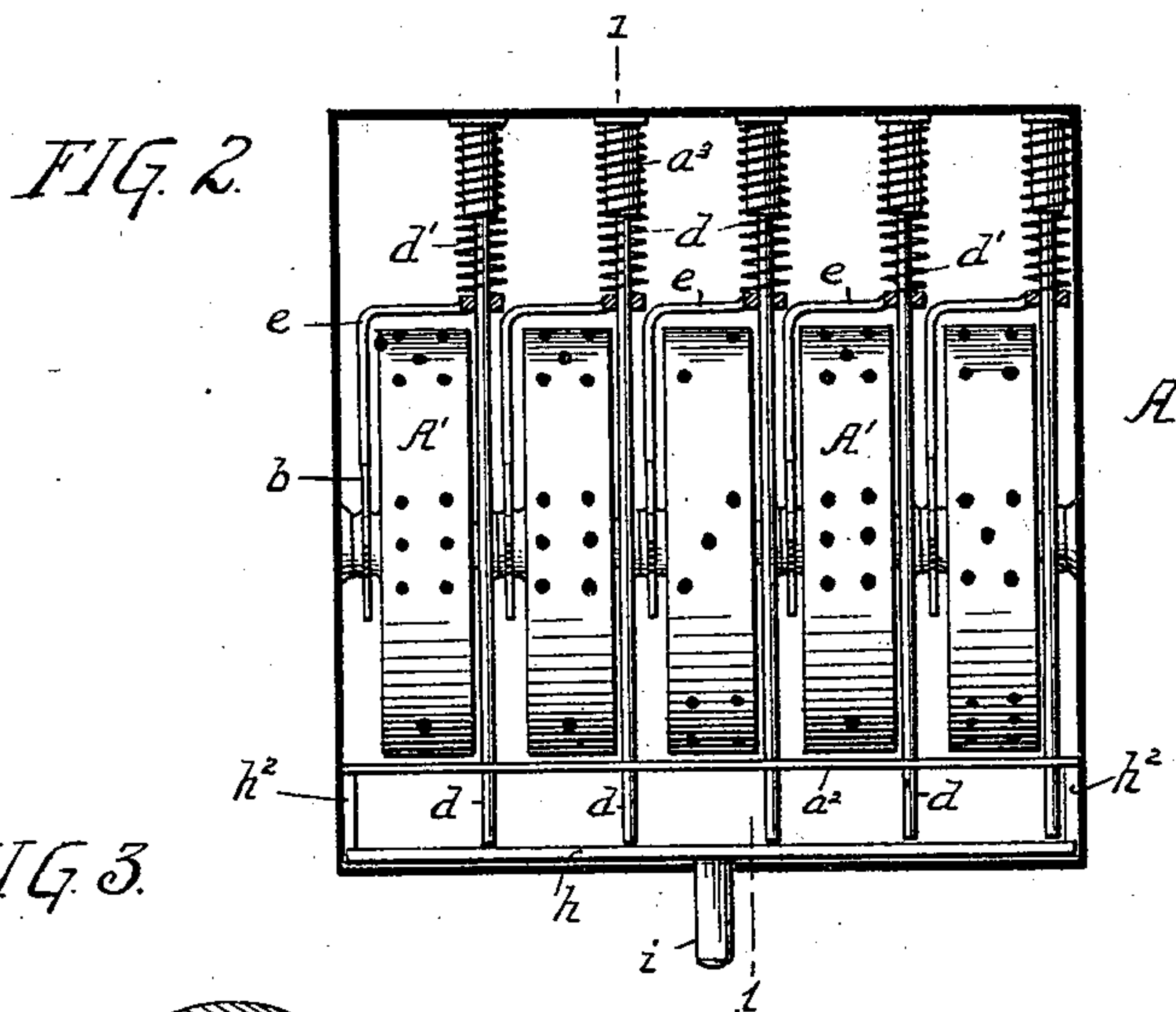
