

Nov. 26, 1968

K. W. BINDING

3,412,866

SKI BOOT JACK

Filed June 27, 1966

2 Sheets-Sheet 1

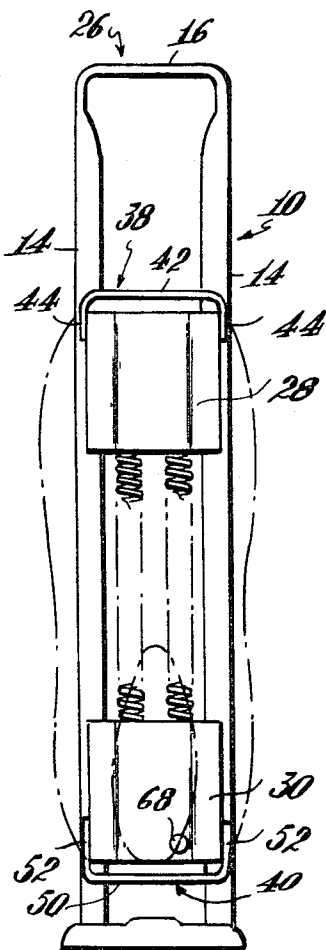


Fig. 1

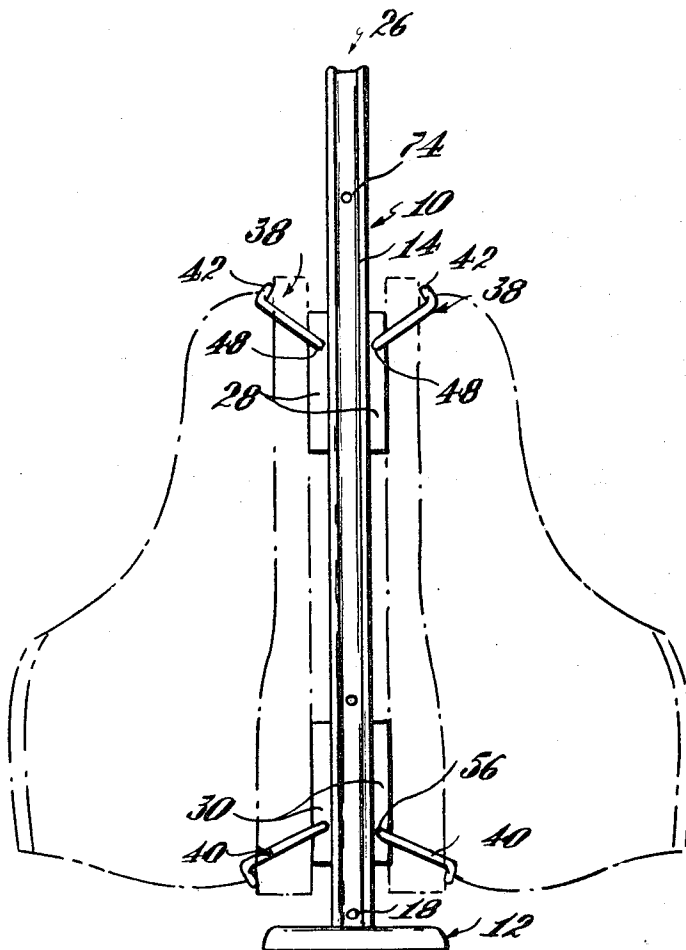


Fig. 2

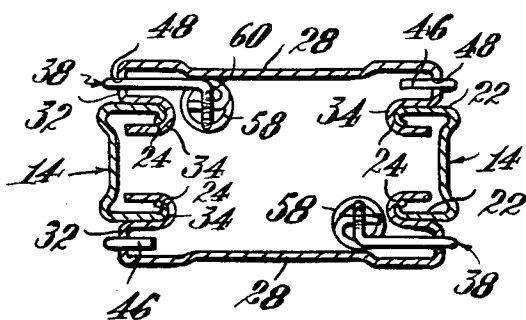


Fig. 5

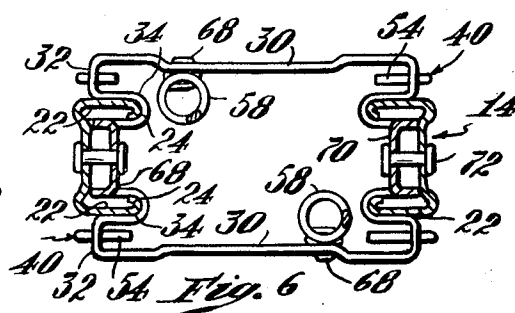


Fig. 6

Inventor
Kenneth W. Binding
by Robert Cushman & Son
Attys

Nov. 26, 1968

K. W. BINDING

3,412,866

SKI BOOT JACK

Filed June 27, 1966

2 Sheets-Sheet 2

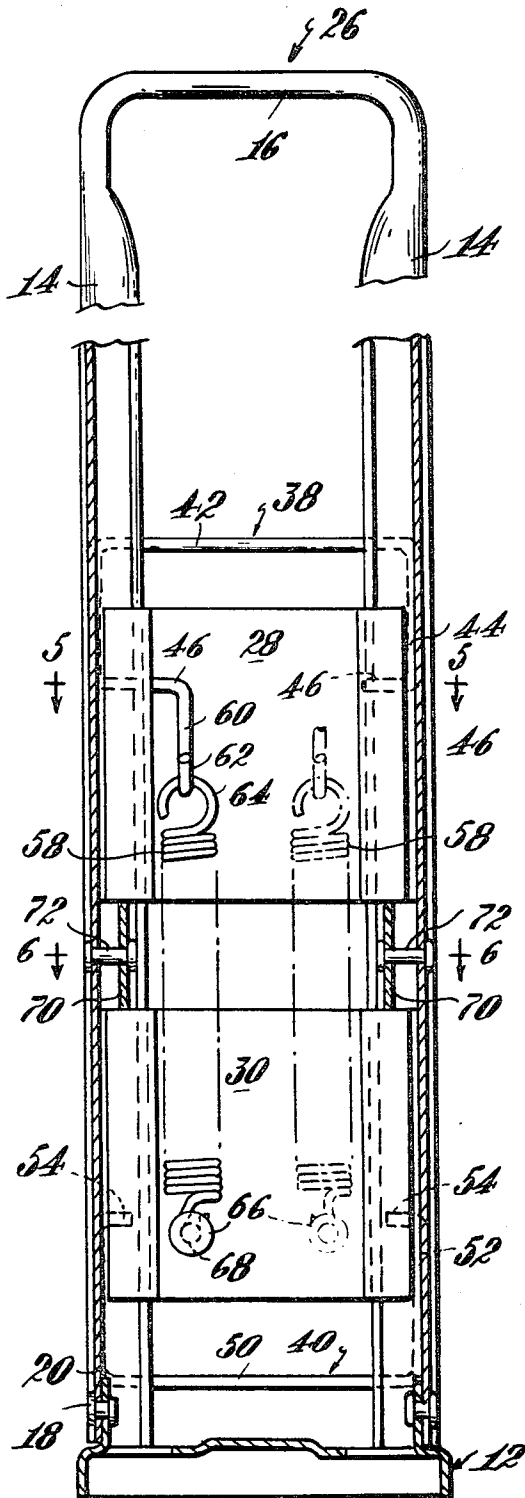


Fig. 3

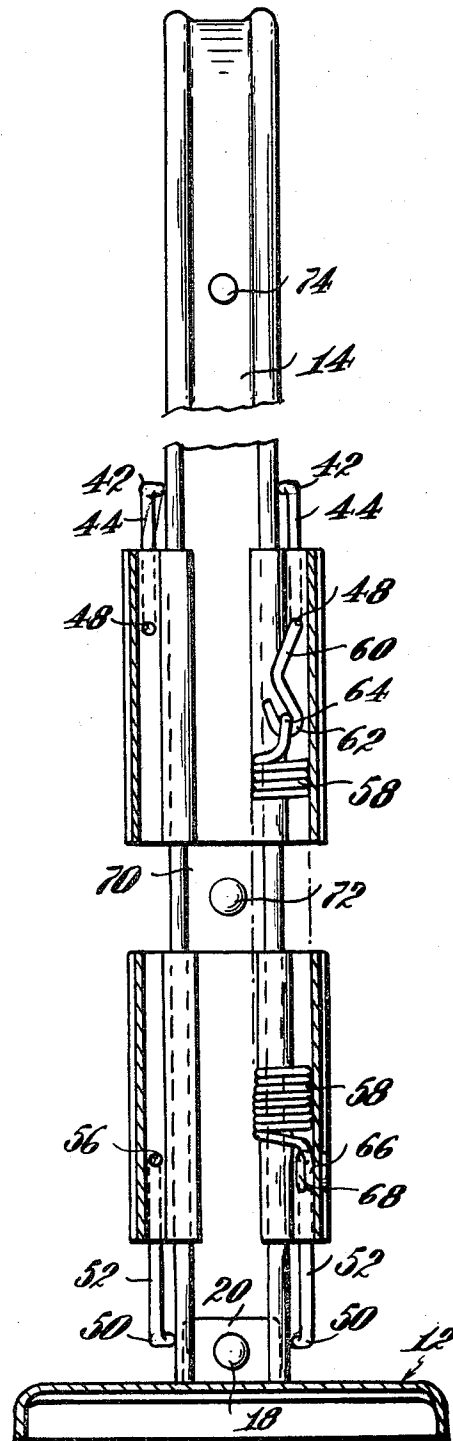


Fig. 4

1

3,412,866

SKI BOOT JACK

Kenneth W. Binding, Winchester, Mass., assignor to
Market Forge Company, Everett, Mass., a corpora-
tion of Massachusetts

Filed June 27, 1966, Ser. No. 560,612

10 Claims. (Cl. 211—37)

ABSTRACT OF THE DISCLOSURE

A ski boot jack having a free standing frame at the opposite sides of which there are pairs of clamps yieldably urged toward each other to engage the heel and toe ends of boots placed between them to support and hold the boots when not being worn.

The principal objects of the invention sought beyond the advantages afforded by known devices of this kind are to provide a boot jack in which the boots may be mounted with yieldably applied pressure at the toe and heel to prevent curl as the boot dries without stretching the upper out of