Feb. 10, 1942. J. W. BUTLER 2,272,597

MECHANICAL TARGET TOY

Filed Sept. 14, 1940 4 Sheets-Sheet 1

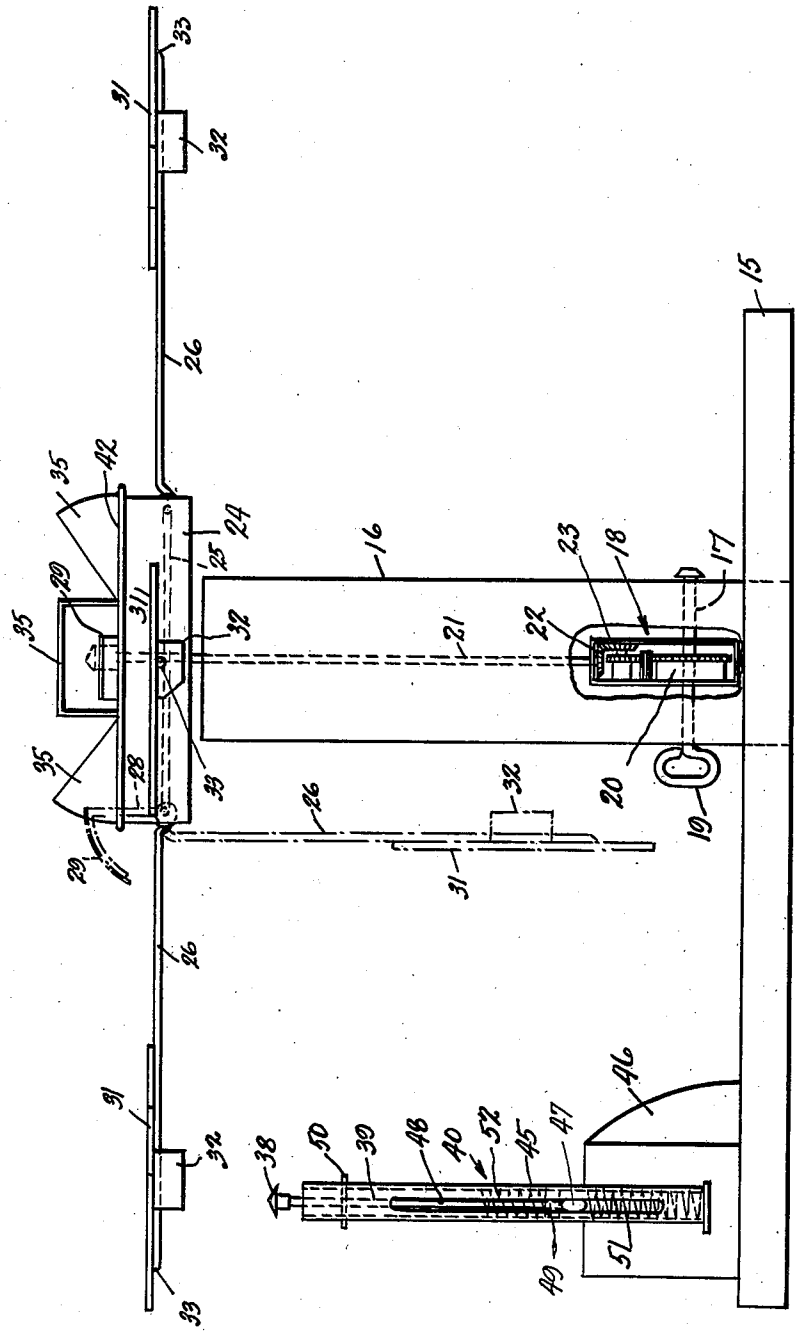

