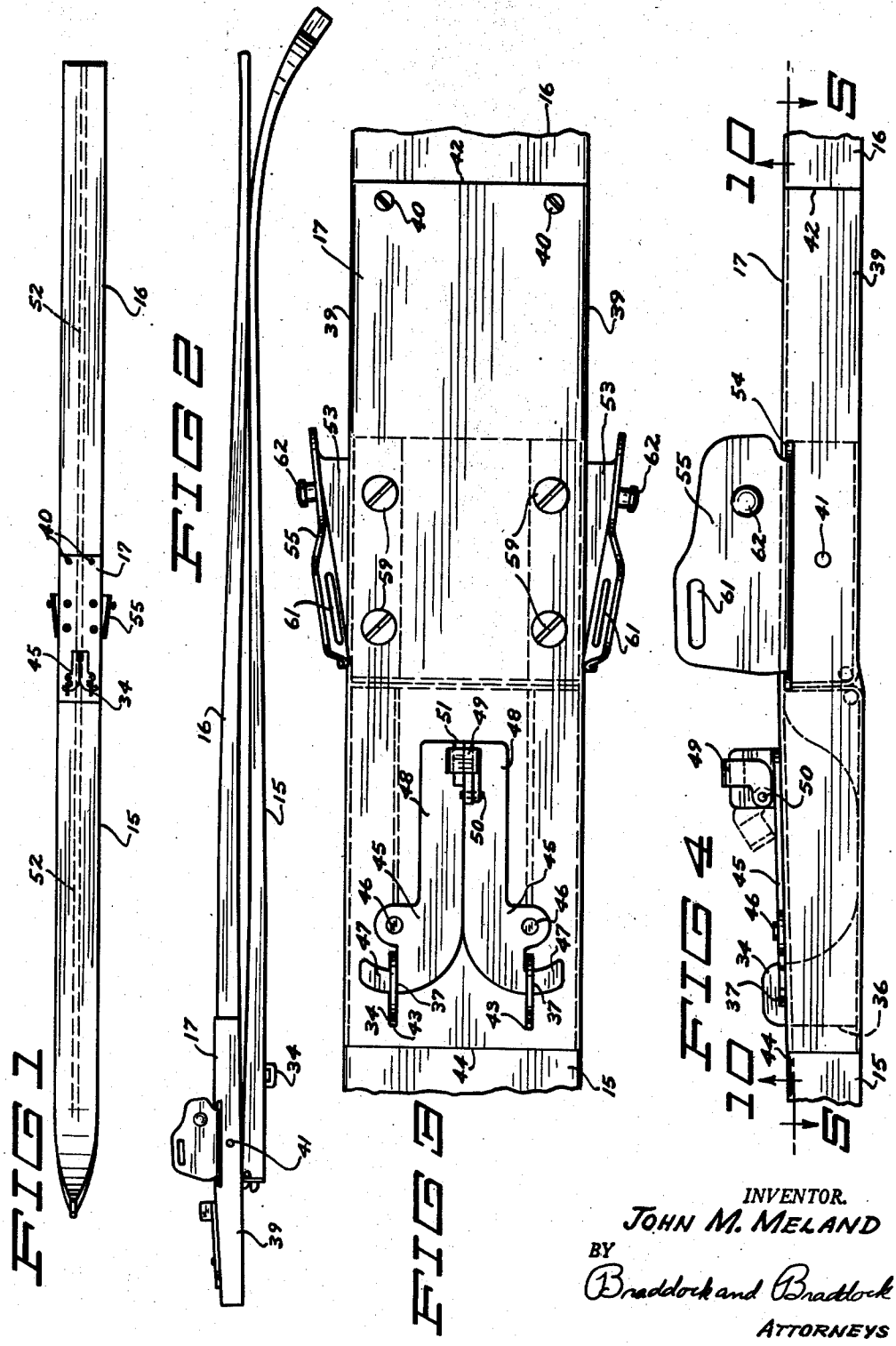
May 18, 1954 J. M. MELAND 2,678,829

FOLDING SKI

Filed April 2, 1952 2 Sheets-Sheet 1



INVENTOR.
JOHN M. MELAND
BY
Braddock and Braddock
ATTORNEYS

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FIG 5

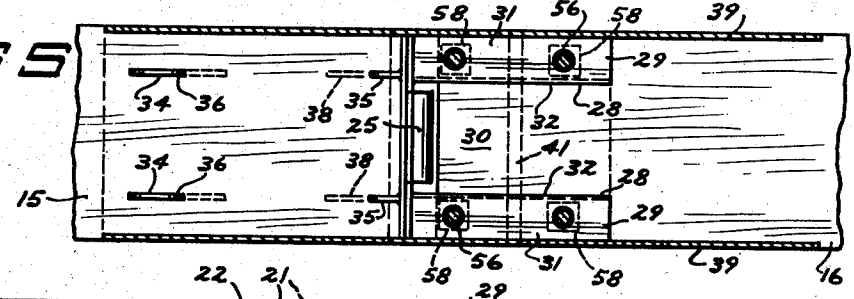


FIG 6

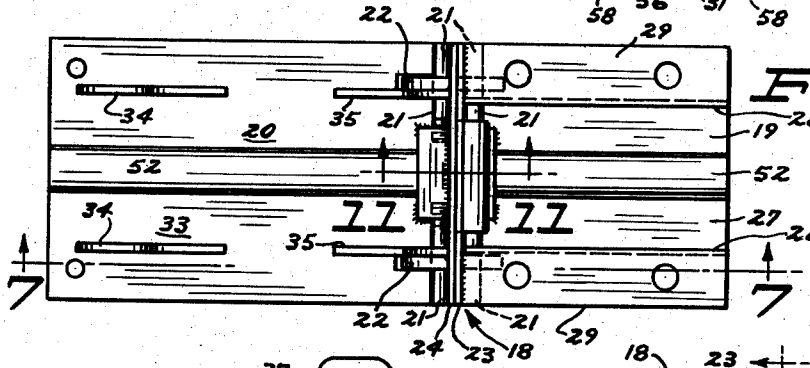


FIG 7

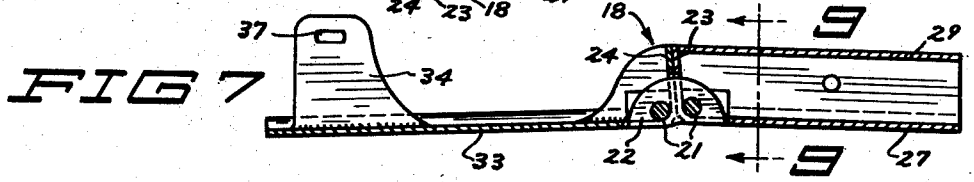


