Oct. 7, 1930. A. C. GILBERT 1,777,666

DRUM FOR TOY HOISTS

Filed April 19, 1928

Fig. 1.

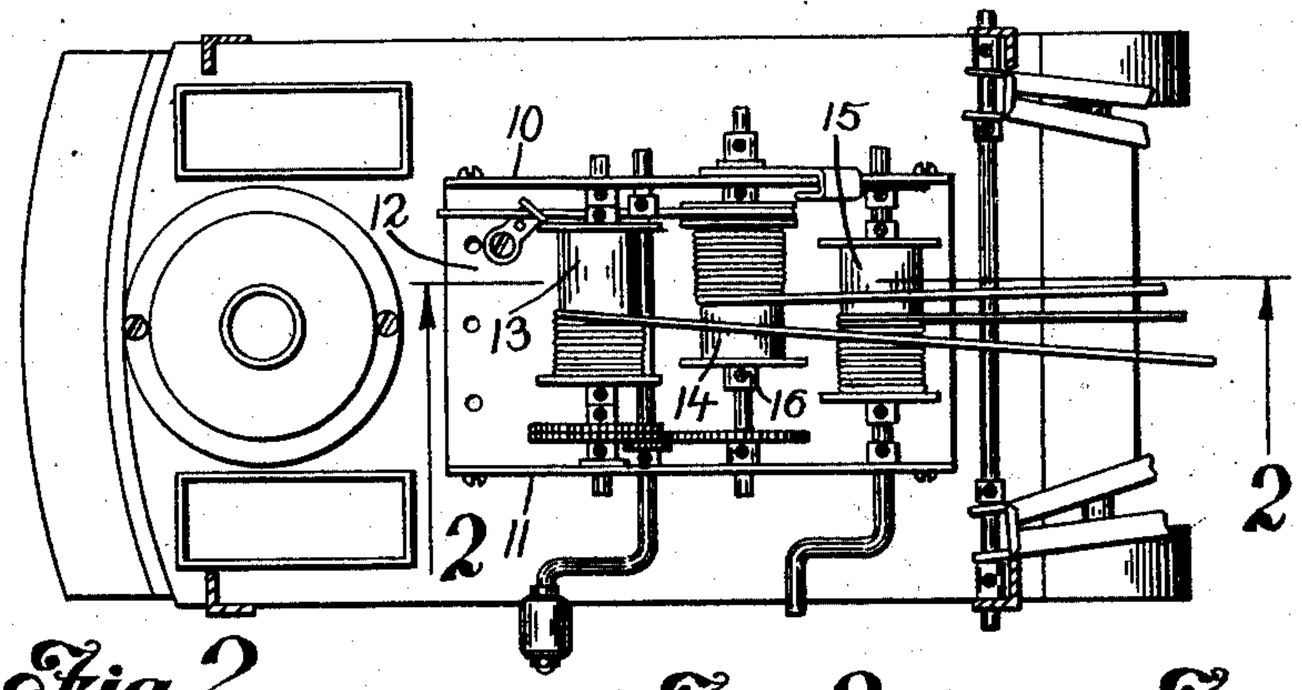



Fig. 2.

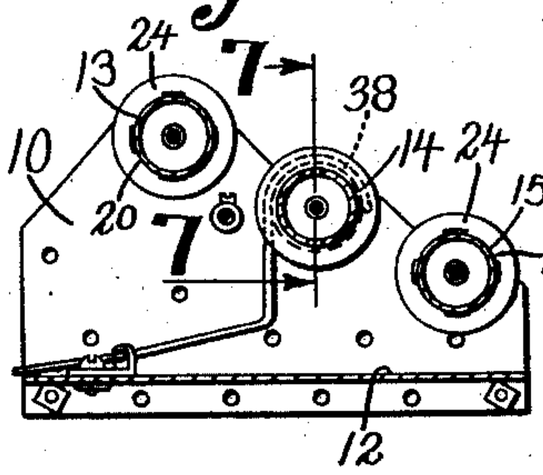



Fig. 3.

