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PATENTED MAR. 29, 1904.

P. SHANAHAN.

SUCTION AND FRICTION FOOT FOR LADDERS OR THE LIKE.

APPLICATION FILED JULY 15, 1903.

NO MODEL.

Fig. 1.

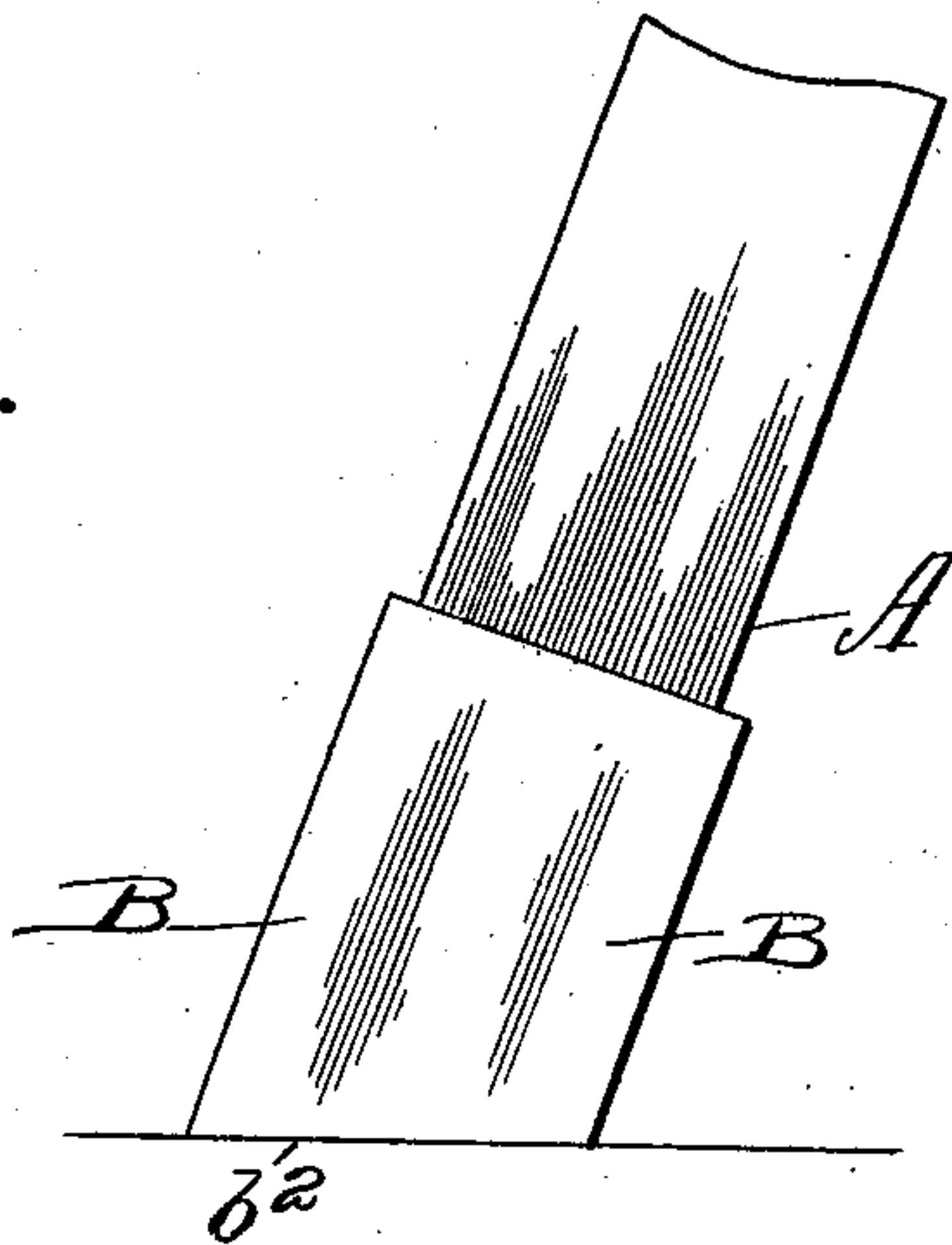


