

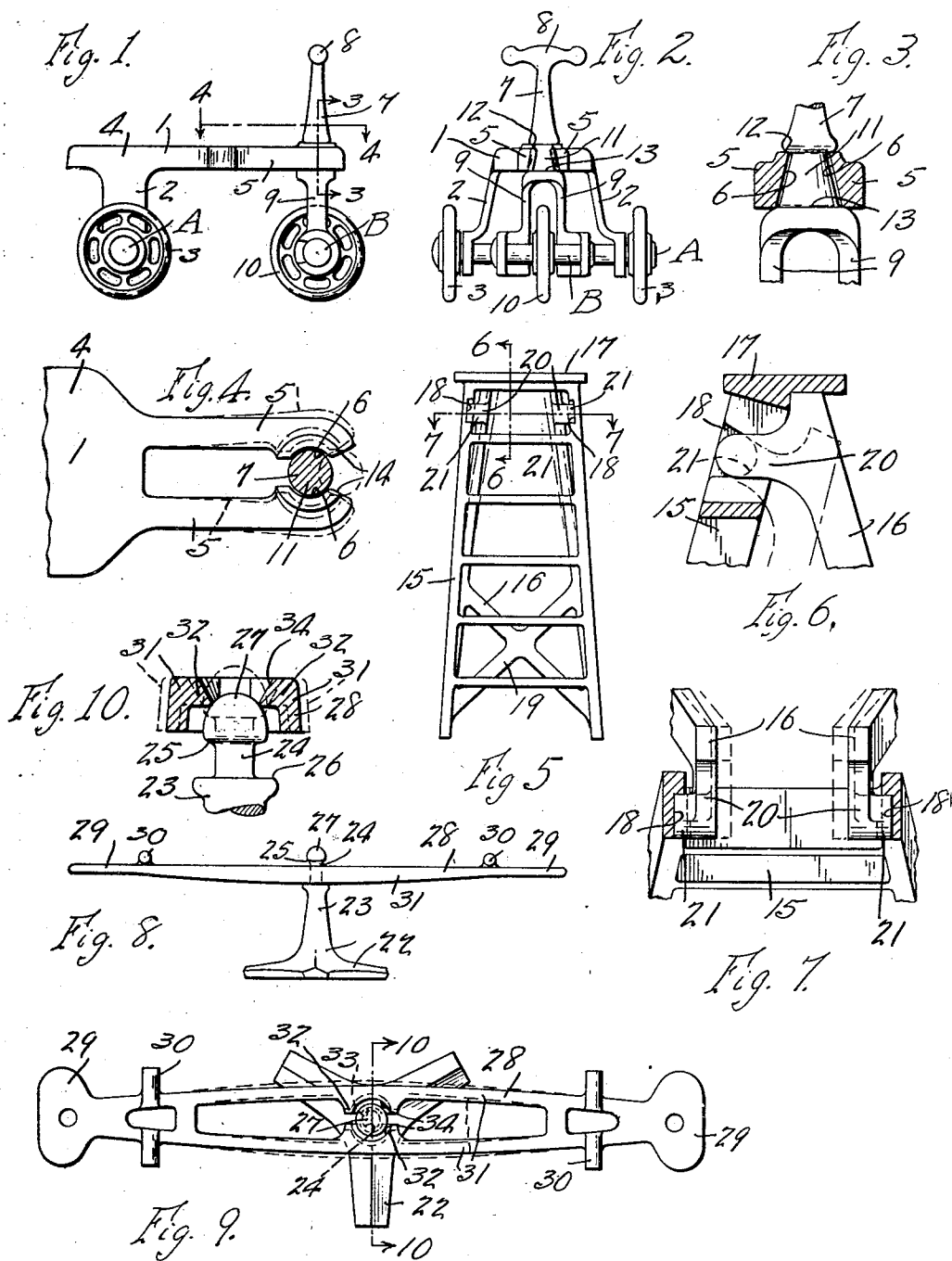
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TOY AND THE LIKE

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## UNITED STATES PATENT OFFICE

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## TOY AND THE LIKE

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This invention relates to toys or the like, and particularly to inexpensive toys which may be made of cast metal.

An object of the invention is to provide an improved toy or the like, which may be made partially or entirely of cast metal; which will comprise articulated parts, and in which the articulately connected parts may be assembled or disassembled in an easy, simple and rapid manner without the use of tools and nuts, screws, pins, bolts or other parts which might become lost.

Another object of the invention is to provide an improved toy or the like with articulately connected parts which may be formed largely or entirely of cast metal; which will require no machine finishing operations, and which will be relatively simple, durable and inexpensive.

