May 5, 1936. L. D. MILLER 2,039,918

RUBBER TOY

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Fig. 1

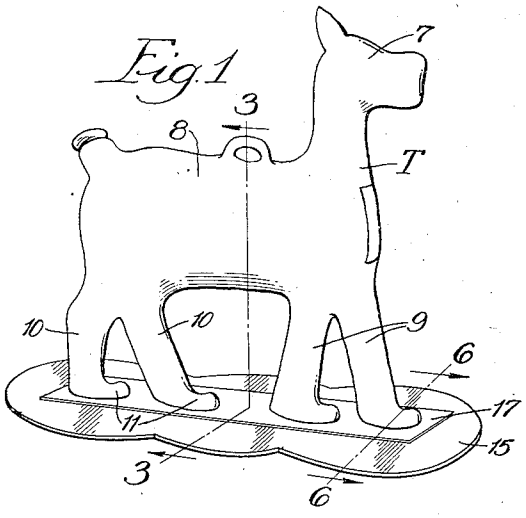


Fig. 2

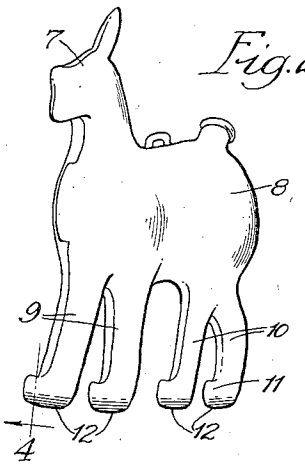


Fig. 3

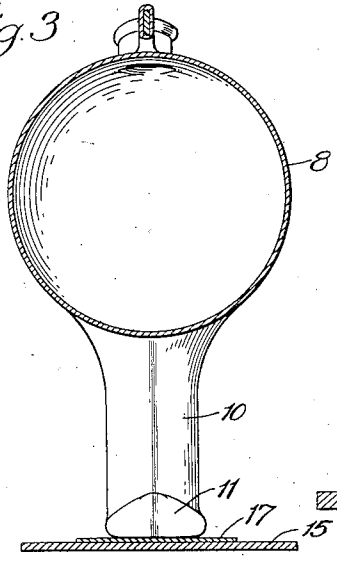


Fig. 4

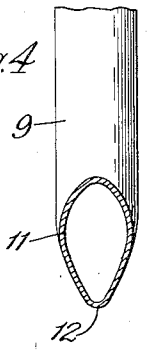


Fig. 5

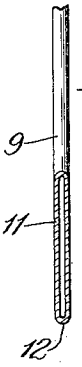


Fig. 6

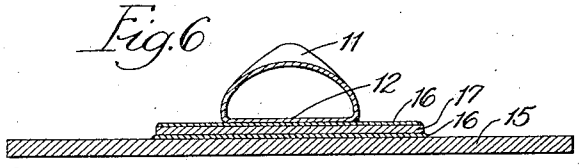
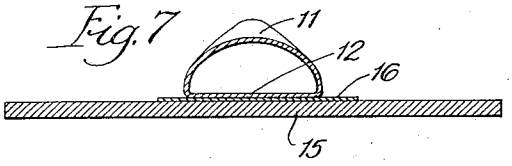