shape; to provide a boot jack which will not release the boots if the jack is dropped or thrown on the floor; to provide a boot jack of the foregoing kind wherein the pressure is applied yieldingly and strongly but without so much resistance as to make it difficult for a girl or woman to use it without aid; to provide a boot jack of the foregoing kind in which there is no possibility of pinching the fingers or hands by closing of the parts under the spring pressure; to provide a boot jack of the foregoing kind in which the component parts normally occupy a retracted position when not in use; to provide a boot jack of the foregoing kind in which the boots can be mounted heel down or toe down and in either position will have good stability; and to provide a boot jack which is relatively inexpensive to manufacture, durable and reliable.

As herein illustrated, the boot jack comprises a frame, a pair of bails mounted on the frame in parallel relation thereto with their open ends in spaced confronting relation, said bails being movable toward and away from each other in unison in one direction or the other and being rotatable toward and away from the frame about axes parallel to the frame to permit placing boots between them and engaging the bails with the bottom extensions at the toe and heel. There is spring means operable to move the bails toward each other and simultaneously to rotate one of the bails to a position parallel to the frame. The other bail is unconstrained. There is means for limiting movement of the bails toward each other and away from each other, and means limiting movement of the bails in unison toward the base. A crankarm connected to the one of the bails to which the spring means is attached operates in conjunction with the spring means to multiply the force exerted by the spring means to restore the bail to its parallel position without need for a spring which is excessively resistant to expansion so that the bails can be separated for mounting a boot without excessive exertion. The bails are of sufficient depth with respect to their axes of rotation to receive the thickness of the sole extensions of the ski boot at the toe and heel. A pair of flat carriage plates slidably mounted on the frame support the bail for movement to and from each other and for pivotal movement relative to the plane of the frame. The spring means is connected in tension with one end fixed to one of the carriage plates and the other end to one of the bails. A spacer mounted on the frame between the carriage plates limits their movement toward each other and a shoulder at the base of the frame limits movement of the carriage plates toward the base.