Various other objects and advantages will be apparent from the following description of several embodiments of the invention, and the novel features will be particularly pointed out hereinafter in connection with the appended claims;

In the accompanying drawings:

Fig. 1 is a side elevation of a toy vehicle formed largely of cast metal and constructed in accordance with this invention.

Fig. 2 is an end elevation of the same.

Fig. 3 is a sectional elevation of a portion of the same, the section being taken approximately along the line 3—3 of Fig. 1.

Fig. 4 is a sectional plan of the same, the section being taken approximately along the line 4—4, Fig. 1.

Fig. 5 is a front elevation of a toy step ladder also constructed in accordance with this invention and illustrating another embodiment thereof;

Fig. 6 is a transverse sectional elevation of a portion of the same, the section being taken approximately along the line 6—6 of Fig. 5.

Fig. 7 is a sectional elevation of a portion of the same with the section taken approximately along the line 7—7 of Fig. 5.

Fig. 8 is an elevation of a toy merry-go-round and teeter-totter, also constructed in accordance with the invention and illustrating another embodiment thereof;

Fig. 9 is a plan of the same.

Fig. 10 is a sectional elevation of a portion of the same, the section being taken approximately along the line 10—10 Fig. 9.

In the embodiment of the invention illustrated in Figs. 1 to 4, the toy vehicle comprises a frame 1 having depending arms 2 mounting rear wheels 3, and the seat portion 4 has the usual narrow, forwardly extending portion, which in this example consists of two arms 5 connected together at the connection of the narrow portion to the wider seat portion, the arms at their other ends being free to spring apart to a limited extent.

The arms 5, at points adjacent their free ends, are provided with concave seats 6 which together form between them a socket or bearing for the steering post or standard 7. The post 7 may include an upright standard having handles 8 at the upper end thereof, and forked arms 9 at the lower end thereof for mounting a forward steering wheel 10 in any suitable manner. The intermediate portion of the standard 7 is provided with a shaft-like bearing section 11, with shoulders 12 and 13 at opposite ends of this bearing section. This bearing section is round in cross section and is intended to be rotatably mounted in the cavity or socket formed by the concave seats 6 at the free ends of the arms 5.

The free ends of the arms 5 extend toward one another at the sockets 6 sufficiently to maintain the bearing section 11 against separation therefrom while permitting a turning of the bearing section therein. The extreme outer ends of the arms 5, however, have diverging faces 14 leading to the seats 6, and the distance between the inner ends or edges of these diverging faces is slightly less than the diameter of the bearing section 11, so that when the bearing section 11 is forced between the arms 5 through the space between the diverging faces 14, the arms 5 will be sprung apart at their free ends, and the bearing section 11 will move into the cavity or bearing formed by the convex seats 6.

The arms 5 will then yieldingly prevent separation therefrom of the front standard 7. The front standard with its guide or steering wheel 10 may be turned about its

vertical axis as in any child's vehicle, and the parts will be yieldingly retained in assembled relation to one another. The front standard, however, may be separated from the rear section of the vehicle by forcing it outwardly through the space between the diverging faces 14, during which the arms 5 will be sprung apart slightly at their free ends. If desired, the bearing section 11 may be frusto-conical, and the concave bearing seats 6 of the bearing or socket between the arms 5 may have a similar taper to their curvature, as shown clearly in Fig. 3.

The frame 1 and the post or standard 7 may be of cast metal, such as cast iron, and the wheels may be separately cast and connected to the frame and the front standard by suitable rivets A and B. The bearing section 11 and the seats 6 do not require machining and will fit one another and adjust themselves to minor variations in dimensions owing to the slender arms 5 which may be sprung slightly for this purpose.

In the embodiment illustrated in Figs. 5 to 7, a toy step ladder is selected as the example, in which the front frame or step portion 15 may be formed of one casting and the rear frame or prop 16 formed of another casting. The side members of the front frame 15, at a point adjacent or just below the top step 17, may be provided on their inner faces with bearing cavities 18, which for convenience in casting may be slots extending inwardly for some distance from the forward face or edge of the frame. The rear frame or prop 16 may comprise two side arms or legs which are connected together by suitable integral braces 19 adjacent their lower ends, the side arms being free at their upper ends so that they may spring to a certain extent toward and from one another.

