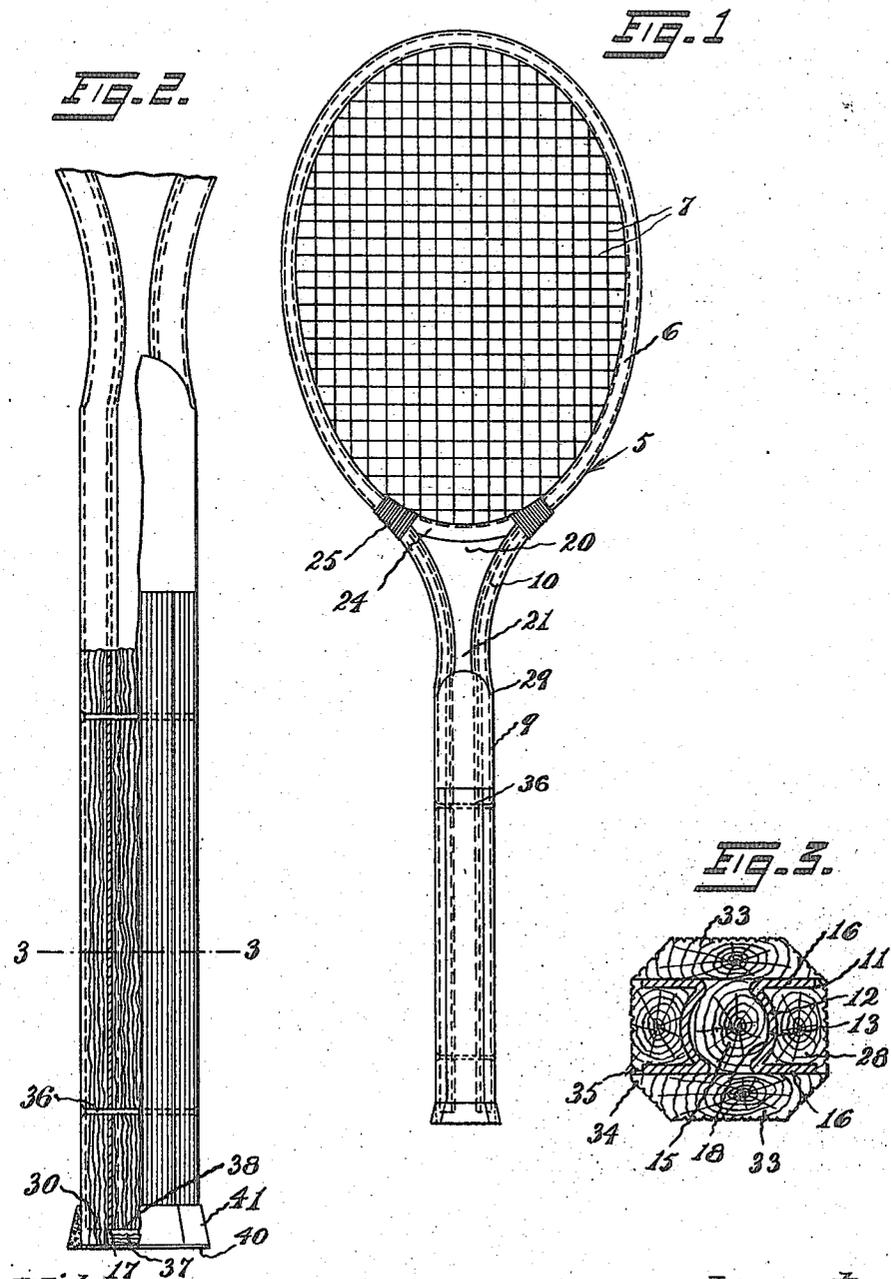


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W. F. REACH
HANDGRIP FOR GAME FRAMES

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UNITED STATES PATENT OFFICE.

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HANDGRIP FOR GAME FRAMES.

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To all whom it may concern:

Be it known that I, WILLIAM F. REACH, a citizen of the United States, residing in Springfield, in the county of Hampden and State of Massachusetts, have invented certain new and useful Improvements in Handgrips for Game Frames, of which the following is a specification.

