No. 722,865. PATENTED MAR. 17, 1903.

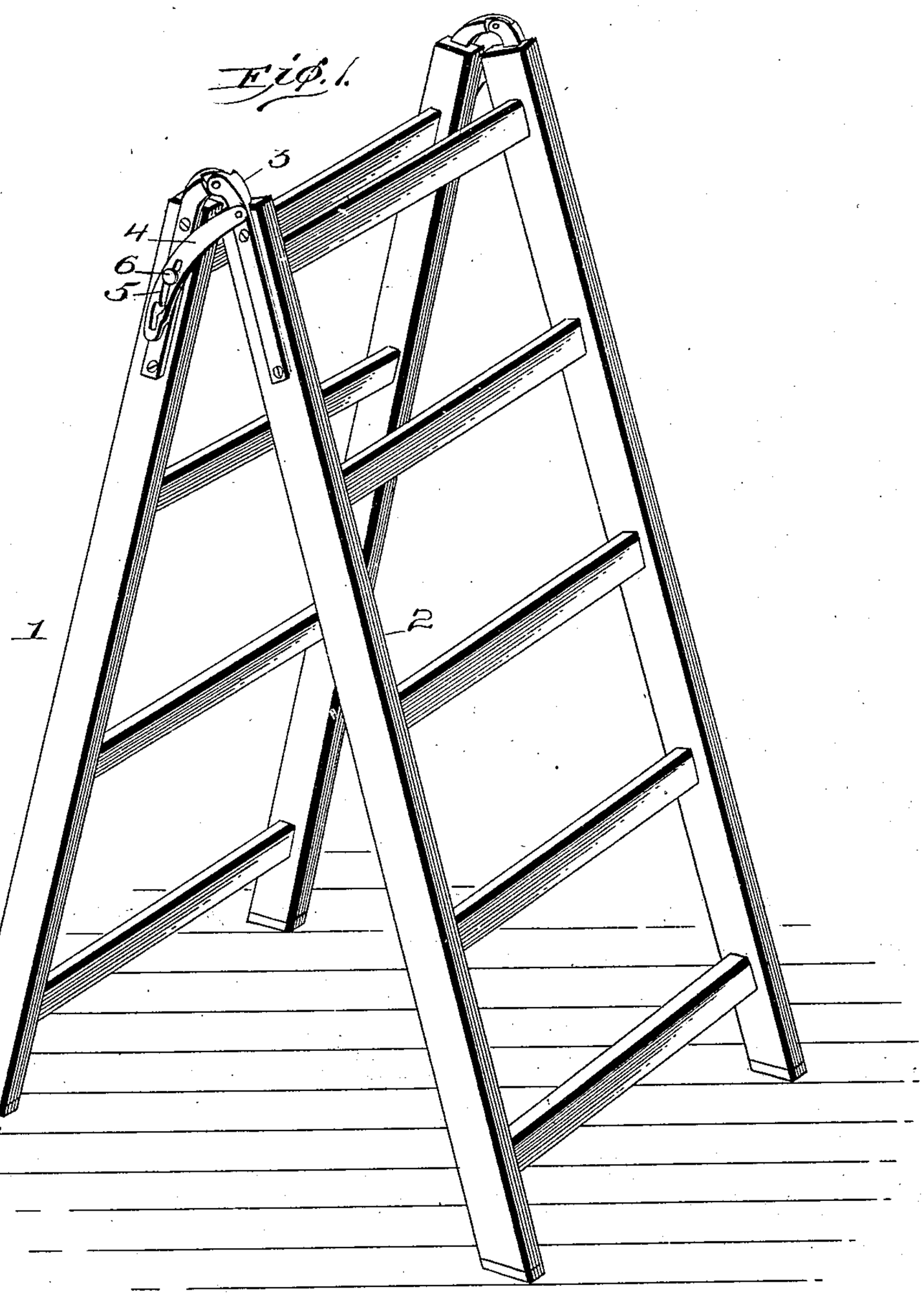
L. O. LORENZ & F. B. JONES.

