Dec. 12, 1961 W. L. DAVIS, JR 3,012,334

FOOTBALL DRIER

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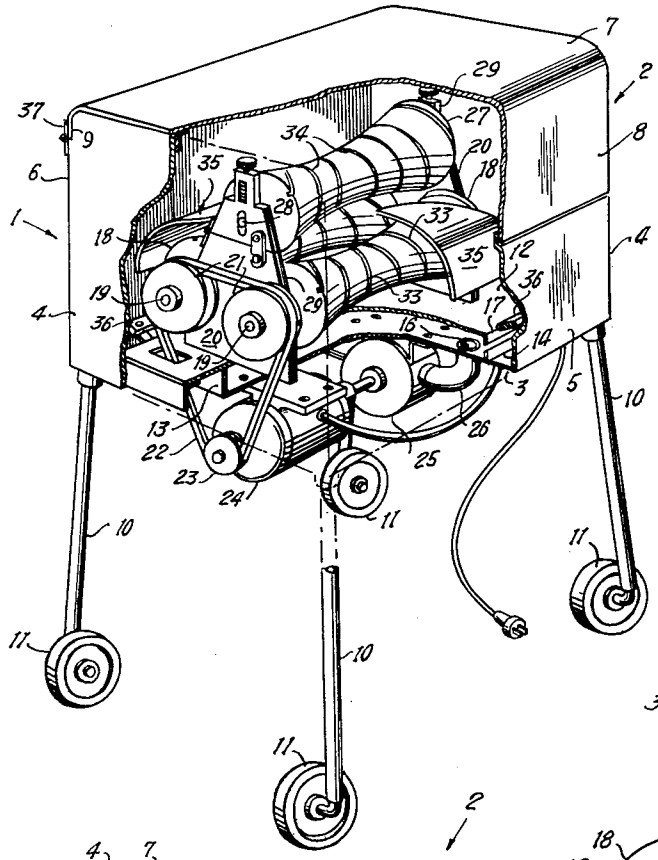


Fig. 1

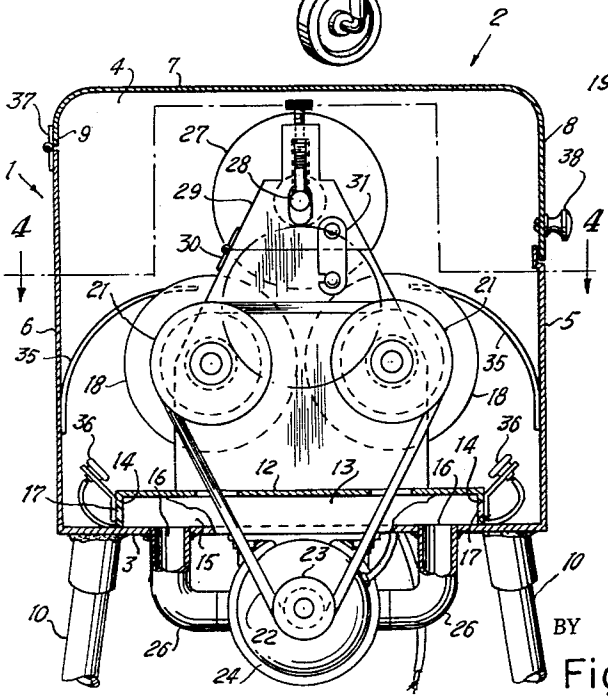


Fig. 2

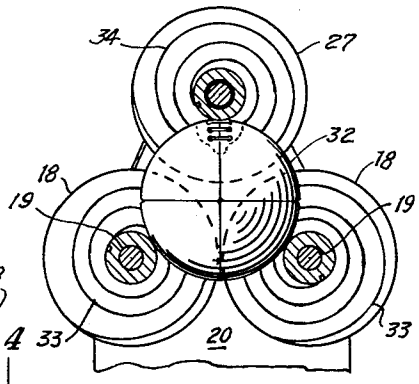


Fig. 3

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FOOTBALL DRIER

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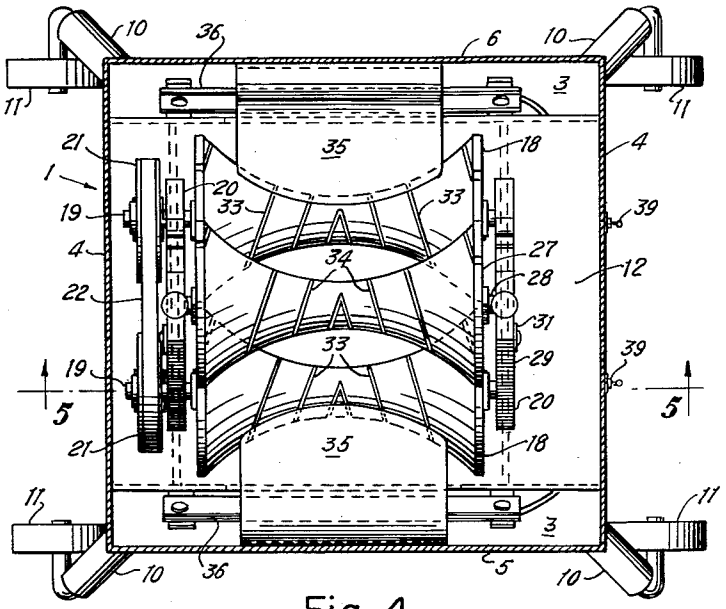