The upper ends of these side arms of the prop 16 are provided with forwardly extending branches or stub arms 20, and each stub arm 20 at its forward end is provided with a laterally extending bearing stud or shaft-like pin 21. These pins or studs 21 in this particular example extend in a direction away from one another, and the stub arms 20 of the rear frame extend between the side arms or strips of the front frame 15 from the rear thereof, with the pins or studs 21 engaged in the sockets 18.

To place the studs or pins 21 in the sockets 18, the side arms 16 of the rear prop or frame, which are relatively slender so as to be slightly springable at their free ends, are sprung toward one another somewhat as illustrated in dash lines in Figs. 5 and 7, so that the studs or pins 21 can pass into the front frame 15 from the rear thereof until alined with the sockets 18, whereupon when the free ends of the side arms of the frame 16 are released, they will spring apart and force the studs or pins 21 into the sockets.

The upper ends of the side arms of the prop 16 may engage with the under face of the top step of the front frame 15 to limit the spreading of the outer or free ends of the front and rear frames 15 and 16. By this arrangement, the front and rear frames 15 and 16 will be pivotally connected to one another at their upper ends, and the connection may be easily effected or a disconnection made merely by springing toward one another the upper, free ends of the relatively slender side arms of the rear frame or prop 16.

In the embodiment of the invention illustrated in Figs. 8 to 10, a suitable base 22 is provided with an upwardly projecting post 23 having a bearing or shaft-like section 24, with shoulders 25 and 26 at opposite ends of the section, as shown clearly in Fig. 10. The upper or terminal end or head 27 of the post 23 may be tapered or approximately semi-spherical or dome-shaped for a purpose which will appear presently.

A teeter or swinging frame is provided with suitable miniature seats 29 at its ends, and handle lugs 30 adjacent thereto at the ends, the end sections being connected to one another by relatively slender arms 31 which are spaced apart and unconnected to one another intermediate their ends, as illustrated in Fig. 9. At a central point each arm 31 is provided with a lug 32 extending toward the other arm, and the adjacent faces 33 of these lugs are concave so as to form between them a bearing socket for pivotal engagement with the bearing section 24 of the standard post 23.

The shoulder 25 is relatively narrow so that when the arms 31 are placed over the tapered or dome-shaped terminal 27, as shown in Fig. 10 and forced downwardly thereof, the lugs 32 and the central portions of the arms 31 will be forced or sprung apart slightly to enable the lugs to snap over the head and around the bearing section 24 where it will be beneath the shoulder 25.

An intermediate step in this separation is illustrated by the dash lines in Figs. 9 and 10, the dash lines representing the various relative positions of the arms 31 and lugs 32 as the lugs are sprung over the head 27.

The frame 28 may thus be swung about the bearing section 24 when the toy is to be used as a merry-go-round, and the upper faces of the lugs leading to the socket may be bevelled as at 34 so as to clear the shoulder 25 and permit a limited teetering or see-sawing of the frame 28 while rotatably mounted on the bearing section 24.

In all these examples, the parts may be largely or entirely of cast metal, such as cast iron, and although such cast metals do not have a high degree of resiliency, nevertheless by using a good grade of cast metal or cast iron, there is sufficient springiness or resiliency in the metal of the relatively long, slen-

der arms to permit the making or breaking of the articulated connections between the various frame parts. No machining operations are required, and the cost of articulated toys is thus reduced to a very low figure, so that articulated toys of this type may be sold to the five and ten cent store trade at a profit.

It will be obvious that various changes in the details, which have been hereindescribed and illustrated in order to explain the nature of the invention, may be made by those skilled in the art within the principle and scope of the invention as expressed in the appended claims.

I claim as my invention:

1. A toy comprising a pair of elements formed of cast iron and pivotally connected to one another through cooperating bearing portions, the bearing portion of one of said elements being a post having an annular bearing groove, the bearing portion of the other element including a socket adapted to fit said post at said annular groove, said other element having a slot extending away from said socket but at its junction therewith having a width slightly less than the diameter of said socket, said slot extending a substantial distance away from said socket to provide a pair of arms sufficiently yieldable to enable engagement and disengagement of said socket and said post.

2. In a toy of the type having a base and a member rotatably connected thereto, an improved joint between said member and base comprising an upright standard on said base and terminating at its upper end in a vertical bearing post with an enlarged terminal head at its upper free end, said member being formed of cast iron and having between its ends a socket of a size to fit and rotate on said post and slightly smaller than the diameter of said terminal head, said member being slotted through the socket portion and for some distance therefrom in opposite directions to provide relatively slender arms connected together at both ends, and between their ends supporting the socket portions which may spring apart to enable passage of said socket portion over the head of said post into rotating engagement with said post.

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