No. 715,321. Patented Dec. 9, 1902.

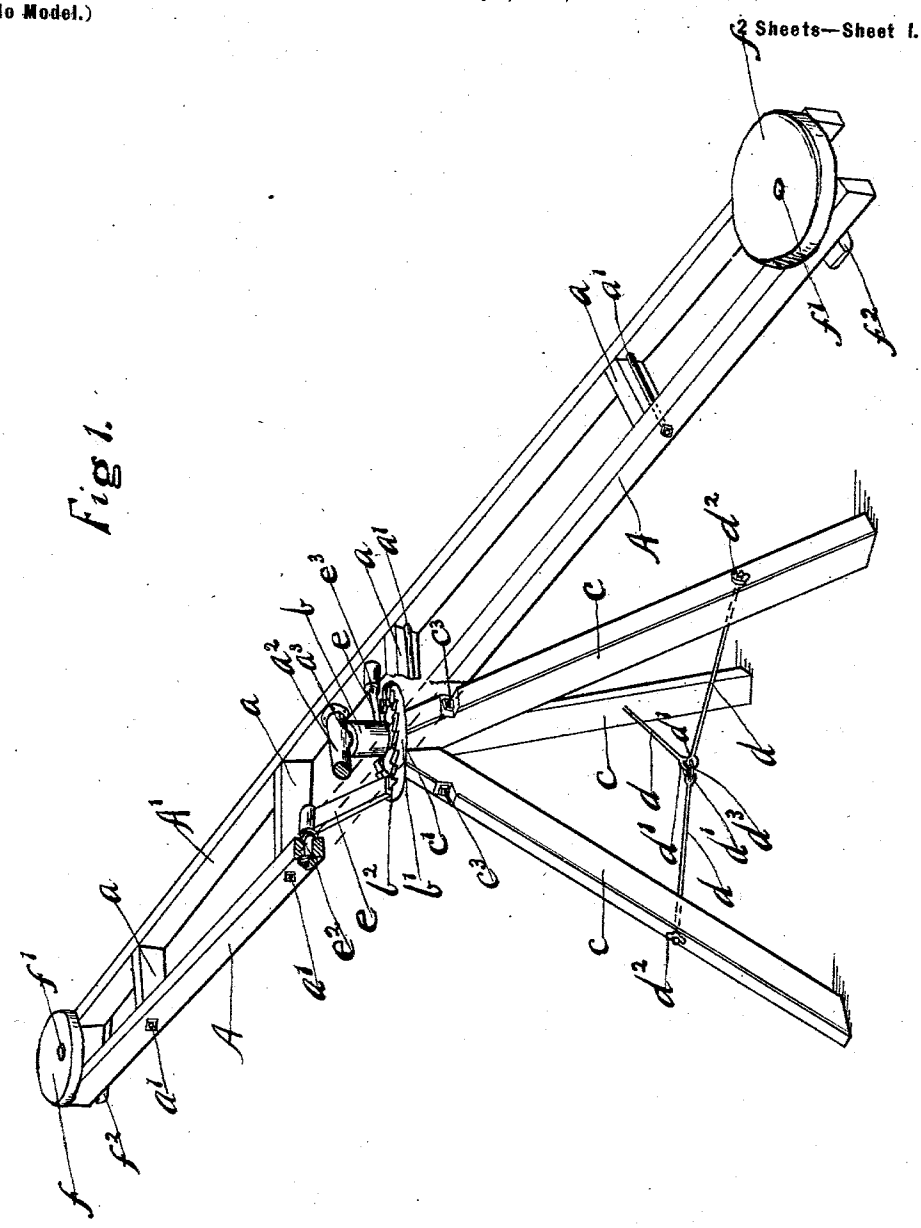
# G. R. UNKEFER & J. T. BERTELSEN.

## AUTOMATIC REVOLVING TEETER TOTTER.

(Application filed May 5, 1902.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.




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## AUTOMATIC REVOLVING TEETER TOTTER.

(Application filed May 5, 1902.)

(No Model.) 2 Sheets—Sheet 2.

Fig 2.

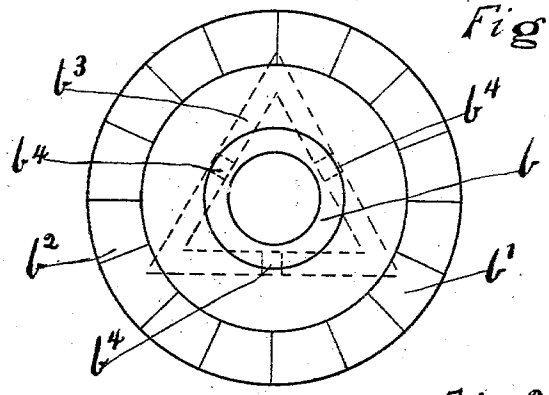



Fig 3.

