

(No Model.)

I. & M. E. VANDERBECK.
TRACE DETACHER.

No. 549,551.

Patented Nov. 12, 1895.

Fig. 1.

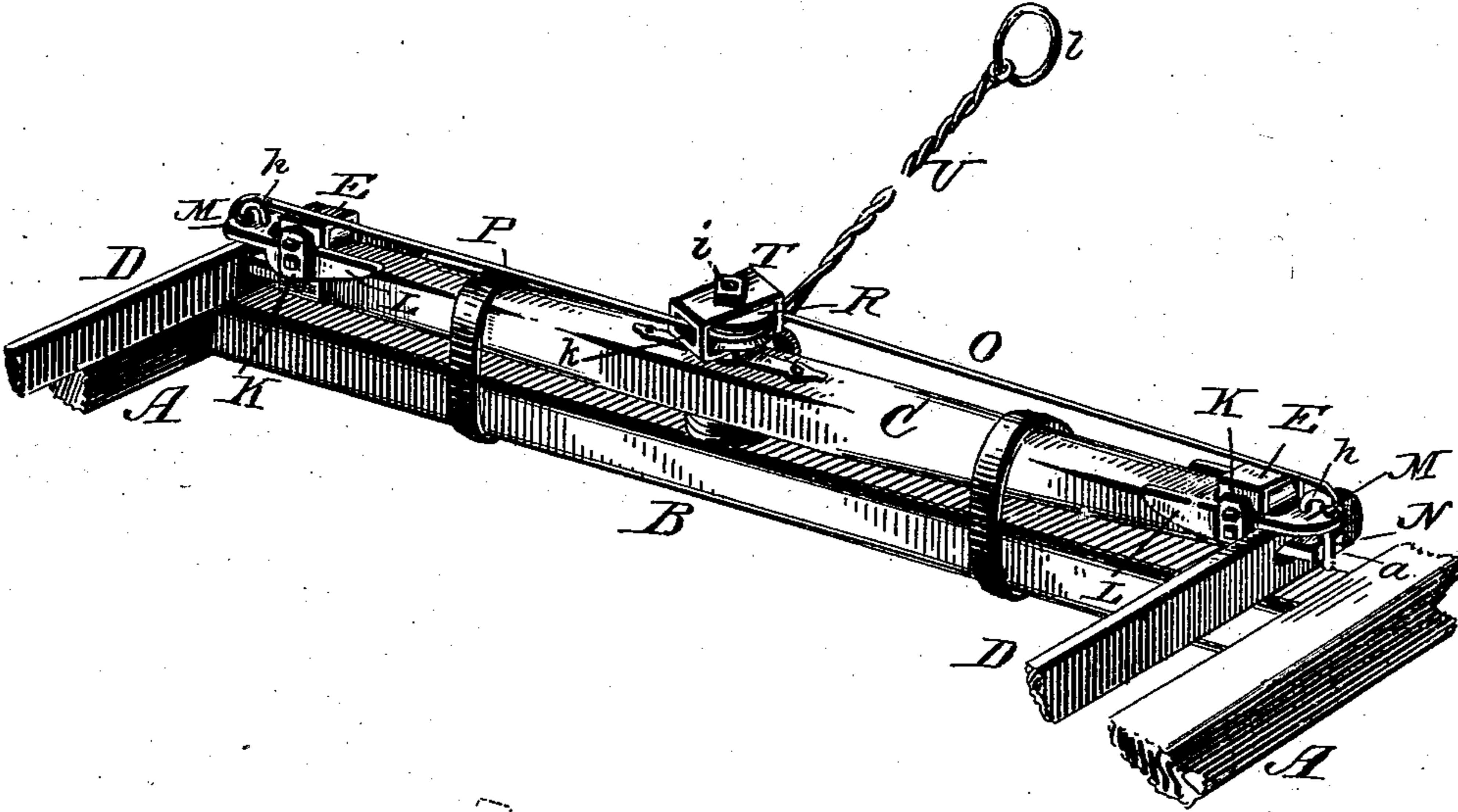


Fig. 2.