LADDER.

APPLICATION FILED MAR. 25, 1902.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.



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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 2.

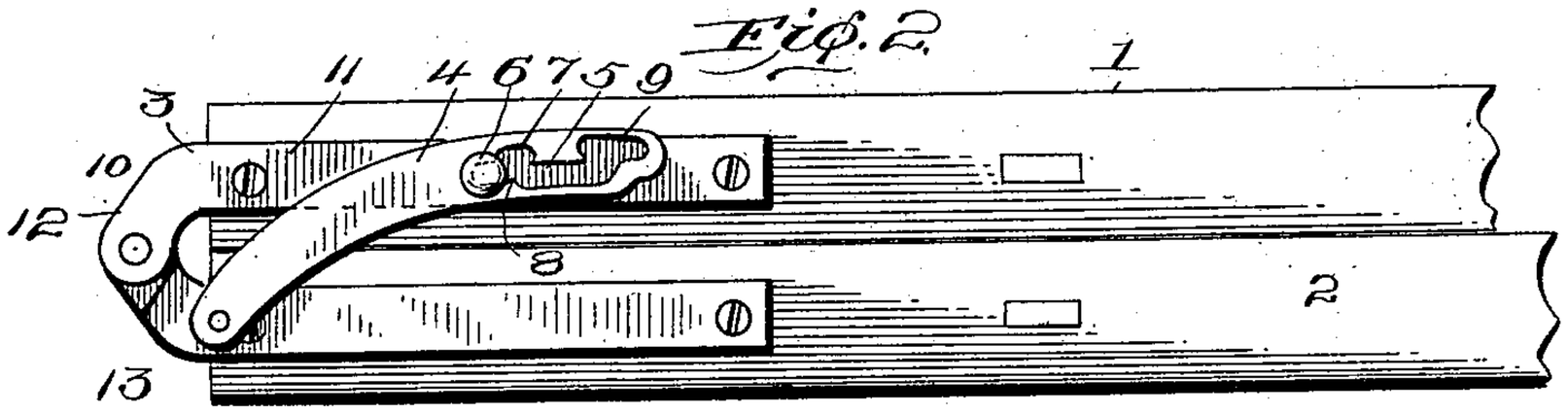


Fig. 3.

