

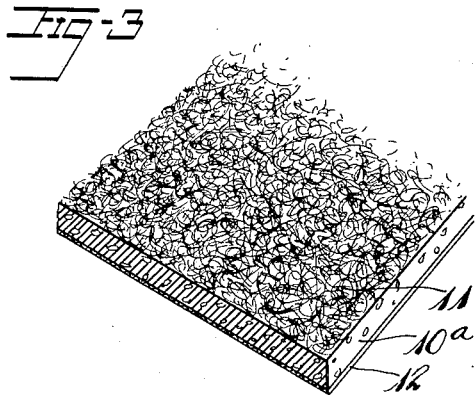
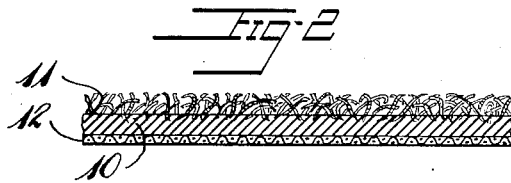
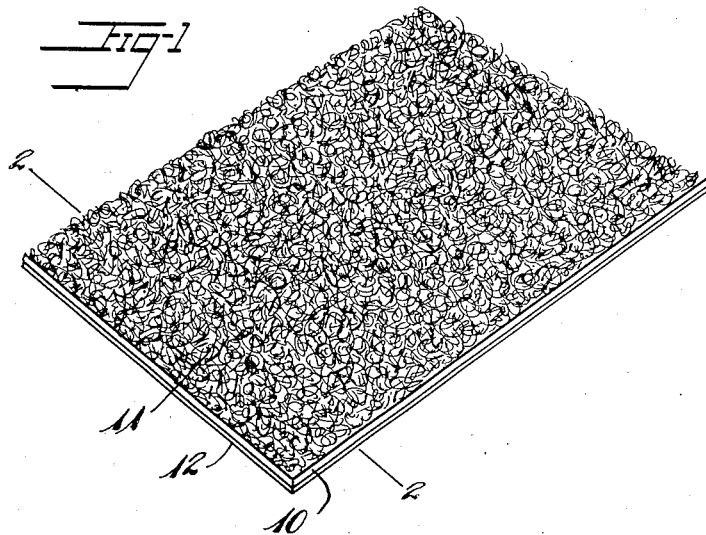
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ARTIFICIAL TURF AND METHOD OF MAKING THE SAME

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ARTIFICIAL TURF AND METHOD OF MAKING THE SAME

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7 Claims. (Cl. 154—2)

This invention relates to the manufacture of artificial turf which may be used in situations where the use of natural turf is impractical, and where close simulation of the latter in appearance and mechanical characteristics is desired. It may be used in solariums, on porches, and for theatrical stage-settings, and is especially applicable for use with miniature golf courses.

The chief objects of the invention are to provide superior bonding of the material used in simulation of grass to the body structure on which it is mounted; to provide artificial turf of a resilient character in simulation of the springiness of natural turf; and to provide an improved method of making artificial turf having the characteristics mentioned.

Of the accompanying drawing:

Fig. 1 is a perspective view of a portion of a sheet of artificial turf constituting one embodiment of my invention.

Fig. 2 is a section on line 2—2 of Fig. 1 on a larger scale.

Fig. 3 is a sectional perspective view of a portion of a sheet of artificial turf constituting another embodiment of my invention.

Referring to Figs. 1 and 2 of the drawing, my invention comprises a body structure 10, and a layer or facing 11 of fibrous material mounted upon one side thereof. The body structure 10 preferably comprises flexible soft rubber composition, and if desired, may have a backing of burlap 12 or other suitable reinforcing material.

The facing layer 11 consists of fibrous material preferably obtained from previously cured or uncured rubberized fabric. The fibrous material preferably is prepared in a manner in which the original twisted threads are not so shredded as to destroy their twist, as the preferred fibrous material consists wholly or largely of short lengths of threads preferably about one inch long. The fibrous threads, when prepared from previously rubberized fabric, contain a small proportion of rubber, about 5 percent, which it is impractical to remove, and which has been found advantageous in the manufacture of artificial turf.

The fibrous material is dyed green in simulation of grass, preferably before it is applied to the body structure.

In the manufacture of the artificial turf I prepare a body structure or sheet 10 of unvulcanized rubber composition, and adhere the reinforcing backing 12 thereto if the same is to be provided. The fibrous material 11 is dis-

tributed evenly over the top of the sheet 10 and the latter is then mounted in a heater press and vulcanized under pressure, with the result that most of the threads of the fibrous material are pressed partly into the adjacent surface of the sheet, substantially as shown in Fig. 2, and vulcanized thereto. After vulcanization, the fibrous facing may be brushed to remove unattached strands and to raise the others so that a satisfactory simulation of natural grass is produced.

The small amount of rubber remaining in the fibrous material prevents the strands thereof from fraying, and adds rigidity to the strands so that they are not readily crushed down and matted even after being trod upon. The rubber in the fibrous material also aids in effecting a strong bonding of the fibers to the sheet 10 when the fibers are pressed thereinto during its vulcanization, so that no additional bonding material is required for producing a durable structure.

In the embodiment of the invention shown in Fig. 3 I provide a body structure 10^a of cellular soft rubber, and employ the same backing material 12 and fibrous facing 11 that are used in the embodiment shown in Figs. 1 and 2. The structure is manufactured by the process herein described in which the rubber composition is vulcanized while the fibrous facing is pressed against the surface thereof, the confining means for the structure being suitably modified to permit the "blowing" of the cellular rubber composition. The cellular rubber body structure is inherently yielding, and closely simulates the springiness of natural turf.

The invention may be otherwise modified within the scope of the appended claims, as I do not limit my claims wholly to the specific construction shown or exact procedure described.

I claim:

1. The method of making artificial turf which comprises pressing unwoven fibrous material in simulation of grass against the surface of unvulcanized rubber composition, and vulcanizing the latter while the fibers are pressed thereagainst.

2. The method of making artificial turf which comprises distributing loose fibrous material in simulation of grass over the surface of unvulcanized rubber, pressing the fibrous material and the rubber so lightly together as to avoid complete embedding of said material in the rubber and vulcanizing the rubber while maintaining the pressure between it and the fibrous material.

3. The method of making artificial turf which comprises distributing loose fibrous material in simulation of grass upon the surface of unvulcanized cellular-rubber composition, and confining the assembled structure and vulcanizing the rubber thereof whereby the fibers are pressed into the surface of the rubber by the pressure of the expanding rubber. 80

4. Artificial turf comprising a body structure of rubber composition, and a facing layer of unwoven fibers in simulation of grass mainly lying at random upon the surface of the structure and united therewith solely by vulcanization of the structure. 85

5. Artificial turf comprising sheet material comprising rubber and a layer of unwoven fibers in simulation of grass mainly lying at random upon the surface thereof, portions of the fibers extending into the sheet and being united therewith solely by vulcanization. 90

6. Artificial turf comprising a sheet of cellular rubber, and unwoven fibers in simulation of grass secured to a surface thereof. 95

7. Artificial turf comprising a sheet of cellular rubber, and unwoven fibrous material in simulation of grass mainly lying at random upon the surface thereof, portions of the fibers extending into the sheet and being united therewith by vulcanization. 100

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