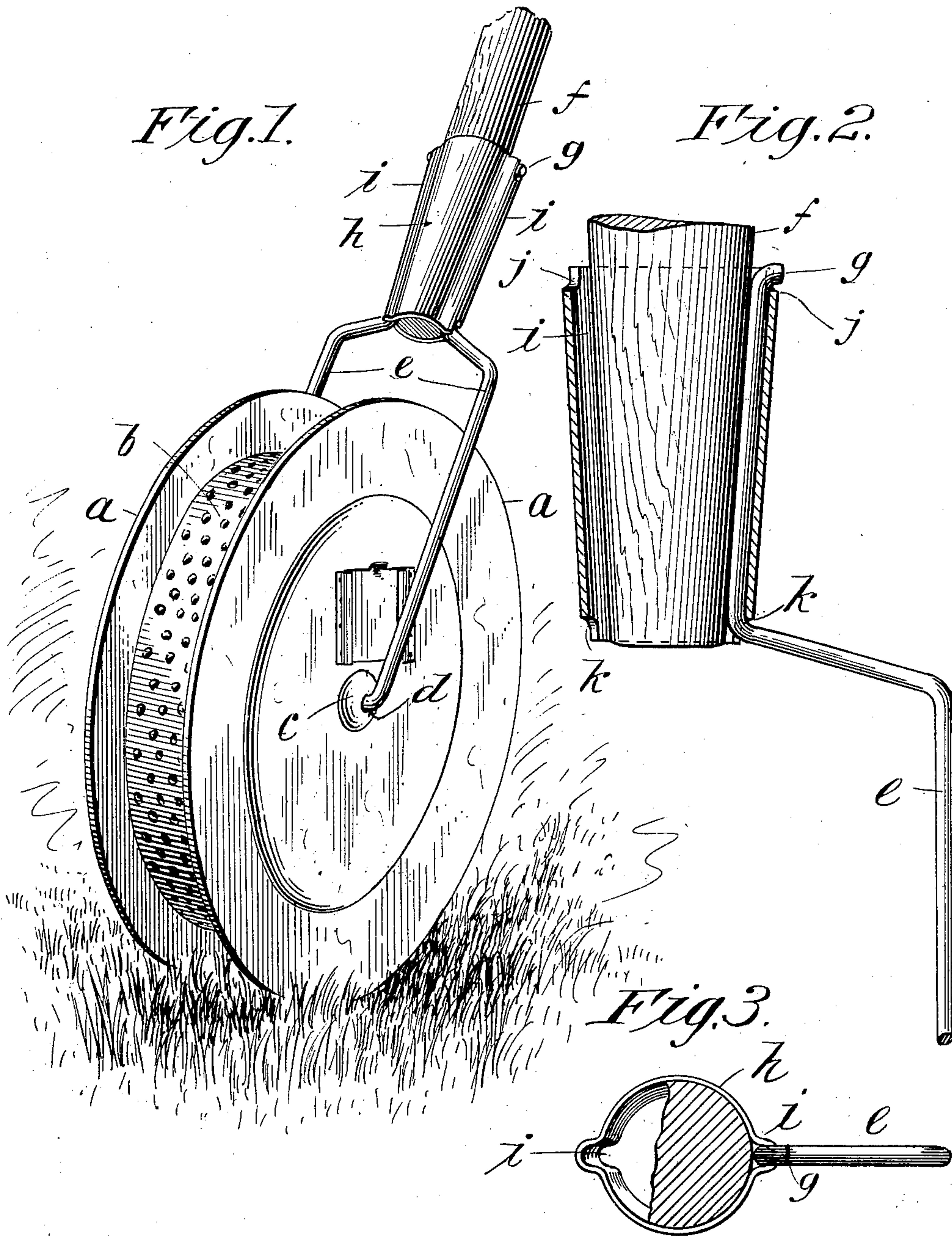


J. H. BULLARD.
TENNIS COURT MARKER.
APPLICATION FILED JUNE 24, 1903.

NO MODEL.



Witnesses
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UNITED STATES PATENT OFFICE.

JAMES H. BULLARD, OF SPRINGFIELD, MASSACHUSETTS.

TENNIS-COURT MARKER.

SPECIFICATION forming part of Letters Patent No. 735,705, dated August 11, 1903.

Application filed June 24, 1903. Serial No. 162,882. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. BULLARD, a citizen of the United States of America, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Tennis-Court Markers, of which the following is a specification.

