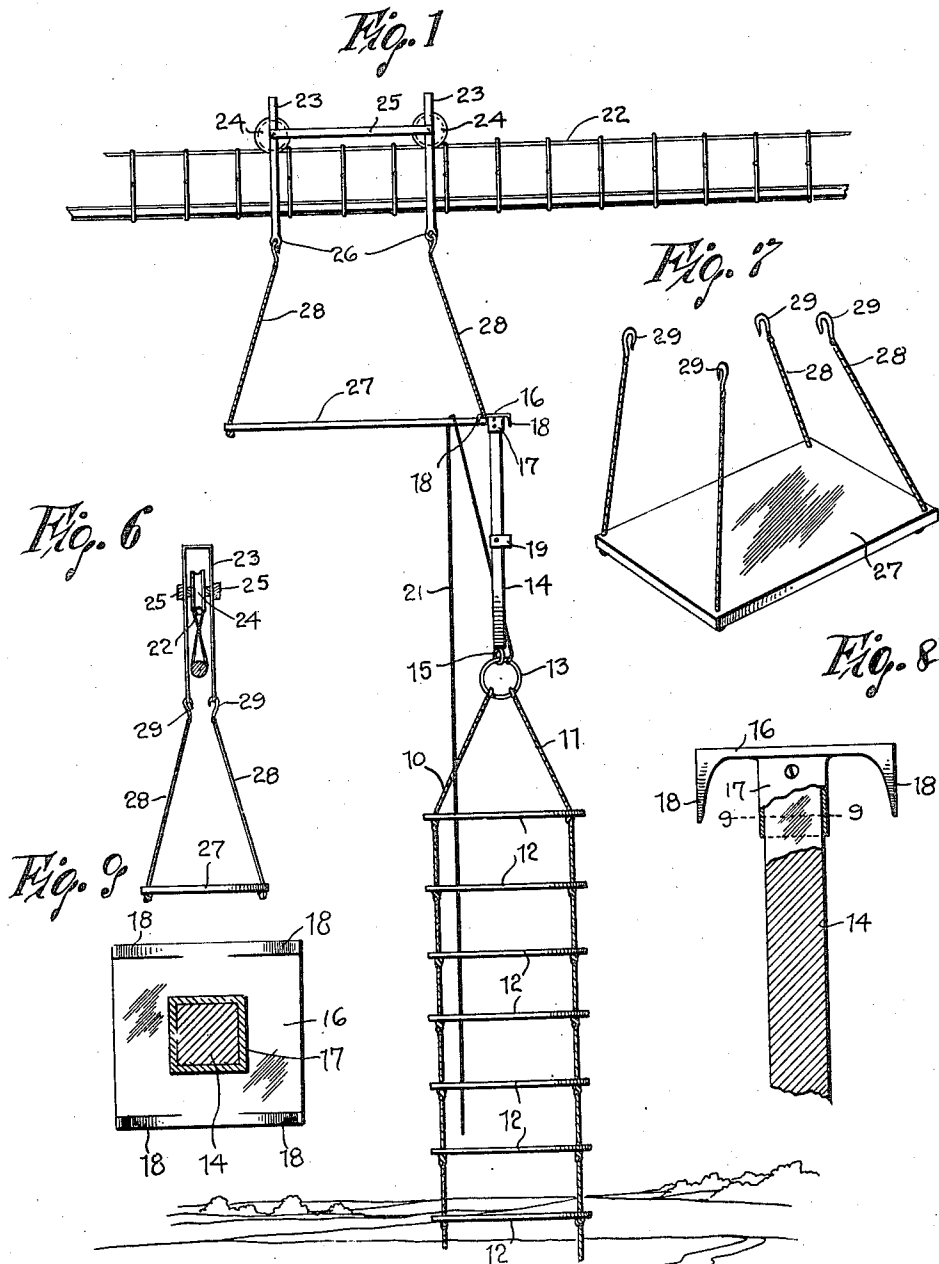


E. A. FREDEEN.
 APPARATUS FOR CONSTRUCTING OR REPAIRING LINES OF WIRE.
 APPLICATION FILED NOV. 25, 1911.

1,036,482.

Patented Aug. 20, 1912.
 2 SHEETS—SHEET 1.



WITNESSES
 Robert M. Sutphen.

Ross Woodward.