FIG. 1

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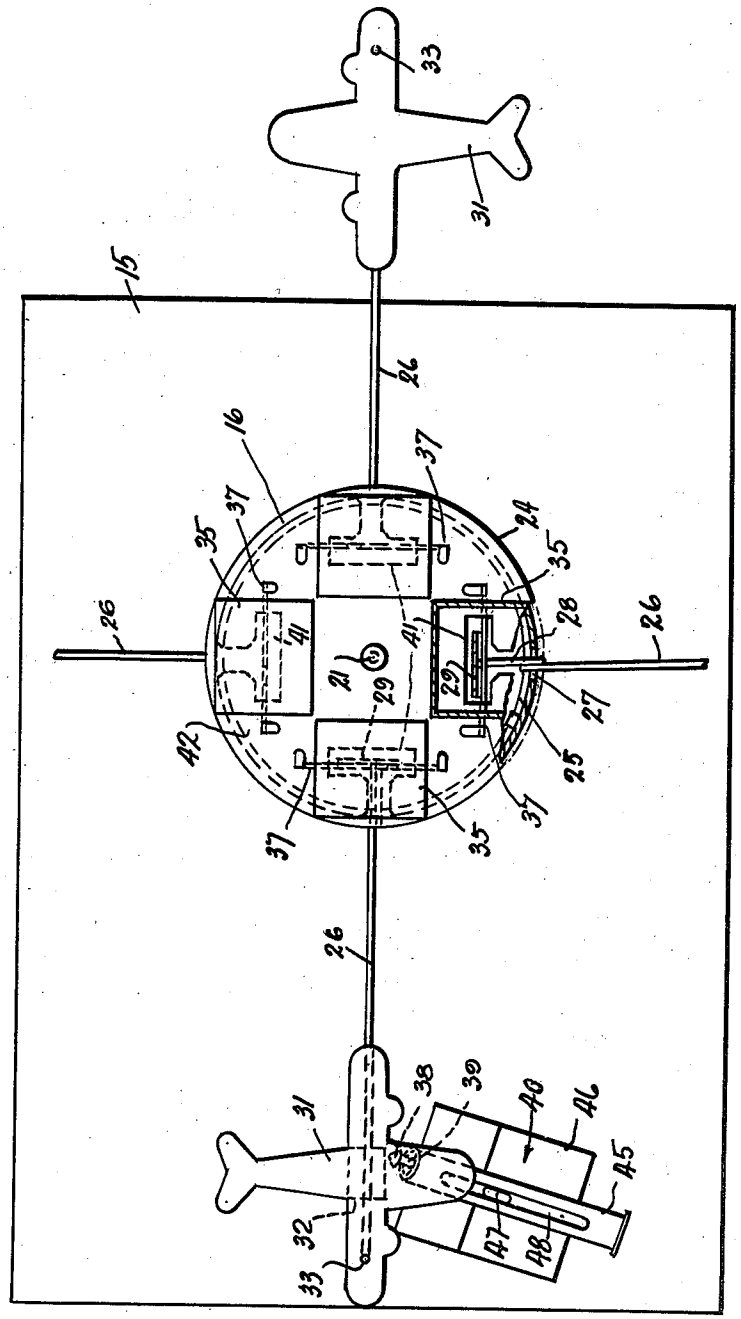

