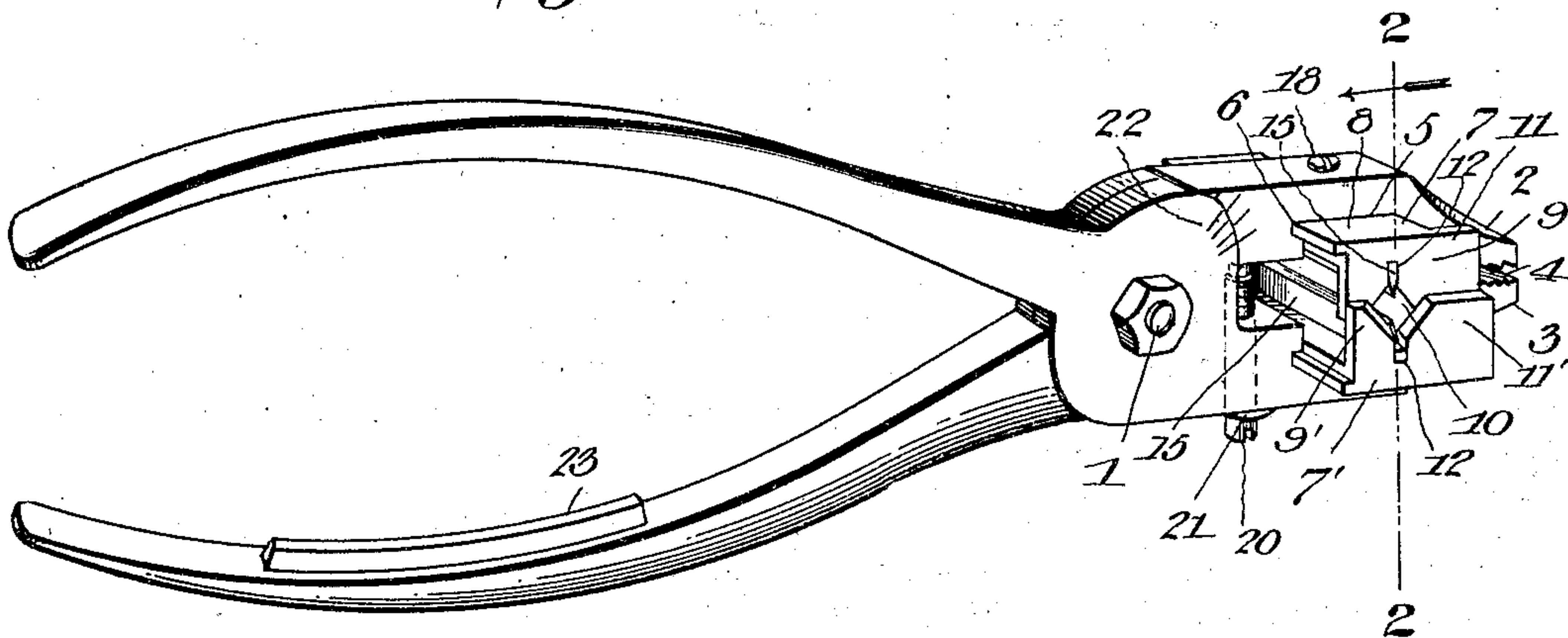


No. 785,392.