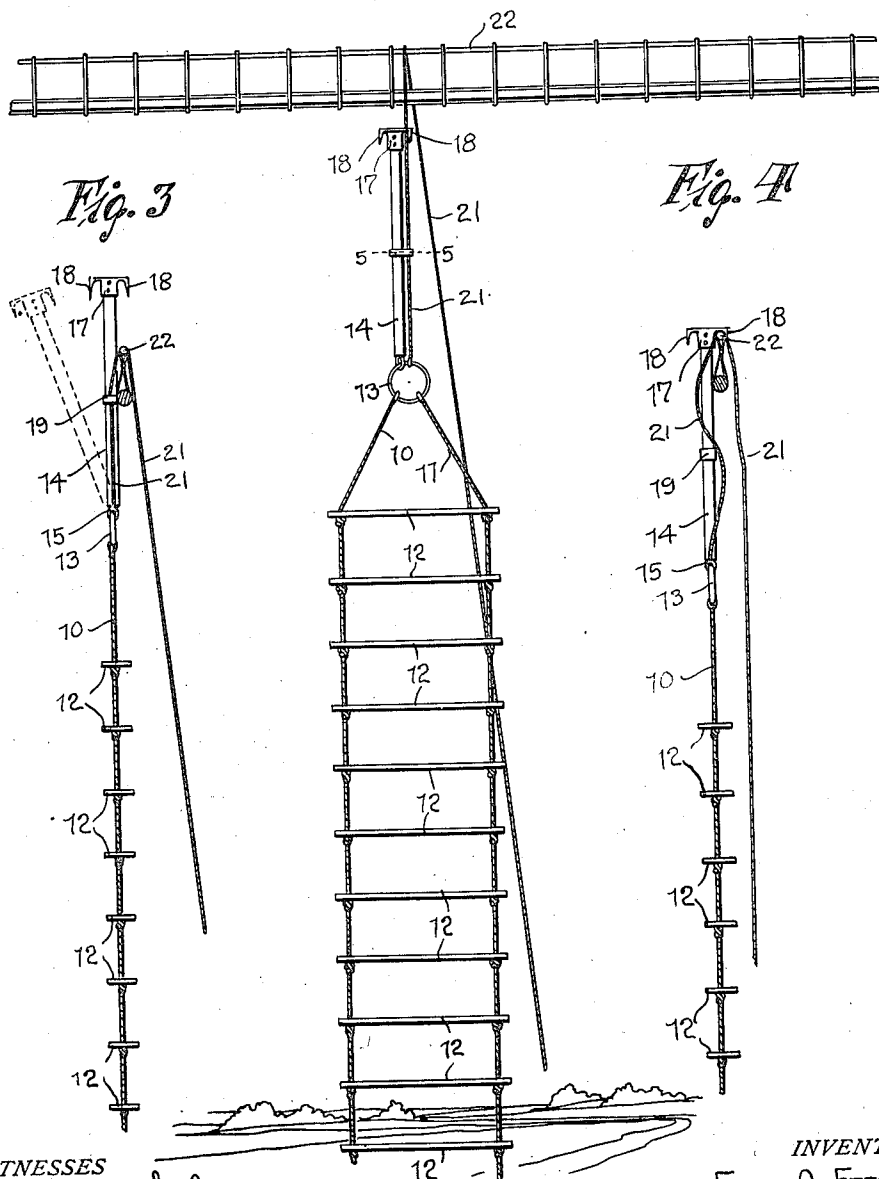
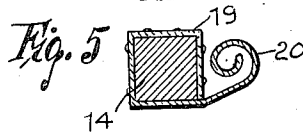
INVENTOR

EMIL A. FREDEEN

By E. C. Crooman, his Attorney.

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UNITED STATES PATENT OFFICE.

EMIL A. FREDEEN, OF WAHPETON, NORTH DAKOTA.

APPARATUS FOR CONSTRUCTING OR REPAIRING LINES OF WIRE.

1,036,482.

Specification of Letters Patent.

Patented Aug. 20, 1912.

Application filed November 25, 1911. Serial No. 662,389.

To all whom it may concern:

Be it known that I, EMIL A. FREDEEN, a citizen of the United States, residing at Wahpeton, in the county of Richland and State of North Dakota, have invented certain new and useful Improvements in Apparatus for Constructing or Repairing Lines of Wire, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to an apparatus which is to be used by a lineman working for telephone or telegraph companies. This apparatus is used so that a break in the wire between the poles may be repaired without it being necessary to climb the pole. In order to accomplish this a rope ladder is provided with a hook which engages a wire so that a lineman may climb the rope ladder and mount a seat upon the wire. This seat is provided with wheels which rest upon the wire so that it can be moved along the wire between the poles very easily.