FIG. 2

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MECHANICAL TARGET TOY

Filed Sept. 14, 1940 4 Sheets-Sheet 3

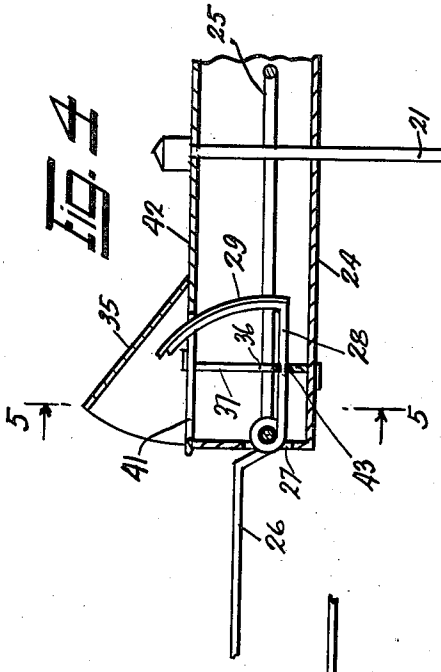

FIG. 4

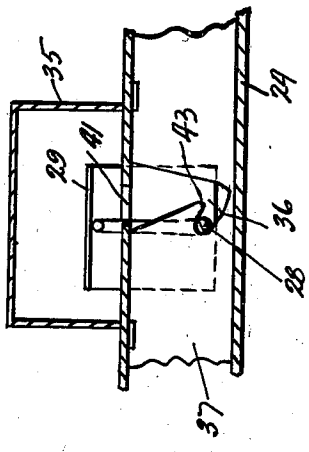

FIG. 5

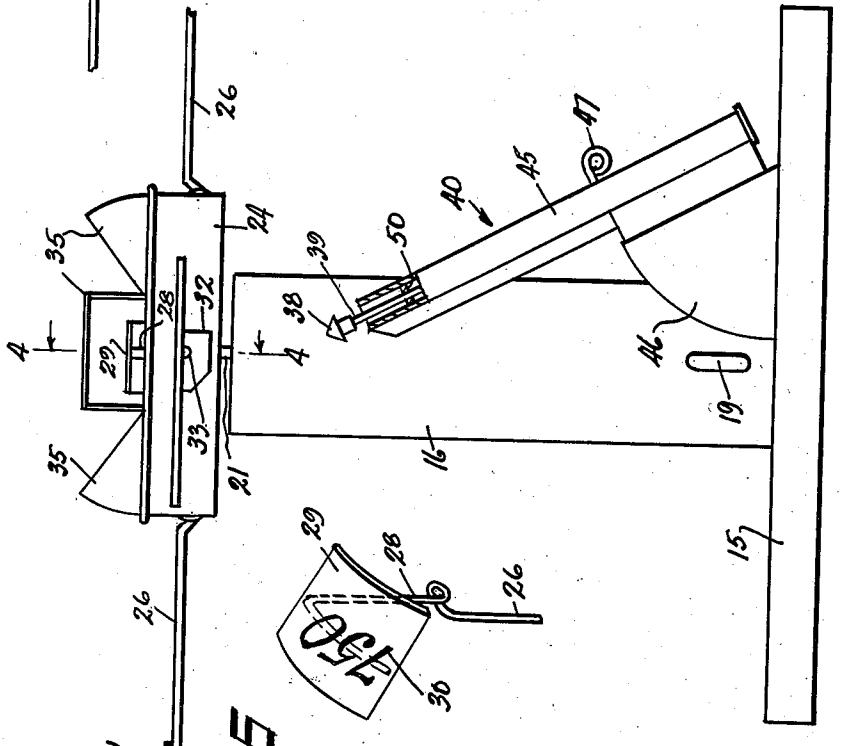

FIG. 3

FIG. 5

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MECHANICAL TARGET TOY

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FIG. 7

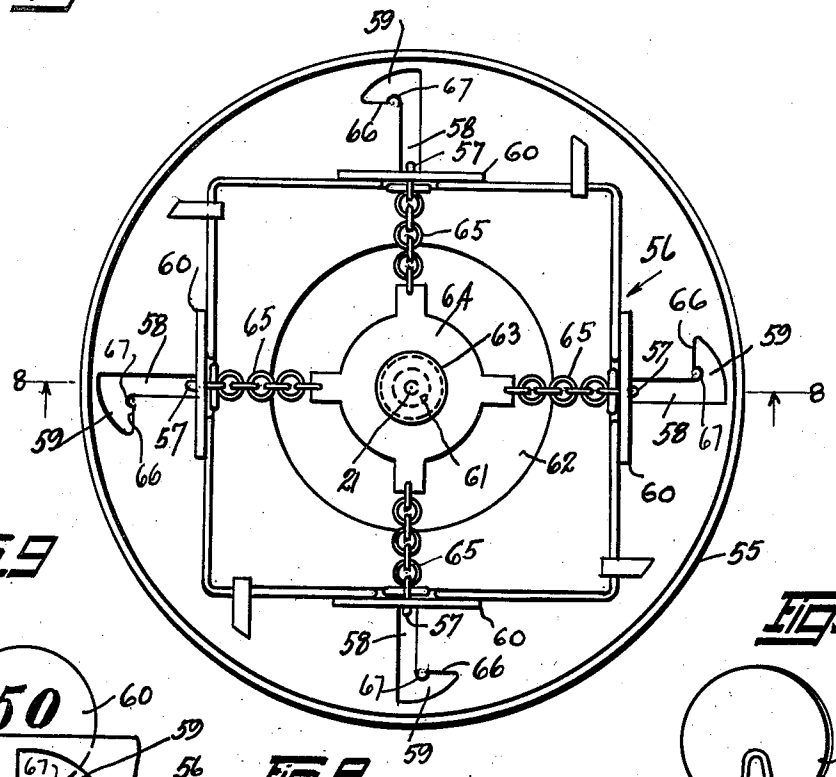


FIG. 9

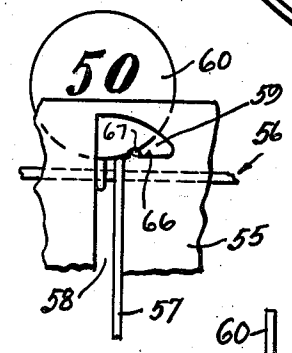


FIG. 10

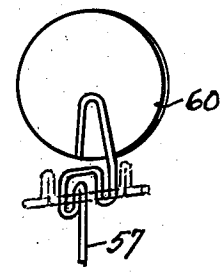
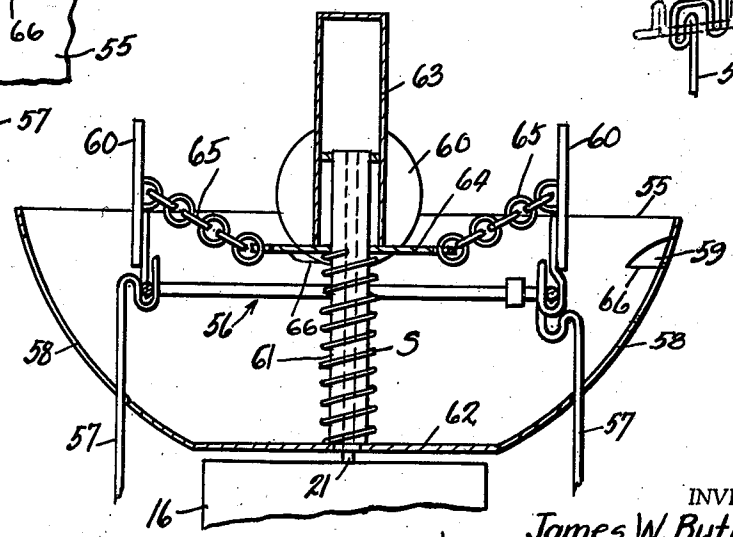


FIG. 8



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Patented Feb. 10, 1942

2,272,597

UNITED STATES PATENT OFFICE

2,272,597

MECHANICAL TARGET TOY

James W. Butler, Pittsburgh, Pa.

Application September 14, 1940, Serial No. 356,757

4 Claims. (Cl. 273—102.1)

This invention relates to mechanical target toys, and more particularly to toys of this nature which are provided with moving targets which are adapted to be struck by a missile or projectile projected from a toy gun, and has for one of its objects the provision of such a toy which will amuse children as well as grown-ups.

Another object of the invention is the provision of such a toy, comprising a motor driven drum or frame carrying pivotally mounted targets which are normally held in horizontal position against accidental displacement on the said drum, but which, when struck by the missile will become displaced and swing down to assume a vertical hanging position.

A further object of the invention is the provision of a toy of the nature referred to, in which the various moving targets are provided with different numerical values thus adapting the said toy to be used in playing games by two or more players.

A still further object of the invention is to provide means for simultaneously resetting all of the targets after displacement by the projectile.

Another object is to produce a device of the character described in which the maximum simplicity of construction and operation is secured.

Other objects and advantages will appear as the nature of the improvements is better understood, the invention consisting substantially in the novel arrangement and co-relation of parts herein fully described and illustrated in the accompanying drawings, wherein similar reference characters are used to describe corresponding parts throughout the several views, and then finally pointed out and specifically defined and indicated in the appended claims.

The disclosure made the basis of exemplifying the present inventive concept suggests a practical embodiment thereof, but the invention is not to be restricted to the exact details of this disclosure, and the latter, therefore, is to be understood from an illustrative, rather than a restrictive standpoint.

In the accompanying drawings—

Figure 1 is a side view in elevation partly broken away showing one form of my improved target toy;

Figure 2 is a top plan view thereof partly broken away.

Figure 3 is an end view thereof looking from the left of Figure 1;

Figure 4 is a fragmental sectional view taken on line 4—4 Fig. 3.