Fig. 2

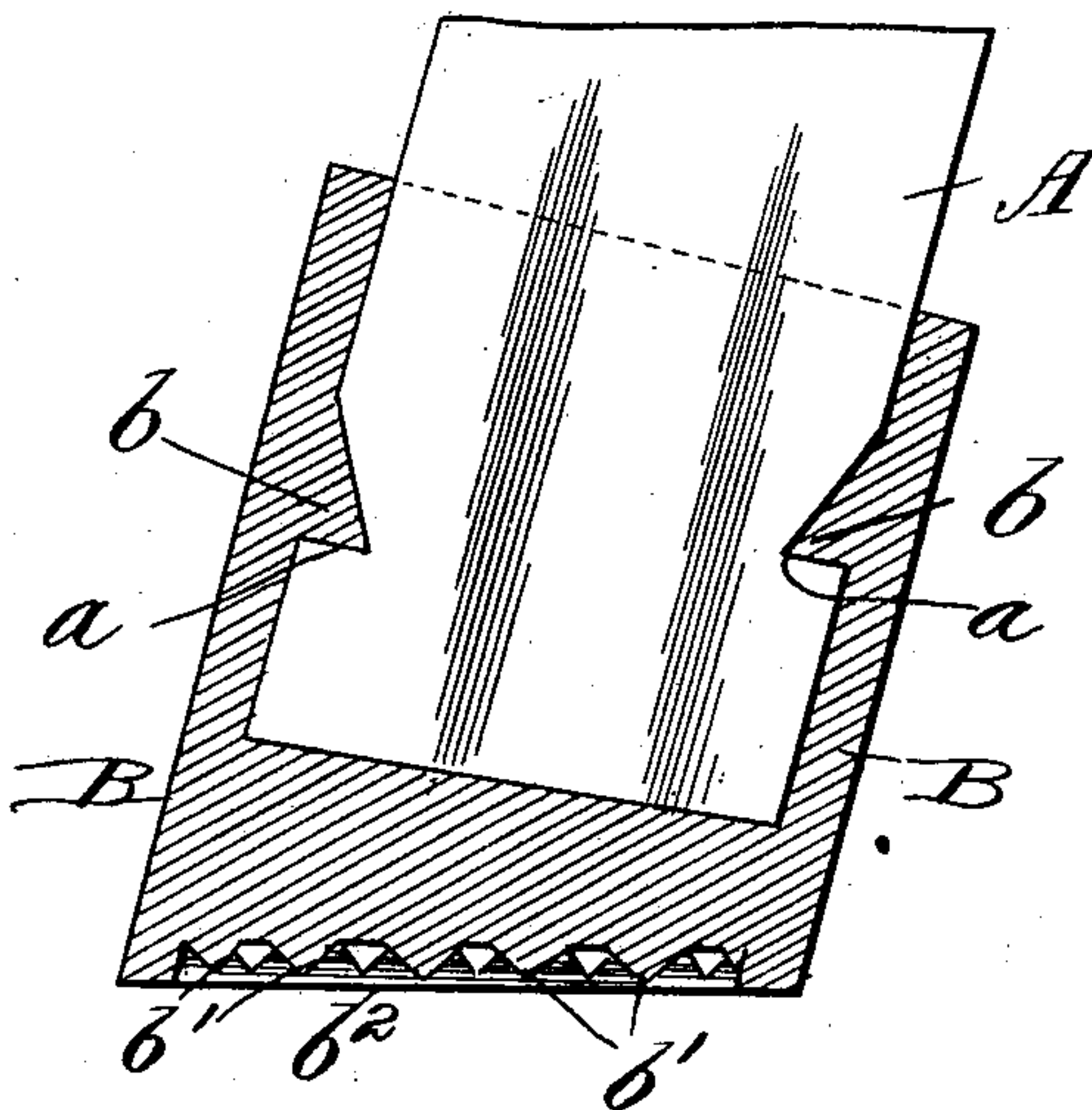
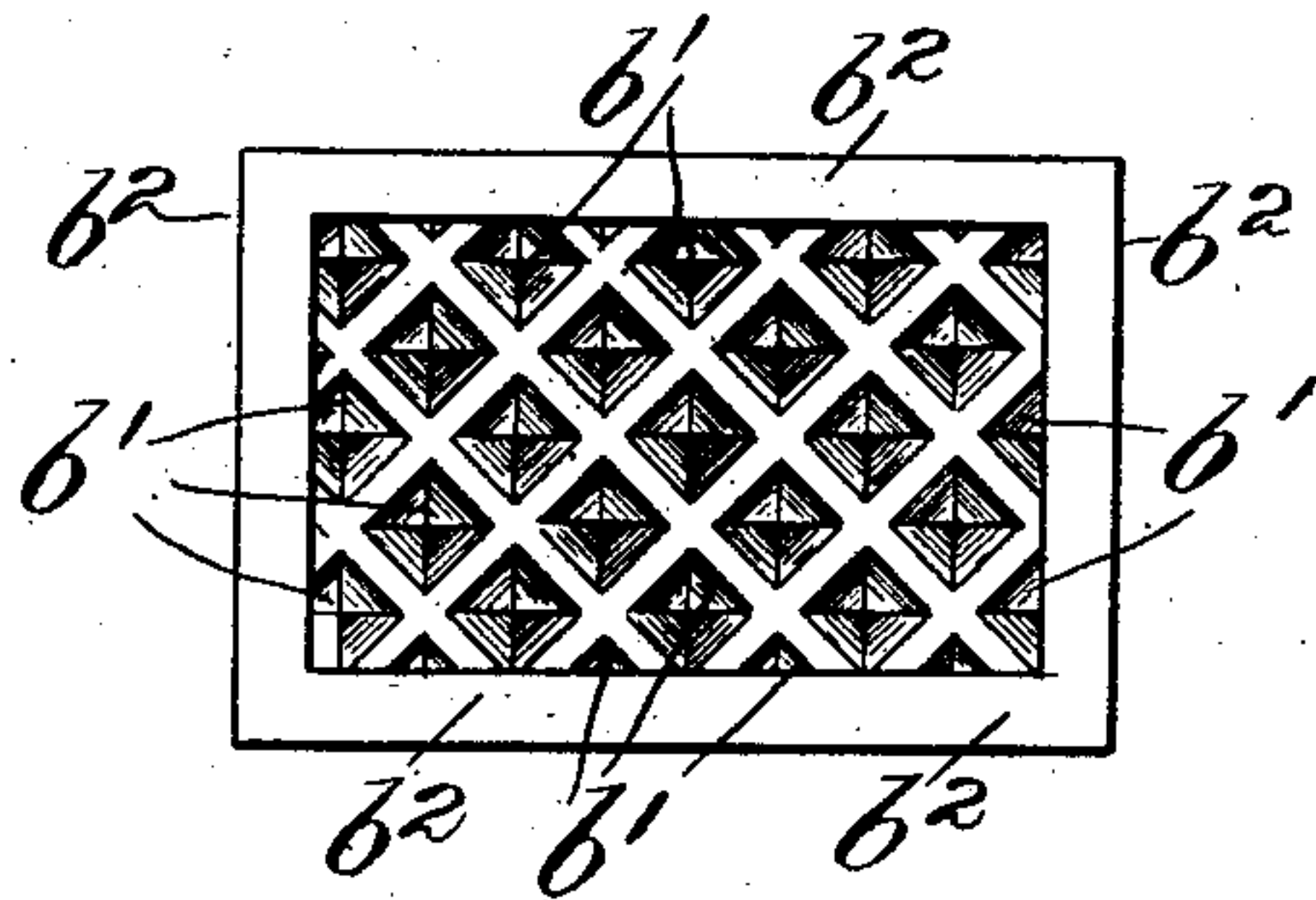