Fig. 7



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Fig. 8

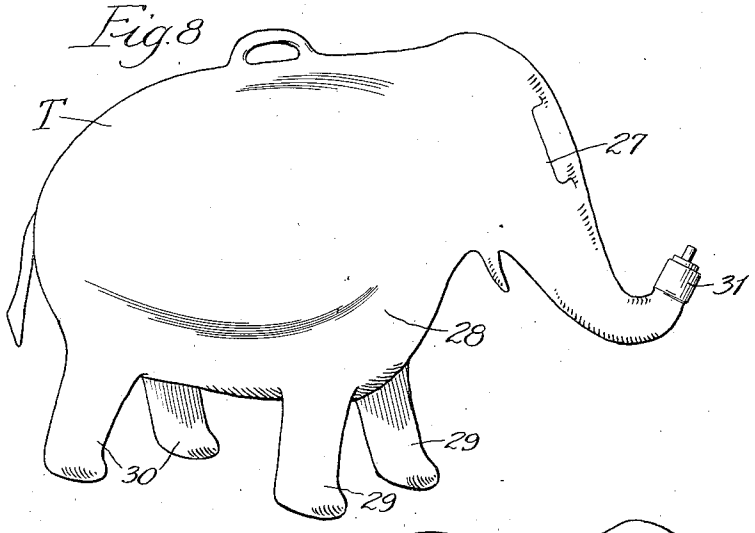


Fig. 9

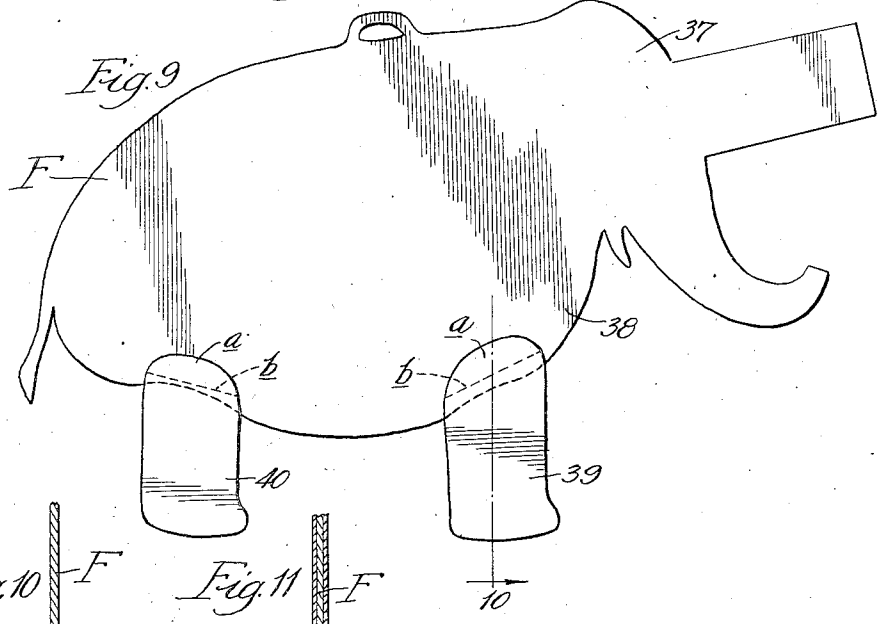


Fig. 10

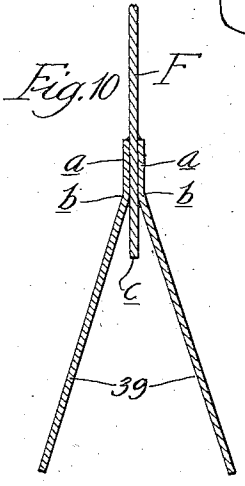
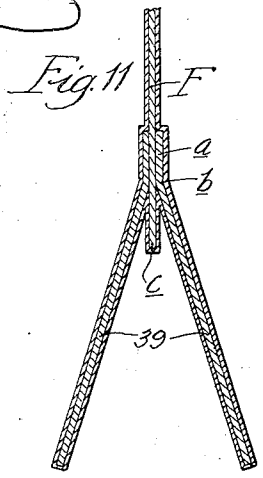


Fig. 11



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UNITED STATES PATENT OFFICE

2,039,918

RUBBER TOY

Layard D. Miller, Chicago, Ill., assignor to Lee-Tex Rubber Products Corporation, Chicago, Ill., a corporation of Delaware

Application February 14, 1935, Serial No. 6,451

2 Claims. (Cl. 46—87)

The present invention relates to a rubber toy adapted to be distended or inflated. More particularly the present improvements are directed to a means and method by which a rubber toy, produced with the aid of a thin form, will remain in upright position when stood upon a horizontal surface. Such an object is difficult of attainment in the case of rubber toys which are fashioned over thin forms because, when collapsed, they are practically lacking in a transverse dimension. Even when filled with air, the parts of the toy which formerly lay proximate to the edges of the form in the process of its manufacture, remain thin and lacking in any substantial flat area such as to afford a base on which the toy may be stood. It is with a view to producing a widened base on a rubber toy so produced, or to forming a connection between such a relatively thin toy base and a stand of ample dimensions, that the present improvements are directed.