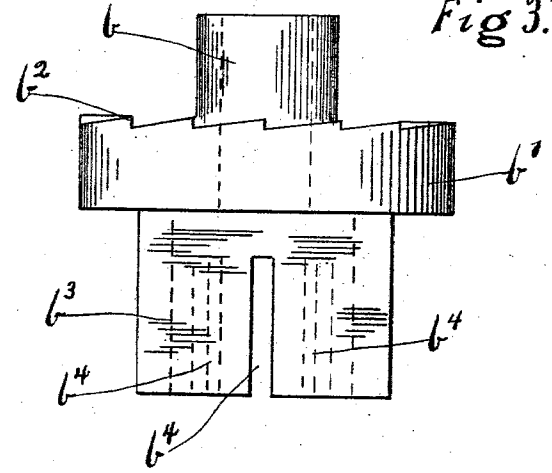
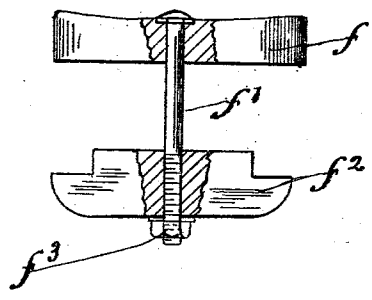



Fig 4.




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# UNITED STATES PATENT OFFICE.

GEORGE R. UNKEFER AND JESSE T. BERTELSEN, OF CHICAGO, ILLINOIS.

## AUTOMATIC REVOLVING TEETER-TOTTER.

SPECIFICATION forming part of Letters Patent No. 715,321, dated December 9, 1902.

Application filed May 5, 1902. Serial No. 106,082. (No model.)

*To all whom it may concern:*

Be it known that we, GEORGE R. UNKEFER and JESSE T. BERTELSEN, citizens of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Automatic Revolving Teeter-Totters, of which the following is a specification.

Our invention has relation in general to amusement devices, and more particularly to the construction of such a device for furnishing pleasure and amusement to children.

The principal object of our invention is to provide a teeter-totter which when used will of itself cause the beam of the teeter-totter to revolve and describe a complete circle and to make it of simple and durable construction and in such a manner as is inexpensive to manufacture and adapted to general pleasure and amusement.

A further object is to construct a teeter-totter in such a way as to allow of its being taken down and packed in a compact manner for shipment and at the same time to be quickly and easily set up.

Our invention consists of a teeter-totter constructed and the parts thereof arranged for operation substantially in the manner hereinafter described and claimed.

Our method of accomplishing these objects is illustrated in the accompanying drawings, which are a part of this specification, in which—

Figure 1 is a perspective view partly broken away to show the operation of the pawls and ratchet. Fig. 2 is an enlarged detail plan view of the ratchet and pivot-bearing. Fig. 3 is a vertical elevation of the same. Fig. 4 is an elevation, partly in section, of one of the seats, showing the method of fastening and adjustment.

Similar letters refer to similar parts throughout the description.

In Fig. 1 the beam is shown constructed of two timbers A and A′, which are held in place by struts, (indicated by the letter $a$.) These are secured and held firmly by tie-bolts, as indicated by the letter $a'$, thus giving a beam of great rigidity and at the same time such lightness as is consistent with strength. In the center of the beam is a pivot $a^2$, having a vertical journal $a^3$, which rides in a journal-bearing in a central forging or casting, as shown in Figs. 2 and 3, and which consists of an upwardly-extending journal-bearing $b$, a horizontal flange or rim $b'$, the upper face of which has a series of ratchet-teeth $b^2$ cut upon it, and a downwardly-depending shell $b^3$ triangular in shape and having annular openings or channels $b^4$ in each side thereof to receive the bolts $c^3$, which secure the legs $c$ in place. The legs $c$ are mitered, as shown by the letter $c'$, in such a manner as to fit snugly against the shoulder made by the flange $b'$ and the shell or stem $b^3$. The outer sides of the legs $c$ are notched, so as to give the nut of the bolt $c^3$ a proper bearing. The legs are held from spreading by the tie-rods $d$, which have at one end eyes $d'$, which are held together by a ring $d^3$ and at the other end are threaded and fitted with wing-nuts $d^2$, making the matter of adjustment very simple and easy. The heads of the bolts $c^3$ are placed inside the channel $b^4$ of the shell or stem $b^3$, and the tightening of the nut on the bolts $c^3$ draws the mitered end $c'$ of the legs $c$ and secures them firmly and rigidly in place. At each side of the pivot $a^2$ and mounted upon the beams A and A′ at opposite sides are pawls $e$, which are journaled and swing upon bolts $e^2$ and $e^3$. When the end of the beam is raised, the pawl $e$ swings upon the bolt $e^2$, and as the distance between the flange $b'$ and the bolt $e^2$ is increased the pawl passes over the teeth of the ratchet $b^2$ until it reaches its greatest height, at which time it engages the nearest tooth of the ratchet, as shown in Fig. 1. On the beam being depressed, the distance between the bolt $e^2$ and the flange $b'$ being shortened, and since the pawl cannot be compressed, the result is the beam must rotate, so as to compensate for the decreased distance. This action taking place as the ends of the beam are alternately elevated and depressed the pawls engaging the teeth $b^2$ on the face of the flange $b'$ of the center casting cause the beam to rotate, so as to finally and automatically describe a complete circle from the simple operation of the beam as a seesaw.