Fig. 3



Witnesses:

Harry C. White

Ray White.

Inventor:

Philip Shanahan.

By Charles Mills Atty.



# UNITED STATES PATENT OFFICE.

PHILIP SHANAHAN, OF CHICAGO, ILLINOIS.

## SUCTION AND FRICTION FOOT FOR LADDERS OR THE LIKE.

SPECIFICATION forming part of Letters Patent No. 755,713, dated March 29, 1904.

Application filed July 15, 1903. Serial No. 165,547. (No model.)

*To all whom it may concern:*

Be it known that I, PHILIP SHANAHAN, a citizen of the United States, and a resident of Chicago, Cook county, Illinois, have invented certain new and useful Improvements in Suction and Friction Feet for Ladders or the Like; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates more particularly to resilient pads of rubber or other suitable material adapted to be secured at the lower ends of side members of ladders or the like, designed to hold the same from slipping. Heretofore in many instances ladders have been shod with iron spikes at the lower ends to prevent slipping. When used either with or without the spikes, however, smooth or polished surfaces are frequently injured by marring by the slipping of the ladder-foot.

The object of this invention is to provide not only a suction and friction foot adapted to hold the ladder from slipping, but also to provide a construction whereby it is impossible for the slightest injury to occur to the smooth or polished surfaces of a floor or the like through the use of ladders thereon.

The invention consists in the matters hereinafter described, and more fully pointed out and defined in the appended claims.

In the drawings, Figure 1 is a side elevation of one of the side members of a ladder provided with devices embodying my invention. Fig. 2 is an enlarged vertical section of the same, showing the foot of the side member in elevation. Fig. 3 is a bottom plan view of the same.

As shown in said drawings, A indicates the lower end of one of the lateral members of a ladder, provided at the bottom thereof with approximately right-angled notches or shoulders *a* on each side of the side member.

B indicates as a whole a friction or suction foot of soft rubber or other resilient material, as shown, molded to engage around the lower end of and beneath said side member and provided in oppositely-disposed side walls with the inwardly-directed transverse ribs *b*, each

of which inclines downwardly and inwardly from the top and at the lower side thereof forms approximately a right angle with the side. Said ribs are, in other words, complementary with the notches in the side members and engage therein, acting to hold the device in position. The bottom of said friction-foot may be of uniform thickness, if preferred. As shown, however, the same is slightly thicker on one side than the other to permit the same to engage flat on the base when the ladder is supported in an inclined position, as shown in Fig. 2. The under or engaging surface of said friction-foot, as shown, is provided with a plurality of raised pyramidal projections, (indicated by *b'*), and a downwardly-directed integral flange *b<sup>2</sup>* is provided around the periphery of said bottom portion, having a width slightly greater than the vertical height of said pyramidal projection, so that when the ladder is in operative position said flange by the weight of the ladder and its load is compressed, expelling the air from beneath the friction-foot and by the suction produced supporting the ladder from slipping. After the flange *b<sup>2</sup>* has engaged and become somewhat compressed the pyramidal projections engage the supporting-surface and also become compressed and present a large area of rubber in positive frictional engagement with the base upon which the ladder is supported, thereby acting with said flange to hold the ladder-foot from movement.

Obviously, if preferred, the base or the under side of the friction-foot may be differently faced to afford a frictional engaging surface and also that the materials and the relative proportions of said device may be varied, it being obvious that for step-ladders or the like, having relatively wide side members, the size and shape of the friction-foot would of course be adaptable thereto, and obviously other or additional means may be employed to secure the friction-foot in position upon the side members of the ladder, if preferred, and many details of construction may be varied without departing from the principles of this invention.

I claim as my invention—

1. In a device of the class described the com-

5 combination with a ladder-leg having a peripheral groove adjacent to the lower end thereof, a resilient pad, an outwardly-directed peripheral flange thereon receiving said leg end, an inwardly-directed rib on said flange adapted to seat in said groove and a suction and friction surface on the bottom of said pad.

10 2. An article of manufacture comprising a resilient socketed pad to receive the end of the side member of a ladder or the like and having means therein adapted to rigidly engage the said end therein, a downwardly-directed peripheral flange at the bottom thereof adapted first to engage on the supporting-surface and to hold the ladder-foot from slipping partly by atmospheric pressure and projections on the face of said pad having a less altitude than the height of the flange and adapted to frictionally engage the supporting-surface when the flange is under compression.

3. The combination with the side members of a ladder, foot having a peripheral recess therein, of a friction-foot provided with an upwardly-opening receptacle having a rib projecting inwardly from the inner side thereof of the bottom of said rib being at a right angle with the sides of the receptacle and the top oblique thereto, said ribs positively engaging in said recess, an integral downwardly-directed flange at the bottom of the foot and projections on said bottom positioned within the flange.

In testimony whereof I have hereunto subscribed my name in the presence of two subscribing witnesses.

PHILIP SHANAHAN.

Witnesses:

C. W. HILLS,  
A. C. ODELL.