Figure 5 is a fragmental sectional view taken on line 5—5 Fig. 4;

Figure 6 is a fragmental perspective view of the target carrying arm;

Figure 7 is a top plan view of a modified form of the invention showing the toy provided with a target resetting device;

Figure 8 is a sectional view thereof taken on line 8—8 Fig. 7;

Figure 9 is a fragmental side view showing the target arm supporting slot and

Figure 10 is a fragmental perspective view of the target pivot or mounting.

Referring now to Figs. 1 to 6 of the drawings in detail 15 indicates a base made of any suitable material, the said base supporting an upright cylinder 16 near the bottom of which there is mounted a cross shaft 17 which carries a spring motor 18, the shaft 17 being provided with a finger piece 19 for winding the clock spring 20 of the said motor 18.

A vertical shaft 21 is driven by the said motor by means of a bevel gear 22 at the lower end of the said shaft, said gear 22 being in mesh with a similar gear 23 on the motor. Secured to the upper end of the shaft 21 is a housing drum or frame 24 which has secured thereto at the inside thereof a circular wire band or ring 25 which acts as a pivotal support for a plurality of arms 26 preferably made of wire. The said arms project outwardly of the drum 24 through openings 27 and have inwardly projecting portions 28 which carry numbered plates 29, the numbers 30 on the various plates being of different value. The outer end of the arms 26 each carry a target 31 in the present instance the targets 31 are simulations of air planes. A block 32 secured to the target acts as a bearing for the wire arm 26 the outermost end 33 of which penetrates the airplane target 31 to prevent rotary movement thereof upon the said wire. The indicia carrying plates 29 are normally when the arms 26 are in horizontal position hidden from view by housings 35.

When the targets are in normal horizontal position, the inner arms 28 are in engagement with retaining slots 36 in plates 37 in the interior of the drum 24. (See Figs. 2, 4, and 5.) However when any of the said targets are struck by the striker 38 of the plunger 39 which forms a part of the spring gun 40, the said arm end 28 is thrown out of the slot 36 and the target assumes the vertical dot and dash position shown in Fig. 1, the plate 29 and arm 28 moving through a T slot

41 in the upper wall 42 of the drum 24. It will be noted that the bottom of the slots 36 are inclined and are each provided with a protuberance 43 (see Fig. 5), the object of same being to prevent accidental disengagement due to vibration of the arms 28 of such targets that are not struck by the striker 38, such vibration being caused when the said striker strikes one of the targets.

The gun 45 is mounted on the base 15 and comprises in addition to the plunger 39, a tubular member 45 secured to a supporting structure 46. The plunger 39 terminates at the lower end thereof in a finger piece 47 which projects outwardly of the tubular member 45 through a slot 48 and is guided by means of a collar 49 in engagement with the interior of the said tubular member and by a perforated plate 50 through which it passes. Expulsion or upward movement of the plunger is accomplished by drawing same against a coiled spring 51 (see Fig. 1) by means of the finger piece 47 and then releasing same. The return of the piston to normal lower position is aided by means of an upper coiled spring 52 which strikes the plate 50 when the plunger is in its uppermost position and exerts a tension between the said plate 50 and collar 49.

The toy may be utilized for playing games by several players who are each allotted a given number of chances, the player having the largest score which is determined by the number of planes shot down and by their total numerical values, is declared the winner.

In the form of my invention above described the planes or targets are reset manually by lifting each plane and swinging same into position so that the arm 28 is in engagement with the slot 36. To reset all of the planes or targets simultaneously I have provided a modified form of the invention shown in Figs. 7 to 10.

In the said modified form of the invention the driven shaft 21 carries a housing 55 in which is supported a wire frame 56 upon which the target carrying arms 57 are pivotally mounted. Slots 58 having offset portions 59 provide means for normally supporting the said arms 57 when in extended horizontal position. Like the arms 26, the arms 57 are provided with numerical indicia bearing plates 60 which are visible only when the arms 57 are in displaced vertical position after being struck by the missile 38.