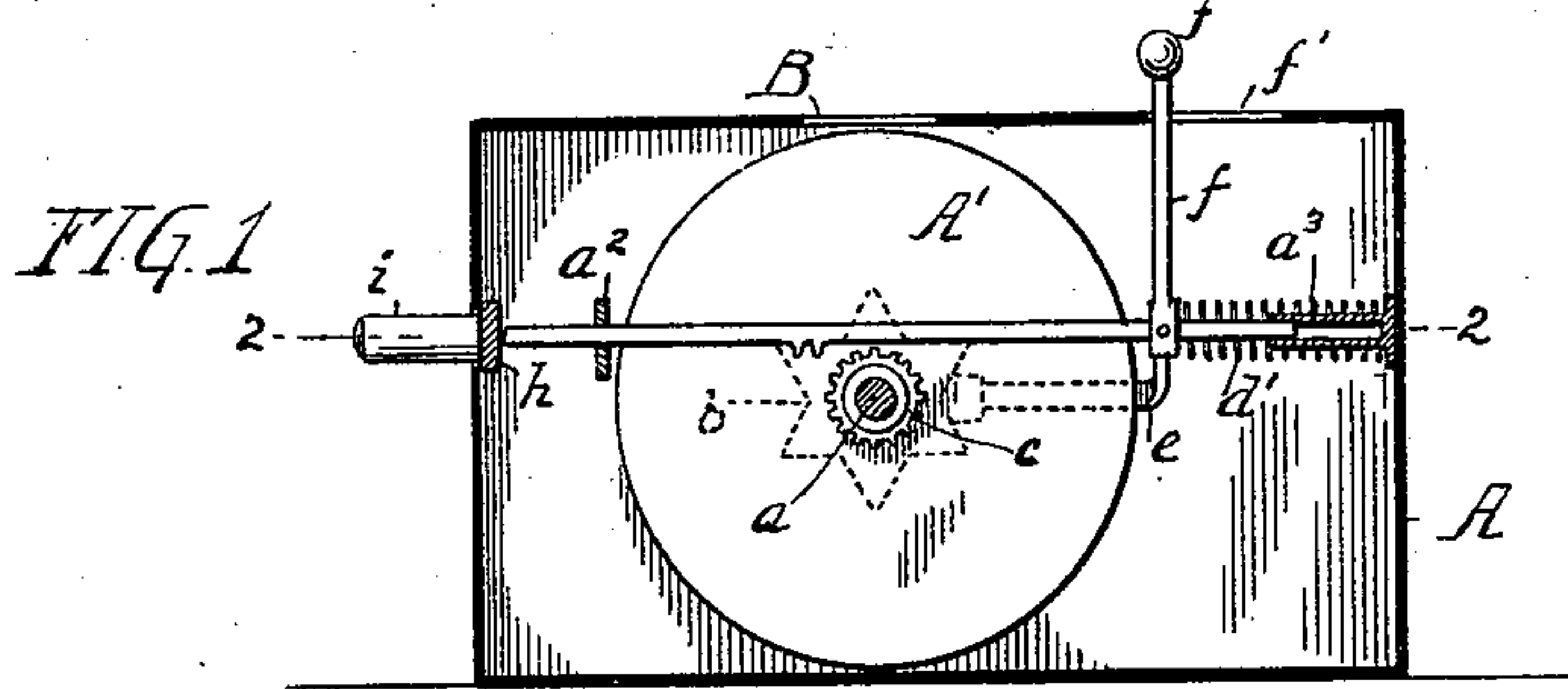


