

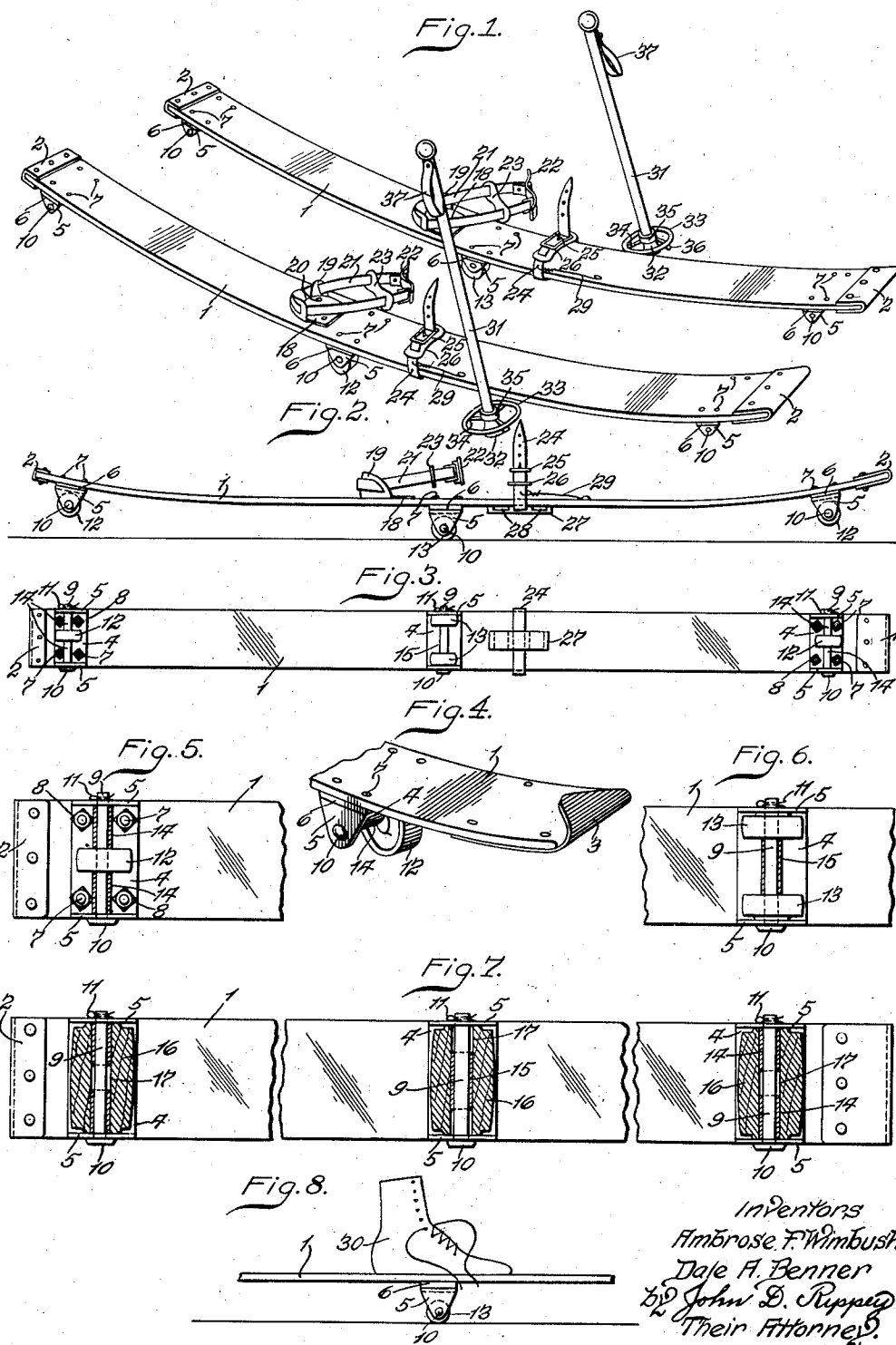
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SKI-SKATE

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SKI-SKATE

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This invention relates to a ski-skate; and has special reference to a skate having an elongated foot-piece in the general form or shape of a ski and having rollers under its intermediate and end portions, and means in connection with its intermediate portion for attachment to the shoe or foot of the user.

Objects of the invention are to provide a ski-skate comprising an elongated curved foot-piece having brackets attached to the underside thereof near each end and additional brackets attached to the under intermediate portion, means in connection with the end brackets for rotatively mounting a single narrow roller in connection with each thereof, and means in connection with the intermediate brackets for mounting a pair of spaced narrow rollers thereon; to provide rollers adapted to be mounted in substitution for said narrow rollers to condition the ski-skate for operation along grassy or other similar surfaces; and to provide means adapting the ski-skate for attachment to persons wearing shoes of different lengths or sizes.

