

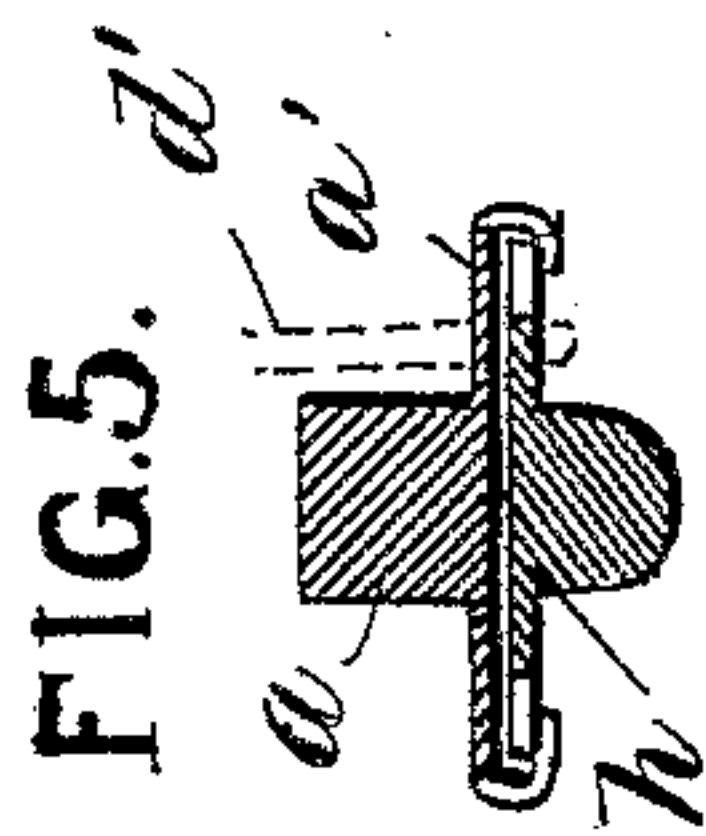
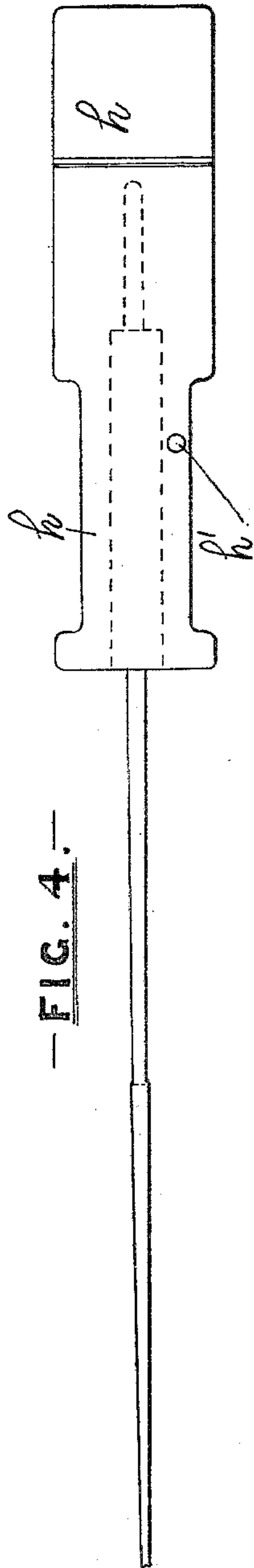