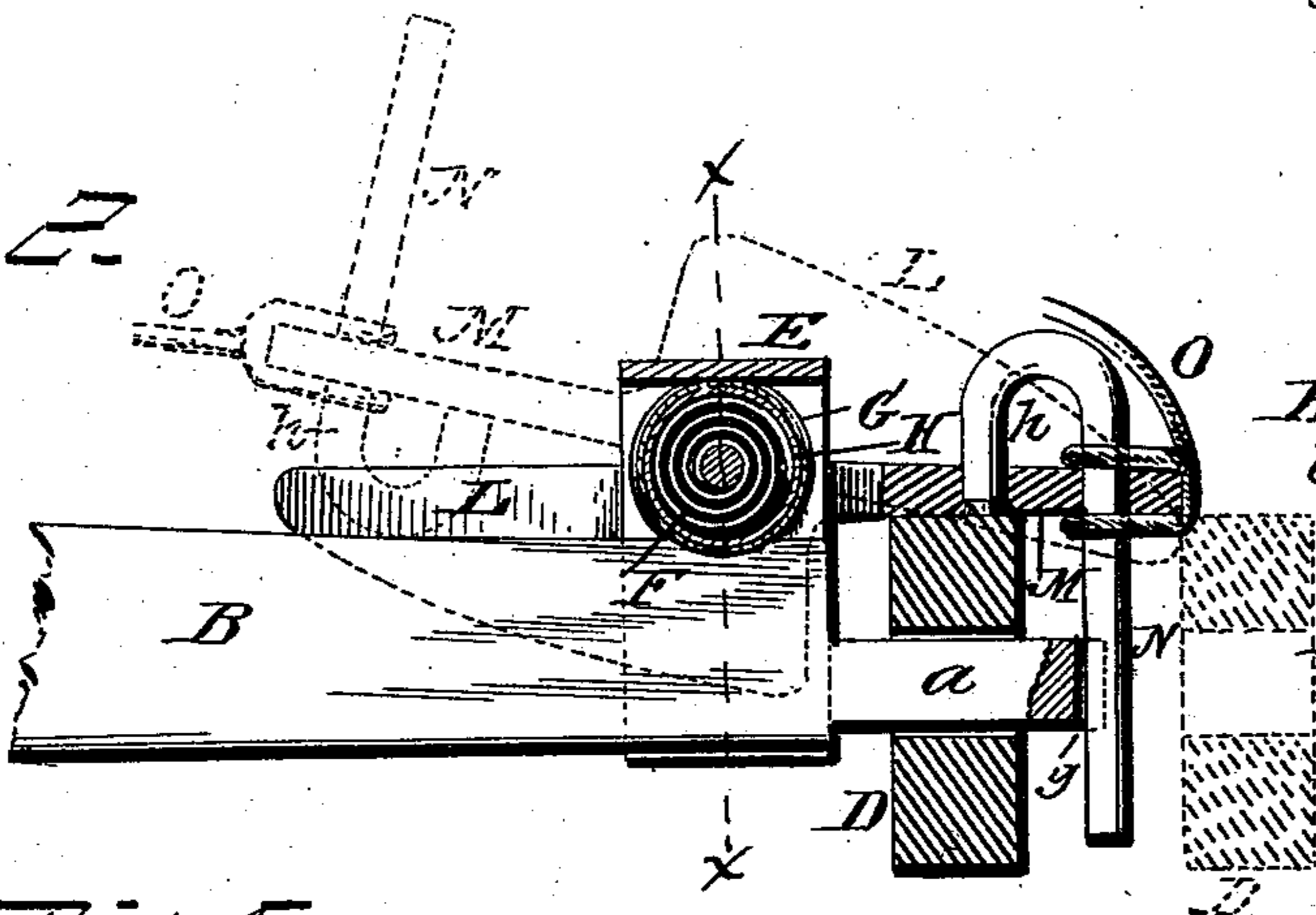


Fig. 3.