Another object of the invention is to provide improved sticks constituting a part of the equipment for a pair of ski-skates.

Other objects and advantages of the invention should be apparent from the following description, reference being made to the annexed drawing, in which—

Fig. 1 is a perspective view of a pair of ski-skates and sticks made in accordance with the present invention.

Fig. 2 is a side elevation of one of the ski-skates shown in Fig. 1.

Fig. 3 is a bottom plan view of one of the ski-skates showing the two narrow end rollers and the two co-axial narrow intermediate rollers in connection therewith.

Fig. 4 is a perspective view showing one end of a ski-skate provided with an upwardly curved front end portion.

Fig. 5 is a detail sectional view showing an appropriate mounting for one of the narrow end rollers of the ski-skate.

Fig. 6 is a similar sectional view showing the mounting for the two intermediate narrow rollers.

Fig. 7 is a sectional view showing the wide rollers substituted for the narrow rollers, and the use of the narrow roller spacers as bushings for supporting the wide rollers.

Fig. 8 is a side elevation of a portion of a ski-skate having a shoe permanently attached thereto.

A description of one ski-skate should serve for both since each is a duplicate of the other.

The ski-skate comprises an elongated resilient foot-piece 1 permanently curved throughout its length and which may be composed of a single thickness of wood or ply-board, or other appropriate material. The ends of the footpiece are symmetrically curved upwardly and may be enclosed in metallic clips 2 if desired; or an upwardly curved toe-piece 3 of metal or other material may be attached to the forward end of each foot-piece.

Brackets, which may be of duplicate construction, are attached to the underside of the foot-piece 1 in spaced relationship, one of said brackets being near each end and one near the middle of the ski-skate. Each bracket comprises a metallic plate shaped to provide a flat attaching portion 4 and two integral downwardly extended ears 5 at the ends of the attaching portion. The attaching portions 4 extend approximately the full width of the foot-piece 1, and the outer surfaces of the ears 5 are in alinement with the side edges of said foot-piece. A sheet or body 6 of elastic material, such as live rubber or the like, is secured between each bracket and the foot-piece of the ski-skate. Bolts 7 pass through the foot-piece 1, the cushions 6, and the attaching portions 4 of the brackets, and have nuts 8 screwed on their lower ends and securing the brackets and the cushioning pads to the foot-piece. The cushioning pads permit the brackets and the supporting rollers to yield sufficiently to soften the percussive effect resulting from impact of the rollers against solid obstructions, and also constitute resilient support for the ski-skate in operation. The heads of the bolts 7 are preferably at the upper side of the ski-skate.

An axle 9 is mounted in each bracket, and has a head 10 on one end, the opposite end having a hole for receiving a retaining cotter pin 11 or the like. The axles 9 in the several brackets are parallel with each other, and are removable and replaceable as desired. A narrow roller 12 is mounted on the axle 9 at each end of the ski-skate, and a pair of similar rollers 13 are mounted on the intermediate axle 9. All of the rollers are rotative upon the axles on which they are mounted, the rollers 12 being mounted between the inner ends of spacer tubes 14 on the axles 9, and the rollers 13 being held spaced apart by a spacer tube 15 on the intermediate axle 9. Thus, it will be seen that the two end rollers 12 are in alinement approximately at the longitudinal axis of the foot-piece 1, and that the two interme-

diate rollers 13 are near the side edges of the foot-piece 1.

A ski-skate having the narrow rollers 12 and 13 is designed and adapted specially for operation along hard surfaces such as paved or wood floors, paved walks or roads, etc.

Our invention also comprises means for conditioning or transforming the ski-skate for use upon grassy or unpaved surfaces. Such conditioning or transformation of the ski-skate involves the removal of the narrow rollers 12 and 13 and the substitution of rollers of appropriate form and dimensions for operation along unpaved surfaces. The axles 9 may be withdrawn from the supporting ears 5 when the cotter pins or fasteners 11 are detached. We provide a series of elongated rollers 16 each having a length approximately equal to the distance between the bracket ears 5. The spacer sleeves 14 and 15 are insertable into and withdrawable from openings 17 through the rollers 16 to constitute supporting bushings for said rollers. After the bushings have been placed in the rollers 16 as described, and after said rollers have been placed between the respective pairs of ears 5, the axles 9 may be passed through said bushing rollers and detached by the cotter pins 11. This provides a wide or long roller at each end and at the middle of the ski-skate adapting or transforming the same for use upon surfaces other than hard flooring or pavements.