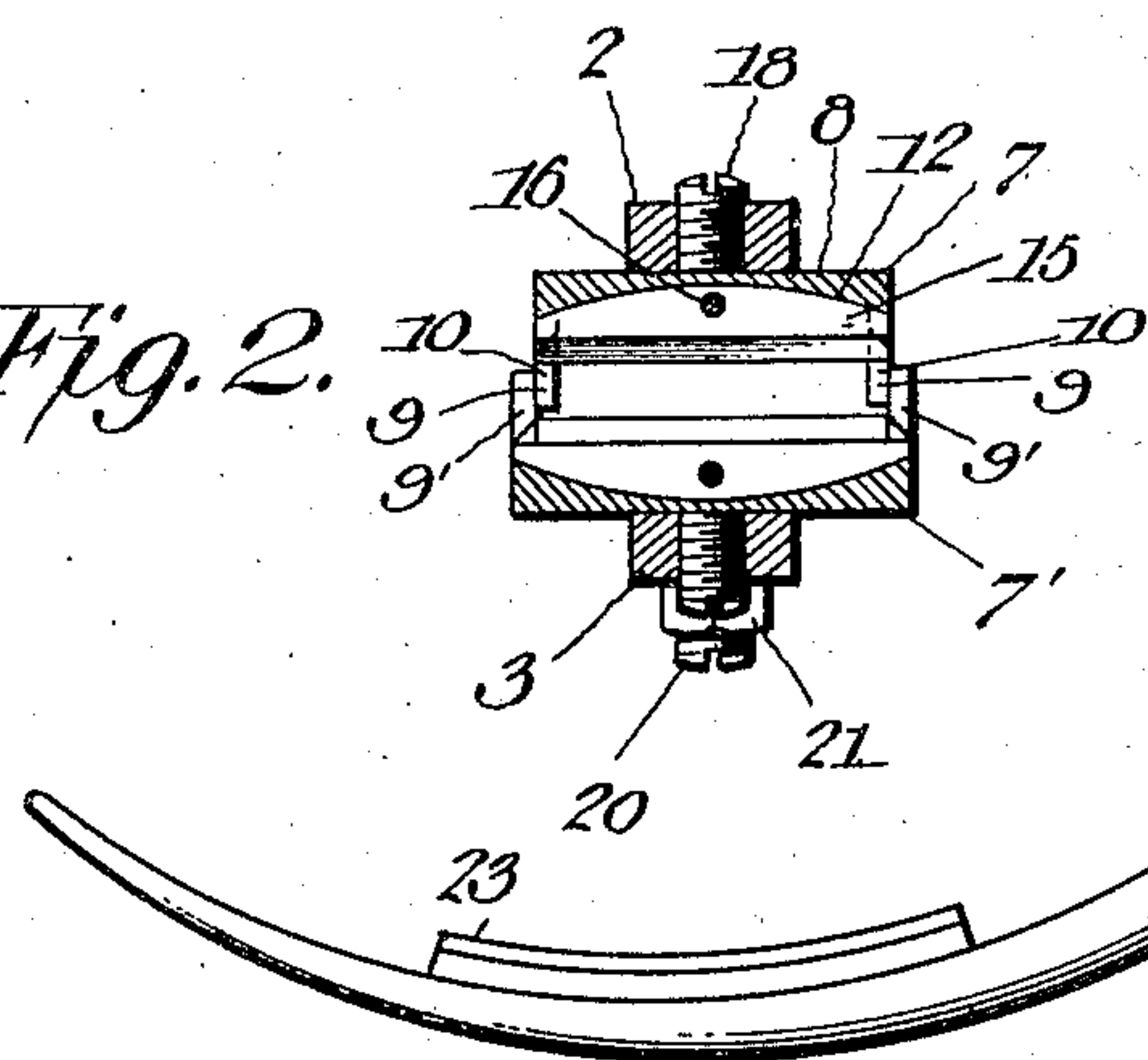
PATENTED MAR. 21, 1905.