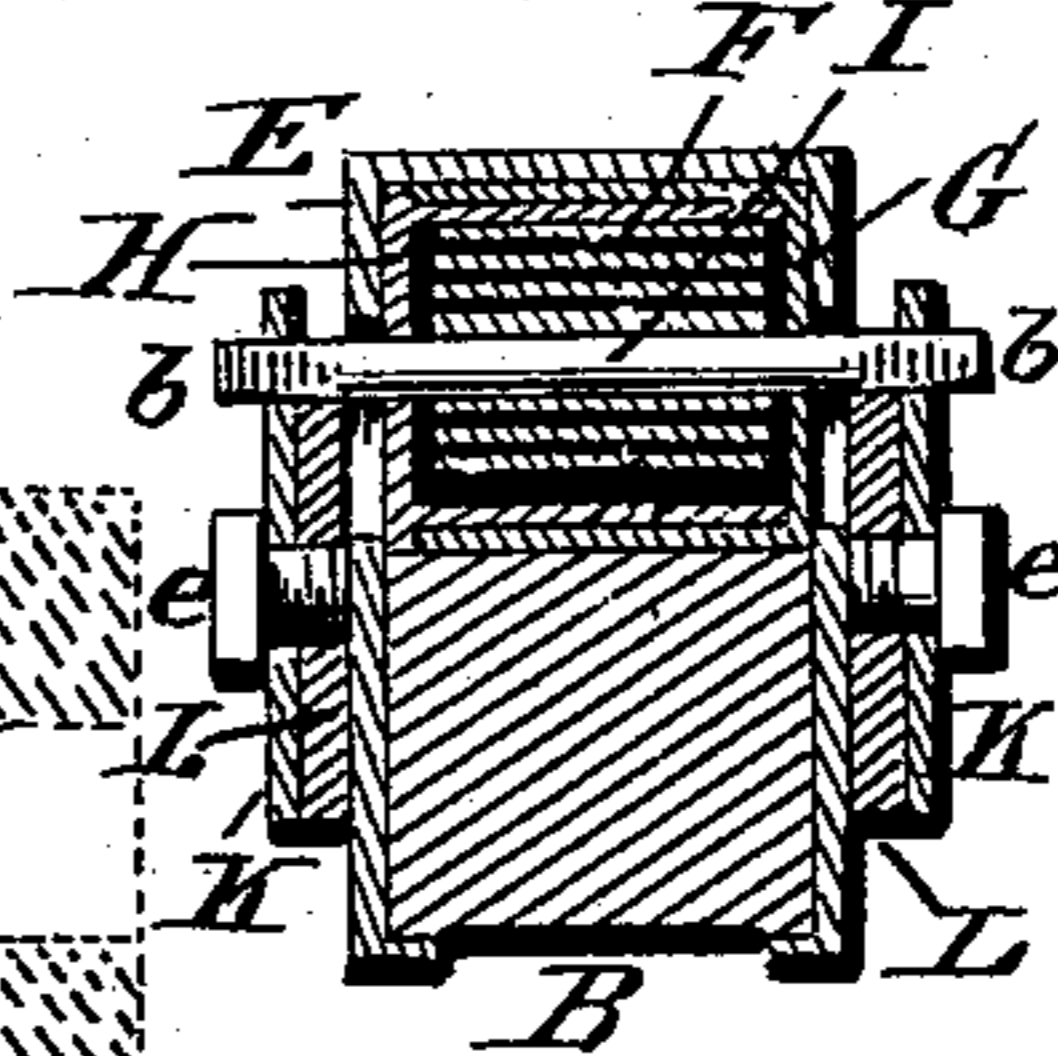


Fig. 4.