In Fig. 4 a detailed view of one of the seats $f$ is shown. It is generally the case that the weights of the persons using the teeter-totter are unequal. We effectually overcome this difference by constructing the seat $f$ so as to

allow for an adjustment, as shown in Fig. 4, in which $f$ is the seat, in the center of which is placed a bolt $f'$. This passes through the seat and through a cleat $f^2$, which is shouldered to fit in the beams A and A' and secured in place by a nut $f^3$, which can be readily adjusted to allow the distance from the fulcrum or pivot $a^2$ to be shortened or lengthened in order to balance the unequal weights.

What we regard as new, and desire to secure by Letters Patent, is—

1. In a teeter-totter the combination of a beam pivoted upon the ends of the horizontal arms of a T-shaped pivot-piece, the vertical or central part of said T-shaped pivot-piece projecting downwardly and journaled in a bearing, mounted on a stand and on the said bearing a flange, having ratchet-teeth cut on the face thereof, pawls mounted upon the beam at opposite sides and engaging the teeth of the ratchet for the purpose set forth substantially as described.

2. In a teeter-totter, the combination of a beam pivoted upon the ends of the horizontal arms of a T-shaped pivot-piece, the vertical or central part of said T-shaped pivot-piece projecting downwardly and journaled in a bearing, mounted on a stand and on the said bearing a flange having ratchet-teeth cut on the face thereof, and a shell or stem depending downwardly from the said bearing, with annular openings or channels therein, pawls mounted upon the beam at opposite sides and engaging the teeth of the ratchet, for the purpose set forth substantially as described.

3. In a teeter-totter, the combination of a stand having a bearing thereon with ratchet-teeth cut upon a flange extending from its sides and a T-shaped pivot-piece having its vertical or central part journaled in the bearing, the ends of the horizontal arms of the T-shaped pivot-piece being secured in the center of the beam, having pawls mounted on opposite sides thereof, said pawls engaging the teeth of the ratchet, for the purpose set forth substantially as described.

4. In a teeter-totter, the combination of a stand with three legs, said legs being secured to a shell or stem which depends downwardly from a bearing mounted upon said stand, having ratchet-teeth cut upon a flange extending from its sides and a T-shaped pivot-piece having its vertical or central part journaled in said bearing, the ends of the horizontal arms of the T-shaped pivot-piece being secured in the center of a beam, which has pawls mounted on opposite sides thereof, said pawls engaging the teeth of the said ratchet, and means for securing the legs to the said shell or stem and means for preventing spreading of said legs, for the purpose set forth substantially as described.

5. In a teeter-totter, the combination of a stand with three legs, said legs being secured to a shell or stem which depends downwardly from a bearing mounted upon said stand, having ratchet-teeth cut upon a flange extending from its sides, and a T-shaped pivot-piece having its vertical or central part journaled in said bearing, the ends of the horizontal arms of the T-shaped pivot-piece being secured in the center of a beam which has pawls mounted on opposite sides thereof, said pawls engaging the teeth of the said ratchet, and means for securing the legs to the said shell or stem and means for preventing the spreading of said legs, seats mounted upon the ends of the beam, and means for securing and adjusting said seats, for the purpose set forth substantially as described.

6. In a teeter-totter, the combination of a beam, seats at the ends of the beam and means for securing and adjusting said seats, mounted in the center of the beam a T-shaped pivot-piece, having its vertical or central part journaled in a bearing, having a flange or rim thereon, with ratchet-teeth cut on the face thereof and a shell or stem depending downwardly from said bearing, annular openings or channels in said shell or stem, legs secured thereto, and means for preventing the spreading of said legs, pawls mounted upon the beam at opposite sides near the center engaging the ratchet-teeth, for the purpose set forth substantially as described.

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