Aug. 19, 1958 E. R. MUDDIMAN 2,848,230

AMUSEMENT DEVICE

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FIG. 1.

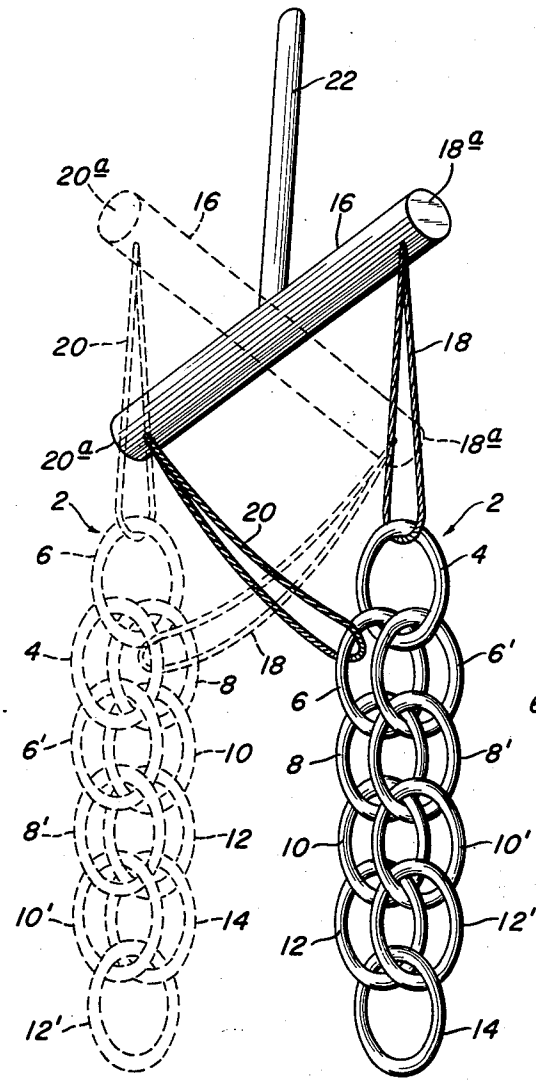
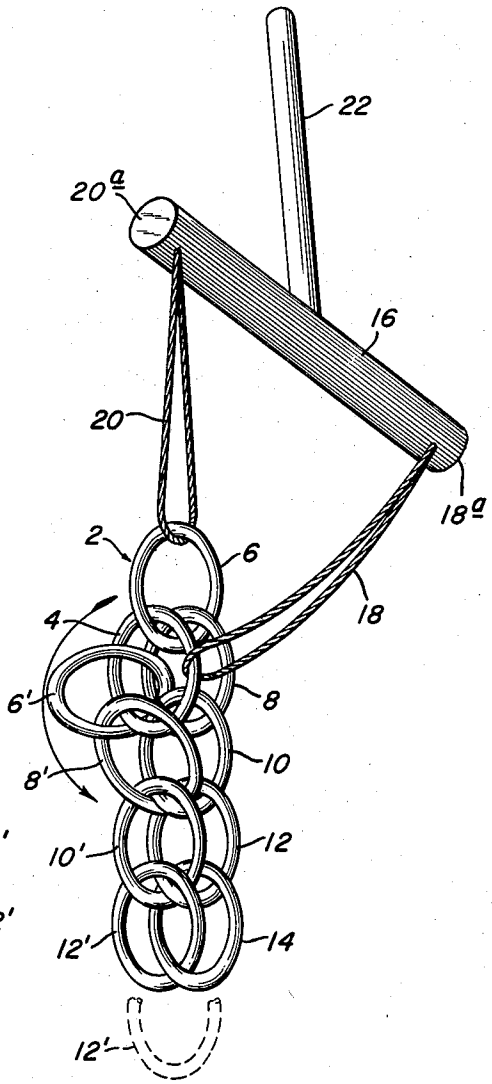


FIG. 2.