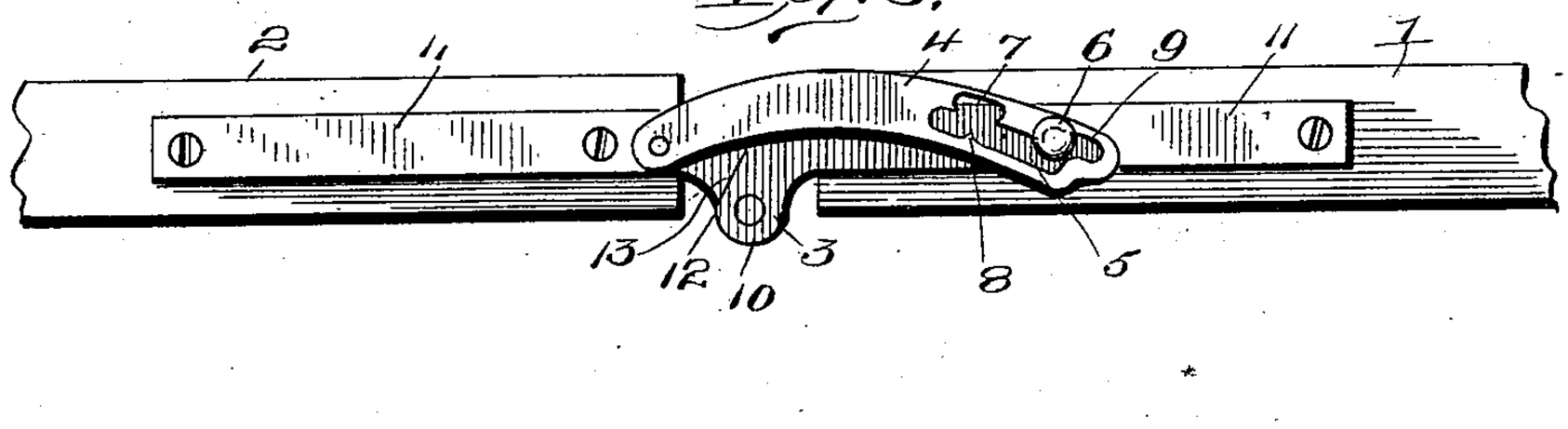
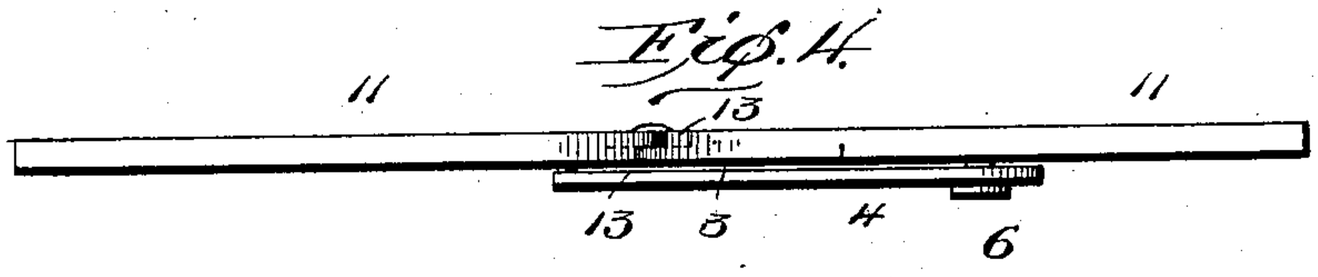


Fig. 4.



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UNITED STATES PATENT OFFICE.

LOUIS O. LORENZ AND FRANK B. JONES, OF STREATOR, ILLINOIS.

LADDER.

SPECIFICATION forming part of Letters Patent No. 722,865, dated March 17, 1903.

Application filed March 25, 1902. Serial No. 99,842. (No model.)

To all whom it may concern:

Be it known that we, LOUIS O. LORENZ and FRANK B. JONES, citizens of the United States, residing at Streator, in the county of Lasalle and State of Illinois, have invented certain new and useful Improvements in Ladders, of which the following is a full and clear description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings.

This invention has relation to ladders; and and it consists in the novel construction and arrangement of its parts, as hereinafter described.

The object of this invention is to provide a ladder that consists of two sections hinged together at their upper ends, each ladder-section being provided with rounds or steps adapted to be used by persons for ascending or descending. A plate is provided, which is pivoted to one of the ladder-sections, said plate having a channel which receives a pin on the opposite ladder-section, said channel having recesses adapted to receive the pin and firmly hold the two sections in certain positions and at desired angles with relation to each other, the plate with its peculiar-shaped channel, together with the hinges, forming the special features of the invention.

In the accompanying drawings, Figure 1 is a perspective view of the ladder. Fig. 2 is a side elevation of the hinged ends of the ladder, showing the sections closed. Fig. 3 is a side elevation of the hinged ends of the ladder, showing the sections opened. Fig. 4 is an edge view of one of the hinges.

The ladder consists of the sections 1 and 2, attached together at their upper ends by means of the hinges 3. Each of the sections 1 and 2 is provided with the ordinary rounds or steps, as shown in Fig. 1. The plate 4 is pivoted at one end to one of the members of the hinge 3, and said plate is provided with a channel 5, which is adapted to receive the pin 6 of the opposite member of the said hinge 3. The plate 4 is substantially arc-shaped, as shown. The channel 5 of the plate 4 is provided in its upper edge with the recess 7, the ends of which are slightly curved. Said recess is located near the end of the channel toward the pivoted end of the plate. Just below the said recess and located on the lower edge of the said channel is the lug 8, the edges of which are inclined, the top of the lug terminating in a point. The upper edge of the end of the channel 5 nearest the free end of the plate 4 is provided with a recess 9, the end of which projects beyond the end of the channel 5. The ends of the recess 9 are also curved, and the end of the channel is inclined or curved into the said recess 9 and acts as a shunt to throw the pin 6 in the recess.