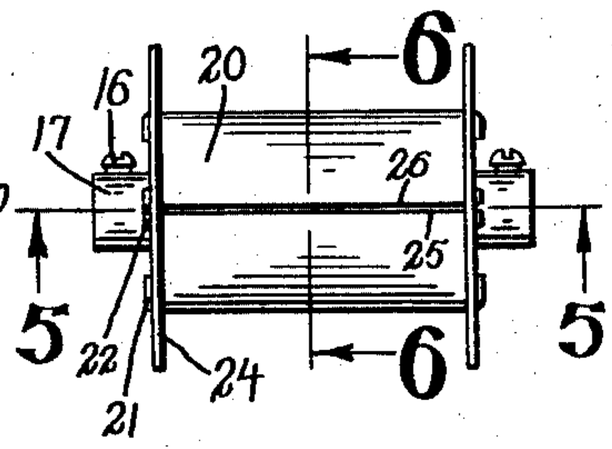



Fig. 4.

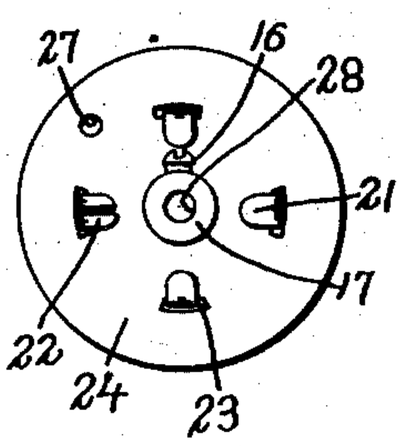



Fig. 5.

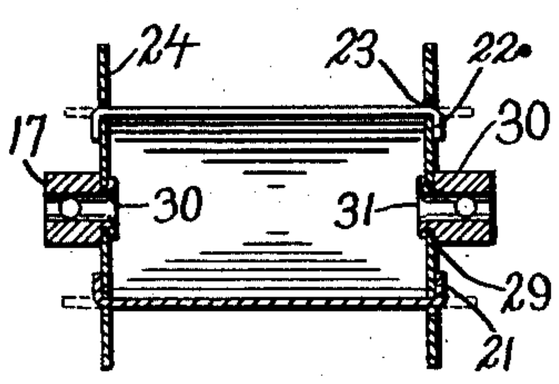



Fig. 6.

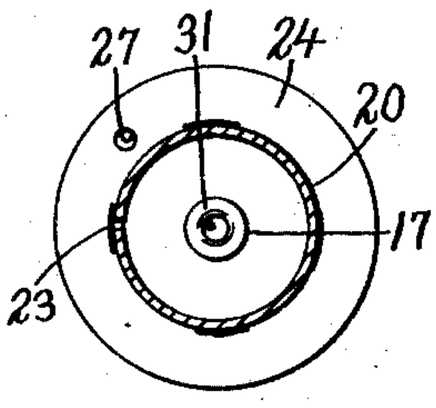



Fig. 7.