This invention relates to striking implements especially tennis rackets having metallic frames, though it is noted that the invention is not limited in all respects to metallic frames nor even to striking implements.

One object of the invention is to provide, in an apparatus or device of this kind, a construction of handle whereby the metallic frame is covered with a suitable non metal grip.

Another object of the invention is to provide a handle of this kind in which the grips are so constructed and joined to each other and the frame as to make a strong rigid unitary whole.

Other objects of the invention are to improve generally the simplicity and efficiency of such devices and to provide a device or apparatus of this kind which is durable, economical to manufacture and operate and which will not get out of repair.

The inventive features for the accomplishment of these and other objects are embodied in an improved racket which, briefly stated, comprises a tubular metallic frame of approximately square cross-section having parallel handle portions and inwardly curved gripping portions, the outer wall of the handle portions being cut away, and the inner wall of the handle portions being pressed inwardly to form a longitudinal groove. An intermediate piece fits between the handle and intermediate portions of the frame. Side grips fitting in said handle portions project flush with the front and rear faces thereof; and front and back grips are secured to the front and back faces of the side grips, handle portions and intermediate piece.

Other objects of the invention will appear as the description proceeds; and while herein details of the invention are described, the invention is not limited to these, since many and various changes may be made without departing from the spirit of the invention

or exceeding the scope of the appended claims.

In the accompanying drawing, showing by way of example, one of many possible embodiments of the invention,

Fig. 1 is a front elevation of the racket.

Fig. 2 is an enlarged fragmental front elevation of the handle of the racket partly in axial section; and

Fig. 3 is a transverse sectional view, taken on the line 3—3 of Fig. 2.

My improved racket comprises a tubular metallic frame 5 having a perforated substantially oval body portion 6 carrying the strings 7, a pair of parallel integral handle portions 9 and inwardly curve neck portions 10 connecting the handles and the body portion.

The frame 5 in cross-section is substantially of single channel form as seen in Fig. 3, the open side of the channel being outward and the connecting face 13 of the channel curving inwardly towards the open side and forming an inwardly curved groove extending longitudinally of the frame, the handle portions 9 of the frame below the neck 10 being brought together in parallelism so that the longitudinal inwardly curved groove formed by the faces 13 are opposed and spaced a distance apart as shown in Fig. 3. A wooden piece 15 is disposed between the portions of the frame 5 composing the neck 10 and extends between the frame portions from the body portion 6 substantially to the butt ends of the handle portions 9, the upper end of the piece 15 being of wedge shape and providing a filling for the neck 10 having a head portion 20 and a throat portion 21. The intermediate piece 15 has outwardly curved sides 18 fitting and conforming to the grooves formed by the faces 13 of the neck 10 and handle portions 9, the other sides of the piece 15 being flat and arranged flush with the outer surfaces of the parallel faces of the neck 10 and handle portions 9, the piece 15 thus filling the space between the inwardly curved faces 13 for the length of the neck 10 and the handle portions 9.

A curved metallic channel bridge member 24 receives the head end 20 of said piece and is suitably secured as by rivets at its opposite ends to said body portion 6. Wrappings 25 wound around the ends of the bridge member and the frame cover said

ends and aid in securing the bridge member to the body portion. Exteriorly combed or roughened wooden side grips 28 conformably fit in said handle portions 9 in contact with the end 29 of the neck portions and project slightly at the butt end 30, and engage over and contact the edges 11 of the front and back walls of the handle portion thereby to be flush with the front and back faces 16 thereof. Combed and exteriorly roughened front and back grips 33 are respectively glued or otherwise suitably secured to the front and back faces of the side grips 28, to the outer surfaces of the opposed sides of the frame portions and to the flat faces of the intermediate piece 15, the front and back grips 33 extend from the neck portions 10 and have their side edges 34 respectively flush with the corner edges 35 of the side grips and their butt ends flush with the butt ends 30 of the side grips.

The inherent elasticity of the frame tends to hold the handle portions 9 spaced apart and diverged; and rivets 36 passing through the side grips, handle portions and intermediate piece 15 secure them together in position to provide elasticity of the frame to cause the neck and handle portions 10 and 9 to immovably grip the intermediate piece 15.