FIG. 3.

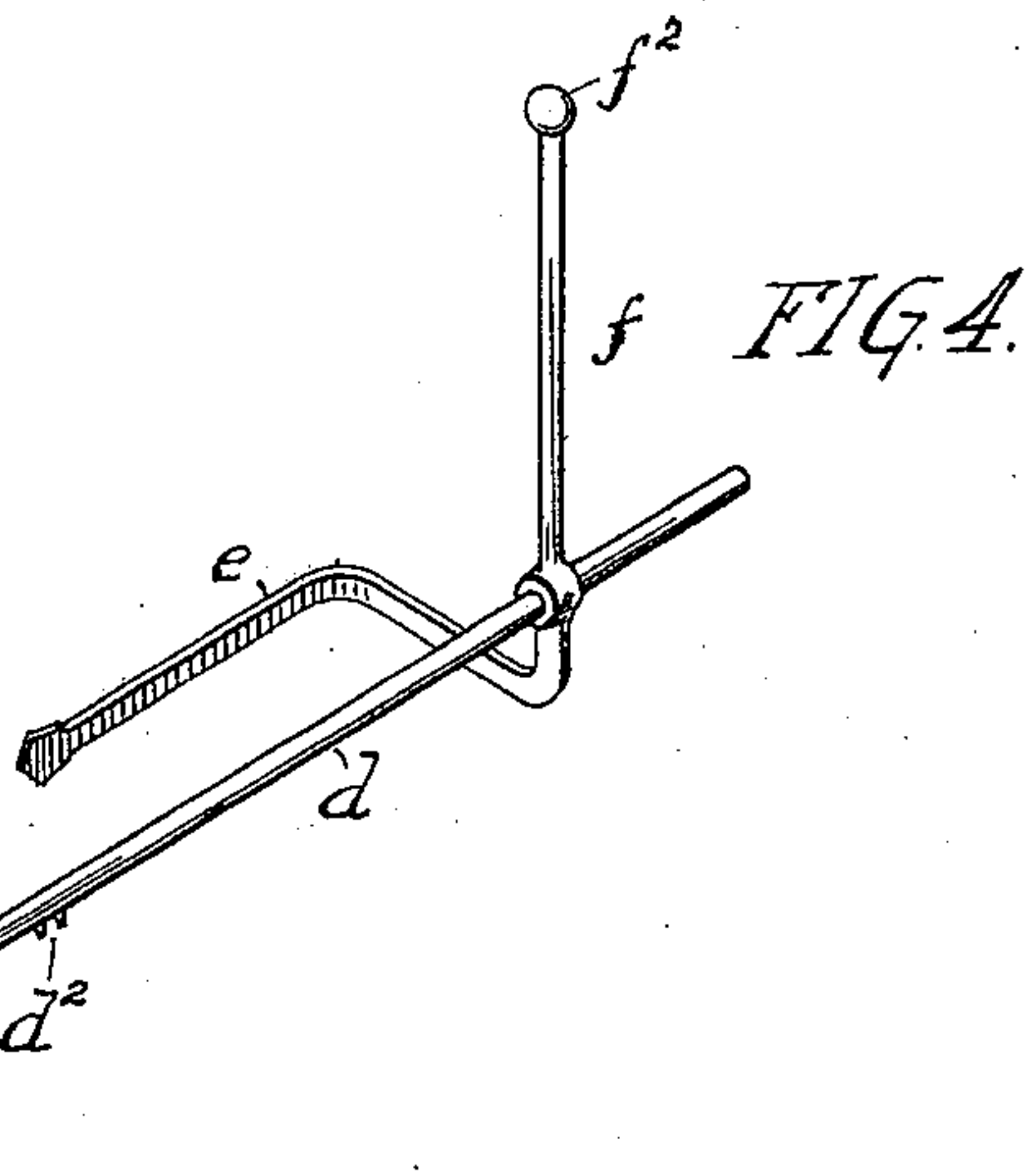