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FIG. 3d

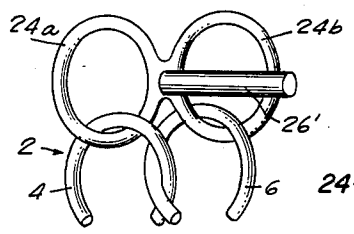


FIG. 3.

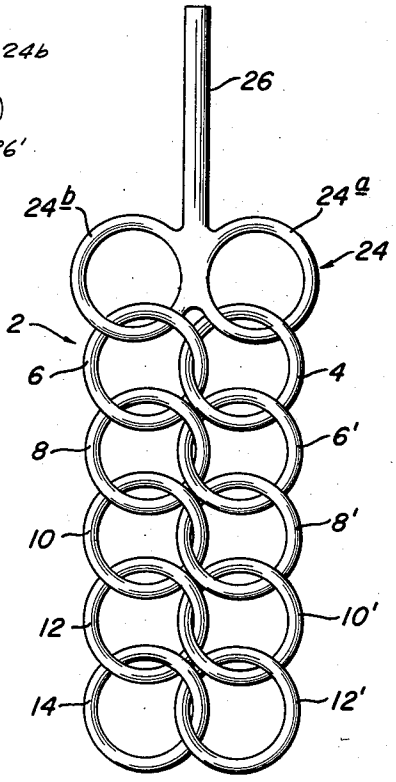
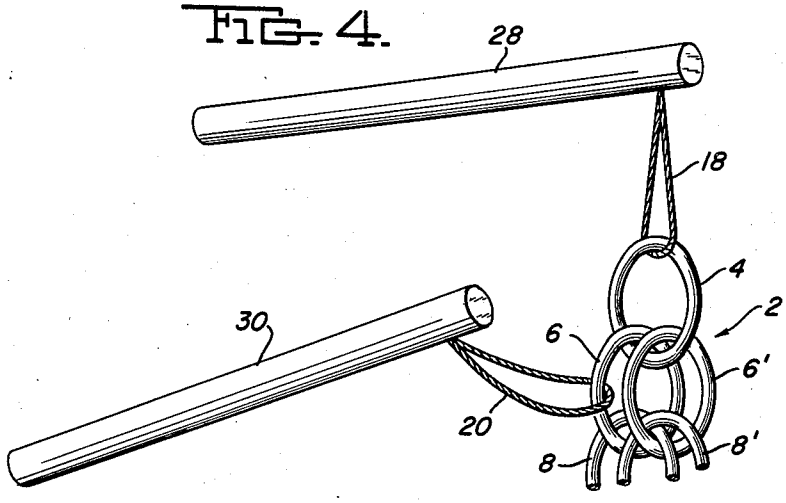


FIG. 4.



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AMUSEMENT DEVICE

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Application April 25, 1956, Serial No. 580,523

5 Claims. (Cl. 272—8)

The present invention relates generally to amusement devices and more particularly to an amusement device consisting of a chain made up of a plurality of links and supports so arranged that when properly operated it appears that a link passes from the top of the chain to the bottom thereof.

It is, accordingly, an object of my invention to provide an amusement device constructed of a plurality of links joined together in an elongated chain in which means are provided whereby the device can be operated by an unskilled person to make it appear that a link is passing from the top to the bottom of the chain.

It is a further object of my invention to provide an amusement device consisting of a chain of links provided with supports arranged in a manner whereby the supports can be easily manipulated to create the impression of a cascading link in the chain.

The invention will be fully apparent from the following detailed disclosure and the appended claims when read in connection with the accompanying drawings in which:

Figure 1 is a front perspective view showing the device in initial and ultimate stages of operation;

Figure 2 is a view similar to Figure 1 showing the device of the invention in an intermediate stage of operation;

Figure 3 is a front diagrammatic view of a modification of the invention;

Figure 3*a* is a partial perspective view of a further modification of the invention; and

Figure 4 is a perspective view of another modification of the invention.

Referring more particularly to the drawings reference numeral **2** designates a spiral chain made up of a first link **4**, pairs of intermediate links **6**, **6'**; **8**, **8'**; **10**, **10'** and **12**, **12'**, and a final link **14**.