The attaching device for each ski-skate comprises a heel plate 18 attached to the underside of the foot-piece 1 slightly rearwardly beyond the middle axle 9 and having an upturned curved flange 19 along its rear margin. The heel plate 18 may be secured to the foot-piece 1 by removable and replaceable fasteners 20. A strap 21 passes through slots in the flange 19 and is equipped with an attaching buckle 22 and a guard piece 23 to prevent the buckle from causing discomfort to the wearer. A toe strap 24 extends across the underside of the foot-piece and is equipped with an attaching buckle 25 and a guard 26 therefor. The strap 24 may be secured in different adjusted positions with respect to the heel piece 18, as required by the size of the foot or the shoe of the wearer.

A clip 27 is attached to the underside of the footpiece forwardly beyond the middle bracket, and has a number of spaced openings 28 through which the strap 24 may be selectively passed. A holding string 29 may attach the strap 24 to the foot-piece 1 to prevent accidental loss or detachment thereof. When the heel of the user is placed upon the heel plate 18 and against the curved inner surface of the flange 19, the strap 21 may be passed across the instep and around the ankle and attached by the buckle 22. The strap 24 may be attached in an obvious manner by means of the buckle 25.

If desired, a shoe 30 may be permanently attached to the foot-piece 1 above the middle bracket. The shoe may be used in substitution for the strap-attaching devices described, in which case the heel plate 18 and its connections and the part 27 and strap 24 are omitted.

A pair of ski sticks may be provided as a part of each ski-skate set. Each stick 31 is of appropriate length having on its lower end an elastic ferrule or socket 32 and adjacent thereto a brake member 33. The brake member 33 is shown as of open or skeletonized form including a ring integrally connected by spokes 34 with an attaching hub 35 adjustably mounted on the

stock 31. The spokes 34 may have thickened portions 36 under the rings at their outer ends for additional braking effect. A loop 37 is secured to the upper end of each stick 31 to receive the wrist of the user of the ski-skates and to prevent accidental loss of the sticks.

These devices may be easily made of available material and sold at permissible cost to supply an additional facility for sports and games. The construction and arrangement of the parts may be varied within the scope of equivalent limits without departure from the nature and principle of the invention.

We claim:

1. A ski-skate comprising an elongated foot-piece having its end portions symmetrically curved upwardly, three longitudinally spaced duplicate brackets attached to the underside and extending approximately the full width of said foot-piece, the two end brackets being attached to said respective upwardly curved end portions and the third bracket being attached near the middle of said foot-piece, axles mounted in said respective brackets and extending approximately the full transverse width of said foot-piece, four duplicate rollers mounted on said axles, one of said rollers being on each of said axles near the respective ends of the foot-piece, and the remaining two of said rollers being on the axle near the middle of the foot-piece, and elements mounted on said respective axles and cooperating with said brackets for holding said rollers in said positions and leaving said rollers freely rotative relative to each other.

2. A ski-skate comprising an elongated resilient wood foot-piece having its end portions symmetrically curved upwardly, three longitudinally spaced duplicate brackets attached to the underside and extending approximately the full width of said foot-piece, the two end brackets being attached to said respective upwardly curved end portions and the third bracket being attached near the middle of said foot-piece, axles mounted in said respective brackets and extending transversely thereof, and tubes removably mounted on said respective axles for holding four duplicate narrow rollers thereon, one of which rollers is at the middle of each end axle and two of which rollers are at the ends of the middle axle, or for holding three duplicate rollers, one on each of said axles and extending approximately the full width thereof, as desired.

3. A ski-skate comprising an elongated foot-piece having its end portions symmetrically curved upwardly, three longitudinally spaced duplicate brackets attached to the underside and extending the full width of said foot-pieces, the two end brackets being attached to said respective upwardly curved end portions and the third bracket being attached near the middle of said foot-piece, elastic bodies secured between said brackets and said foot-piece, axles mounted in said brackets and extending transversely thereof, elements removably mounted on said respective axles for holding four duplicate narrow rollers thereon, one of which rollers is at the middle of each end axle and two of which rollers are at the ends of the middle axle, or for holding three duplicate rollers, one on each of said axles and extending approximately the full width thereof, as desired, and means attached to said foot-piece forwardly beyond and rearwardly beyond said middle bracket for securing the ski-skate to the foot of the user extending across the plane of said middle bracket.

4. A ski-skate comprising an elongated foot-piece having its end portions symmetrically curved upwardly, three longitudinally spaced duplicate brackets attached to the underside and extending approximately the full width of said foot-piece, the two end brackets being attached to said respective upwardly curved end portions and the third bracket being attached near the middle of said foot-piece, axles mounted in said respective brackets and extending transversely

thereof, a roller mounted on each of said end brackets, and a device mounted on said middle axle for holding two duplicate narrow rollers in spaced relationship thereon, one of which rollers is near each side of said middle bracket, or for holding a single roller on said middle axle extending approximately the full width of said middle bracket, as desired.

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