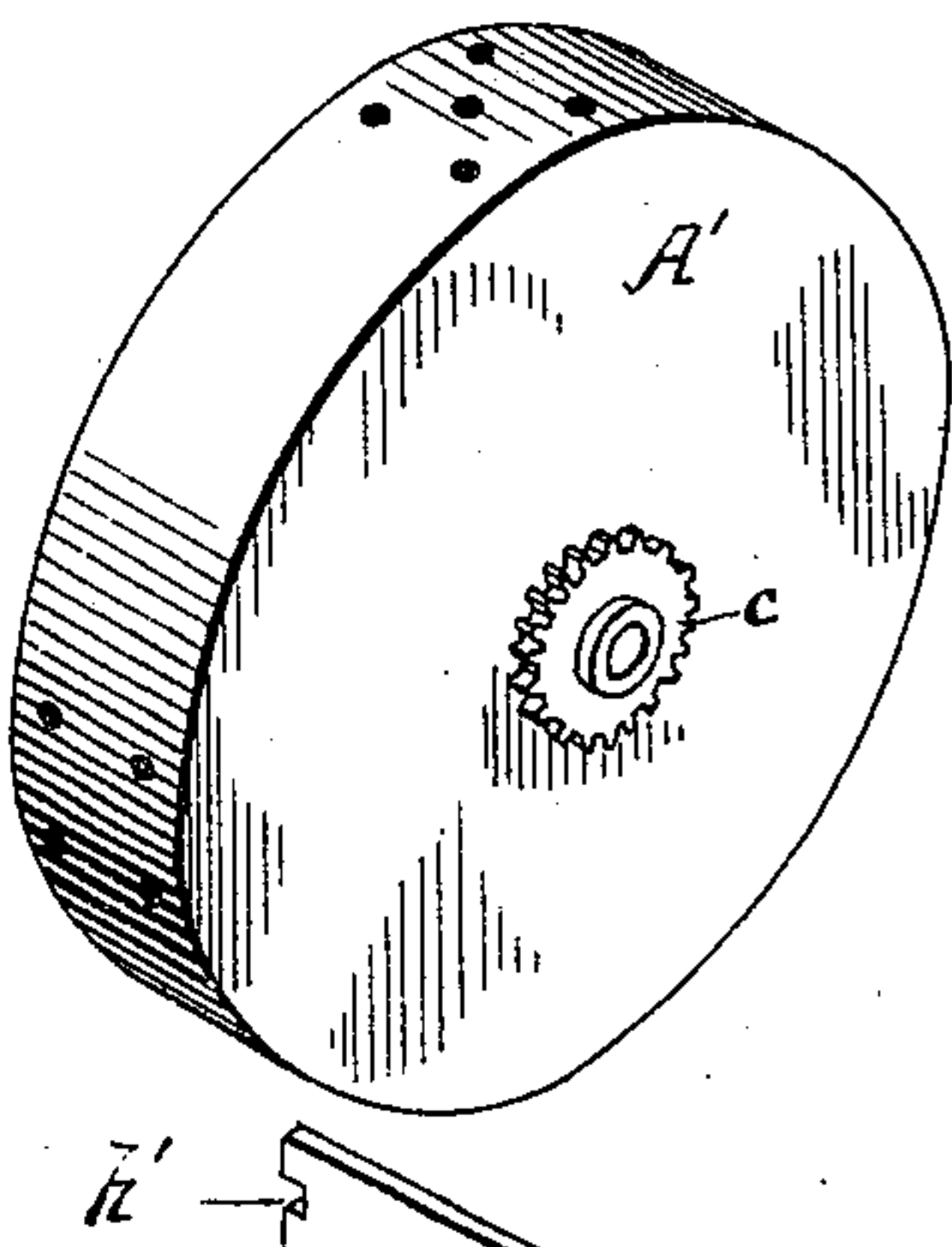


