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W. O. ROY
CURLING STONE

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Fig. 1.

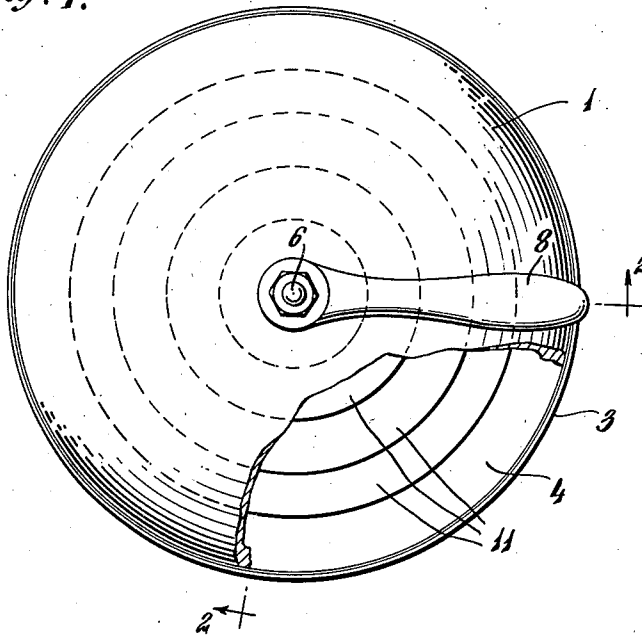
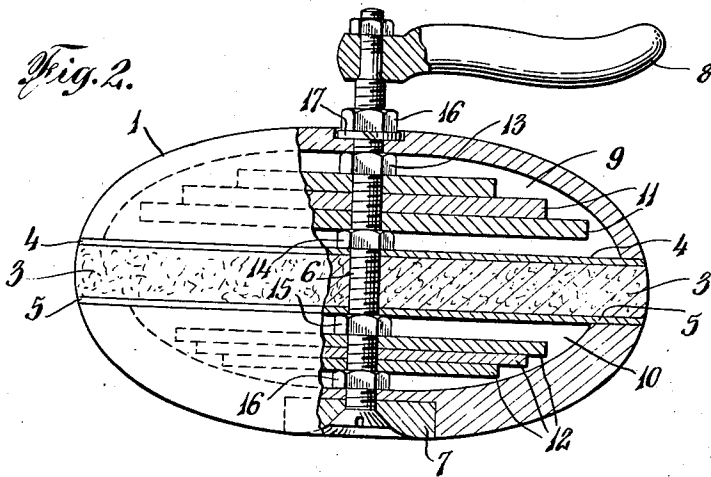


Fig. 2.



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CURLING STONE

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4 Claims. (Cl. 273-128)

My invention relates to the playing pieces, commonly called a stone, used in playing the game of curling on the ice and my improvements are directed to making a composite playing piece, or stone, to be used instead of the single block of granite or similar stone or metal commonly employed.

Objects of my invention are to use metal or other substances for component parts of the stone; to so proportion the parts as to give increased steadiness to the stone when in motion; to lower the center of gravity of the composite stone; to provide means for raising or lowering such center of gravity; to provide a shock receiving element of an improved character around the periphery of the stone; to provide for the ready assembling of the component parts of the stone and for the disassembling and readjustment; and to secure the other advantages hereinafter pointed out and claimed.

In the drawing, in which similar parts are designated by similar reference numerals, Fig. 1 is a plan view of my improved stone and Fig. 2 is a side elevation, partly in section, on the line 2-2 of Fig. 1.

Preferably I use cast iron or other metal to form the main body of the stone, utilizing two concavo-convex circular disks 1, 2 to form the upper and lower portions.

Between these upper and lower parts I insert a non-absorbent disk 3, which may be of granite or similar stone, but is preferably of a material or composition such as hard fiber, Bakelite or the like, or other compositions sufficiently strong to withstand the shocks to which the stone is subjected in play without being fractured or materially injured thereby.

Gaskets 4, 5 are placed above and below the disk 3, so as to insure tight joints between it and the metal elements 1, 2.

The parts are held in assembled relation by a centrally disposed rod 6 passing through them and through or into a block 7 let into the bottom of the stone, the lower edge of which block 7 acts as the running surface which supports the stone on the ice. This rod is provided with a handle 8, and with a nut 16 and washer 17, which nut may be screwed into place so as to hold the parts securely assembled, the handle serving as the means by which the player holds the stone in play.

It will be seen that the upper concavo-convex disk 1 is substantially lighter than the lower disk 2; and that there is a considerable open space 9 under the disk 1 and a smaller open

space 10 above the disk 2, the center of gravity being substantially below the horizontal medial line of the stone. This gives steadiness to the stone in play, and tends to eliminate wobbling following the delivery of the stone to the ice in playing. This center of gravity may be raised or lowered by changing the proportions of the disks 1 and 2, as may be desired. But, as it is preferable, for the purposes of standardization, to form these disks 1 and 2 of approximately uniform weights, it is desired to provide means for adjusting the component parts of the stone so as to raise or lower the center of gravity, as circumstances may indicate, to conform with the wishes of individual players, and secure for each player an adjustment most satisfactory to himself.

