Dec. 14, 1954 N. C. LE ROY 2,696,620

CATCH NET FOR PLAYPENS

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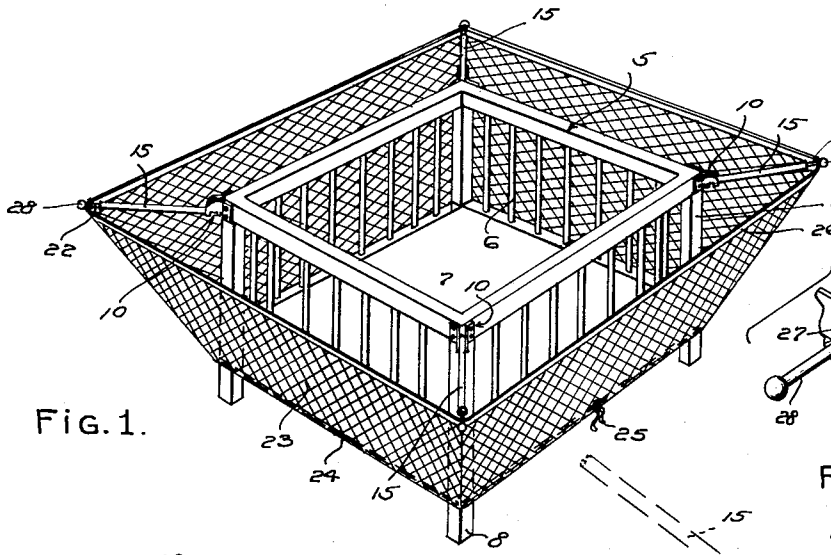


Fig. 1.

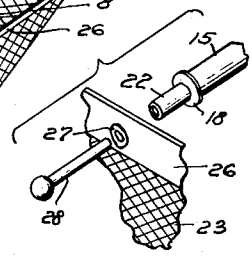


Fig. 6.

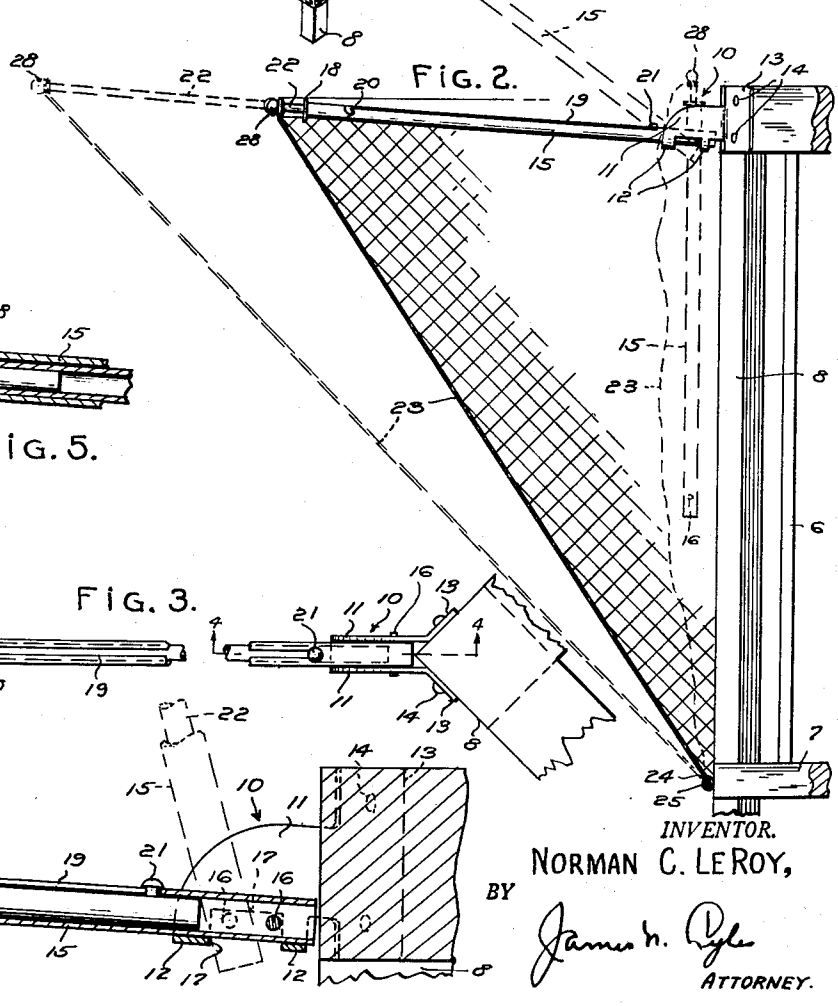


Fig. 2.

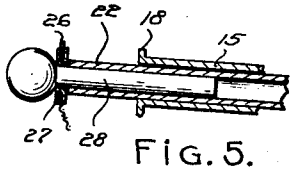


Fig. 5.

Fig. 3.

Fig. 4.

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CATCH NET FOR PLAYPENS

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5 Claims. (Cl. 5—317)

This invention relates to a catch net for detachable and collapsible connection to children's play pens and is an improvement over my United States Patent No. 2,607,052, issued August 19, 1952.