FIG 9

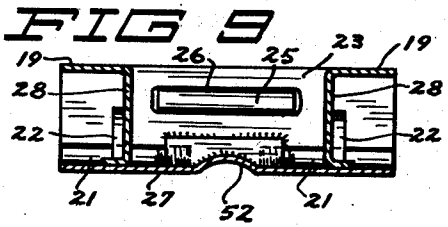


FIG 8

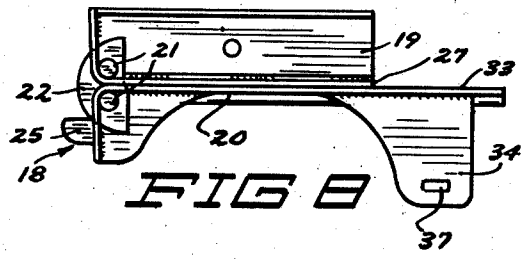


FIG 10

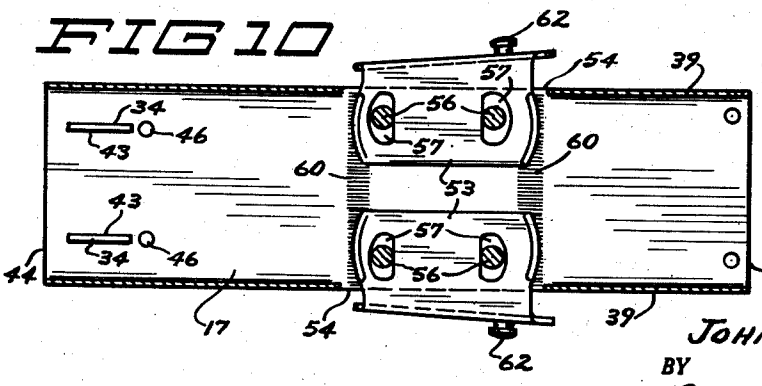
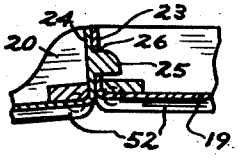


FIG 11



INVENTOR.
JOHN M. MELAND
BY
Braddock and Braddock
ATTORNEYS

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FOLDING SKI

John M. Meland, Minneapolis, Minn.