The hinges used on this ladder consist of two members pivoted together. Both of the members are alike in contour and shape. The portion 10 extends at an angle to the portion 11, the portion 10 at the point 12 being provided with a straight edge. Each hinge member at its pivoted end is cut away laterally and the straight-edged shoulder 13 is formed. The straight-edged shoulder of each hinge member engages the straight edge of the opposite hinge member when the sections 1 and 2 of the ladder are opened and extended in alinement, as shown in Fig. 3. Thus a very strong hinge-joint is made, and the recess 9 of the plate 4, receiving the pin 6, braces the hinge members in this position, and the ladder may be placed against a wall and used for any purpose that a straight ladder can be used for.

To close the ladder-sections, the plate 4 can be lifted until the pin 6 is passed from the recess 9 to the channel 5, and the ladder-sections can be swung together on their hinges or the ladder may be placed flat upon the ground with the recessed edge of the channel 5 down, and the said plate will fall until the pin 6 comes in contact with the opposite edge of the said channel, when the section to which the plate 4 is pivoted may be swung over upon the other section. Thus the ladder may be closed without touching the plate 4 with the hand, which is a very convenient feature, especially in heavy ladders. When the ladder-sections are in the positions as shown in Fig. 1, the ladder may be used for paper-hanging, painting, or decorating. In opening the ladder-sections to their fullest extent the extended end of the recess 9 receives the pin 6, when the pivotal point of the plate 4 is diametrically opposite the said pin with relation to the pivotal point of the

hinge. The same function is performed by the extended end of the recess 9 in closing the ladder-sections.

The ladder is designed to be used with its sections in two positions relative to each other, one as shown in Fig. 1 and the other as shown in Fig. 3. The inner end of the channel 5 receives the pin 6 when the ladder-sections are closed, as shown in Fig. 2. The function of the lug 8 is to shunt the pin 6 into the recess 7. The inclined edges of the said lug do this whether the pin approaches from one direction or the other.

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

1. A ladder consisting of sections hinged together, each hinge consisting of members of like contour pivoted together, each member having a body portion and an end extending at an angle thereto, each member having a shoulder adapted to engage the other member when the hinge is open, a plate pivoted to one ladder-section, said plate having a channel provided in its upper edge with recesses, the opposite ladder-section having a pin adapted to enter the said channel and recesses.

2. A ladder consisting of sections hinged together, each hinge consisting of members of like contour pivoted together, each member having a body portion and an end extending at an angle thereto, each member having a shoulder adapted to engage the other member when the hinge is open, a plate pivoted to one ladder-section, said plate having a channel provided in its upper edge with recesses, and a pin-shunting means located on the lower edge of the channel at each recess, the opposite ladder-section having a pin adapted to enter the said channel and recesses.

3. A ladder consisting of sections hinged together, a plate pivoted to one section, said plate having a channel with recesses in its upper edge, a pin-shunting means located on the lower edge of the channel at each recess, the opposite ladder-section having a pin entering the said channel and recesses.

4. A ladder consisting of sections hinged together, a plate pivoted to one section and engaging the opposite section in such manner as to permit the ladder-sections to be alined one with the other or to be placed at an angle to each other, the plate forming a brace in either position.

5. A ladder consisting of sections hinged together, a plate pivoted to one section, said plate having a channel provided in its upper edge and at its end with a recess the end of which projects beyond the said channel end, a pin located on the opposite ladder-section and entering said channel and recesses.

In testimony whereof we hereunto affix our signatures in the presence of two witnesses.

LOUIS O. LORENZ.
FRANK B. JONES.

Witnesses:
O. B. RYON,
H. N. RYON.