

N^o 4606



A.D. 1913

Date of Application, 24th Feb., 1913

Complete Specification Left, 28th Mar., 1913—Accepted, 5th June, 1913

PROVISIONAL SPECIFICATION.

Improvements in and relating to Shuttle-cocks.

We, HARRY JAMES, of 9, Darley Street, Bradford, in the County of York, Manager, and WINFRED MATTHEWMAN, of the Garage, Ingleton, in the said County, Motor Engineer, do hereby declare the nature of this invention to be as follows:—

- 5 This invention relates to improvements in shuttle-cocks used in various games. The ordinary and well known shuttle-cock comprises a base piece of wood, cork, or the like into which feathers are inserted. Our object is to construct a shuttle-cock having its base so constructed as to increase the resiliency.
- 10 To carry out our invention a base piece of wood, cork, or other suitable material is provided with a coiled spring which by preference will terminate in a point. The base piece may be provided with a flange for the upper portion of the spring to abut against. The spring may be constructed of any suitable material.
- 15 In a modified form the increased resiliency may be obtained by constructing the base piece either wholly of rubber or having the lowest point rubber tipped, and this device may be used either with or without the spring.
- In another form we may employ a base piece divided in two with either a spring or rubber interposed between the two portions, and in some cases we may employ more than one spiral or coiled spring.
- 20 By these means the resiliency of the shuttle-cock will be considerably increased. It is preferable that where a spring alone is used the point thereof should be protected by a suitable cap either of rubber, metal, or the like, in order that the bats or racquets may not be damaged by the contact therewith.

Dated this 22nd day of February, 1913.

25 JOHN WAUGH,
Chartered Patent Agent,
Sunbridge Chambers, Bradford, Yorks.

COMPLETE SPECIFICATION.

Improvements in and relating to Shuttle-cocks.

30 We, HARRY JAMES, of 9, Darley Street, Bradford, in the County of York, Manager, and WINFRED MATTHEWMAN, of the Garage, Ingleton, in the said County, Motor Engineer, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

35 This invention relates to improvements in shuttle-cocks used in various games. The ordinary and well known shuttle-cock comprises a base piece of wood, cork,

[Price, 8d.]



Improvements in and relating to Shuttle-cocks.

or the like into which feathers are inserted. Our object is to construct a shuttle-cock having its base so constructed as to increase the resiliency.

In describing our invention in detail reference is made to the accompanying sheets of drawings in which:—

Fig. 1 represents a view of a shuttle-cock shewing one form of our invention. 5
Figs. 2—4 shew other forms.

In carrying out our invention in the form shewn in Fig. 1, the shuttle-cock is provided with a base piece C of wood or cork, but if desired same may be composed entirely of rubber. When the base piece C is of the ordinary material we provide the same with a coiled spring S which will by preference terminate in a point S¹, may be suitably protected by wood, rubber or the like. The base piece C is in the example shewn in Fig. 1. provided with a flange C¹ against which the spring S may abut, or the spring may fit into a groove formed for the purpose towards the point. In Fig. 2 I have shewn a base piece divided into two portions, which two portions are separated by means of springs S², any convenient number of which may be employed. The lower end of the piece C may be plain, of wood or of rubber or of the combination of the two, and a rubber tip R may be provided as shewn by dotted lines. 10 15

In Fig. 3 the base piece has a recess B cut therein for the reception of the spring S³ projecting downwards and provided with a suitable tip such as R¹. 20

In Fig. 4 is shewn a base piece C with a hollow rubber tip R² (which we do not claim *per se*) separated from the portion from which the feathers are placed by means of one spiral spring S⁴ suitably and conveniently connected to each part and not enclosed to form a bellows & so actuate a reed or like as has heretofore been proposed. 25

As will be understood any of these forms, or a combination of the forms, give a resiliency to the shuttle-cock which is considerably increased over that attainable by the ordinary forms.

Where springs come in contact with the bats or racquets it is preferable to protect the point of contact with rubber, metal or other suitable material. A shuttle-cock provided with increased resiliency substantially as hereinbefore described will lend itself to many games and purposes, and for badminton the usual racquets may be replaced by ordinary wooden or like bats thus decreasing to some extent the outlay for racquets now considered necessary. 30

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:— 35

1. A shuttlecock provided with an external projecting spring which will come in contact with the bat or racquet and add resiliency to the shuttlecock, substantially as described. 40

2. A shuttlecock divided in two portions, such portions being separated by an unenclosed spring or springs, substantially as described.

3. In combination with a shuttlecock having its base provided with a spring or springs to increase its resiliency, a rubber or cushion tip substantially as described. 45

4. The resilient shuttlecock base pieces, substantially as hereinbefore described and shewn in Figs. 1 and 3.

Dated this 27th day of March, 1913.

JOHN WAUGH,
Chartered Patent Agent, 50
Sunbridge Chambers, Bradford, Yorks.

[This Drawing is a reproduction of the Original on a reduced scale.]

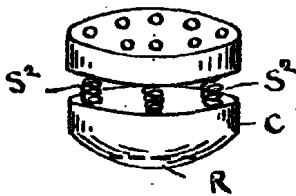


Fig 2

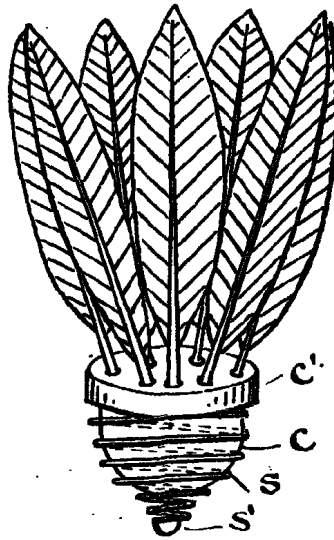


Fig 1

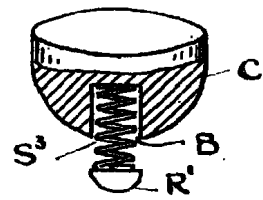


Fig 3

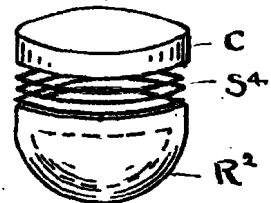


Fig 4.