Application April 2, 1952, Serial No. 280,071

3 Claims. (Cl. 280—11.13)

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The invention herein presents a ski constructed to be capable of being folded when out of use, thus to be more compact for transportation and storage purposes than would otherwise be the case.

The object of the invention is to provide a folding ski of strong, durable, simple, inexpensive, practical, new and improved construction.

In the accompanying drawings forming a part of this specification,

Fig. 1 is a top plan view of a folding ski incorporating features and characteristics of the invention;

Fig. 2 is an enlarged side elevational view of the ski as when in folded condition;

Fig. 3 is a further enlarged, fragmentary top plan view disclosing an intermediate portion of the ski of Fig. 1;

Fig. 4 is a side elevational view of the disclosure of Fig. 3;

Fig. 5 is a detail sectional view, taken on line 5—5 in Fig. 4;

Fig. 6 is an enlarged top plan view of a hinge of the ski;

Fig. 7 is a detail sectional view, taken on line 7—7 in Fig. 6;

Fig. 8 is a side elevational view of the hinge disclosing the members thereof as when folded one upon the other;

Fig. 9 is a detail sectional view, taken as on line 9—9 in Fig. 7;

Fig. 10 is a detail sectional view, taken on line 10—10 in Fig. 4; and

Fig. 11 is a detail sectional view, taken on line 11—11 in Fig. 6.

Speaking generally, the new and improved ski consists of a forward elongated ski member 15, a rearward elongated ski member 16, a channel member 17, a hinge 18, and appurtenant parts.

The hinge 18 consists of first and second hinge members, denoted 19 and 20, respectively, pivotally connected for swinging movement between a position where the hinge members are in alinement, as in Figs. 1, 3, 4, 5, 6, 7 and 11 of the drawings, and a position where said hinge members are substantially parallel, as in Figs. 2 and 8. As disclosed, the hinge members 19, 20 are pivotally connected through the instrumentality of parallel, transverse pins 21 situated in transversely spaced links 22, as well as in said hinge members. When the hinge members are alined, a transverse piece 23 upon the hinge member 19 is in proximate relation to a transverse piece 24 upon the hinge member 20, and a nose 25 upon the transverse piece 24 is situated in an elongated

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slot 26 in the transverse piece 23, as in Fig. 11, to reinforce the hinge against possibility of relative movement of its members transversely of the ski.

The first hinge member 19 includes a longitudinally extending plate 27, at the rearward side of and rigid with the transverse piece 23, spaced, parallel, longitudinally extending strips 28, rigid with and extending upwardly perpendicularly from intermediate portions of said longitudinally extending plate 27, and longitudinally extending flanges 29 projecting outwardly from said longitudinally extending strips in spaced, parallel relation to the longitudinally extending plate 27 and providing, together with outer edge portions of said longitudinally extending plate, outwardly opening or facing channel pieces of the first hinge member 19. The rearward ends of the channel pieces, at the end of the first hinge member 19 opposite the transverse piece 23, are open, the front end portion of the rearward elongated ski member 16 is assembled with said first hinge member in such manner that a central longitudinal part 30 of said front end portion is snugly situated between the longitudinally extending strips 28, 28, exterior longitudinal parts 31, 31 are snugly situated in the channel pieces, and said longitudinally extending strips 28, 28 are disposed in longitudinal slits 32, 32 in the rearward elongated ski member, with the forward end of said rearward ski member engaged against the transverse piece 23. The construction and arrangement will be such that lower surfaces of the longitudinally extending plate 27 and rearward elongated ski member will lie in a single plane, and also such that upper surfaces of the rearward elongated ski member and the channel pieces will lie in a single plane parallel to that of said lower surfaces. The rearward elongated ski member 16 can be secured in and to the hinge member 19 in any suitable and convenient manner, and each of the opposite side edges of said rearward elongated ski member desirably terminates in a plane also including the outer side edges of the flanges of the channel pieces of the first hinge member 19.