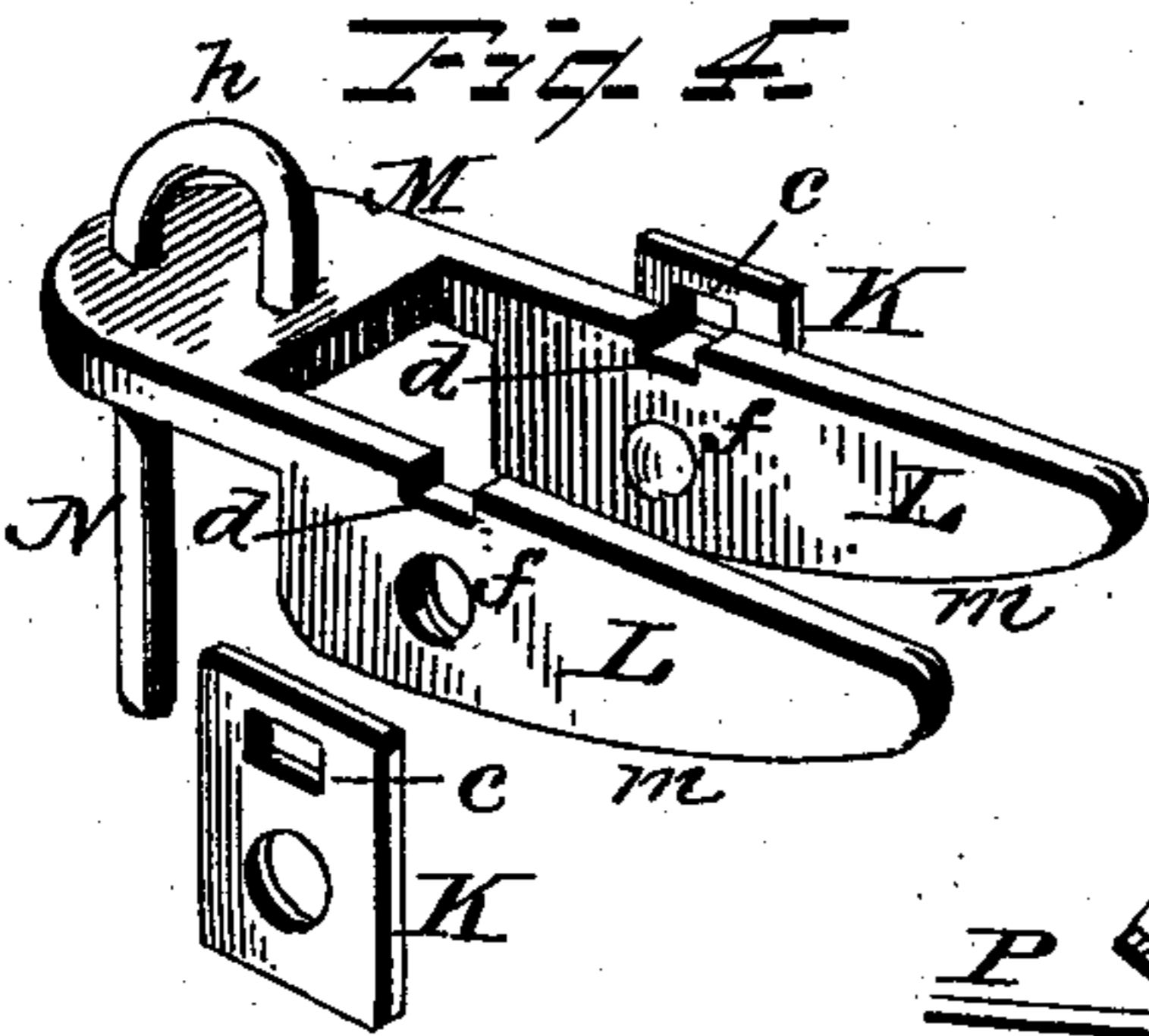


Fig. 5.