2

The invention will now be described in greater detail with reference to the accompanying drawings wherein:

FIG. 1 is a front elevation of the boot jack showing the boot at the front side mounted thereon in dot and dash lines;

FIG. 2 is a side elevation of FIG. 1, showing a boot supported at the front and back sides of the jack with the heel ends down;

FIG. 3 is a view similar to FIG. 1, to much larger scale, with the boot removed and with the parts partly in section;

FIG. 4 is a view similar to FIG. 2, to much larger scale, with the boots removed and the parts partly in section;

FIG. 5 is a horizontal section taken on the line 5—5 of FIG. 3; and

FIG. 6 is a horizontal section taken on the line 6—6 of FIG. 3.

Referring to the drawings, the boot jack embodies an upright rectangular frame member 10 and a supporting base 12. The frame comprises spaced parallel channel members 14 connected at their upper ends by an integral transverse part 16 and at their lower ends by means of rivets 18 to upstanding flanges 20 struck out of the base 12. The channel members have inwardly extending spaced parallel flanges 22 (FIG. 5 and 6), the inner extremities of which are bent upon themselves to provide spaced parallel tracks 24 at the front and rear sides of the frame. These tracks extend from the base upwardly, terminating near the top, where the flanges 22 are folded into substantial parallel relation with the webs of the channel to form a smooth carrying handle 26.

Vertically spaced carriage plates 28 and 30 are mounted on the frame at the front and back so as to be slidable vertically thereon and to this end each carriage plate has rearwardly extending, spaced parallel flanges 32 terminating in reentrant, reversely bent flanges 34 adapted slidably to embrace the tracks 24 so as to guide and hold the carriage plates on the frame for movement relative to each other for the purposes which will appear hereinafter.

The upper carriage plates 28 have mounted thereon bails 38 and the lower carriage plates 30 have mounted thereon bails 40. Each upper bail 38 has a transverse, somewhat arcuate closed end 42, spaced parallel limbs 44 and inwardly directed bearing shafts 46 which are rotatably supported in bearing holes 48 provided in the flanges 32. Each of the bails 40 has a transverse arcuate portion 50, spaced parallel limbs 52 and inwardly directed bearing shafts 54 which are rotatably mounted in holes 56 in the flanges 32. The carriage plates 28 and 30 are urged toward each other, that is movement away from each other is resisted by springs 58, the springs also operating to resist rotation of the bails 38 from their positions parallel to the frame. To this end each bail 38 is provided at the inner end of one of its bearing shafts 46 with a crankarm 60 which is substantially diametrically opposite and in the plane of the bail 38. The crankarm 60 has a hook 62 for engagement with an eye 64 at the upper end of the spring 58. The opposite end of the spring has an eye 66 which is attached to the carriage plate 30 by a rivet 68. The springs 58 are stretched in tension between the hooks 62 and the rivets 68 and normally urge the carriage plates toward each other. Movement of the carriage plates toward each other is limited by a pair of blocks 70 (FIGS. 3 and 4) secured by rivets 72 to the inner sides of the channel members so that their upper and lower edges form vertically spaced shoulders which prevent movement of the carriage plates into engagement with each other.

The springs, as pointed out above, resist movement of the carriage plates away from each other and they also resist rotation of the bails 38 away from the plane of the frame, and the crankarms 60 operate to multiply the force of the springs in restoring the bails 38 to their positions parallel to the frame. The bails 40 are loosely supported

in the flanges of the carriage plate 30 so that normally they hang freely downward parallel to the frame.

Movement of the carriage plates 28 are limited only by the length of the frame; however movement of the carriage plates 30 downwardly are limited by engagement with the upper ends of the flanges 20 at the base. Both the carriages 28 and 30 are movable relative to each other and when engaged with the opposite ends of boots are movable in unison so that if the boot jack is thrown or dropped the inertia of the heavy boots will not separate the carriages and hence release the boots.