This invention relates to improvements in tennis-court markers and is in the nature of an improvement on the construction of a like device for which Letters Patent of the United States were issued to me on April 6, 1886, under No. 339,141. In devices of this character, which are difficult to ship economically, chiefly on account of the bulk thereof and the rather fragile nature of the construction, it is necessary in order to handle these goods profitably that they should be packed for shipment cheaply and in a manner which will protect them from injury, and to that end the improvements which form the subject-matter of this application are directed to the construction of the fork and handle on which the perforated marking-wheel is mounted in such manner as to permit each of the component parts to be bunched separately for shipment, and at the same time the construction provides means whereby the cost of manufacture of the article is considerably reduced.

In the drawings forming part of this application, Figure 1 is a perspective view of a tennis-court marker embodying the improvements forming the subject of this application. Fig. 2 is an elevation, somewhat enlarged, of the lower end of the shaft or handle, showing the manner of securing the fork thereto, certain parts being in section. Fig. 3 is a top plan view of the parts shown in Fig. 2.

Referring to the drawings, *a a* indicate two sheet-metal disks constituting the opposite sides of the marking-wheel, the face of which (indicated by *b*) being made of perforated metal. The diameter of the wheel at the face thereof is less than the diameter of the disks *a*, whereby flanges of a suitable height are provided to project beyond the face of the wheel, as shown, on which the wheel runs. The wheel thus made constitutes a circular receptacle for powdered lime, &c., with which the boundaries of a tennis-court may be

marked. Centrally of the sides a metal bail *c* is located, with which the inturned ends *d* of the fork *e* engage. These fork members are of the same shape for both sides of the wheel and may be mounted on either side and are removably secured to the handle or shaft *f* in a manner which permits their easy assemblage, the construction of all the parts being such that they may be bundled or crated separately for shipment and may be assembled without tools. The forks *e* are secured to the shaft *f* in position to permit the free rotation of the marking-wheel between them, as follows: Each of the forked portions has an inturned end to engage the bail *c*, and the opposite ends are bent outwardly and are given such form that when the two are mounted in the bails on opposite sides of the marking-wheel the ends of the fork which are to be secured to the shaft *f* will be substantially parallel with the tapered end of said shaft. The upper end of each fork member is bent outwardly, as shown at *g*, in a direction opposite to the bend which enters the bail. Fitting over the tapered end of the shaft *f* is a similarly-tapered sleeve *h*, in opposite sides of the interior surface of which are two grooves or flutes *i*, extending from top to bottom thereof, to receive the upper ends of the fork members, these flutes or grooves being of such depth that when the ends of the forks are located therein and the tapered shaft or handle *f* then driven into the sleeve the shaft will bear against that part of these forked members within the sleeve. To prevent the turning of the fork members in these grooves or flutes, the upper part of the latter, as at *j*, Fig. 2, is cut away to receive the outturned end *g* of this part of the fork. If desired, the lower end of the flute may also be cut away, as at *k*, whereby the fork may be locked against oscillation in a doubly-secured manner, though generally it is sufficient to effect the engagement of the fork with the upper end of the flute alone.

It is evident that with the fork ends lying in the flutes *i* with the upper end, as at *g*, bent outwardly and located in the notch *j* and the lower end of the fork also bent outwardly when the shaft *f* is driven into the socket it absolutely locks both of the fork members against all possible movement,

either oscillatory on the axis of that part thereof lying in the groove *i* or endwise in said groove. The herein-described construction therefore is such as to permit all the
5 handles to be bundled together for shipment, and the fork members and the sleeves *h* likewise may all be boxed and shipped separately, the wheels being crated in the usual manner. Furthermore, in making a fork as herein de-
10 scribed no right and left hand bend is required, both sides of the fork being made in the same machine, whereby the cost of manufacture is still further reduced to a certain extent and the assembling of the parts also
15 much more economically effected.

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

20 1. A tennis-court marker comprising a marking-wheel having a perforated face, separate fork members pivotally engaging each side of the wheel centrally thereof, a shaft, and a sleeve for the end of the shaft having oppositely-located grooves in its inner surface

extending from end to end thereof to receive 25 the ends of the fork members, the upper ends of the latter being bent outwardly and there being a notch cut through the wall of said grooves to receive said outturned ends of the fork members. 30

2. A tennis-court marking-wheel having a perforated face, a fork in which the wheel is revolubly supported comprising two separate fork members, the opposite ends of which are bent outwardly and inwardly, respec- 35 tively; a shaft having a tapered extremity, and a tapered sleeve therefor, there being a groove for each fork member in the inner wall of said sleeve, and there being in the wall of said groove a notch with which the 40 outwardly-turned end of said fork members may engage to lock said members against rotation when the sleeve is on the shaft.

JAMES H. BULLARD.

Witnesses:

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