The second hinge member 20 includes a longitudinally extending plate 33, at the forward side of and rigid with the transverse piece 24, spaced, parallel, longitudinally disposed ears 34, rigid with and extending upwardly perpendicularly from intermediate portions of said longitudinally extending plate 33 forwardly of and in spaced relation to said transverse piece 24, and spaced, parallel, longitudinally disposed ears

35, rigid with and extending upwardly perpendicularly from intermediate portions of the longitudinally extending plate 33 forwardly of and in adjacent relation to the transverse piece 24. The rear end portion of the forward elongated skin member 15 is assembled with the second hinge member so that the longitudinally disposed ears 34 extend upwardly through longitudinal slots 36 in said rear end portion to cause apertures 37 through said ears 34 to be disposed above said forward elongated ski member, and the longitudinally disposed ears 35 extend upwardly through longitudinal slots 38 in the rear end of the forward ski member, with the rearward end of said forward ski member engaged against the transverse piece 24. The construction and arrangement will be such that lower surfaces of the longitudinal plate 33 and forward elongated ski member will lie in a single plane, and also such that the upper surface of the forward elongated ski member will lie in the plane of the upper edge of the transverse piece 24. When the forward and rearward ski members are in alinement, their lower surfaces, as well as their upper surfaces, will lie substantially in a single horizontal plane. The forward elongated ski member 15 can be secured to the second hinge member 20 in any suitable and convenient manner, and each of the opposite side edges of said forward elongated ski member desirably terminates in a plane also including the outer side edge of the longitudinally extending plate 33 of the second hinge member 20 at the same side of the ski, as well as the outer side edges of the first hinge member 19 and the rearward elongated ski member 16.

The channel member 17 is of rigid material, preferably metal. It includes a flat body having parallel flanges 39, 39 integral with the opposite side edges of and perpendicular to said flat body. A rearward end portion of the flat body on said channel member rests upon the upper surface of the forward end portion of the rearward elongated ski member 16 and is secured thereto, as at 40, and rearward end portions of the flanges 39, 39 are secured down against the outer side surfaces of the exterior longitudinal parts 31, 31 by an elongated rivet 41 which passes through said exterior longitudinal parts, as well as through the central longitudinal part 30 and the longitudinally extending strips 28, 28 of the first hinge member 19. The rearward end 42 of the channel member 17 terminates at the rear of the rearward end of the first hinge member 19.

A front end portion of the flat body and front end portions of the flanges 39, 39 of the channel member 17 extend forwardly of the front end of the rearward elongated ski member 16 in parallel relation thereto to be capable of snugly receiving the second hinge member 20 and the rearward end portion of the forward elongated ski member 15 assembled with and adjacent to said second hinge member. The construction and arrangement will be such that when the second hinge member 20 is engaged against the interior surface of the forward end portion of the body of the channel member 17, the first and second hinge members 19 and 20 will be in alinement, the forward and rearward elongated ski members 15 and 16 also will be in alinment, and the lower surfaces of all of the hinge members and ski members will lie substantially in a single plane, with the lower edges of the flanges 39, 39 slightly above this same plane. Also, when the

first and second hinge members 19, 20 and the forward and rearward elongated ski members 15, 16 are alined, the longitudinally disposed, transversely spaced ears 34, 34 upon the second hinge member 20 and in and extending above the forward ski member 15 will be situated in spaced, longitudinally extending slots 43, 43 through the forward portion of the body of the channel member 17, with the apertures 37, 37 disposed above and in contiguous relation to the upper surface of said channel member, as in Fig. 4. The forward end 44 of the channel member 17 terminates at the front of the forward end of the second hinge member 20 when the first and second hinge members and the forward rearward ski members are in alinement.

The forward portions of the flanges 39, 39 of the channel member 17 in advance of the first hinge member 19 and the rearward ski member 16 cooperate with the rearward portion of said channel member and the hinge 18 to preclude relative transverse movement of the hinge members and ski members when these are alined, and the forward portion of the body of the channel member precludes swinging movement of the second hinge member 20 and the forward ski member 15 to position where out of alinement with and above the first hinge member 19 and the rearward ski member 16.

Latching mechanism for detachably retaining the ski members 15, 16 and the hinge members 19, 20 in alinement, with the upper surface of the rearward end portion of the forward ski member 15 up against the interior surface of the forward portion of the channel member 17, is constituted as a pair of locker levers, each indicated 45, rotatably mounted, as at 46, upon and in proximate relation to the upper, exterior surface of the forward portion of the body of said channel member for swinging movement toward and away from each other. Curvilinear elements 47 of the locker levers 45 are for engagement in the apertures 37 when arms 48 of said levers are swung toward each other, and to be removed from said apertures when said arms are swung apart. A clip member 49 rotatably supported, as at 50, upon one of the arms 48 is adapted to be engaged back of a protuberance 51 upon the other arm when it is desired to fasten the arms to each other thus to retain the curvilinear elements 47 in the apertures 37, and removed from behind said protuberance when it is desired to release the arms so they can be swung apart to remove said curvilinear elements from said apertures.

