C. SPRATT & F. J. SHENTON.

AMUSEMENT AND STRENGTH TESTING APPARATUS.

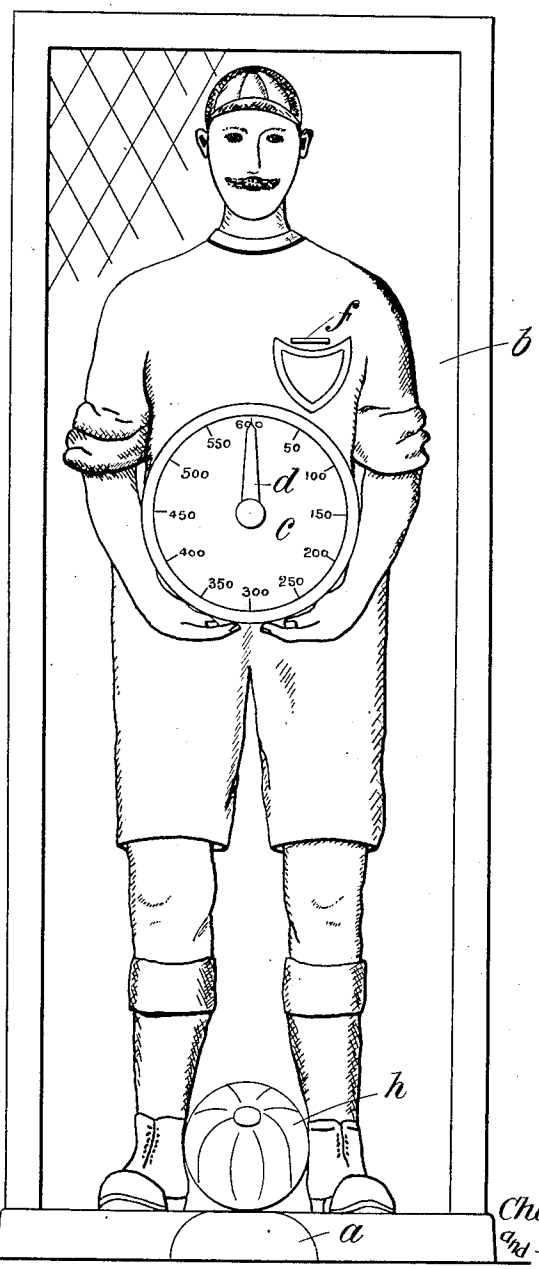
APPLICATION FILED APR. 15, 1912.

**1,039,611.**

Patented Sept. 24, 1912.

4 SHEETS—SHEET 1.

*Fig. 1.*




WITNESSES.

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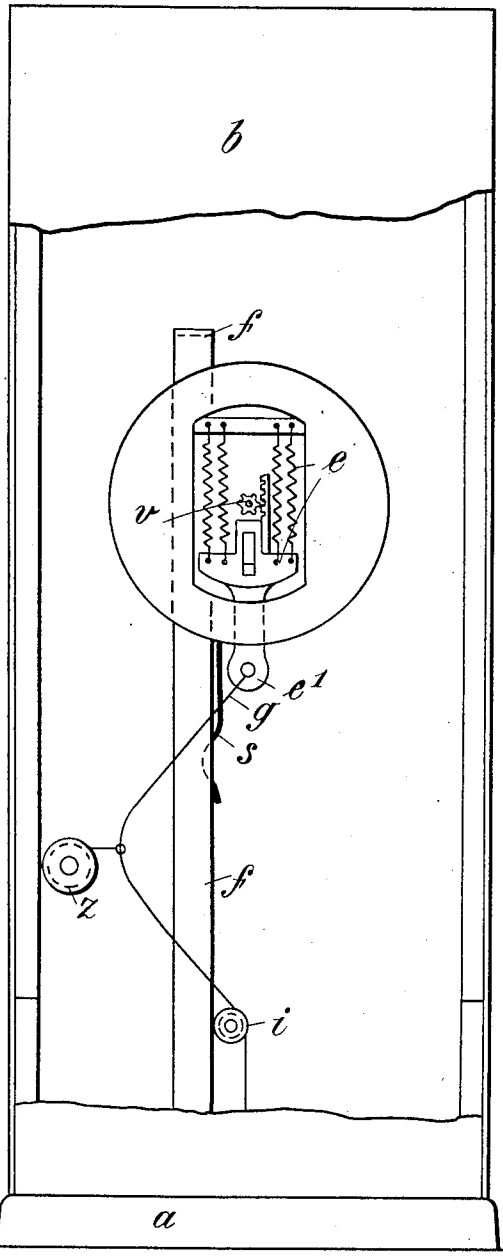
4 SHEETS—SHEET 2.