The primary object of the invention is to provide a net structure that extends entirely around the play pen to be angularly disposed outwardly from the pen a distance calculated to catch and entrap articles, such as bottles, toys or the like thrown by the occupant of the pen to prevent them striking the floor and in many instances being broken.

The invention contemplates novel supports for mounting engagement upon the play pen at each corner, which supports serve to hold the net in an extended angular position from the sides of the pen entirely therearound and with the supports constructed in a manner to permit them to be retracted against the side of the pen to collapse the net and facilitate attention to the occupant of the pen.

The invention further contemplates the novel supports for angularly disposing the net at a predetermined and desirable angle from the pen to catch and collect articles thrown by children of very young age and with the supports being further extensible to dispose the net outwardly a greater distance where the child is capable of projecting the articles a greater distance.

Novel features of construction and operation will be clearly apparent during the course of the following description, reference being had to the accompanying drawings, wherein has been illustrated a preferred embodiment of the invention and wherein like characters of reference are employed to denote like parts throughout the several figures.

In the drawings:

Figure 1 is a perspective view of a play pen showing the invention connected therewith,

Figure 2 is an enlarged side elevation of the net support in the supporting position, the pen and the net being fragmentarily shown,

Figure 3 is a plan view of the structure of Figure 2,

Figure 4 is a fragmentary longitudinal section through the support and associated mounting bracket, taken on line 4—4 of Figure 3,

Figure 5 is a fragmentary longitudinal section through the outer end of the support, taken on line 5—5 of Figure 3 and,

Figure 6 is a fragmentary perspective view illustrating the manner of connecting the net to the support.

Referring specifically to the drawings, the numeral 5 designates a conventional child's play pen, generally square in top plan and having open sides 6, a bottom 7 and ground legs 8. The legs 8 may be omitted and the invention is just as applicable to play pens having no legs and which set directly upon the floor. The specific structure of the pen is relatively unimportant, since it forms no part of the present invention.

Mounted at each of the corner legs 8 of the pen at their upper ends, are cradle brackets, indicated as a whole by the numeral 10. Each of the brackets 10 comprises a pair of vertically arranged spaced apart and parallel side walls 11, connected at their lower edges by integral spaced apart semi-cylindrical straps 12. Each of the side walls 11 carry attaching wings 13, angled substantially forty-five degrees from the plates and these wings 13 are apertured for the passage of fastening screws 14. The wings 13 have a height substantially corresponding to the upper rail of the pen.

Each of the brackets 10 support a tubular arm 15, to swing in a vertical plane. The arm 15 is hingedly supported within the bracket by a cross-pin 16 that projects through a slot 17 formed in the bottom of the bracket to form a fulcrum for the arm. The pin 16 engages the upper edge of the slot at opposite sides of the bracket, in which position the arm has simultaneous resting engagement with the straps 12. The arm 15 is likewise shiftable endwise with respect to the bracket and is limited in such movement by the abutment of the pin 16 with the outer end of the slot 17, in which position the inner end of the arm will clear the inner strap 12 and permit the arm to be swung upward and then projected downwardly axially through the slot to dispose the arm in the collapsed position shown in dotted line in Figure 2. The arm is limited in its downward axial movement by a preferably integral collar 18 formed on its outer end, with the collar having a diameter adequate to overlie the upper edges of the plates or side walls 11 of the bracket. The bracket 10 thus forms a cradle for the operative resting support of the arm 15. The arm 15 is longitudinally slotted for its major length, as at 19, with the outer end of the slot offset and undercut as at 20 for locking engagement with a headed pin 21, carried by a telescopic extension rod 22. The rod 22 is slidable into and out of the arm 15 and in normal retracted position, extends slightly beyond the collared end of the arm 15. The rod 22 is preferably formed tubular with its outer projecting end formed open.

Disposed entirely around the pen and adapted to be angled outwardly from the sides 6 and identical degree throughout the circumference, is an open mesh catch net 23, having a lower hem 24 into which is threaded a draw and tie cord 25, through the medium of which the lower marginal edge of the net may be securely bound around the bottom of the pen at a point slightly below the bottom 7. The upper marginal edge of the net 23 is preferably provided with a reinforced hem 26, into which is threaded an elastic cord for maintaining the net 23 substantially taut throughout its extended use. At equidistantly spaced points around the hem 26, the net is provided with attaching grommets 27, see more particularly Figure 6, and the hem is connected to the projecting ends of the several rods 22, by ball headed pins 28, passing through the grommets 27 and frictionally engaging the tubular rods 22, through the medium of which the hem 26 is securely connected to the rods against accidental displacement, yet may be quickly and easily disconnected by merely withdrawing the pins 28. Under normal operating conditions, where the child is very young, the rod is fully telescoped into the arm 15, with the net disposed at approximately the angle shown. The rods 22 will be held against accidental telescopic shifting by the retractive force of the elastic cord within the hem 26. The brackets 10 may be arranged with the cradle straps 12 slightly angled upward to dispose the arm 15 and the rod 22 slightly angled upward to maintain the upper marginal edge of the net 23 approximately flush with the upper rail of the pen to provide the maximum protection.