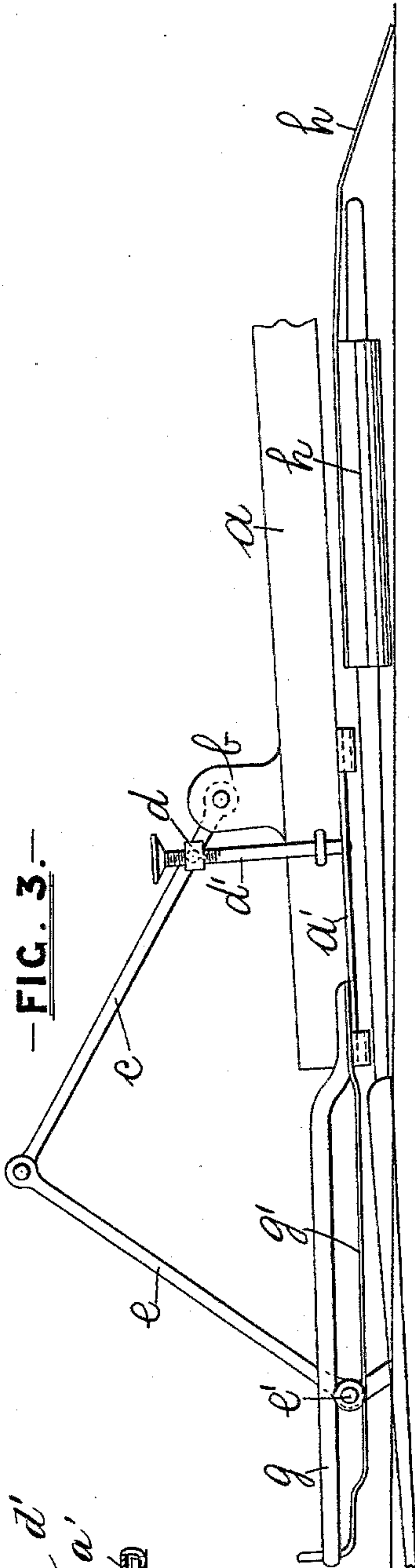
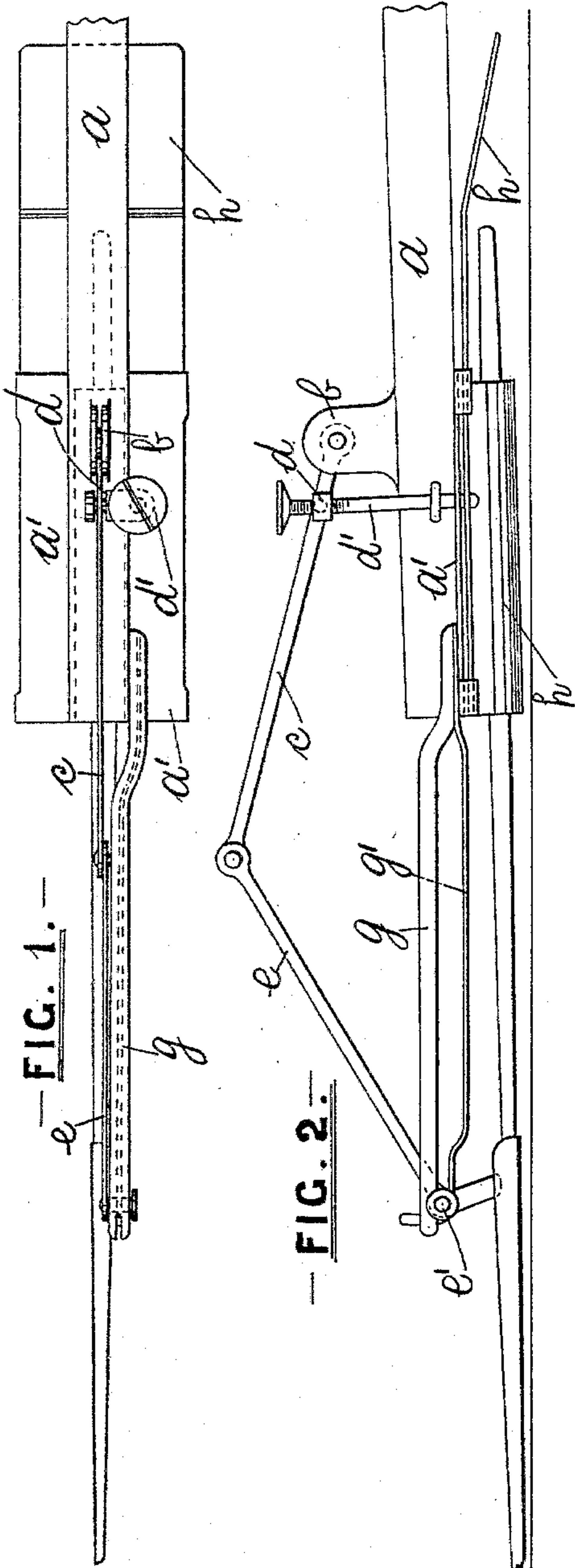
(No Model.)