The manner in which the links of the chain **2** are arranged is essential and will now be described. As best shown in Figure 1, the first link **4** passes through both of the first pair of links **6**, **6'**, the latter depending from the former. Link **8** of the second pair of links **8**, **8'** passes through and depends from both of the first pair of links **6**, **6'** while link **8'** passes through and depends from only link **6'** of the first pair of links **6**, **6'**. Link **8** passes through and supports only link **10** of the third pair of links **10**, **10'** while link **8'** passes through and supports both links **10** and **10'** of the third pair. The remaining pairs of links which may be infinite in number are arranged in like manner so that the link in each pair which passes through both of the links of the preceding pair of links passes through only one of the links of the next succeeding pair of links and the link in each pair which passes through only one of the links of the preceding pair of links passes through both of the links of the next succeeding pair of links. The final link **14** passes through and depends from both of the final pair of links **12**, **12'**.

Referring to Figures 1 and 2, the chain **2** is suspended

from a rod **16** by means of flexible supports **18** and **20** which may be in the form of loops of string, plastic, wire or other similar flexible material. The supports **18** and **20** are each attached by one end to respective ends of the rod **16**. The free end of the support **18** is attached to the first link **4** and the free end of support **20** is attached to link **6** of the first pair of links **6**, **6'**.

In initial position one end **18***a* of rod **16** is tilted above the level of its opposite end **20***a* so that the chain **2** is supported by support **18** which is attached to link **4**, as shown in full lines in Figure 1. In this position support **20** connects link **6** with rod **16** but does not support link **6**. When the rod **16** is tilted, as shown by dotted lines in Figure 1, so that its end **20***a* is raised above end **18***a*, the chain is rotated approximately 180° and link **4** falls by gravity into the position initially occupied by link **6** in the chain. This causes link **6'** to fall into the position initially occupied by link **8**; link **8'** into the position initially occupied by link **10**; link **10'** into the initial position of link **12**; and link **12'** into the initial position of link **14**, all as shown by broken lines in Figure 1. The action just described is a pivoted spiral type and takes place in a fraction of a second so that it appears that link **4** is cascading into the position of link **14**. When rod **16** is tilted back to its initial position a similar action takes place which makes it appear that link **6** is cascading to the bottom of the chain.

Figure 2 shows the relative positions of the links after the chain has rotated and link **6'** is in the process of falling into the position initially occupied by link **8**.

Although not essential, a handle **22** may be affixed to the rod **16**, as shown in Figures 1 and 2, to facilitate tilting of the rod **16** to operate the device. If desired, the rod **16** may be connected with power means (not shown) such as a motor driven cam so as to be alternately tilted thereby. The provision of such power means is particularly desirable when it is desired to use the device of the invention as an attention-getter for advertising purposes.

In Figure 3 the chain **2** is shown diagrammatically with its links in neutral position to illustrate a modified embodiment of the invention. In this embodiment a rigid "figure–8" designated by reference numeral **24**, is substituted for the rod **16** and supports **18** and **20**. One loop **24***a* of the "figure–8" passes through link **4** and the other loop **24***b* passes through link **6**. The device operates in the same manner as previously described when the "figure–8" is tilted to alternately raise and lower loops **24***a* and **24***b*. A handle **26** may be affixed to the "figure–8" as shown in Figure 3 to facilitate operation of the device. Although I have shown handle **26** projecting in a vertical plane normal to one edge of the "figure–8" **24**, if desired, it may be attached, as shown in Figure 3*a* and designated **26'**, so that it extends in a horizontal plane normal to the face of the "figure–8." The manner of attachment described for handle **26'** facilitates connection with certain types of power means (not shown).

Figure 4 illustrates a further modification of the invention wherein separate rigid handles **28** and **30** are attached to the supports **18** and **20**, respectively. The device operates in the same manner as previously described when the handles **28** and **30** are alternately raised and lowered. Eyelets in the ends of the handles **28** and **30** may be substituted for the supports **18** and **20**.