I therefore provide for the insertion of additional weight in the spaces 9 and 10, which may be accomplished by the use of disks 11, 11 and 12, 12 or either of them. These disks may be of lead or other heavy material and of such form as to fit conveniently into the spaces in which they are inserted. Preferably they may be simply flat disks centrally punctured to allow the passage of the rod 6 through them. When the desired number of such disks has been selected they may be locked in place by nuts 13, 14 or nuts 15, 16, which are threaded on the rod 6 and will securely hold the disks in place when the nuts are locked against them. By this arrangement weight can be added to the upper part or to the lower part of the stone, or subtracted therefrom, as occasion warrants.

The use of the medial disk 3, of a tough and fracture-resisting character, diminishes the danger of fracture when one stone hits another in play.

If, however, it is preferred to have this disk made of granite or other suitable hard stone, that may be done, with the advantage that if the circumference of the disk becomes checked or broken the whole stone may be disassembled and a new disk inserted in place of the damaged one; or a composite disk may be substituted. It will be seen that by the use of my improvements I secure a curling stone which eliminates, to a large degree, the expensive work of forming such a stone of a single block of granite, and which permits the employment and assembling of prefabricated parts of less expensive materials and their assembly into complete unitary form expeditiously and securely, while at the same time the center of gravity of

the stone may be located at a preselected point, which experience shows to be desirable.

While I have spoken of making the central disk of stone or of a composite material, I wish it to be understood that other suitable material might be used; for instance, a hard wood might be employed, or the periphery of the stone might be formed of a metal band surrounding the disk of wood or other suitable material.

In a curling stone, it is highly important that the structure be maintained in axial balance and not get out of balance due to the jars of contact that occur during use. This means that the weight members used for adjusting the weight of the device as a whole or of adjusting its center of gravity must be so held that their mass is substantially integral with the shock disk which passes horizontally through the stone. In my construction it will be noted that this disk fits closely around the shaft 6 and is clamped onto the shaft 6 between the nuts 14 and 15. The weight adjustment disks 11 and 12 are likewise clamped tightly to this shaft 6 and therefore these disks during play form a substantially integral unit with the shock disk 3 so that they will not be displaced by jars against that disk, and the shock disk 3 with the weight disks 11 and 12 form a separately removable unit which carries the principal strains of play.

The block 7 which carries the running wear of the stone, may be made of granite or other stone, metal, glass or other desired material, and may be readily changed or replaced, to compensate for wear or breakage or to suit the players' preferences, which is a desirable feature, as the blocks, as well as the other parts of the stone, may be carried in stock and be readily available as occasion may call for them.

I thus provide a composite curling stone combining selected parts having the characteristics most desirable for their various functions, and readily removable and replaceable as occasion may require, the weight of which and its balance and center of gravity may be easily adjusted and modified while the whole stone may be assembled by unskilled labor from prefabricated parts, at marked savings of expense, for both materials and labor.

The curling stone that I have illustrated and described is to be considered as a typical and not as an exclusive illustration of an embodi-

ment of my invention, for details of construction might be changed, as by the substitution of equivalents, without departing from the spirit of my invention or the scope of my claims.

Having thus described my invention what I claim and desire to secure by Letters Patent of the United States is:

1. In a curling stone, a pair of shell members, a substantially continuous shock disk between said shell members with its edge exposed to form the periphery of the device, a centrally located rod for clamping together said shell members, means for separately clamping said rod into said shock disk and a plurality of removable disks adapted to be clamped to said rod whereby the weight and center of gravity of the entire assembly can be varied without risk of such weighting means being displaced off-center laterally.

2. In a curling stone, a pair of shell members, a substantially continuous medial shock disk between said shell members, a plurality of weight members within said shell members, removable means for clamping said weight members so that they may be held in desired arrangement substantially immovable relative to the shock disk during play, and additional means for clamping said shell members to said shock disk.

3. In a curling stone, a pair of shell members, a shock disk between said shell members with its edge exposed to form the periphery of the device and having a central locking portion with a hole through it integral with the exposed edge portion, a centrally located rod for clamping together said shell members passing through said hole in the shock disk, means for clamping said rod to said shock disk, and a plurality of removable disks adapted to be clamped to said rod whereby the weight and center of gravity of the entire assembly can be varied without risk of such weighting means being displaced off-center laterally.

4. A structure as specified in claim 3, in which the centrally located rod has a bottom head and in which the structure further includes a removable insert set centrally in the bottom shell member and having a hole and recess to receive said rod and head in such manner that the lower face of the rod-head is held up from the bottom surface when the shell members are locked together, with the result that said insert serves as a bearing for the device when it moves on the ice.

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