G. ROGER.

MECHANISM FOR CUTTING THE PILE OF WEFT PILE FABRICS.

No. 597,658.

Patented Jan. 18, 1898.



Witnesses:
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UNITED STATES PATENT OFFICE.

GEORGE ROGER, OF WARRINGTON, ENGLAND.

MECHANISM FOR CUTTING THE PILE OF WEFT PILE FABRICS.

SPECIFICATION forming part of Letters Patent No. 597,658, dated January 18, 1898.

Application filed August 3, 1897. Serial No. 647,010. (No model.)

To all whom it may concern:

Be it known that I, GEORGE ROGER, a subject of the Queen of Great Britain, residing at Warrington, in the county of Lancaster, England, have invented new and useful Improvements in Mechanism for Cutting the Pile of Weft Pile Fabrics, of which the following is a specification.

The improvements relate to knives employed in cutting the pile of weft pile fabrics, and have for their object to prevent such knives from tearing the cloth on a puncture taking place. To accomplish this and to effect my improvements, I attach to the knife holder or handle a suitable fulcrum to which is pivoted one extremity of a lever, such lever having connected to it a bar or bolt which, as the lever oscillates in a plane parallel to the direction of cut, is caused to move therewith. At the other extremity of this lever is pivoted a link which, with the lever before mentioned, makes a knee-joint, and such link at its opposite extremity fits into or upon and is capable of sliding along the channel of the knife-guide and may ride upon the knife itself. A guide projecting from the knife holder or handle is also provided to insure the movement of this link in a direction parallel to the run of the knife, a suitable pin or like means being formed upon the link to take into the guide aforesaid. I connect the knife by suitable means and by preference adjustably to a slide which fits into a corresponding groove upon or within the surface of the holder or handle, and a hole is formed in the slide, within which in the normal condition of the apparatus the bar or bolt upon the swiveled lever rests and prevents such slide, and consequently the knife to which it is attached, from being moved. As soon, however, as the knife-point enters the cloth being operated upon the surface of the fabric comes in contact with the extremity of the link and slides the same along its guide, raising the knee-joint and lifting the bolt, whereupon the knife-slide is pushed out of its groove by the forward movement of the knife-holder, and the knife, along with such slide, falls upon the surface of the cloth; but that the improvements may be better understood I will, with the aid of the accompanying drawings, proceed

more fully to describe means employed by me.

In the drawings, Figures 1 and 2 are respectively a plan view and a side elevation of one form of my invention arranged with a knife in position for cutting the pile of the fabric operated upon. Fig. 3 shows a side elevation of the same apparatus when the knife is released on penetrating the cloth; and Fig. 4 is a plan view of such released knife, together with the slide holding the same. Fig. 5 is a cross-section of the device through the knife-holder.

The same letters indicate corresponding parts wherever they occur.

Attached to a knife-carrier *a*, of any suitable form, is a fulcrum-piece *b*, to which is swiveled one extremity of a lever *c*, such lever having connected to it a screw-threaded block *d*, through which is passed, by preference, a screw-threaded pin or bolt *d'*, and when the lever *c* oscillates in a plane parallel to the direction of cut the bolt *d'* is enabled to move therewith. At the other extremity of the lever *c* is swiveled a link *e*, and such link at its opposite and bent extremity fits into and is capable of sliding along the channel of the knife-guide, as shown in Fig. 3; but it is obvious that such bent extremity might slide outside such knife-guide. A guide for this link, composed preferably, as shown, of an arm *g* and spring *g'*, is provided with the pin *e'* to insure the movement of the link *e* in a direction parallel to the run of the knife.

h is a slide-piece holding the knife and is arranged to fit into corresponding grooves formed upon the side extensions *a'* at the front part of the holder *a*. When the knife and slide are in position for cutting, a hole *h'* in such slide is allowed to be opposite to a like hole in the portion *a'* of the holder and also opposite the pin or bolt *d'*, which bolt, as shown in Fig. 2, locks the knife-slide in the cutting position by passing through both pieces. On the knife-point penetrating the cloth, however, the surface of the fabric comes in contact with the bent end of the link *e* and slides the pin *e'* along its guide, thus raising the knee-joint formed by the lever *c* and link *e* and at the same time lifts the bolt *d'*, whereupon the knife holder or slide is pushed out

of its groove, as shown in Fig. 3, by the forward movement of the handle or carrier *a*, and the knife, along with the holder or slide *h*, is separated from the handle-piece and falls upon the surface of the cloth.

Variations in detail may be made, such as in the form of the lever, link, slide, and guides, and in the manner of connecting all the parts, as well as in the material of which they are composed, without departing from the peculiar character of the invention.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. In mechanism for cutting the pile of weft pile fabrics, the combination of a carrier, a knife detachably secured to said carrier, and means situated above the knife, and in substantially the same vertical plane therewith and acted upon by the cloth when punctured, to release the knife from its carrier, substantially as and for the purposes hereinbefore set forth.

2. In mechanism for cutting the pile of weft pile fabrics, the combination of a carrier, a knife detachably secured to said carrier, and a lever-carrying means situated above the knife and in substantially the same vertical plane therewith, to be acted on by the cloth when punctured, to release the knife from its carrier, substantially as and for the purposes hereinbefore set forth.

3. In mechanism for cutting the pile of weft pile fabrics, the combination of a knife hav-

ing a suitable carrier, and detachably secured thereto, a guide on said carrier, and a lever-carrying means located above the knife and in substantially the same vertical plane therewith, to be operated on by the cloth when punctured to release the knife from its carrier, substantially as and for the purposes hereinbefore set forth.

4. In mechanism for cutting the pile of weft pile fabrics, the combination of a carrier, a knife detachably secured to said carrier, a lever located above the knife and in substantially the same plane and having one of its ends adapted to move in or upon the knife-guide at a suitable point whereby the cloth upon being punctured by said knife will press against said lever and cause the knife to be released from its carrier, substantially as and for the purposes hereinbefore set forth.

5. In mechanism for cutting the pile of weft pile fabrics, the combination of a carrier, a knife detachably secured to said carrier, a lever fulcrumed at one end to said carrier and having at its other end a link, a knife-guide, a bolt operated by the lever for releasing the knife, a spring and guide-arm forming a guide for said link and running parallel with each other and secured at one end to the carrier, substantially as and for the purposes hereinbefore set forth.

GEORGE ROGER.

Witnesses:

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