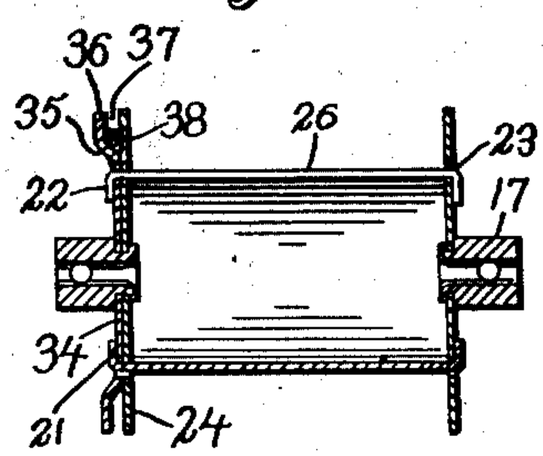
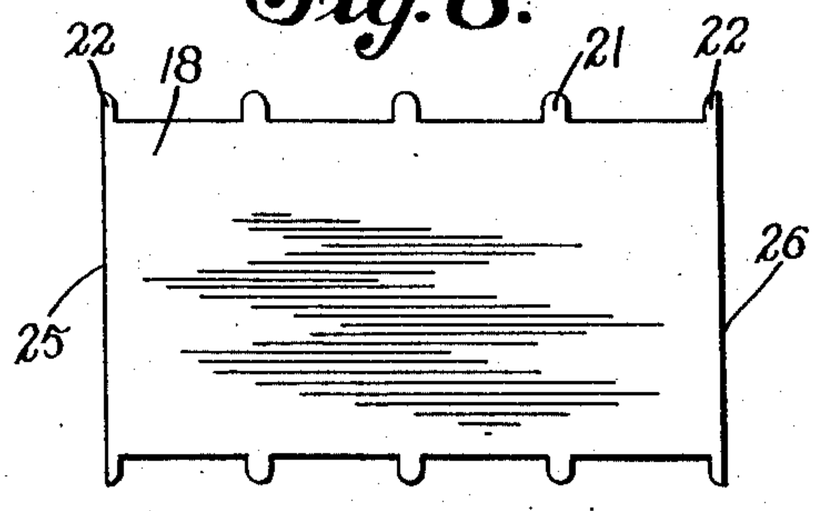



Fig. 8.

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Patented Oct. 7, 1930

1,777,666

# UNITED STATES PATENT OFFICE

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## DRUM FOR TOY HOISTS

Application filed April 19, 1928. Serial No. 271,388.

This invention relates to mechanical toys such as a toy hoist or the like, having in its structure an element which is adapted to receive a cord to be wound thereon, the invention being more especially directed to a novel structure of the toy element or drum for receiving the cord or the like.

The principal object of this invention is to provide an improved toy drum structure, which will be economical to manufacture and suitable for use in mechanical toys or the like.

In a more specific aspect the invention relates to a toy drum or the like having a hollow cylindrical body and end plates to which the body is secured. A further object of the invention is to provide a structure of this type in which sheet metal parts may be used and in which means is provided for securing the parts together to form a substantially rigid structure.

The cylindrical body of the drum of the invention is preferably bent out of sheet material and a still further feature of the invention resides in a novel means for securing the abutting ends of the cylindrical body whereby they will not open up or bulge along the joint formed between them.

An additional object of the invention is to provide a drum having an efficient but simple means thereon which may be engaged by a brake to retard or prevent rotation of the drum.

An additional object of the invention resides in a novel method of making drums or similar elements for a toy construction.

To these and other ends the invention consists in the novel features and combination of parts to be hereinafter described and claimed.

In the accompanying drawings:

Fig. 1 is a plan view of a portion of a toy hoisting mechanism in the structure of which an element or drum, embodying the features of this invention is included;

Fig. 2 is a section on line 2—2 of Fig. 1;

Fig. 3 is a side view of a toy element or drum, embodying the features of this invention;

Fig. 4 is an end view of the same;

Fig. 5 is a section on line 5—5 of Fig. 3;

Fig. 6 is a section on line 6—6 of Fig. 3;

Fig. 7 is a section on line 7—7 of Fig. 2, and of a drum of somewhat modified form, and

Fig. 8 illustrates the blank from which a part of the element is formed.

The toy shown in Figs. 1 and 2, illustrates one use for a toy element or drum embodying the features of this invention. This toy is provided with a hoisting mechanism comprising side plates 10 and 11, a base plate 12, and drums 13, 14 and 15, upon which cords simulating ropes are adapted to be wound and unwound to operate other parts of the toy (not shown). A detailed description of the structure and operation of a toy of this type may be found in a co-pending application of Edward N. Anketell, Serial No. 164,238, filed January 28, 1927.

Each of the drums 13, 14 and 15 are, in this toy, secured to a shaft by means of a set screw 16, which is threaded through a bushing 17, secured to each drum. The drum shafts are journaled at the ends thereof in the side plates 10 and 11. It is obvious that by omitting the screw 16, each drum would be adapted to rotate upon its respective shaft.