This invention is illustrated in the accompanying drawings wherein—

Figure 1 is a side elevation showing the lineman's seat mounted upon the wire with the ladder hanging from the seat. Fig. 2 is a side elevation showing the ladder about to be connected with the wire. Fig. 3 is a view in elevation showing the hook of the ladder raised above the wire. Fig. 4 is a view in elevation showing the ladder connected with the wire. Fig. 5 is a sectional view through the guiding eye which connects the hook with the rope when taken along the line 5—5 in Fig. 2. Fig. 6 is an end elevation of the lineman's seat. Fig. 7 is a perspective view of the platform and suspending rods for the platform. Fig. 8 is an enlarged view of the top portion of the ladder hook shown partly in section, and partly in side elevation. Fig. 9 is a sectional view along the line 9—9 of Fig. 8.

Referring to the accompanying drawings, it will be seen that this invention comprises a rope ladder having the ropes 10 and 11 knotted as shown to form supports for the steps 12, the ends of the ropes 10 and 11 being connected with the ring 13. A bar 14 is connected with the ring 13 by means of the eye 15 and carries a hook at its free end. The hook comprises the plate 16 which is connected with the bar 14 by means of the sleeve 17, and is provided at each corner with a hook 18. A band 19 is secured to the

bar 14 intermediate its length and has its free end carried away from the bar 14 and coiled to form the resilient hook 20. A line 21 has one end connected with the ring 13 and passes through the hook 20 so that when the line is drawn over the wire 22, and the ladder drawn upwardly, the bar 14 will be held vertically as shown in Fig. 2. As the ladder is drawn higher the hook passes above the wire 22 and when the ladder is lowered again the hooks 18 will catch upon the wire 22 as shown in Fig. 4, thus suspending the ladder from the wire.

After the ladder is caught upon the wire, the lineman climbs the ladder and connects the chair with the wire. In doing this he sits upon the top step and it will therefore be necessary to make the top steps of a sufficient distance apart that he may conveniently use the ladder as a seat while connecting the chair with the wire. The chair comprises a carriage which is formed from the U-shaped brackets 23 which carry the wheels 24, and which are connected by means of the side bars 25. The lower ends of the U-shaped brackets are enlarged and provided with the openings 26 so that the platform may be connected with the brackets. The platform 27 carries ropes 28 which have hooks 29 at their free ends. The hooks 29 are passed through the opening 26 after the carriage has been mounted upon the wire, and the chair will then be suspended in position for use. The lineman sits on the platform 27 and removes the ladder from the wire, and suspends the same from one of the ropes 28 as shown in Fig. 1. The chair can now be moved along the wire to the place where it is desired to repair an adjoining wire, and the repair made.

When it is desired to descend from the wire, the ladder is connected with the wire, and the hooks at one side of the platform removed from the openings 26. The carriage can then be removed from the wire, and the lineman descends to the ground taking the chair with him. After the lineman reaches the ground, the bar 14 is raised by the line 21, so that the hook 18 will be disconnected with the wire 22 and the ladder can then be drawn to one side so that when the ladder is lowered the hook 28 will not be connected with the wire. It will thus be evident that an ascension to the wire can be very readily made between the poles thus doing away with the necessity of climbing

the pole to reach the wire and the necessity of returning to the pole in order to descend from the wire. When the lineman descends to the ground the line 21 may be released from the hook 20 so that after the lineman reaches the ground and draws the ladder upwardly by means of the line 21 the bar 14 carrying the plate 16 will fall over by its own weight as indicated by the dotted lines in Fig. 3 so that when the line 21 is released in order to permit the ladder to drop to the ground, the hook will not catch upon the wire 22.

What is claimed is:—

1. A ladder, a bar loosely connected with said ladder, a support engaging hook at the end of said bar, a line connected with said ladder, and means for releasably connecting

said bar with said line, whereby said bar may be held above said ladder when raising said ladder.

2. A ladder, a ring connected with the upper end of said ladder, a bar slidably mounted upon said ring, a support engaging hook carried by the free end of said bar, a line connected with said ring, and a hook carried by said bar intermediate its length and adapted to connect said line with said bar, whereby said bar will be held above said ladder when raising said ladder.

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

EMIL A. FREDEEN.

Witnesses:

MARIE E. OVERBOE,
OLOF. A. SWENSON.