A plug 37 (Fig. 2) is disposed against the butt end 28 of the intermediate piece 15 and the butt ends 17 of the handle portions and lie flush with the butt ends 30 of the grips; and a thin finishing piece 40 is glued over the plug 37 and butt ends of the grips. A band 41 is bound around and covers the edge of the finishing piece and the adjacent portion of the grips.

The racket is used and generally treated as the usual wooden racket, but does not warp, split or crack. No part of the metal touches the hand of the player, and the extended roughened faces of the grips make the racket easy to hold.

I claim:

1. In a racket, in combination, a metallic frame in cross-section of single channel form and bent to provide the body portion of the racket, the open side of the channel being outward and the connecting face of the channel curving inwardly towards the open side thereof and providing an inwardly curved groove extending longitudinally of the frame; a neck formed by converging portions of the frame and extending from the body portion; handle portions formed by parallel proximate portions of the frame and extending from the neck; and a filler member having outwardly curved opposed sides and conformably disposed in the space between the frame portions of the neck and handle portions and extending from said body portion to substantially the butt ends of the handle portions, the outwardly curved

opposed sides of said member engaging the inwardly curved grooves of the frame portions of the neck and handle portions.

2. In a racket, in combination, a metallic frame in cross-section of single channel form and bent to provide the body portion of the racket, the open side of the channel being outward and the connecting face of the channel curving inwardly towards the open side thereof and providing an inwardly curved groove extending longitudinally of the frame; a neck formed by converging portions of the frame and extending from the body portion and having substantially wedge shaped interior space; handle portions formed by parallel proximate portions of the frame and extending from the neck; and a filler member having a substantially wedge shaped upper end and a straight portion extending therefrom and having outwardly curved opposed sides and disposed in the space between the frame portions of the neck and handle portions and extending from said body portion to substantially the butt ends of the handle portions, the outwardly curved opposed sides of said member engaging the inwardly curved grooves of the frame portions of the neck and handle portions.

3. In a racket, in combination, a metallic frame in cross-section of single channel form and bent to provide the body portion of the racket, the open side of the channel being outward and the connecting face of the channel curving inwardly towards the open side thereof and providing an inwardly curved groove extending longitudinally of the frame; a neck formed by converging portions of the frame and extending from the body portion; handle portions formed by parallel proximate portions of the frame and extending from the neck; and a filler member having flat opposed sides and outwardly curved opposed sides and conformably disposed in the space between the frame portions of the neck and handle portions and extending from said body portion to substantially the butt ends of the handle portions, the outwardly curved opposed sides of said member engaging the inwardly curved grooves of the frame portions of the neck and handle portions and the flat opposed sides of said member being flush with the outer surfaces of the opposed sides of the channel form frame portions.

4. In a racket, in combination, a metallic frame in cross-section of single channel form and bent to provide the body portion of the racket, the open side of the channel being outward and the connecting face of the channel curving inwardly towards the open side thereof and providing an inwardly curved groove extending longitudinally of the frame; a neck formed by converging portions of the frame and extending from

the body portion; handle portions formed by parallel proximate portions of the frame and extending from the neck; a filler member having flat opposed sides and outwardly curved opposed sides and conformably disposed in the space between the frame portions of the neck and handle portions and extending from said body portion to substantially the butt ends of the handle portions, the outwardly curved opposed sides of said member engaging the inwardly curved grooves of the frame portions of the neck and handle portions and the flat opposed sides of said member being flush with the outer surfaces of the opposed sides of the channel form frame portions; and side grip members and front and back grip members operatively attached to the handle portions.

5. In a racket, in combination, a metallic frame in cross-section of single channel form and bent to provide the body portion of the racket, the open side of the channel being outward and the connecting face of the channel curving inwardly towards the open side thereof and providing an inwardly curved groove extending longitudinally of the frame; a neck formed by converging portions of the frame and extending from the body portion; handle portions formed by parallel proximate portions of the frame and extending from the neck; a wooden filler member having flat opposed sides and outwardly curved opposed sides and conformably disposed in the space between the frame portions of the neck and handle portions and extending from said body portion to substantially the butt ends of the handle portions, the outwardly curved opposed sides of said member engaging the inwardly curved grooves of the frame portions of the neck and handle portions and the flat opposed sides of said member being flush with the outer surfaces of the opposed sides of the channel form frame portions; and wooden side grip members and wooden front and back grip members each roughened on its exterior surface and operatively attached to the handle portions.