A longitudinal guide groove 52 in the bottom of the ski, disposed at the midwidth of the first and second hinge members and the forward and rearward ski members, extends throughout a greater portion of the length of said ski.

Each of adjustable foot supporting elements of the ski, one at either side of the rearward portion of the channel member 17, includes a substantially horizontal piece 53 situated in a slot 54, in an upper portion of the flange 39 at the same side of the rearward elongated ski member 16, and between the interior surface of the rearward portion of the body of said channel member and the upper surface of the longitudinally extending flange 29 at the corresponding side of the ski. And each adjustable foot supporting element also includes an upwardly extending curvilinear portion 55, disposed exteriorly of the channel member, to which the toe of a shoe on a skier is to be fitted. The sub-

stantially horizontal pieces 53 are assembled with the channel member 17 and the first hinge member 19 to be adjustable inwardly and outwardly. Screw bolts 56 in the body of said channel member, passing through elongated apertures 57 in said horizontal pieces 53 and entering internally threaded nuts 58 in the channel pieces of said first hinge member, at the upper sides of the exterior parts 31, 31 of the rearward ski member, are adapted to be turned home to cause the horizontal pieces 53 to be grasped between the body of the channel member and the longitudinally extending flanges 29, 29 of the first hinge member. When the screw bolts 56 are turned home, heads 59 of said screw bolts are forced down against the exterior surface of the body of the channel member 17, and the nuts 58 are drawn up against the interior surfaces of the longitudinally extending flanges 29. The interior surface of the body of said channel member desirably is roughened, as at 60. A slot 61 in the curvilinear portion 55 of each foot supporting element is for receiving a usual strap used by persons who ski, and a knob 62 upon each of said curvilinear portions is for attachment of a strap.

What is claimed is:

1. A folding ski comprising a forward elongated ski member, a rearward elongated ski member, a hinge pivotally connecting said forward and rearward ski members for relative swinging movement consisting of a first hinge member including channel pieces open at their rearward ends snugly receiving a forward end portion of said rearward ski member and a second hinge member including a longitudinally extending plate engaged against a lower surface and secured to a rearward end portion of said forward ski member and having spaced ears rigid with said longitudinal plate situated in slots in said rearward end portion of the forward ski member and extending thereabove, a channel member of rigid material consisting of a flat body and parallel flanges rigid with opposite side edges of said flat body and perpendicular thereto having a rearward end portion of the flat body resting upon an upper surface and secured to a forward end portion of said rearward ski member and rearward end portions of said parallel flanges secured against outer side surfaces of said forward end portion of said rearward ski member, a forward end portion of said flat body and forward end portions of said parallel flanges of said channel member extending forwardly of the forward end of said rearward ski member in parallel relation thereto snugly, removably receiving said second hinge member and a rearward end portion of said forward ski member when the forward and rearward ski members are alined, said forward end portion of the flat body being slotted to receive the spaced ears rigid with the longitudinally extending plate of said second hinge member when the latter is in proximate relation to a lower interior surface of the forward end portion of the flat body of the channel member, means for releasably locking said spaced ears in the slots in said channel member to maintain the forward and rearward ski members and the first and second hinge members in longitudinal alinement, and a foot supporting element upon said folding ski.

2. The combination as specified in claim 1, and means for adjustably mounting said foot supporting element upon said ski.

3. In a folding ski, a forward elongated ski member, a rearward elongated ski member, a hinge pivotally connecting said forward and rearward ski members for relative swinging movement between positions where alined and parallel consisting of a first hinge member telescoped with and secured to a forward end portion of said rearward ski member and a second hinge member secured to a rearward end portion of the forward ski member and rigidly supporting spaced ears situated in and extending upwardly above said forward ski member, a channel member of rigid material consisting of a flat body and parallel flanges rigid with opposite side edges of and perpendicular to said flat body, a rearward end portion of said flat body resting upon an upper surface and secured to a forward end portion of said rearward ski member and rearward end portions of said parallel flanges being secured against outer side surfaces of said forward end portion of said rearward ski member, and a forward end portion of said flat body and forward end portions of said parallel flanges of said channel member extending forwardly of the forward end of said rearward ski member in parallel relation thereto to snugly, removably receive said second hinge member and a rearward end portion of said forward ski member when the forward and rearward ski members are alined and the second hinge member is in proximate relation to a lower, interior surface of the forward end portion of said channel member, there being spaced slots in said forward end portion of the channel member for receiving said spaced ears rigid with said second hinge member, and means for releasably locking said spaced ears in said spaced slots to maintain the forward and rearward ski members and the first and second hinge members in alinement.

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