*Fig. 2.*

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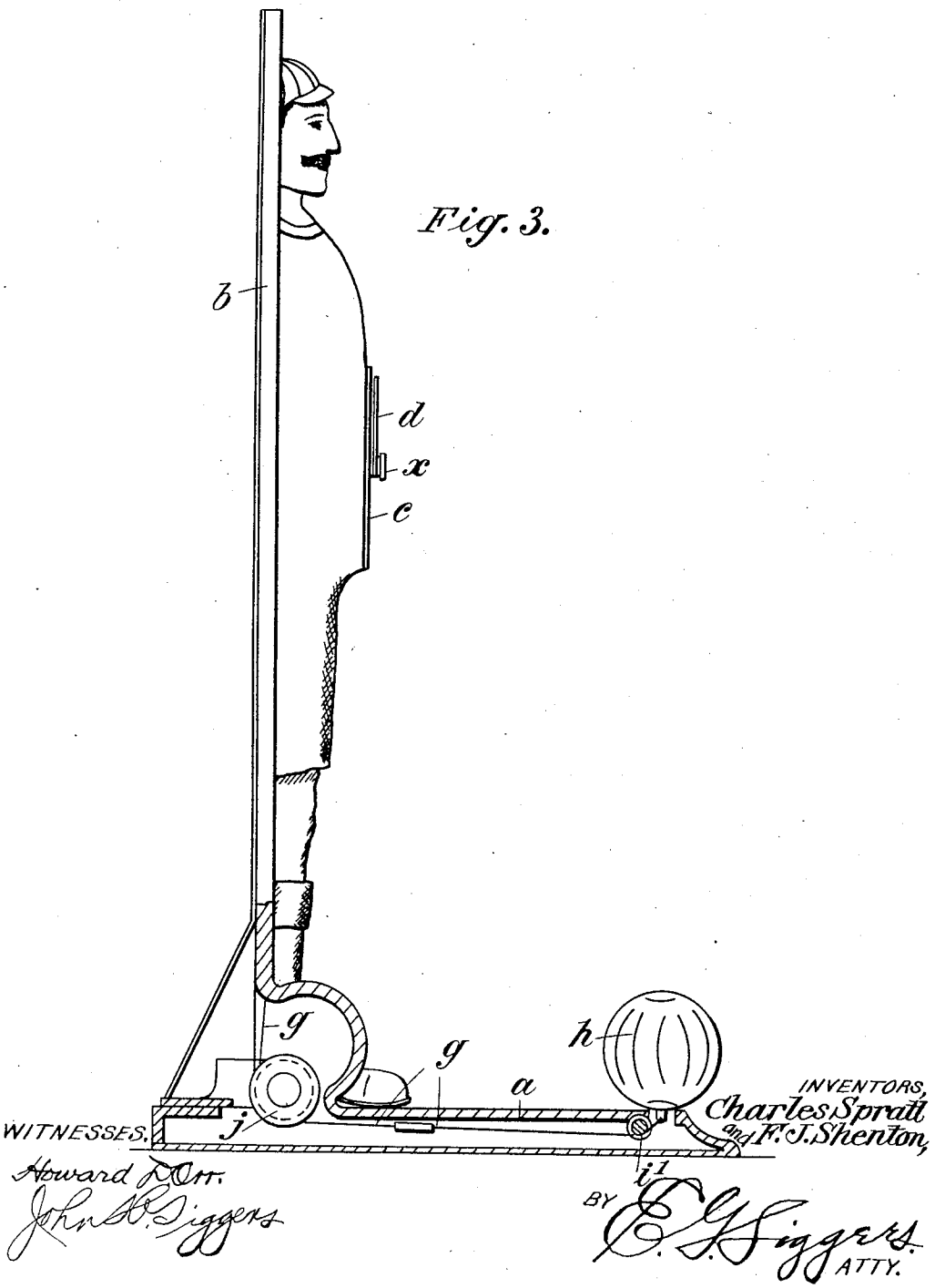
4 SHEETS—SHEET 3.

Fig. 3.

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4 SHEETS—SHEET 4.

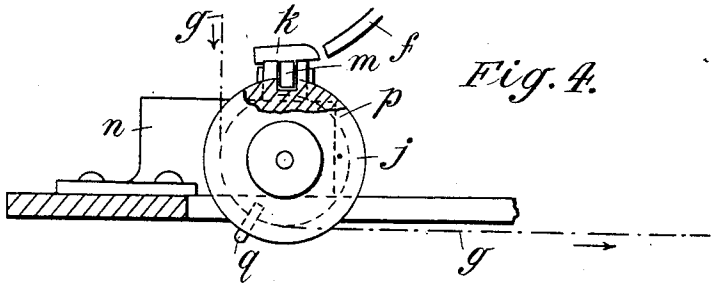


Fig. 4.