Fig. 4

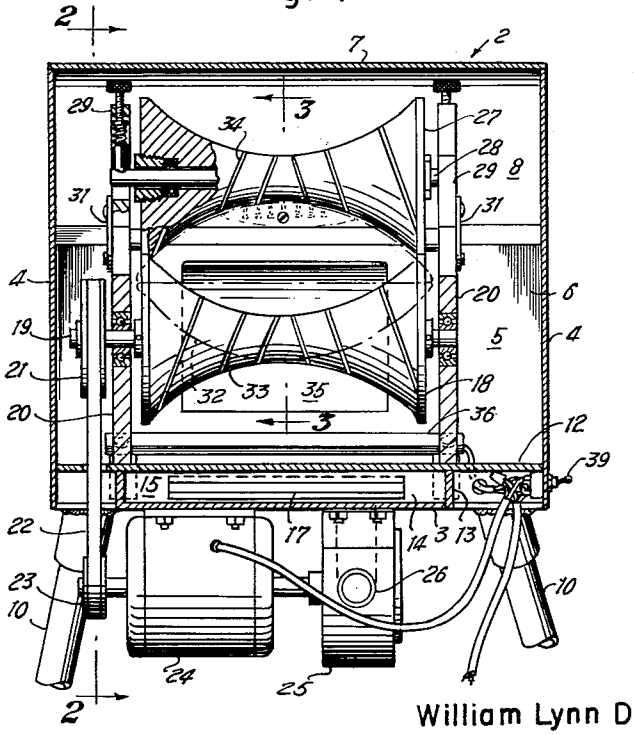


Fig. 5

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3,012,334

FOOTBALL DRIER

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This invention relates to a football drier, and it concerns more particularly a device for removing moisture from the surfaces of footballs.

During football games played in the rain, or on a wet field, the surface of the ball often becomes wet, and it is customary to wipe the ball with a towel from time to time, or to substitute a new ball, in an effort to maintain the ball in condition for play.

The covering on a football is ordinarily substantially water repellant, and does not readily absorb moisture, but it is often necessary to subject the ball to a squeezing action to completely free the moisture therefrom. It is an object of the invention to provide apparatus by which the ball is subjected to pressure while rapidly rotating the same whereby all moisture is removed from the cover by centrifugal action, the moisture being converted to a mist which is driven off by a fan.

It is advantageous to both of the opposing teams, in a football game, to keep the ball dry, which makes the ball easier to handle and reduces the possibility of costly fumbles.

An object of this invention is to provide an electrically operable device, for use during football games, adapted to dry footballs quickly while a game is in progress, whereby a dry ball may be kept in play at all times.

Another object of the invention is to provide a device for the purpose described which is of simple, rugged construction, may be manufactured inexpensively, and is efficient in operation and durable in use.

The invention will be readily understood by referring to the following description and the accompanying drawing, in which:

FIGURE 1 is a perspective view, partly broken away, of a football drier embodying the invention;

FIGURE 2 is a sectional elevational view taken on the line 2—2 of FIGURE 5;

FIGURE 3 is a sectional elevational view taken on the line 3—3 of FIGURE 5;

FIGURE 4 is a sectional plan view taken on the line 4—4 of FIGURE 2; and

FIGURE 5 is a sectional elevational view taken on the line 5—5 of FIGURE 4.

Referring to the drawing, the device of the invention includes a substantially rectangular housing, indicated generally by the numeral 1, having a hinged cover 2. The housing 1 has a bottom 3, a pair of ends 4, and partial front and rear walls 5 and 6. The cover 2 has a top 7 and partial front and rear walls 8 and 9 which complement the front and rear walls 5 and 6 of the housing 1.

The housing 1 is supported at its lower corners on four legs 10, each of which has a caster 11 on its lower end, whereby the device is portable.

A horizontal partition 12 is arranged parallel to and above the bottom 3 of the housing 1, centrally thereof, and is connected in spaced apart relation thereto by a pair of end partitions 13 and a pair of side partitions 14, which are spaced inwardly from the ends 4 and the front and rear walls 5 and 6, respectively, of the housing 1 and with the bottom 3 and the horizontal partition 12 enclose an air chamber 15. The air chamber 15 has a pair of bottom inlets 16, which are formed in the bottom 3 adjacent opposite sides of the chamber 15, and a pair of side outlets 17, which comprise horizontal slots formed in the respective side partitions 14. The slots 17 are inclined laterally upwardly and outwardly from the interior of the chamber 15.