J. E. WILLIAMS.  
TOOL FOR REMOVING INSULATION FROM WIRES.  
APPLICATION FILED MAR. 9, 1904.

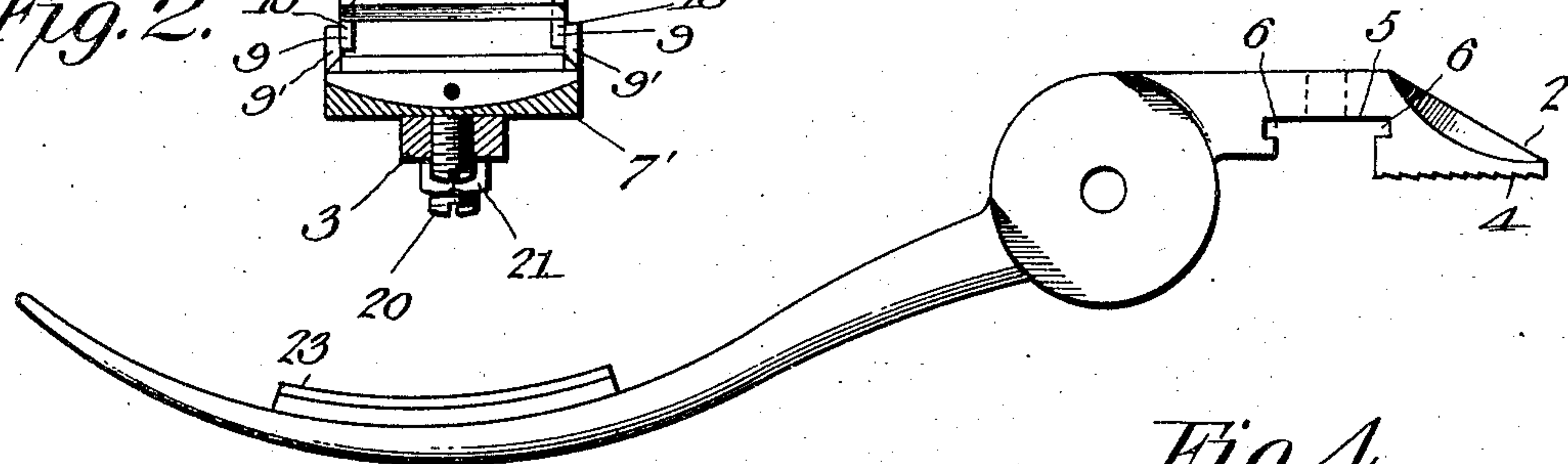