In using the boot jack the duplication of the carriage plates at the front and back sides of the frame provides for accommodating two boots and in the preferred way of using the support the boots are mounted heel down. A boot is mounted by rotating the upper bail 38 away from the frame far enough to permit inserting the extension at the toe of the boot through it and then forcing the boot away from the base until the heel end clears the lower bail 40 whereupon the latter is moved outwardly from the frame and looped over the extension of the boot and the heel end. The yielding action of the spring holds the bails firmly engaged with the ends of the shoe, imparting a yielding straightening effect to the bottom while it is still wet which prevents the sole from curling as it dries, but without so much resistance as to stretch the upper. In addition, the yielding structure permits the carriage plates to move in unison on the frame in the event of a jolt or shock such as dropping or throwing the jack onto the floor without disengaging the boot from the bails, since both will move in unison in the direction of the jolt without being separated from each other. Finally, the lever action produced by the crankarms 60 enables applying a uniform and firm pressure without excessively large springs and so without interfering with or making it difficult for a child or woman to spread the parts sufficiently to receive the boot.

The boots may be mounted with either the heel ends down or up; however for maximum stability if the boot jack is to be stood up on its base the boots should be mounted with their heel ends down. The frame has holes 74 near the top so that it may be hung on a nail or hook if desired.

It should be understood that the present disclosure is for the purpose of illustration only and that this invention includes all modifications and equivalent which fall within the scope of the appended claims.

I claim:

1. A boot jack comprising a frame, a pair of bails mounted on the frame in parallel relation thereto with their open ends in spaced confronting relation, said bails being movable on the frame toward and away from each other and rotatable about axes parallel to the frame toward and away from the plane of the frame, spring means operating to yieldingly move the bails toward each other and means connecting one of the bails to said spring means, said means being operable to rotate the bail to which it is connected toward the plane of the frame.

2. A boot jack according to claim 1, wherein the other bail is free to rotate relative to the frame independently of said spring means.

3. A boot jack according to claim 1, comprising means on the frame for limiting movement of one of the bails away from the other, movement of said other bail being limited only by the dimensions of the frame.

4. A boot jack according to claim 1, wherein the bails are movable in unison toward and away from said limiting means.

5. A boot jack according to claim 1, wherein said last means comprises a crankarm extending from the axis of rotation of the bail to which the spring means is attached, said crankarm and said spring means operating to resist rotation of the bail away from the plane of the frame and said crankarm operating to multiply the force exerted by the spring to restore the bail to said parallel position.

6. A boot jack according to claim 1, comprising bails, the depth of which with respect to their axes of rotation are sufficient to receive the thickness of the sole extensions at the heel and toe of a boot.

7. A boot jack according to claim 1, comprising a pair of flat carriage plates slidably mounted on the frame, said bails being pivotally mounted one on each of the plates, spring means connected in tension with one end fixed to one of the carriage plates and the other end to one of the bails, said spring means urging the carriage plates toward each other and biasing the bail to which it is connected toward the plane of the frame, and means limiting movement of the carriage plates toward each other, said other bail being unconstrained.

8. A boot jack according to claim 1, wherein there are two pairs of carriage plates and bails, one pair at each of the front and rear sides of the frame.

9. A boot jack according to claim 1, wherein the carriage plates are movable relative to each other and in unison in one direction or the other, and there is means limiting movement of the carriage plates in unison in one direction.

10. A boot jack according to claim 1, comprising a pair of flat carriage plates slidably mounted on the frame, said bails being pivotally mounted, one on each of the plates and normally occupying planes parallel to the frame, one of said bails being held in a position of parallelism by gravity and the other by a spring, and a spring connected at one end to the latter bail and at its opposite end to the carriage plate on which the other bail is mounted, said spring operating to urge the carriage plates toward each other, and a spacer part situated between the carriage plates limiting movement of the carriage plates toward each other.

References Cited

UNITED STATES PATENTS

919,158	4/1909	Glover	211—37
1,106,465	8/1914	Loomis	12—120.5
2,513,372	7/1950	Shurtz	12—120.5
2,883,688	4/1959	Barreca	211—35 X
3,210,787	10/1965	Allsop	12—120.5

CHANCELLOR E. HARRIS, *Primary Examiner*.