Jan. 8, 1924. 1,479,894

R. F. CAREY

SAND BORING IMPLEMENT

Filed Sept. 12, 1922

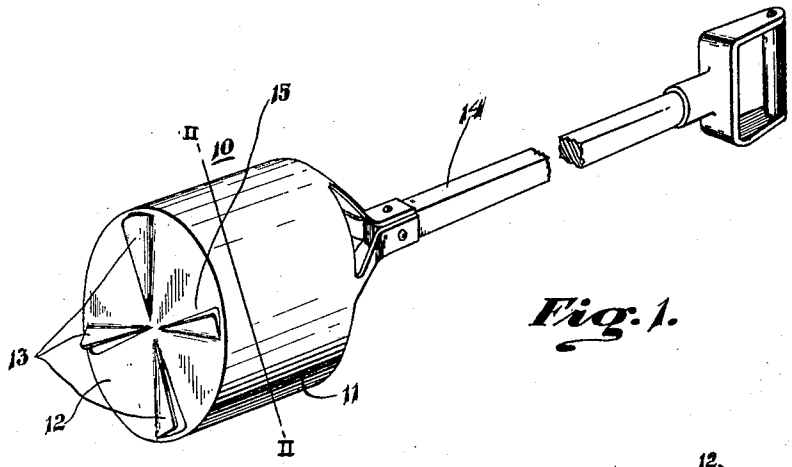


Fig. 1.

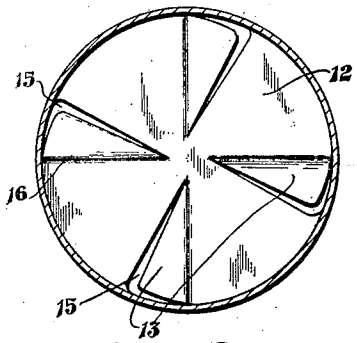


Fig. 2.

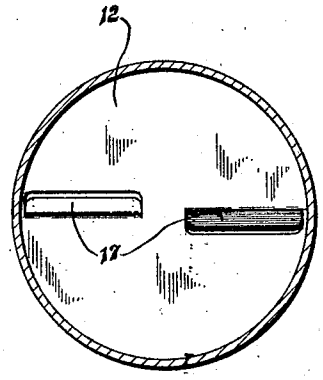


Fig. 3.

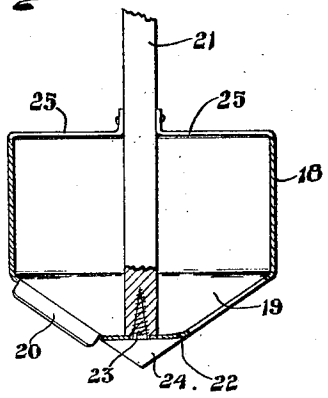


Fig. 4.

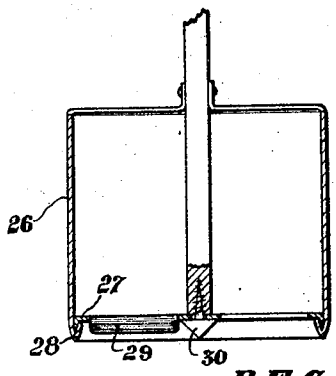


Fig. 5.

WITNESSES:

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UNITED STATES PATENT OFFICE.

RICHARD F. CAREY, OF MOORE, PENNSYLVANIA.

SAND-BORING IMPLEMENT.

Application filed September 12, 1922. Serial No. 587,707.

To all whom it may concern:

Be it known that I, RICHARD F. CAREY, a citizen of the United States, and a resident of Moore, in the county of Delaware and State of Pennsylvania, have made a new and useful Improvement in Sand-Boring Implements, of which the following is a specification.

My invention relates to toys or play things for handling sand, and more particularly to a device for boring holes in sand, as at the seashore, and it has for its object to provide apparatus of the character designated which shall be simple and economical to construct and effective in operation.

Apparatus made in accordance with my invention is illustrated on the accompanying drawings, forming a part of this application, in which Fig. 1 is a perspective view of my sand boring device; Fig. 2 is a sectional view taken along the line II—II of Fig. 1 and showing the bottom in plan; Fig. 3 is a plan view of a modified form of bit member construction; and Figs. 4 and 5 are sectional views of further modified forms of my invention.

My invention relates to a toy of the auger type for boring holes in sand and it comprises a rotary receptacle having a bottom provided with cut and bent or downwardly-inclined bit members. As a substantial portion of the bottom is left after the bit members are provided, and as the projected area of the bit member or members is almost equal to that of the opening or openings with which they are associated, the surface for supporting sand approximates the area of the bottom of the receptacle so that sand may be held therein while the receptacle is being moved and until emptied.

The retention of sand in the receptacle is also assisted by having the bit member or members followed by portion or portions of the bottom. The bit members bite into the sand, elevate it, and compress it and the following bottom portion exerts a trowel-like action on it. In other words, the receptacle is filled with a series of smoothed and compressed layers of sand, which, in addition to the provision of adequate supporting area already referred to, assists in assuring of the retention of the sand in the receptacle until the latter is emptied. This operation is peculiarly effective with sand owing to the fact that it is not sticky enough to clog up or adhere to the bit members and to the bottom.

The structural simplicity of the design of my sand toy permits of its being constructed by simple die-pressing or drawing operations from thin sheet metal or tin, thereby making it possible to produce it very economically.