Certain exemplifications of this invention are set forth in the accompanying drawings, wherein—

Figure 1 is a view in perspective of a typical rubber toy as it appears when air-filled and mounted upon a stand in accordance with my invention;

Fig. 2 is a similar view of the toy prior to its securement to a supporting stand;

Fig. 3 is an enlarged transverse section on line 3—3 of Fig. 1;

Fig. 4 is an enlarged detail in section on line 4 of Fig. 2;

Fig. 5 which is a view similar to Fig. 4 shows the condition of the toy when collapsed;

Fig. 6 is an enlarged detail in section on line 6—6 of Fig. 1;

Fig. 7 which is a view similar to Fig. 6 shows the toy secured to the stand minus an intervening mat;

Fig. 8 is a view in perspective of a typical rubber toy in air-filled condition with the structure modified to present a widened base formed, as shown, by divergingly extended feet;

Fig. 9 is a side elevation of the form from which the article of Fig. 8 is produced;

Fig. 10 is an enlarged detail in section on line 10 of Fig. 9; and

Fig. 11 is a similar view on the same plane of the article when first produced upon the form and prior to removal therefrom.

In the ensuing description I shall discuss by way of example a rubber toy adapted to be air-filled or inflated in accordance with usual practice. Toys of this kind may be produced with the aid of forms having an infinite variety of shapes whereby the completed toy body may simulate almost any desired figure, animal, object, etc. The toy T, shown by way of example in Figs. 1 and 2, is in the form of a four-legged animal, perhaps a dog. It comprises a head 7, body 8, and front and rear legs 9 and 10, respectively, terminating in feet 11 all aligned in a single row.

In the manufacture of a rubber toy, such as is herein contemplated, a thin form or core of paper or the like, having a shape appropriate for producing the desired article is covered with a liquid rubber composition to provide a coating which, upon solidification, may be removed from the form. The resulting product, when deflated, has practically no transverse dimension, as will appear from Fig. 5. In that figure it appears that the base or sole 12 of the foot is exceedingly narrow, and even when the toy is air-filled, this narrowness of the toy base will persist, as shown clearly in Fig. 4. It is manifest that a toy having such aligned feet will not be able to stand. To furnish a support for a toy of this description, I provide a stand 15 of paper, fibre, or other suitable sheet material, appropriately configured and sized to accommodate thereon the toy which is to upstand therefrom. Between the feet of the toy and the stand upon which it rests, I provide a connection of adhesive sufficiently strong to sustain the toy in vertical position when it is filled with air. The usual form of adhesion will not suffice so the feet of the toy are first spread laterally to widen the soles and enlarge the area thereof beyond what would normally be the case, as indicated best in Figs. 3 and 6. When so spread, the adhesive, preferably a rubber cement, is applied to the toy base, i. e., the widened soles in this instance, which is then rested upon the stand to which the cement adheres to complete the securement, all as suggested in Fig. 7.

A cement which will serve admirably as an adhesive for rubber will probably be lacking in tenacity when applied to a stand of other material, such, for example, as paper or fibre. In addition, the constituents of such a stand may separate or disintegrate, thus rendering it unfit to serve further as a support for the toy. This is particularly true where the adhesive is confined upon the stand to those portions thereof upon which the toy base is rested. This difficulty may be overcome by applying to the board a flexible rubber mat 17 held thereon, if desired, by an adhesive in the nature of a rubber cement. The extent of area over which the adhesive may be

spread when connecting the mat to the stand is sufficient to ensure a tight retention of the one upon the other. In addition, the stand itself is thereby strengthened and reinforced against disintegration or breakage. Upon a mat so secured in place, it is feasible to mount the rubber toy. The length of the mat, as shown, is co-extensive, or substantially so, with the toy, and its width may be as much as needed. In mounting the toy upon the mat the soles of the feet are desirably widened beyond the normal, as indicated in Figs. 3 and 6, to enhance the area of surface which is acted upon by the applied adhesive. Inasmuch as both the toy base and mat are made of rubber, it will be found that a cement, such as ordinarily employed for securing together rubber materials, will suffice to secure the feet firmly in place. When filled with air, as shown in Fig. 1, the toy will stand upright, and will remain firmly attached to the stand which serves as a support therefor.