6. In a racket, in combination, a metallic frame in cross-section of single channel form and bent to provide the body portion of the racket, the open side of the channel being outward and the connecting face of the channel curving inwardly towards the open side thereof and providing an inwardly curved groove extending longitudinally of the frame; a neck formed by converging portions of the frame and extending from the body portion and having substantially wedge shaped interior space; a bridge member connecting side portions of the frame of the body portion adjacent to the neck; handle portions formed by parallel proximate portions of the frame and extending from the neck; a wooden filler mem-

ber having a substantially wedge shaped upper end and a straight portion extending therefrom and having flat opposed sides and outwardly curved opposed sides and disposed in the space between the frame portions of the neck and handle portions and extending from said body portion to substantially the butt ends of the handle portions, the outwardly curved opposed sides of said member engaging the inwardly curved grooves of the frame portions of the neck and handle portions and the flat opposed sides of said member being flush with the outer surfaces of the opposed sides of the channel form frame portions; and wooden side grip members and wooden front and back grip members each roughened on its exterior surface and operatively attached to the handle portions.

7. In a racket, in combination, a metallic frame in cross-section of single channel form and bent to provide the body portion of the racket, the open side of the channel being outward and the connecting face of the channel curving inwardly towards the open side thereof and providing an inwardly curved groove extending longitudinally of the frame; a neck formed by converging portions of the frame and extending from the body portion and having substantially wedge shaped interior space; a bridge member connecting side portions of the frame of the body portion adjacent to the neck; handle portions formed by parallel proximate portions of the frame and extending from the neck; a wooden filler member having a substantially wedge shaped upper end and a straight portion extending therefrom and having flat opposed sides and outwardly curved opposed sides and disposed in the space between the frame portions of the neck and handle portions and extending from said body portion to substantially the butt ends of the handle portions, the outwardly curved opposed sides of said member engaging the inwardly curved grooves of the frame portions of the neck and handle portions and the flat opposed sides of said member being flush with the outer surfaces of the opposed sides of the channel form frame portions; exteriorly roughened wooden side grips conformably engaging in the spaces between the opposed sides of the frame portions of the handle portions and having end faces overlapping the free ends of said opposed sides; exteriorly roughened front and back grip members secured to said overlapping faces and to the outer surfaces of the opposed sides of said frame portions and to the flat opposed sides of the filler member; and means for securing together the side grips, said frame portions and filler member.

8. In combination, a tubular frame of approximately square cross-section having parallel handle portions, an intermediate

piece between the handle portions and terminating flush with the butt ends of the handle portions; side grips on said handle portions and projecting slightly at the butt end; grips secured to the front and back faces of the side grips, the handle portions and the intermediate piece and having their butt ends flush with the butt ends of the side grips; a plug disposed against the butt ends of the intermediate piece and handle portions and lying flush with the butt ends of the grips; and a thin finishing piece glued over the plug and butt ends of the grips.

9. In combination, a tubular metallic frame of approximately square cross-section having parallel handle portions and inwardly curved gripping portions; the outer wall of the handle portions being cut away, and the inner wall of the handle portions being pressed inwardly to form a longitudinal groove; the inherent elasticity of the

frame tending to hold the handle portions spaced apart and diverged; an intermediate piece disposed between said handle and gripping portions flush with the front and back faces thereof and provided with tongued side faces fitting and conforming with the grooved walls of the handle, and with the gripping portions to form a throat; side grips in the channels of the handle portions; front and back grips secured to the front and back faces of the side grips, handle portions and intermediate piece; and means for securing the side grips, handle portions and intermediate piece together in position to cause the elasticity of the frame to cause the gripping and handle portions to movably grip the intermediate piece.

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Witnesses:

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