*Fig. 1.*



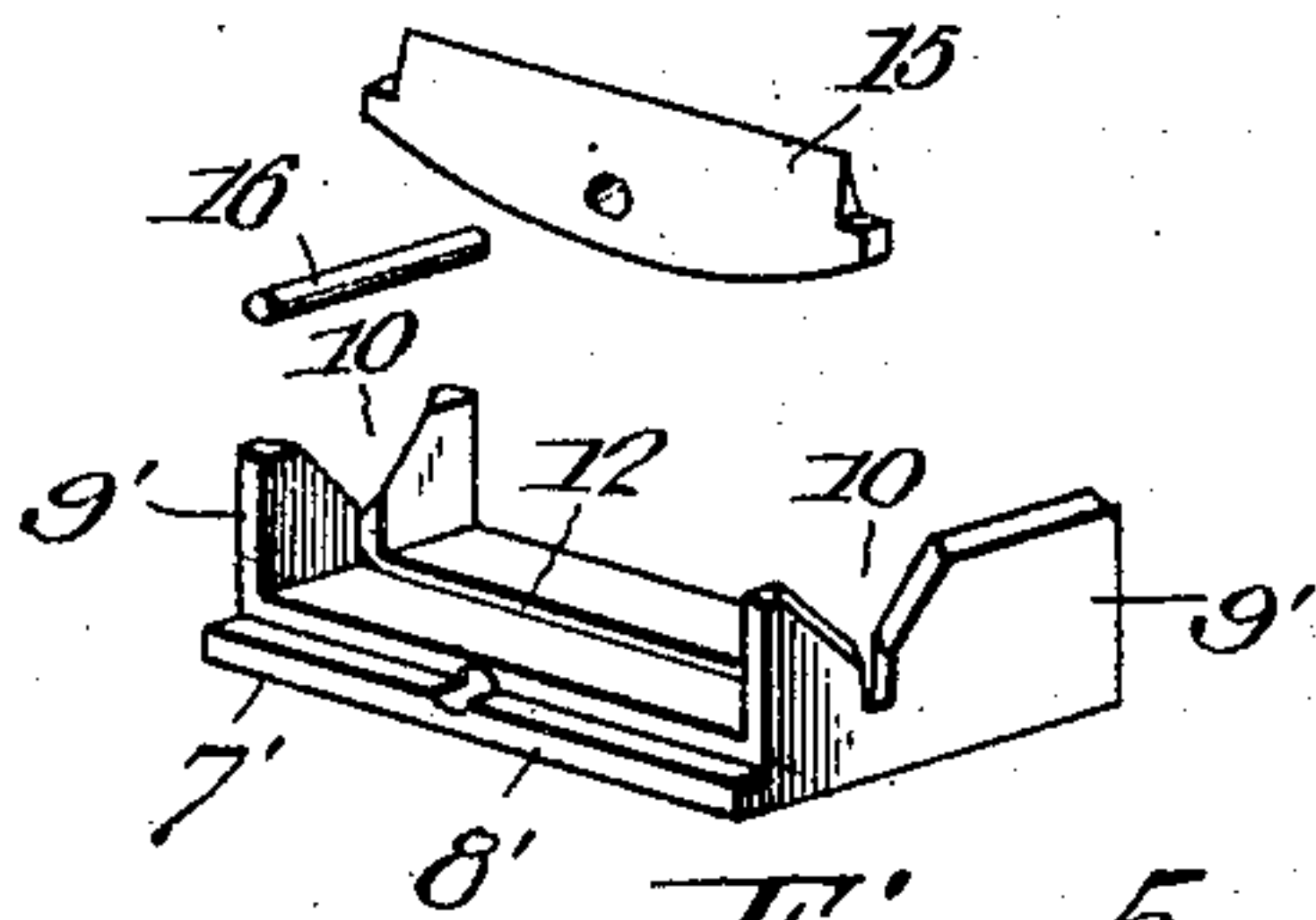
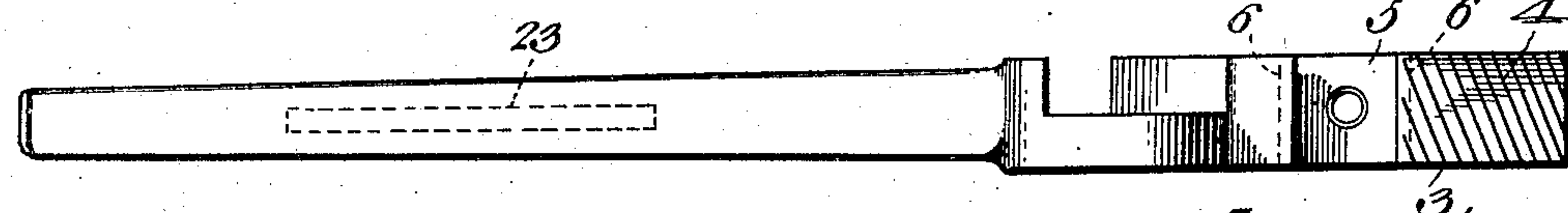
*Fig. 2.*