The drums 13 and 15 are of similar construction while drum 14 is of somewhat modified form, being provided at one end with an additional flange part to adapt it for use as a brake drum. In the manufacture of drums like 13 and 15, a strip of sheet material, preferably metal, is formed by first stamping out a blank, 18, as illustrated in Fig. 8, and then bending it into a cylindrical shape to form a body part 20 of the drum. Tongues 21 and 22, formed upon both of the end edges of the blank 18, are then passed through suitable perforations 23, provided in a disk 24 of sheet material, preferably metal, and turned over upon the outer surface thereof, preferably being directed radially and inwardly toward the disk center.

The perforations 23 are in the form of arcuate slots and are spaced apart about the disk an amount equal to the spacing between the tongues 21 and 22. The tongues 22 formed upon the end edges of the blank 18,

are disposed at the side edges 25 and 26 thereof, and are of a width which is substantially one-half the width of the tongues 21. When the body part 20 of the drum is assembled to the disk 24, the tongues 22 at each end thereof are passed through the same perforation 23. This arrangement insures that the side edges 25 and 26 of the blank 18 will be in abutting relation and that the drum will not open up or bulge along this joint.

The disks 24 are provided with a cord receiving perforation 27, through which an end of the cord may be passed and tied to secure it to the drum. The disks 24 are larger in diameter than the drum body part 20 and form end flanges for the drum to retain the wound up cord thereon. The bushing 17 having a shaft receiving opening 28 therein, is secured to each disk 24 by having a reduced end portion 29 thereof passed through a central perforation 30 in the disk, and riveted over upon the surface thereof, as at 31.

In the modified form of drum as shown in Fig. 7, provision is made for its use as a brake drum as at 14, Figs. 1 and 2. The tongues 21 and 22 at one end of the drum body 20, are passed through perforations in a disk 24, and in a flanged disk 34, both of which are secured upon a bushing 17, as above described. The disk 34 is formed with an outwardly directed flange part 35, from which the material extends radially outward to the periphery of the disks and parallel with the disk 34 as at 36. This structure provides, in combination with one of the disks 24, a brake receiving groove 37 about the periphery of the parts. The groove 37 is formed by the flange part 35 as a bottom, and the spaced apart portions, 36 of the disk 34 and the rim of the disk 24 as the sides. In use, as illustrated in Figs. 1 and 2, a part of a resilient brake member 38 is disposed in the groove 37.

From the above description of my invention and its mode of use, it will be readily understood that I have provided a relatively simple form of a drum or like element which, while being relatively light and therefore suitable for use in toy constructions of the type illustrated, is nevertheless rigid and strong enough to stand the use and abuse to which it may be subjected by a user of such a construction. The arrangement is such that when the cylindrical body of the drum is made of sheet material bent into shape, the abutting edges of the cylinder are effectively secured against relative displacement.

While I have shown and described a preferred embodiment of my invention, it is understood that it is not to be limited to all of the details shown, but is capable of modification and variation which will lie within the spirit of the invention and the scope of the appended claims.

What I claim is:

1. In a toy drum structure, a cylindrical body part, a flange part at each end of said body part, a disk abutting one of said flange parts upon the outer surface thereof, and having its peripheral edge spaced outwardly from said flanged part to form a brake groove therebetween, and integral portions of said body part extending through each of said flange parts and said disk to secure said parts together.

2. In a toy drum structure, a cylindrical body part, a flange part at each end of said body part, one of said flange parts having a shaft receiving bushing secured in an opening at the center thereof, a disk abutting one of said flange parts upon the outer surface thereof, and having its peripheral edge spaced outwardly from said flange part to form a brake groove therebetween, a shaft receiving bushing secured in an opening in the other of said flange parts and in said disk to secure these parts together, and integral portions at each end of said body part extending through the adjacent flange part and at one end through said disk to secure said parts together.

In witness whereof, I have hereunto set my hand this 17th day of April, 1928.

ALFRED C. GILBERT.