A pair of rollers 18, as hereinafter described, are disposed horizontally, in side by side relation to each other and are fixed on shafts 19 which are journaled in bearings provided therefor in a pair of vertically disposed plates 20. The plates 20 are secured at their lower edges to the horizontal partition 12, and are aligned with the end partitions 13.

A pair of pulley wheels 21, which are rigidly connected to adjacent ends of the shafts 19, are connected by a belt 22 to a pulley wheel 23, which is connected to one end of a shaft of a motor 24, whereby the rollers 18 are driven by the motor 24.

The motor 24 is mounted on the under side of the bottom 3 of the housing 1. An air blower 25 is also mounted on the under side of the bottom 3 of the housing 1, and is connected to the end of the shaft of the motor 24 opposite the pulley wheel 23, whereby the blower 25 is driven by the motor 24. The blower 25 has a pair of discharge connections 26 which communicate with the bottom inlets 16 of the air chamber 15.

A roller 27, which is similar to the rollers 18, is disposed horizontally above the rollers 18, parallel to and between them. The roller 27 is fixed on a shaft 28 which is journaled in spring tensioned bearings provided therefor in a pair of vertically disposed plates 29. The plates 29 are positioned above the plates 20, in alignment therewith, and are normally supported thereon. The plates 29 are connected by hinges 30 to the plates 20, and are removably secured in abutting engagement therewith by latches 31.

The peripheral surfaces of the rollers 18 and 27 are semi-elliptical, being curved inwardly from their ends toward their mid-sections, and collectively conform generally to the shape of a football. In the operation of the device, a football to be dried is placed between the rollers 18 and 27 and is turned with them by the action of the motor 24. The roller 27 is turned with the rollers 18 by frictional engagement of the roller 27 with a football 32, as shown in FIGURE 3.

The rollers 18 each have a pair of oppositely extending spiral grooves 33 formed in their peripheral surfaces, and a pair of oppositely extending spiral grooves 34 are formed in the peripheral surface of the roller 27. The spiral grooves 33 and 34 of each pair converge intermediate the ends of the rollers 18 and 27, respectively, and extend spirally outwardly in opposite directions toward the ends thereof.

The grooves 33 and 34 tend to remove moisture from the surface of the football 32, and discharge it from the ends thereof in the form of a mist, simultaneously with the drying action resulting from spinning the football 32 as above described. Air introduced into the air chamber 15 by the action of the blower 25, as above described, is discharged through the slots 17 into the interior of the housing 1 to remove the mist. A pair of deflectors 35, which are attached to the front and rear walls 5 and 6 of the housing 1 and extend upwardly and inwardly therefrom over the rollers 18, direct the air so introduced against the spinning football 32.

A pair of resistance heaters 36 are positioned in the interior of the housing 1, in the path of air introduced thereinto through the slots 17, whereby the air so introduced is heated before it contacts the football 32.

The cover 2 of the housing 1 is attached by hinges 37 whereby the cover can be raised by a knob 38. The hinged support for the roller 27, above described, permits the roller 27 to be raised sufficiently to place the football 32 between the rollers 18 and 27, after which the roller 27 is secured in place.

A pair of switches for use in operating the motor 27 and the resistance heaters 36 are indicated by the numerals 39.

The invention may be modified in various ways without departing from the spirit and scope thereof.

What is claimed is:

1. A device for removing moisture from the surfaces of footballs, to dry them, comprising a housing having a hinged cover, a pair of rollers disposed horizontally within the housing, in side by side relation to each other, and each supported for rotative movement about its longitudinal axis by a pair of fixed supports having bearings in which the respective rollers are journaled, a third roller disposed horizontally above the first mentioned rollers, parallel to and between them, and supported for rotative movement about its longitudinal axis by a pair of supports each connected by a hinge to one of the first mentioned supports and having spring tensioned bearings in which the third roller is journaled, the peripheral surfaces of the rollers being semi-elliptical, conforming generally to the shape of a football, and the third roller being biased in the direction of the first mentioned rollers whereby the rollers are adapted to frictionally engage a football received between them, a motor having means drivingly connecting it to at least one of the rollers, and means for directing heated air against the surface of a football received between the rollers during rotation thereof.

2. The structure of claim 1, the means for directing heated air against the surface of a football received between the rollers comprising a horizontal partition in the housing, above the bottom thereof, and side walls and end walls defining, with the horizontal partition and the bottom of the housing, an air chamber below the rollers, the air chamber having a bottom inlet and having elongated side outlets in two opposite sides thereof, an air blower driven by the motor and communicating with the bottom inlet, a pair of resistance heating elements on opposite sides of the housing, in the path of air as discharged from the side outlets, and a pair of deflectors above the side outlets arranged to direct heated air against opposite sides of a football received between the rollers.

3. The structure of claim 2, each of the rollers having a pair of spiral grooves in its peripheral surface, the grooves converging intermediate the ends of the roller and extending spirally outwardly in opposite directions toward the ends thereof.

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