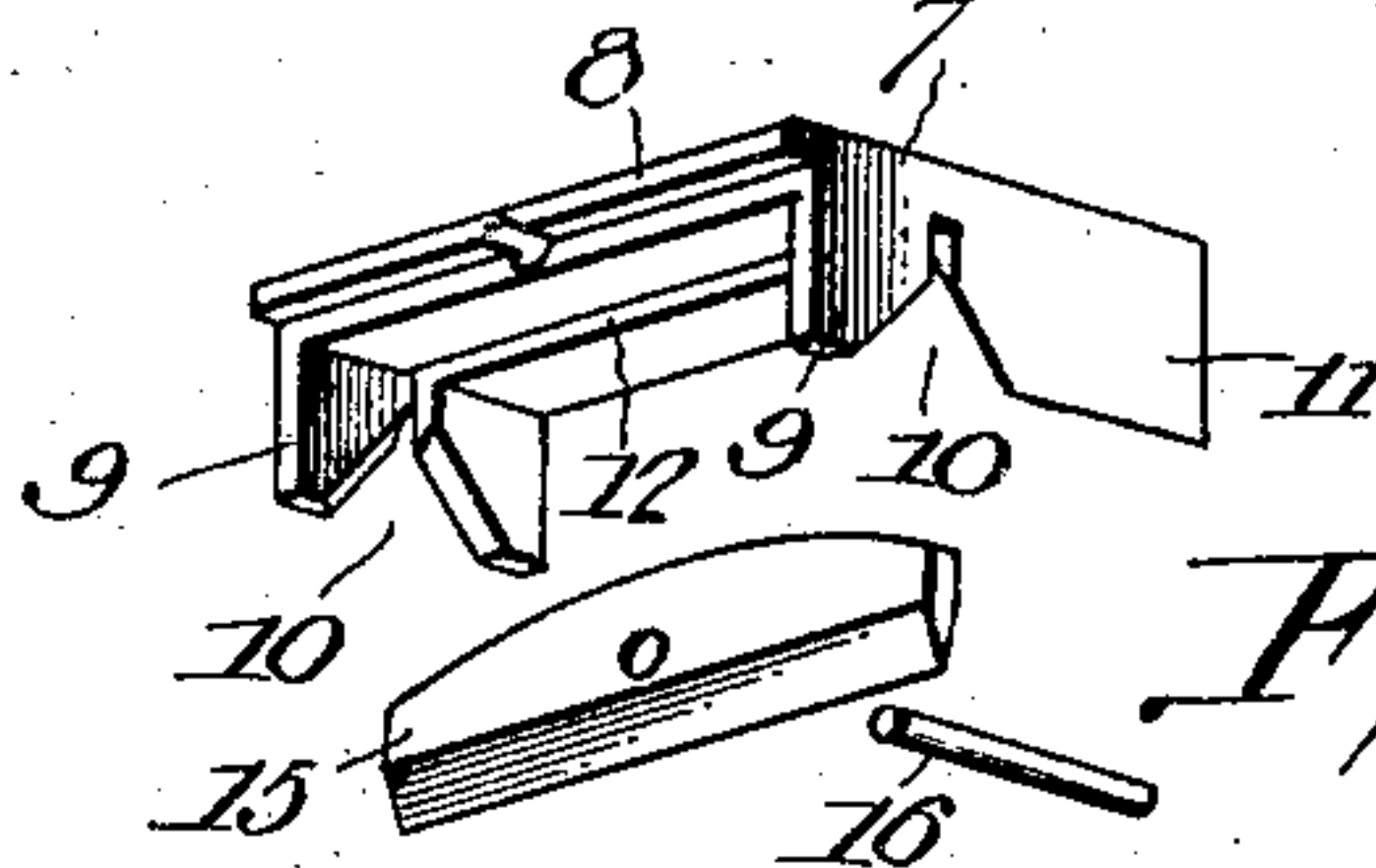
*Fig. 3.*



*Fig. 4.*



*Fig. 5.*



*Fig. 6.*

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# UNITED STATES PATENT OFFICE.

JOHN E. WILLIAMS, OF ST. LOUIS, MISSOURI.

## TOOL FOR REMOVING INSULATION FROM WIRES.

SPECIFICATION forming part of Letters Patent No. 785,392, dated March 21, 1905.

Application filed March 9, 1904. Serial No. 197,327.

*To all whom it may concern:*

Be it known that I, JOHN E. WILLIAMS, a citizen of the United States, residing at St. Louis, in the State of Missouri, have invented  
5 a new and useful Tool for Removing Insulation from Wires, of which the following is a specification.

The object of this invention is to facilitate and expedite the removal of insulating material from electrical conductors at places where  
10 splices or connections are to be made.

A further object of the invention is to provide a stripping-tool which may be adjusted to suit any gage of wire and avoid danger of  
15 cutting, denting, or otherwise injuring the wire during the stripping operation.

A still further object of the invention is to provide a tool of this character in which the cutters for the insulating material may be readily  
20 removed from position and reground or renewed if worn out.

A still further object of the invention is to provide a device in the nature of a combination-tool which may be used as an ordinary  
25 pair of pliers, as a wire-cutter, as a device for stripping insulating material from wire, and as a scraper for brightening the wire before a joint is made.

With these and other objects in view, as will  
30 more fully hereinafter appear, the invention consists in the novel construction and arrangement of parts hereinafter described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims, it  
35 being understood that various changes in the form, proportions, size, and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings, Figure 1 is a perspective view of a tool constructed in accordance with the invention. Fig. 2 is a transverse sectional elevation of the same on the  
40 line 2-2 of Fig. 1. Figs. 3 and 4 are detail views of one of the levers or arms for supporting the cutters. Figs. 5 and 6 are detail perspective views of one set of cutters detached.

Similar numerals of reference are employed

to indicate corresponding parts throughout the several figures of the drawings.

The device forming the subject of the present invention resembles in general character a pair of pliers which are pivotally connected by a bolt or rivet 1, and each member comprises a gripping-jaw and a handle. The jaw  
55 members 2 and 3 are provided with suitable recesses for the reception of cutting devices, and each jaw has a flat or roughened clamping-face 4, corresponding to that ordinarily employed in pliers and which may be used in  
60 similar manner.