In order that all of the arms may be reset simultaneously, I provide a central post 61 which extends vertically from the bottom wall 62 of the housing 55 and which is suitably secured to the shaft 21. Superposed and telescopically slidable over the said post 61 is a cylindrical shell 63 to the bottom of which is secured a plate 64 which is connected by means of chains 65 to the indicia plates 60. The plate 64 and cylindrical shell is normally maintained in upper position by means of a spring S coiled about the post 61 and exerting a tension between the said plate 64 and bottom wall 62.

The resetting operation consists in depressing the shell 63 sufficiently to cause the target carrying arms through the connections 60, 64, and 65, to extend horizontally and then turn the shell 63 in clockwise direction to bring the said arms 57 into the slot offset portions 59 so that they may be supported upon the ledges 66 formed by the said offset portions 59. If desirable, raised portions 67 may be provided in the slots 66 to prevent accidental displacement of the arms 57 when not struck by the gun. In the form of my invention shown in Figs. 1 to 6, when the targets are in horizontal position the arms 28 will be in the position shown in Fig. 5 and the protuberance 43 will prevent sidewise movement. When a target 31 is struck its arm 26 will pivot and rise at an angle to the left moving the arm 28 to right and bring same to the bottom of the slot 36 before raising same to the top thereof.

Having described my invention what I claim as new and desire to secure by Letters Patent is:

1. In a game apparatus, a target comprising a standard, a shaft rotatably mounted vertically in said standard and projecting upwardly from the standard, a casing carried by the protruding upper portion of said shaft and having openings about its periphery and opening in its top, arms having inner end portions extending into the casing and pivoted therein to mount the arms for swinging movement from an elevated horizontal position radially of the casing to a depending vertical position, objects carried by outer portions of said arms and disposed horizontally when the arms are elevated, inner ends of said arms being bent to extend upwardly through the upper openings of the casing and scoring members carried by the upwardly extending inner ends of said arms and movable therewith through the top openings of the casing from a retracted position within the casing to an exposed position beyond the periphery of the casing.

2. In a game apparatus, a target comprising a rotatably mounted upright shaft, a horizontally disposed casing carried by said shaft in an elevated position, the casing having an upper wall formed with openings and openings about its periphery below the upper openings, arms extending through the peripheral openings and pivotally mounted in the casing for vertical swinging movement from an elevated position radially of the casing to a vertical position in depending relation to the casing, objects carried by outer ends of said arms, the arms having inner portions within the casing provided with fingers for moving upwardly through the upper openings and towards the periphery of the casing as the arms swing downwardly, scoring plates carried by said fingers and keepers within the casing for engaging the inner portions of the arms and releasably holding the arms elevated.

3. In a game apparatus, a target comprising a rotatably mounted upright shaft, a horizontally disposed casing carried by said shaft in an elevated position, the casing having an upper wall formed with openings and openings about its periphery below the upper openings, hoods carried by the casing over the upper openings extending radially of the casing and open at their outer ends, a ring in the casing, arms extending through the peripheral openings and engaged about the ring to pivotally mount the arms for vertical swinging movement for an elevated position radially of the casing to a lowered position in depending relation to the periphery of the casing, said arms having inner end portions provided with fingers for moving through the upper openings of the casing into the hoods and through the open ends of the hoods to an extended position as the arms move to a depending position, plates carried by said fingers and bearing indicia exposed when the fingers are in the extended position, objects carried by outer ends of said arms, and keepers within the casing for engaging inner portions of the arms to hold the arms elevated until the arms are moved out of engage-

ment with the keepers by a projective striking the objects.

4. In a game apparatus, a target comprising a rotatably mounted upright shaft, a horizontally disposed casing carried by said shaft in an elevated position, the casing having an upper wall formed with openings and openings about its periphery below the upper openings, arms extending through the peripheral openings and pivotally mounted in the casing for vertical swinging movement from an elevated position radially of the casing to a vertical position in depending relation to the casing, objects carried by outer ends of said arms, the arms having inner portions within the casing provided with fingers for moving upwardly through the upper openings and towards the periphery of the casing to an extended position as the arms swing downwardly, scoring members carried by said fingers and exposed when the fingers are in the extended position, and keepers within the casing having hooks disposed transversely of the arms for engaging over inner portions of the arms and holding the arms elevated until the objects are struck and the arms shifted transversely to move their inner portions out of engagement with the hooks and release the arms.

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