It is to be kept in mind that the form and shape of rubber toys to which my present invention is applicable are myriad. The four-legged animal illustrated and described is to be regarded merely as one example out of a countless number. In general, however, the present improvements comprise a rubber toy whose base is so narrow as not to furnish standing support in combination with a light inexpensive stand which is perhaps breakable or disintegrable easily in use, together with an adhesive connection between the stand, or a reinforcing mat thereon, and the toy base which is spread out or expanded beyond the normal sufficiently to enhance appreciably the area of its contact with the applied adhesive, thereby rendering the adhesive capable of securing the toy in place and of supporting it vertically upon the stand. The operation of adhering the toy to its stand may take place while the toy is in a state of collapse, or while it is distended partially or otherwise, it being important that the base is distorted somewhat by a spreading beyond the normal to increase the area of its surface which is subject to contact with the adhesive.

The toy thus far described is inherently incapable of standing due to the narrow base afforded by its feet which are aligned. The addition of a stand, separately formed, is therefore necessary. But my invention may be otherwise carried into effect, as with the construction illustrated in Fig. 8 when produced with the aid of a thin form of paper or the like, as shown in Figs. 9, 10 and 11.

As a second example of typical air-filled toy T, I have shown in Fig. 8 a four-legged animal, perhaps an elephant, comprising a head **27**, body **28**, and front and rear legs **29** and **30**, respectively, terminating, if desired, in feet which are laterally spaced part. At the terminus of the trunk **31** is an opening, valved, if desired, through which air is admitted to fill the toy with a consequent swelling out of its body, head and legs.

Such an article is producible with the aid of a thin form F of paper or the like, as suggested in Figs. 9, 10 and 11. Here the form is shown as shaped in correspondence with the article to be fashioned thereover, with head **37**, body **38** and front and rear legs **39** and **40**, respectively. The legs, it will be noted, are independent of the remainder of the form—that is, they are shown as separate pieces each having an end portion *a* overlapping an edge of the form for connection therewith as by an adhesive, a staple or other suitable means of fastening. The front legs may be so joined to the form upon opposite sides thereof either in opposed or staggered relation, and the rear legs may be similarly positioned and secured. Adjacent the point of connection for each leg is a transverse crease *b* by which to impart to the leg a set which is angular with respect to the plane of the form. These crease lines are, by preference, inset from the proximate form edge *c* (see Fig. 10). Each pair of legs will accordingly extend divergingly from points inset with respect to the proximate form edge so as to present their extremities in laterally spaced relation.

Initially a toy will be fashioned upon the form as shown in Fig. 11 where it will be noted that the rubber coating between the legs is required to extend down and around the form edge *c* which projects therebetween. When the form is withdrawn, this portion of the rubber coating so extended intermediately of the diverging legs will provide a fullness requisite for separation and spacing of the legs at their point of juncture with the body. In this way it is possible to position the legs at points laterally of a plane extending centrally through the body.

It is to be understood that this feature of construction is applicable to parts other than legs. In may be employed, for example, with ears or wings upon toy animals, or with other features upon toy objects of different form. Whatever be the shape or purpose of the features so produced, the improvement is made possible by the use of a form such as is here suggested. The extended feature, whatever is its shape, is hollow or tubular and in communication with the interior of the toy body so as to be distensible therewith, and, when the toy is collapsed to a thickness equal to that of its opposite walls combined, such extension pieces lie to opposite sides of a plane passing between its walls then in juxtaposed relation.

I claim:

1. An inflatable toy of one-piece seamless construction comprising, in normally collapsed condition, a seamless hollow body having closely adjacent parallel walls of desired marginal configuration, laterally spaced seamless hollow extensions of said body communicating with the interior of the body and lying in parallel planes upon the outer sides of said side walls, and each of said hollow extensions having parallel walls of desired marginal configuration.

2. An inflatable toy of one-piece seamless construction, comprising in normally collapsed condition, a seamless hollow body having closely adjacent parallel walls of desired marginal configuration, seamless hollow extensions of said body communicating with the interior of the body and lying in parallel planes upon the outer sides of said body walls, and each of said extensions being spaced by the walls of the body and having closely adjacent parallel walls of desired marginal configuration.

LAYARD D. MILLER.