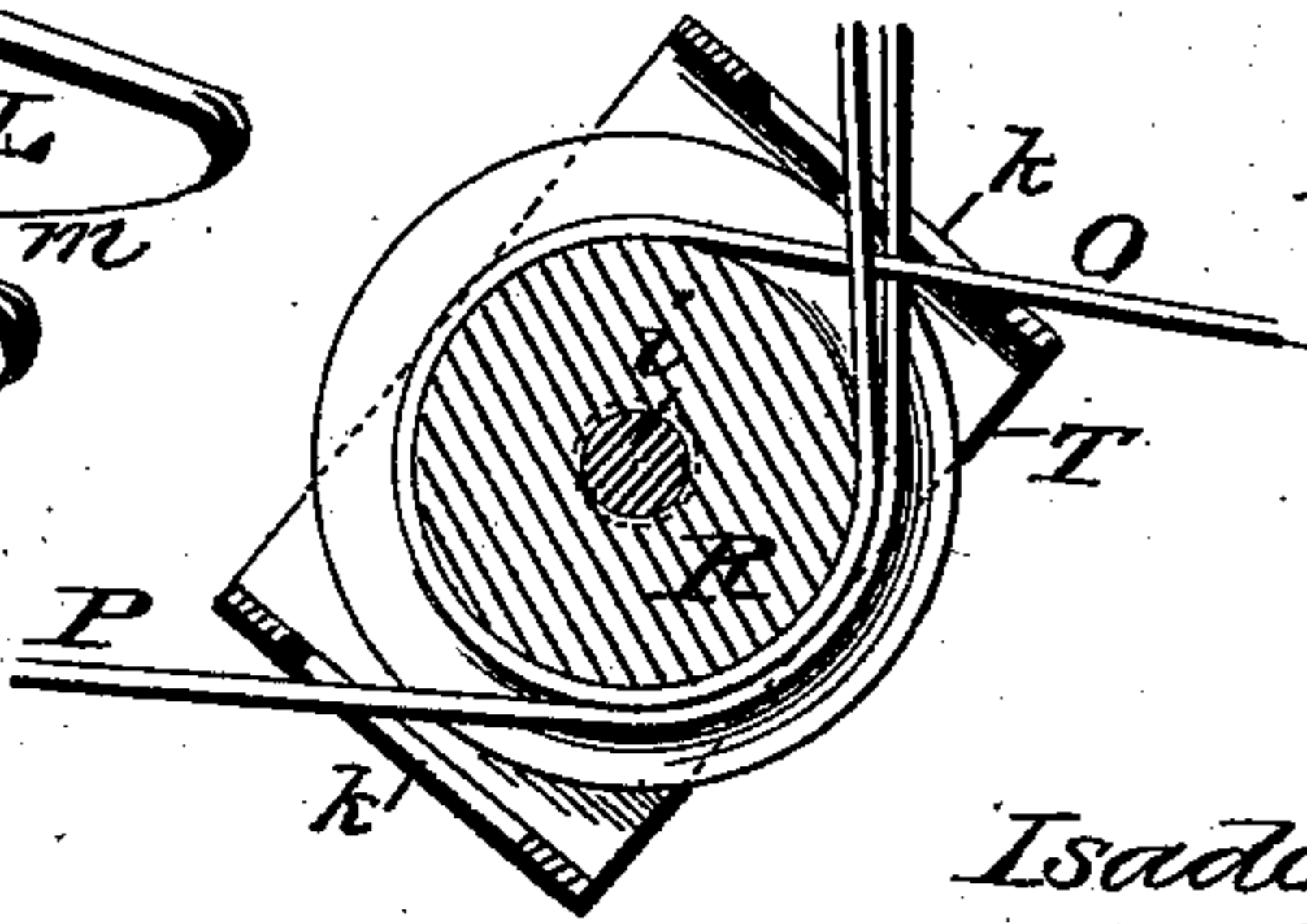
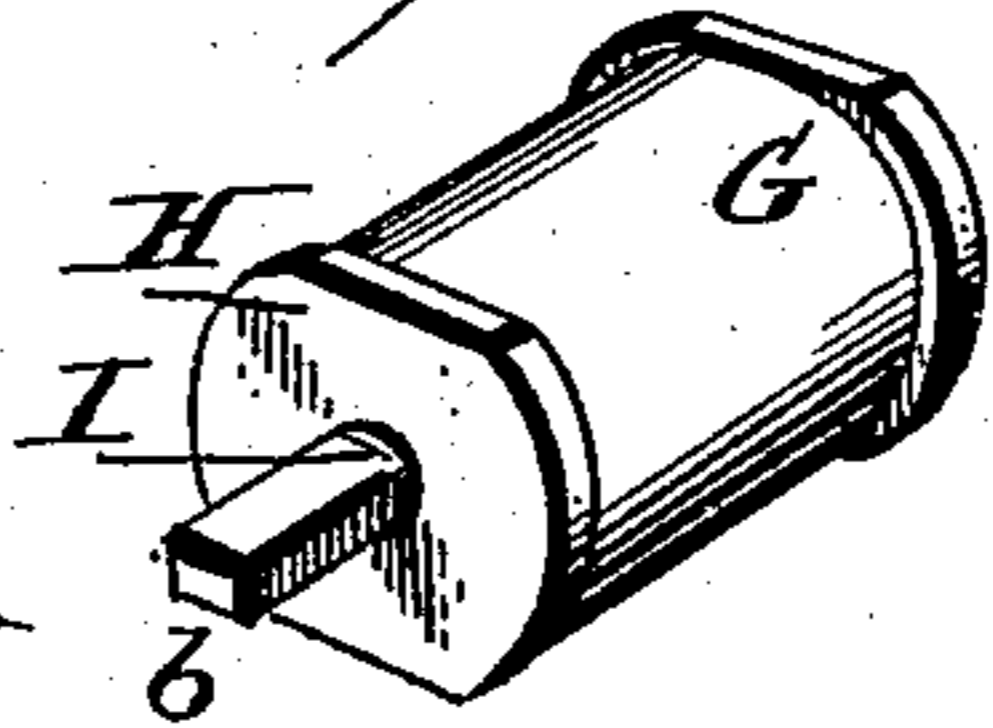