The links making up the chain of the device must be substantially round to obtain optimum results. Although I have shown the element forming each link as being round in cross-section, it will be noted that the device will function in a satisfactory manner if these elements are not round in cross-section. For example, they may be half round, quarter round, square, rectangular or other non-

circular shape in cross-section. In order to insure uniformly efficient operation of the device of the invention I have found it desirable for the diameter of the element making up each link to be approximately ⅛ of the outside diameter of the link. However, good results may be obtained if the diameter of the element making up each link is between 1/16 and ⅕ of the outside diameter of the link. The links may be made of stiff plastic, steel, wood or any other rigid material desired.

While several embodiments of my invention have been shown and described, it will be apparent that other adaptations and modifications may be made without departing from the scope of the following claims.

I claim:

1. An amusement device comprising a first link, a plurality of pairs of links, said first link passing through the first pair of links, one of the second pair of links passing through both of the first pair of links and the other of the second pair of links passing through only one of the first pair of links, the first named of said second pair of links passing through only one of the third pair of links and the second named of said second pair of links passing through both of the third pair of links, the remaining pairs of links being arranged in like manner so that the link in each pair passing through both of the links of the preceding pair of links passes through only one of the links of the next succeeding pair of links and the link in each pair passing through only one of the links of the preceding pair of links passes through both of the links of the next succeeding pair of links, a final link passing through both of the final pair of links, a support for said first link, and a support for the link of the first pair of links that passes through only one link of the second pair of links, said supports including an elongated rigid rod, and a pair of elongated flexible connectors attached to said rod one adjacent each end thereof, the free end of one of said connectors being attached to said first link and the free end of the other of said connectors being attached to said only one of said first pair of links having said other of said second pair of links passing therethrough.

2. An amusement device comprising a first link, a plurality of pairs of links, said first link passing through the first pair of links, one of the second pair of links passing through both of the first pair of links and the other of the second pair of links passing through only one of the first pair of links, the first named of said second pair of links passing through only one of the third pair of links and the second named of said second pair of links passing through both of the third pair of links, the remaining pairs of links being arranged in like manner so that the link in each pair passing through both of the links of the preceding pair of links passes through only one of the links of the next succeeding pair of links and the link in each pair passing through only one of the links of the preceding pair of links passes through both of the links of the next succeeding pair of links, a final link passing through both of the final pair of links, a support for said first link, and a support for the link of the first pair of links that passes through only one link of the second pair of links, said supports including a pair of links rigidly joined together in substantially a figure 8 shape, one of the links of said last mentioned pair of links passing through said first link, and said other link of said last named pair passing through said only one of said first pair of links having said other of said second pair of links passing therethrough.

3. An amusement device comprising a first link, a plurality of pairs of links, said first link passing through the first pair of links, one of the second pair of links passing through both of the first pair of links and the other of the second pair of links passing through only one of the first pair of links, the first named of said second pair of links passing through only one of the third pair of links and the second named of said second pair of links passing through both of the third pair of links, the remaining pairs of links being arranged in like manner so that the link in each pair passing through both of the links of the preceding pair of links passes through only one of the links of the next succeeding pair of links and the link in each pair passing through only one of the links of the preceding pair of links passes through both of the links of the next succeeding pair of links, a final link passing through both of the final pair of links, a support for said first link, and a support for the link of the first pair of links that passes through only one link of the second pair of links, said supports including a flexible connector attached by one end to said first link, a second flexible connector attached by one end to said only one of said first pair of links having said other of said second pair of links passing therethrough and a pair of rigid handles each attached to the free end of one of said flexible connectors.

4. An amusement device according to claim 1 characterized by an elongated handle attached to and projecting normally from said rod intermediate the ends thereof whereby said rod may be tilted to alternately raise one end above the other.

5. An amusement device according to claim 2 characterized by an elongated handle attached to and projecting normally from said rigidly joined pair of links intermediate the ends of the figure-8 shape formed thereby whereby the rigidly joined links may be tilted to alternately raise one end of said figure-8 shape above the other.

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