The jaw 2 has a transversely-disposed recess 5, the opposite side walls of which are undercut, as indicated at 6, for the reception of a cutting-tool 7, comprising a base 8 of a width  
65 about equal to the distance between the outer walls of the recess 6 and two parallel blades 9, disposed at right angles thereto. Each of the blades 9 is provided with a V-shaped notch 10, the walls of which are preferably at a right  
70 angle to each other, and the inner side of each cutter is ground away in order that a cutting edge may be formed on the outer surfaces of the portion 9 at its juncture with the walls of the recess 10. One of the cutters  
75 9 is of greater width than the other and is extended to form a cutting-blade 11, which may be properly sharpened and used in connection with a mating cutter for the purpose of severing wire and other material. The base 8 of the  
80 cutter is provided with a slot 12, which may be milled out, the inner wall of the slot being curved in a direction lengthwise of the base, and in this slot is placed a cutter 15, having a sharpened edge which projects slightly be-  
85 yond the point where the two walls of the notch 10 converge, it being understood that the slot is extended through both of the vertical cutting-blades 9. The two cutters are held together by means of a pin 16, and after  
90 being placed in position in the recess 5 the cutter is firmly locked by a set-screw 18, carried by the jaw 2.

The jaw 3 of the tool is provided with undercut recesses for the reception of cutting-  
95 tools of a character precisely the same as



- those previously described, with the exception that the main cutter 7' is of somewhat greater length, and its cutting edges are at the inner walls of the blades 9', so that they
- 5 may properly coact with the angular cutting edges of the blades 9 when the jaws are closed to the fullest extent, and the opening formed by the two notches will be approximately rectangular.
- 10 In the removal of insulating material from wire it is desirable to avoid any injury to the wire, and to prevent the cutters coming into contact therewith a stop-screw 20 is arranged in the threaded opening in the jaw 3 and
- 15 limits closing movement of the two jaws. This stop-screw has its outer end constructed for engagement by a suitable adjusting-tool, and on the outer portion of said screw is a lock-nut 21, by which the stop-screw may be
- 20 held to any position to which it may be adjusted.
- In using a device of this class the workmen will handle wires of different gage, and by turning the stop-screw the cutters may be al-
- 25 lowed to approach each other for a distance depending on the diameter of the wire. To facilitate this operation, the side cheeks of the pliers are provided with graduations, as indicated at 22, and corresponding graduations
- 30 are brought into alinement and the tools adjusted for work on wire of the gage indicated, and this may be accomplished through a wide range, so that the tool can be used in many classes of work.
- 35 In use the wire is engaged in the notches of the cutter and the latter closed as firmly as possible, after which the tool may be turned around the wire to strip off that portion between the two cutters. The cutters 15 will
- 40 cut the insulating material longitudinally of the wire and the stripping may be very readily accomplished. The cutters 11 and 11' may be used in the ordinary manner for the cutting of wire or other material, and the clamp-
- 45 ing-faces 4 may also be employed in the same manner as an ordinary pair of pliers.
- One of the handle members of the pliers is

provided with a blade 23, which may be used to advantage in brightening the stripped wire prior to making a connection. 50

Having thus described the invention, what is claimed is—

1. In a tool for the removal of insulation from wires, a pair of pivotally-connected jaws provided on their inner faces with trans- 55 versely-disposed grooves, removable cutters disposed in said grooves and having notched cutting edges, and insulation-splitting cutters carried by the laterally-removable cutters.

2. In a tool for the removal of insula- 60 tion from wires, a pair of pivotally-connected jaws having transversely-disposed undercut grooves in their inner faces, cutters arranged in said grooves and comprising a base provided at each of its ends with a cutting edge, 65 and a binding-screw passing through each jaw and serving to lock the cutter held thereby.

3. In a tool for the removal of insulation from wires, cutters for engaging the insula- 70 tion transversely of the wires, said cutters being grooved, and insulation-splitting blades detachably mounted in said grooves.

4. In a tool for the removal of insulation from wires, a pair of jaws, cutters supported thereby and provided with grooves having 75 rounded inner walls, and insulation-splitting blades mounted in said grooves and detachable from the cutters.

5. In a tool of the class set forth, a pair of clamping-jaws each provided with an under- 80 cut recess, a cutter disposed in each recess and comprising a base-plate, cutting-blades at each end of the plate, each blade having an angular notch, and the base of each cutter being provided with a longitudinally-disposed slot, an 85 auxiliary cutter disposed in the slot, and means for locking the cutters in position.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOHN E. WILLIAMS.

Witnesses:

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MARY D. WHITCOMB.