Fig. 6.



Witnesses
J. Williamson.
Geo. B. Starr.

Inventors
Isadore Vanderbeck,
Martile E. Vanderbeck,
per Cha. H. Fowler,
Attorney.

UNITED STATES PATENT OFFICE.

ISADORE VANDERBECK AND MARTILE E. VANDERBECK, OF HUNTSVILLE,
MISSOURI.

TRACE-DETACHER.

SPECIFICATION forming part of Letters Patent No. 549,551, dated November 12, 1895.

Application filed August 26, 1895. Serial No. 560,483. (No model.)

To all whom it may concern:

Be it known that we, ISADORE VANDERBECK and MARTILE E. VANDERBECK, citizens of the United States, residing at Huntsville, in the county of Randolph and State of Missouri, have invented certain new and useful Improvements in Trace-Detachers; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters of reference marked thereon.

The present invention has for its object to provide a simple and effective device for quickly releasing the traces from the singletree and thereby detaching the horse from the vehicle, and thus to prevent personal injury and loss of life from runaway horses.

The invention consists of a device for detaching the traces from the singletree, constructed substantially as shown in the drawings, and hereinafter described and claimed.

Figure 1 of the drawings represents a perspective view of a portion of the shafts of a vehicle, the cross-bar thereof, the singletree connected thereto, my improved detaching device connected to the singletree, and the traces engaged with the ends of said singletree; Fig. 2, a detail view of one end of the singletree, on an enlarged scale, showing the trace-releasing mechanism partly in section and in operative position in dotted lines, the trace being shown in engagement with the end of the singletree in full sectional lines and in a released position in broken sectional lines; Fig. 3, a transverse sectional view taken on line *xx* of Fig. 2; Fig. 4, a detail perspective view of the trace-releasing device on an enlarged scale. Fig. 5 is a perspective view of the sectional casing for containing the coiled spring also, one end of the shaft projecting therefrom, to which the spring is attached; Fig. 6, a horizontal section through the bracket and grooved pulley, showing the position of the cords, chains, or other connections to the pulley.

In the accompanying drawings, A represents a portion of the shafts of a vehicle which are connected by the cross-bar B, and to said bar, in the usual manner, is connected the singletree C, all of which parts may be of the

ordinary construction. To the singletree is attached the mechanism for releasing the ends of the traces D from the usual studs *a* upon the extremities of the singletree. To the ends of the singletree immediately in the rear of the studs *a* are secured the hoods E, which contain the casings for holding the flat-coiled springs F. This casing is formed of the two sections G H, open at one end and fitting each other, as shown in Fig. 3 of the drawings, thus allowing them to be separated for removing or inserting the spring and forming a complete shield for the spring and protecting it from the dirt and grit. The spring F is attached at one end to the casing-section G and at the other end to a short shaft I, which shaft extends through the ends of the casing-sections G H and through openings in the sides of the hood E. The projecting ends *b* of the shaft I are flat sided and engage with correspondingly-formed openings *c* in coupling-plates K, as shown more clearly in Fig. 4 of the drawings. These plates K couple the ends of the shaft I to the curved lever-arms L and hold the ends *b* of the shaft in engagement with the notched seats *d* upon the upper edge of said arms. The coupling-plates K are secured to the sides of the lever-arms L by means of short screws *e*, engaging with screw-threaded holes *f* in said arms, the openings *c* in the plates registering with the seats *d* when the plates are in position.