FIG. 5

WITNESSES:

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UNITED STATES PATENT OFFICE.

CONRAD S. GROVE, OF PHILADELPHIA, PENNSYLVANIA.

DIE-THROWING DEVICE.

SPECIFICATION forming part of Letters Patent No. 518,316, dated April 17, 1894.

Application filed April 7, 1893. Serial No. 469,414. (No model.)

To all whom it may concern:

Be it known that I, CONRAD S. GROVE, a citizen of the United States, and a resident of the city of Philadelphia and State of Pennsylvania, have invented certain Improvements in Die-Throwing Devices, of which the following is a full, clear, and exact description.

My invention relates to that class of devices in which a series of disks carrying distinguishing marks such as die faces or playing cards or numbers are so moved as to alter their position and the relative values exposed to view, the resultant being a matter of accident; and it has for its object the construction of an improved form of mechanism for this purpose, which will permit the independent movement of each of the die or card carrying disks, and the locking of such of the others as it may be desired to retain in position. In devices of this class with which I am familiar it is usual to employ a series of five disks, each carrying die faces or other marks and so mounted on a spindle that by a single impulse all will be rotated and then stopped with one mark on each disk facing an opening in the casing within which the operating mechanism is contained. In these devices, however, it is impossible to lock such of the disks as expose marks satisfactory to the operator and rotate the others independently for one or more revolutions until the number or series exposed shall be satisfactory. For instance in playing what is termed "poker dice" or in "poker" five disks would be used, each provided with die faces from ace to six and the disks may, after a single throw expose a pair or say, three sixes; then the operator may rotate the other two disks for a number of times dependent upon the number of turns he is entitled to. While these two disks are being independently rotated, by the construction hereinafter described, the other three remain automatically locked.

In the accompanying drawings:—Figure 1 represents a sectional elevation on the line 1—1 Fig. 2. Fig. 2 is a sectional plan view of the same on the line 2—2 Fig. 1, and Figs. 3, 4, and 5 are details of construction more particularly referred to hereinafter.

The operating mechanism is contained with-

in a preferably rectangular casing, A, and mounted therein is a spindle, *a*, so fixed as to be incapable of either longitudinal or rotative movement. On this spindle, *a*, are mounted a series of disks, A', preferably five in number, and as each is of precisely the same construction a description of one, and its attachments and operating mechanism will suffice. The disk is provided on its periphery with distinguishing marks, such as playing cards, or as shown in the drawings with die faces from ace to six. On one side of the disk is secured a ratchet stop wheel, *b*, and on the opposite side a small pinion, *c*, in such manner that all three will rotate together upon the spindle, *a*.

In suitable guideways, *a*², *a*³, in the casing is a transverse rod, *d*, the rear end of which is so acted upon by a coiled spring *d'*, as to keep the rod in the position shown in Fig. 1, and on said bar are one or two or more teeth, *d*², adapted to engage with the teeth of the pinion, *c*, when the rod is forced back against the spring. To this rod is secured a bar, *e*, curved around the periphery of the disk and extending parallel with the bar, *d*, on the opposite side of the disk. The extreme end of this bar, *e*, has a pointed end adapted to engage between the teeth of the stop wheel, *b*, and the teeth of the latter correspond in number to the number of the die faces on the periphery of the wheel so that one of such faces will be stopped opposite to the opening B, in the casing, A. From the junction of the bars, *d*, and *e* extends a vertical rod, *f*, running through a slot, *f'*, in the top of the casing and terminating in a knob or handle, *f*², so that by moving this rod the bars, *d*, and *e*, may be forced back against the action of the spring. The construction of all of the disks being the same and each being provided with operating rods such as that described, I provide at the front of the casing, a starting bar, *h*, against which the ends of the rods, *d*, simply abut, and extending from the bar, *h*, and running through an orifice in the casing is a knob, *i*, by pushing which the bar, *h*, is moved back and the whole series of rods, *d*, forced back until the teeth, *d*², of the rods have engaged and passed the pinions, *c*, rotating the entire series of disks, the locking bars, *e*, be-

ing moved out of contact with the teeth of the stop wheels, *b*, as the bars are moved back. Upon releasing the knob, *i*, the rods, *d*, again moving forward will cause the teeth, *d*², to again engage the pinions, *c*, and this reverse movement continues until the stop bars, *e*, come in engagement with the teeth of the wheels, *b*, when the disks will stop with one of the distinguishing marks in line with the opening, *B*. The bar, *h*, may be guided in any suitable manner as, for instance, the ends may be slotted at *h*², and adapted to guides, *h*². If, as before described, the operator then wishes to rotate one, or more, of the disks without disturbing the others, he simply forces back the proper rod, *f*, when the same result will follow, except that the rod, *d*, of the disk to be moved, not being secured to the bar, *h*, will simply move the disk desired and not disturb the remainder.