Referring to the drawings for a more detailed description of my invention, in Figs. 1 and 2, I show a cup, at 10, having a continuous cylindrical wall 11 and a bottom 12. The bottom 12 is cut and bent so as to provide downwardly-inclined bit portions 13. A handle 14 is secured to the upper end of the cup for turning it in order that the bit members may bite into sand and elevate it into the cup.

As a substantial portion of the bottom 12 remains after the bit members are cut and bent, and as the projected areas of the bit members approximate those of the openings resulting from the provision thereof, a relatively large supporting surface for sand is provided. Also, a bit member and the immediately-following portion of the bottom have a compressing and trowel-like action on the sand entering the cup, whereby the cup is filled with compacted and smooth layers of sand.

In Figs. 1 and 2, the bit members 13 are triangular in outline and their provision involves triangular openings 15 in the bottom of the cup. As may be seen from Fig. 2, the triangular bit members 13 are arranged at the rear edges 16 of the triangular openings and the projected area of each bit member is almost equal to that of its opening.

In Fig. 3, I show a bottom 12 having bit members 17 which are substantially rectangular in outline.

In Fig. 4, I show a receptacle 18 which has a conical bottom 19 with one or more bit members 20 of the type heretofore referred to. In this modification, the handle 21 is shown as being secured to the conical bottom. Preferably, the conical bottom has a small flattened portion 22, which contacts with the lower end of the handle 21. A screw 23 connects the bottom to the handle, and the screw has a conical head 24 to spread or to force the central core of sand under the bit members 20. The handle is connected and braced with respect to the top of the receptacle by any suitable members 25.

In Fig. 5, I show a further modified form of my invention in which the wall of the receptacle 26 extends below the bottom 27 to constitute a protecting flange 28 for the bit members 29. As in Fig. 4, the handle is shown as being secured to the bottom; and a spreader 30 preferably secures the bottom to the handle and operates to spread the central core of sand into the range of the bit members 29.

The bit members are preferably rounded at the corners to make the apparatus safer to handle and diminish the liability of the corners getting caught in various objects.

It is to be understood that the number of openings and bit members is immaterial—one or more may be provided—so long as adequate support for sand remains and the structure is sufficiently strong for its purpose. Also, while I have described cut and bent bit members, which is the preferable construction from the standpoint of economy, it is to be understood that openings may be provided in the bottom and the bit members may be made separately and secured to the rear edges thereof in any suitable manner and yet be within the scope of my invention as defined in the appended claims.

From the foregoing, it will be apparent that I have devised an inexpensive toy for boring holes in sand and which is particularly satisfactory with material of this character owing to the fact that the supporting surface is almost equal to the area of the bottom of the cup and to the further fact that the bit members and following portions of the bottom act in a trowel-like manner to fill the cup with compacted and smoothed layers of sand, this latter operation being easily accomplished with sand owing to the absence of any tendency thereof to stick to the bit and bottom surfaces.

While I have shown my invention in but four forms, it will be obvious to those skilled in the art that it is not so limited, but is susceptible of various other changes and modifications without departing from the spirit thereof, and I desire, therefore, that only such limitations shall be placed thereupon as are imposed by the prior art or as are specifically set forth in the appended claims.

What I claim is:

1. A toy for boring holes in sand comprising a tin cup having a continuous cylindrical wall and a bottom provided with a plurality of openings having downwardly-inclined bit members at the rear edges thereof, each of said bit members having a plurality of cut lateral edges of the same thickness as that of the material of the bottom, the bit members being constituted by material which is cut and bent down to provide the openings, a handle, and tongues extending from the upper edge of the wall and secured to the handle.

2. A toy for boring holes in sand comprising a tin cup having a continuous cylindrical wall and a flat bottom provided with a plurality of openings having downwardly-inclined bit members at the rear edges thereof, each of said bit members having a plurality of cut lateral edges of the same thickness as that of the material of the bottom, the bit members being constituted by material which is cut and bent down to provide the openings, each bit member being bent along parallel lines throughout the base thereof, a handle, and tongues extending from the upper edge of the cylindrical wall and being secured to the handle.

3. A toy for boring holes in sand comprising a thin sheet metal cup having a continuous cylindrical wall and a bottom provided with a plurality of openings having downwardly-inclined bit members at the rear edges thereof and having the front edges of the openings in the surface defined by the bottom, each of said bit members having a plurality of cut lateral edges of the same thickness as the material of the bottom and one of which edges is the front edge, the bit members being constituted by material which is cut and bent down to provide the openings, each bit member being bent along parallel lines throughout the base thereof, a handle, and tongues materially continuous with the cylindrical wall and extending from the upper edge of the latter and secured to the handle.

4. A toy for boring holes in sand or like material comprising a thin sheet metal cup member having a continuous cylindrical wall and a flat unitary bottom extending transversely of the cylindrical wall, said bottom having a plurality of openings with downwardly inclined bit members at the rear edges thereof, the bit members being constituted by material of the bottom which is bent down to provide the openings, a handle, integral tongues extending from the upper edge of the cup and secured to the handle, and means for securing the bottom of the cup to one end of the handle, said means including a downwardly tapered spreader below the bottom for forcing out the central core of material into the range of the bit members.

In testimony whereof, I have hereunto subscribed my name this 8th day of September, 1922.

RICHARD F. CAREY.