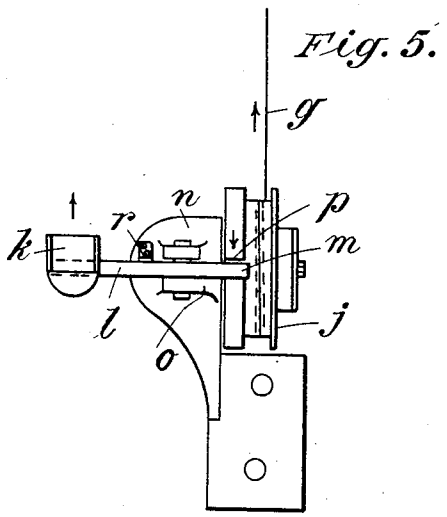


Fig. 5.

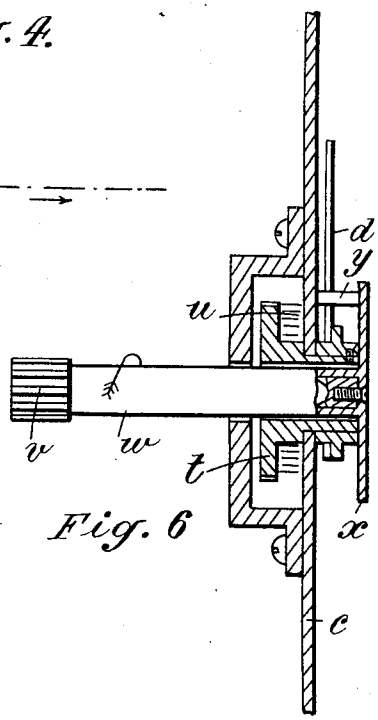


Fig. 6

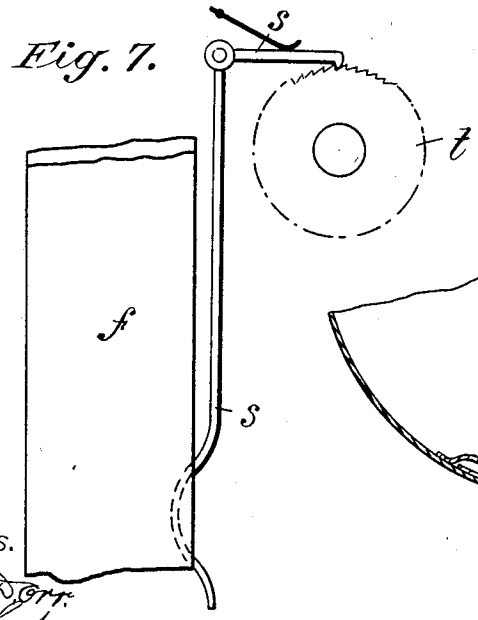


Fig. 7.

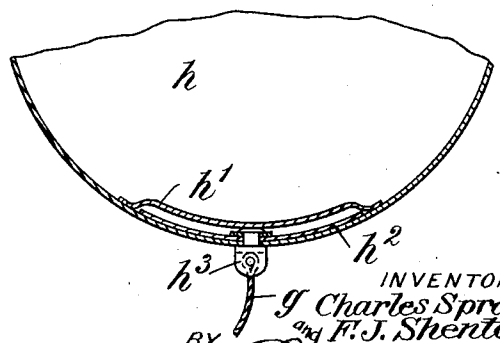


Fig. 8.

WITNESSES.

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# UNITED STATES PATENT OFFICE.

CHARLES SPRATT AND FRANCIS J. SHENTON, OF LONDON, ENGLAND.

## AMUSEMENT AND STRENGTH-TESTING APPARATUS.

1,039,611. Specification of Letters Patent. Patented Sept. 24, 1912.

Application filed April 15, 1912. Serial No. 690,776.

*To all whom it may concern:*

Be it known that we, CHARLES SPRATT and FRANCIS JAMES SHENTON, subjects of His Majesty the King of England, residing at 9 Erlanger road, New Cross, London, in the Kingdom of England, and 114 Beverstone road, Thornton Heath, London, in the Kingdom of England, have invented a certain new and useful Amusement and Strength-Testing Apparatus, of which the following is a specification.

This invention relates to improvements in amusement and strength-testing apparatus of the kind adapted to register the force of a kick on a football.

The invention consists in the novel construction, arrangement, and combination of parts hereinafter described and set out in the claims.