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

1. The combination of a casing, a spindle therein, a series of disks mounted upon said spindle and provided on their peripheries with distinguishing marks, a stop wheel and a pinion secured to each disk, a stop bar adapted to engage with the stop wheel, a series of independently movable starting rods, as *d*, equal in number to the disks, teeth on said rods adapted to engage with the teeth of the pinions, an extension of each of said rods extending outside the casing and a starting bar impinging against the entire series of rods, *d*, but not secured thereto, substantially as specified.

2. The combination in a dice throwing device of two or more revoluble disks having their peripheries marked with series of distinguishing signs, means for rotating the said disks simultaneously, a bar rigidly connected with the operative mechanism of each disk for also independently operating each disk and means for automatically locking said disks independently, substantially as described.

3. The combination of the casing, a spindle, *a*, a series of disks, *A*¹, mounted thereon, a stop wheel, *b*, and a pinion, *c*, secured to each of said disks, a series of guided rods, *d*, extending to, or nearly to, the walls of the casing, a starting bar, *h*, adapted to impinge against the ends of the rods, *d*, a spring, *d*¹, adapted to each rod, *d*, a stop bar, *e*, secured to each rod, *d*, and a bar, *f*, secured to each of the rods, *d*, and extending through slotted

openings in the wall of the casing, substantially as specified.

4. The combination of the casing, a spindle, *a*, a series of disks, *A*¹, mounted thereon, a stop wheel, *b*, and a pinion, *c*, secured to each of said disks, a series of guided rods, *d*, extending to the front of the casing, a starting bar, *h*, impinging against the ends of such rods, a spring, *d*¹, adapted to each rod, *d*, a stop bar, *e*, secured to each rod, *d*, and bars, *f*, extending from the rods, *d*, through slotted openings in the top of the casing, substantially as specified.

5. The combination of a casing, a horizontally disposed spindle, a series of two or more disks loosely mounted upon said spindle, a ratchet or stop wheel and a pinion secured to each of said disks, series of reciprocating rods adjusted in guides in said casing, said rods extending to, or nearly to, the walls of the casing, teeth provided upon each of said rods for engaging in and operating the pinions secured to the disks, a starting bar provided in guides in front of one of the ends of the series of bars disconnected from the same and adapted to impinge thereon, projection provided upon said starting bar protruding through the casing for operating said bar and rods, a spring and stop bar adapted to each of said rods, said stop bars adapted to engage with each respective ratchet or stop wheel, operating bar rigidly secured to each of said rods, substantially at right angles thereto, said rods being constructed to operate independently or simultaneously and connectedly, said operating bars protruding through the wall of the casing for independently operating each disk, substantially as described.

6. The combination of the casing, *A*, having openings, *B*, *f*¹, a spindle, *a*, in said casing, a series of disks, *A*¹, mounted on said spindle, a stop wheel, *b*, and a pinion, *c*, secured to each of said disks, a series of guided rods, *d*, extending to the front of the casing, guides, *a*², *a*³, for said rods, a starting bar, *h*, guides therefor, a spring, *d*¹, for each rod, *d*, a stop bar, *e*, secured to each rod, *d*, and a series of vertical bars, *f*, extending from the rods, *d*, through the slotted opening, *f*¹, in the casing, *A*, substantially as described.

In witness whereof I have hereunto set my hand this 6th day of April, A. D. 1893.

CONRAD S. GROVE.

Witnesses:

HORACE PETTIT,
H. GORDON MCCOUCH.