

N^o 22,962



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COMPLETE SPECIFICATION.

Improvements in Couplings or the like Devices for Shafts, Rods, Axles, or the like.

I, FRANK HORNBY, of 274, West Derby Road, Liverpool, Manufacturer, 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;—

5 This invention relates to an improved device for use in the construction of toys or small engineering models adapted to be built up from standard separate parts, such parts being capable of being taken to pieces and re-made up into other toys as required. In such construction of toys it is frequently desirable to extend a length of shafting, rod, or the like, by means of a coupling adapted
10 to join the abutting ends of the pieces of shafting, or to connect together rods or the like disposed at right angles or otherwise relatively inclined. The present invention is an improvement on that described in my prior Specification No. 20,535 of 1913.

15 According to this invention, a tubular coupling is provided, the bore of which is adapted to fit the exterior diameter of the pieces of shafting, or the like, required to be connected, the coupling, as described in my prior specification, being provided at each end with pinching screws, and having also a transverse hole at one end, by which arrangement a length of shafting may be fitted axially into the coupling or transversely thereto, and be gripped therein by the
20 one pinching screw. In addition to this end transverse hole, the coupling is also provided with one or more transverse holes disposed intermediate between the end pinching screws, such intermediate hole or holes being disposed in planes at right angles to the axis of the coupling or obliquely thereto, and fitted with pinching screws adapted to retain the shafting or the like therein.

25 The invention is illustrated in the accompanying drawings, in which, Fig. 1. is a perspective view of a coupling constructed in accordance with this invention, and shown connecting together three lengths of shafting, the intermediate hole being disposed at right angles to the axis of the coupling. Fig. 2. is a vertical section through the coupling shown in Fig. 1. Fig. 3. is a plan view, and
30 Fig. 4. an end view of Fig. 1. Fig. 5. is a view analagous to Fig. 1., but showing the intermediate hole obliquely disposed to the axis of the coupling, and Fig. 6. is a plan view of Fig. 5.

The coupling 1 comprises a tubular element of any suitable material, the bore 2 of which is made of standard diameter to closely engage round the shafts,
35 axles, rods or the like a which it is desired to connect together. Pinching screws 3 and 4 are fitted into threaded holes formed at each end of the coupling, so that by inserting the ends of the separate pieces of rod into the coupling and then tightening up the screws 3 and 4 a rigid continuity of the shafting may be effected. In this arrangement also, as in my prior specification above
40 referred to, a transverse hole 5 is formed at one end of the coupling, and in the

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same plane as one of the pinching screws, 4, so that the latter screw may be available for gripping a rod disposed either axially as indicated in dotted lines, Fig. 1., or transversely in the coupling, as shown. Between the end pinching screws 3, 4, one or more transverse holes 6 are provided. In the arrangement shown in Fig. 1., a hole 6 is formed at right angles to the hole 5, and a pinching screw 7 is fitted adapted to grip a length of shafting or the like when inserted through this hole. The coupling shown in Fig. 1. can therefore be utilised for connecting together shafting or rods disposed in three different directions, and is extremely useful in building up small braced structures or models.

In the modification shown in Figs. 5. and 6. the intermediate hole, instead of being formed at right angles to the main bore 2 of the coupling, is disposed obliquely thereto, as shown more clearly in the plan Fig. 6. As previously mentioned, several such intermediate holes, and of different angular inclinations, may be provided in the coupling.

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

1. A coupling for connecting together axles, rods, shafting, or the like, for use in building up toys or models, comprising, a tubular element fitted with pinching screws at each end and having one or more end transverse holes intersecting the axial hole of the element and commanded at the point of intersection by the end pinching screws, one or more transverse holes intermediate to the end holes being formed in the coupling, said intermediate hole or holes being also fitted with pinching screws whereby the coupling may be adapted for connecting together a series of rods or shafts at different angular inclinations.

2. A coupling for axles, rods, shafting or the like for use in building toys or models, substantially as described and shown in the accompanying drawings.

Dated this 10th day of September, 1913.

For the Applicant,

A. J. DAYIES,
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[This Drawing is a reproduction of the Original on a reduced scale.]