The invention is hereinafter described with reference to the accompanying drawings in which:—

Figure 1 is a front elevation of the machine; Fig. 2 is a sectional rear view thereof; Fig. 3 is a sectional side view; Fig. 4 is a detail side view of the spring drum; Fig. 5 is a plan thereof; Fig. 6 is a section taken through the dial and pointer; and Figs. 7 and 8 are detail views hereinafter referred to.

In carrying out the present invention we provide a machine comprising a suitably shaped base casting or pedestal *a* and a vertically arranged hollow standard or figure *b* carrying at its upper end a suitably graduated dial *c* over which a spring or gravity returned indicating arm *d* moves. Behind the dial or within the standard is arranged any convenient spring balance or other registering device such as *e* normally locked but adapted to be freed upon the insertion of a coin in a slot *f*. The end *e'* of the balance *e* is connected with a flexible wire, cord, chain or the like *g* to a football *h* and it passes on its way thereto over guide pulleys *i* and *i'* and is wound several times around and fastened to a spring drum *j* and passes out through a hole in the pedestal *a* to the said football *h* arranged thereon.

The insertion of a coin into the coin chute *f* serves to free the drum *j* through the intermediary of suitable mechanism operated by the weight of the coin, in falling into a suitable receiver *k* arranged at one end of a lever *l* forming at its other end a catch *m* engaging a notch *p* in the drum *j*. This lever is supported on a suitable bracket *n* and is guided loosely thereon to move in a vertical plane by means of projecting standards *o* thereon which prevent its being damaged by any strain that would otherwise be transmitted to it through the drum. The coin on its passage through the chute *f* engages one projecting arm of a bell crank lever or detent *s*, the other end of which engages in teeth in a disk *t* attached to the pointer *d*. This movement frees the pointer from its last position in which it was left and allows it to return to zero under the influence of a spring *u*.

In operation the insertion of the coin frees the catch bar *m* and therefore the ball *h* which can then be kicked, the spring drum *j* around which the wire or cord is wound afterward returning the ball and parts to their normal position. For operating the pointer *d* a pinion *v* rotated by the spring balance *e* is connected by means of a shaft *w* with a disk *x* which carries a projection *y* adapted to engage the pointer arm and rotate it in accordance with the movement of the said balance. In order to keep the cable *g* slack and to enable the football *h* to be kicked without at once encountering the resistance of the spring balance *e* we provide a spring wound pulley *z* with a flexible wire loop which engages the wire cable and pulls it to one side in the manner shown in Fig. 2. On the periphery of this drum, *j*, is a spring pressed catch or pin *q* which upon the rotation of the drum, due to the kicking of the ball *h* just strikes the end of the catch *m* and causes the coin to be projected from the receiver *k* into a coin drawer. This is possible owing to the play or looseness of the fulcrum bearings of the bar *l* which also has a spring *r* to keep it pressed to one side of its bearings. When the coin has been ejected the catch bar *l* returns to its normal position ready to again engage the notch *p* in the drum *j* after its operation.

The foot ball is provided inside with a metal plate $h^2$ to which a shackle $h^3$ attached to the wire *g* is riveted; the whole being covered by an inner leather disk *h'*.

What we claim as our invention and desire to secure by Letters Patent of the United States is:—

1. In amusement and strength testing apparatus, a base or pedestal, a hollow standard or figure thereon, a captive foot ball on said pedestal, a spring balance in the hollow

standard or figure, indicating means connected to and operated by the spring balance and visible exterior to the standard, a flexible strand connecting the foot ball to the spring balance, and a spring drum between the foot ball and balance and around which the strand is wound and to which it is fastened.

2. In amusement and strength testing apparatus, a base or pedestal, a hollow standard or figure erected thereon a captive foot ball on said base or pedestal a spring balance within the hollow standard or figure a flexible strand connecting the foot ball to the spring balance, indicating means connected to and actuated by the spring balance, a spring drum between the spring balance and the foot ball and around which the flexible strand is wound and to which it is fastened, and a yieldable tension means for maintaining a slack in the flexible strand.

3. In amusement and strength testing apparatus, a base or pedestal, a hollow standard or figure erected thereon, a captive foot ball on said base or pedestal, a spring balance within the hollow standard or figure, a flexible strand connecting the foot ball to the spring balance, indicating means connected to and actuated by the spring balance, a spring drum between the spring balance and the foot ball and around which the flexible strand is wound and to which it is fastened, and a yieldable tension means for maintaining a slack in the flexible strand, said tension means comprising a spring controlled pulley and a connection therefrom to the strand.

In testimony whereof, we have hereunto set our hands, this 4th day of April, 1912.

CHARLES SPRATT.
FRANCIS J. SHENTON.

Witnesses:
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T. BLAKEY.

**Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."**