The shaft I, with its flat-sided ends *b*, the coupling-plates K, with the correspondingly-formed openings *c*, and the seats *d* on the upper edge of the lever-arms L, form together a pivotal connection between the hood E and lever-arms, whereby the spring will operate to bring the arms back to their normal position after the trace has been released, also to hold the end of the trace in engagement with the stud *b* upon the end of the singletree.

The lever-arms L are connected by means of a yoke M, and upon the under side of the yoke projects a coupling-pin N, and when in position shown in Fig. 2 of the drawings the coupling-pin will engage a seat *g* upon the extremity of the stud *a* and will hold the trace D in engagement with said stud. This coupling-pin projects up through the yoke M and is hooked or curved to form an eye *h*, that por-

tion of the wire forming the eye being rigidly secured to the yoke.

The connections O P, which may be wires, cords, chains, or other flexible connection, are 5 attached in any suitable manner to the eyes *h* or the coupling-pins N, which connections form the means for operating the lever-arms L when it is found necessary to release the traces from the ends of the singletree. These 10 connections O P, after being properly attached to the eyes or coupling-pins, extend along over the singletree and pass around a grooved pulley R, which pulley is pivotally connected with a suitable bracket T, said 15 bracket being attached to the singletree in any suitable and well-known manner, but preferably connected by the same bolt that connects the singletree to the cross-bar B of the shafts, said bolt being shown at *i*, Figs. 1 20 and 6 of the drawings.

The connections O P extend through openings *k* in the bracket T, and join each other, as shown at U, and are of sufficient length to extend up within convenient reach of the 25 person in the vehicle, and may be provided with a ring *l* or other suitable and well-known means for grasping it with the hand.

Any suitable means may be employed for operating the lever-arms L, as found best 30 adapted to the purpose, as I do not wish to be understood as confining myself to the means herein described, and many changes or modifications may be made in the details of construction without departing from the principle of the invention, and any such changes 35 as would come within ordinary mechanical skill may be resorted to, as circumstances may require.

In the operation of the trace-detaching 40 mechanism, when it is desired to immediately disconnect the horse from the vehicle in case of a runaway, the connections O P are pulled

upon by the person in the vehicle, which will elevate the yokes M, and with them the coupling-pins N, thereby removing the pins from 45 the ends of the studs *a*. The elevation of the yokes M will cause the lever-arms L to be depressed, and the curved or cam edges *m* thereof to be brought against the traces D, and by the continued motion of the lever-arms the 50 ends of the traces will be forced outward and off the studs *a*, the lever-arms and their connections assuming the position shown in dotted lines. After the connections O P have 55 been released by the person in the vehicle, the springs F will force the lever-arms and their connection back to their normal position.

Any suitable and well-known harness connections between the horse and shafts may be used that will admit the horse disconnect- 60 ing itself from the shafts when the traces have been detached from the singletree.

Having now fully described our invention, what we claim as new, and desire to secure 65 by Letters Patent, is—

A trace-detaching device, consisting of lever-arms having curved or cam edges, a coiled spring, a shaft connecting therewith and operating said spring, and means for coupling 70 the ends of the shafts to the lever-arms, comprising coupling-plates having openings for the ends of the shaft, seats in the upper edges of the arms, and means for securing the plates to the arms, substantially as and for the purpose described. 75

In testimony that we claim the above we have hereunto subscribed our names in the presence of two witnesses.

ISADORE VANDERBECK.
MARTILE E. VANDERBECK.

Witnesses:

W. R. SAMUEL,
W. T. DAMERON.