In the use of the device, identical brackets 10 are fastened at each corner of the pen at the upper end of the legs 8. The several arms 15 are mounted within their respective brackets and the pins 16 forced therethrough to project an equal distance beyond each side wall 11. The arms 15 are thus securely connected to the brackets against displacement and will be limited in their downward swinging movement by engagement with the straps 12. The rods 22 are then telescoped into the arms 15 and the headed pins 21 screwed or otherwise engaged therewith, thus limiting the telescopic movement of the rods in either direction. The net is then securely tied around the bottom of the pen by the cord 25 and the upper hem is connected with the several rods 22 by the pins 28. Upon release, the upper hem 26 will be held taut with the net angled outwardly from the pen an equal distance throughout the circumference of the pen.

It will now be observed, that a very substantial protective catch device has been provided which will effec-

tively catch any and all objects, such as bottles or toys which may be thrown by the occupant, shoved over the top of the pen or which may be forced through the open sides, with all such objects rolling gently downwardly to the bottom of the net where they may be easily and quickly collected and redeposited in the pen. The bottles or such like, are thus protected against breaking and avoids the need for the attendant to be continually picking the objects up from the floor, as is so common in present pens now in use. With older occupants of the pen, who have the ability to throw objects a greater distance, it becomes necessary to extend the net outwardly for greater protection. When this becomes necessary, the attendant merely pulls the rods **22** outwardly their full extension and then by giving the rods a partial turn, locks the pins **21** in the offset slot **20**. This extension of the net **23** is possible due to the recognized resiliency of netted material, coupled with the elastic cord in the hem **26**. The net will thus be securely held in the fully extended position shown by dotted lines in Figure 2. To release the net so that it may assume its normal position, the operator merely reverses the rotary movement of the rods **22** and the elastic cord will immediately shift the rods inwardly to the point where the pins **21** abut the inner end of the slot **19**.

When there is no need for the net, or when the occupant of the pen requires attention, it is desirable that the net be fully collapsed to facilitate such attention. To accomplish this, the attendant shifts the arms **15** forwardly in the brackets to the limit of movement of the pins **16**, at which time the inner end of the arms will clear the inner cradle strap **12**, permitting the arms **15** and associated rods **22** with its attached net to swing upward and permit the arms to be projected downwardly through the open slotted bottom of the bracket to assume a collapsed position substantially parallel with the legs **8**, shown in dotted lines in Figure 2. Thus the net is shifted to a position against the side of the pen and offers no obstruction to the full access to the interior. For attending to the occupant, it may only be necessary that the attendant collapse one or possibly two of the supports or, it may be that the net will be entirely collapsed when the pen is unoccupied. After the net has been collapsed, it may be easily and quickly extended by lifting the arm upward to a point where the pin **16** abuts the edges of the slot **17**, at which time the arm **15** is swung downwardly and then shifted rearwardly to overlie the inner cradle strap **12** where it is securely locked against further accidental shifting. The net **23** may be quickly and easily removed from the supports and from the pen for laundering by simply removing the pins **28** and untieing the cord **25**. The net may be further attached to the pen by tacking or otherwise at points around its lower hem **24** to prevent sagging under the weight of objects collected therein.

It will be apparent from the foregoing, that a very effective protective catch net has been provided for use with play pens. The parts are few and simple and cheap to manufacture, are strong, durable and easily mounted upon the pen. The cost of the device and its installation will more than compensate for the saving in broken bottles or the like. When the pen is to be stored, the net may be entirely removed and the arms collapsed, where they will be entirely out of the way, but always ready for use.

Changes in the shape, size and arrangement of parts and materials employed are contemplated as readily fall within the spirit of the invention or the scope of the subjoined claims.

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

1. In combination a catch net and a child's play pen of the type that is generally square in top plan and which is provided with corner posts, a closed bottom and open sides, the net adapted to extend entirely around the pen, the net having a lower marginal hem that is snugly engaged around the bottom of the pen and an upper resilient marginal hem, brackets fixed at the upper end of each of the corner posts, an arm pivotally supported in each of the brackets to extend outwardly in a generally horizontal plane, extension means carried by each of the arms that has detachable connection with the resilient hem of the net at equidistantly spaced points, the arms and the extension means supporting the net in a position of angularity outwardly from the sides of the pen an equal distance throughout the circumference of the pen, the pivotal means between the arms and the brackets permitting the arms to swing in vertical planes to be shifted to positions parallel with the corner posts to dispose the net in collapsed position against the sides of the pen.

2. The device according to claim 1, wherein the brackets provide a cradle support for the arms at their inner ends that is adapted to support the arms in a generally horizontal plane outwardly from the posts, the pivotal means permitting the arms to swing upwardly from the horizontal, means between the brackets and the arms to lock the arms against swinging movement, the extension means being telescopic with respect to the arms and adapted to be shifted outwardly to increase the angularity of the net outwardly from the sides of the pen and locking means to retain the extension means in the extended position.

3. The device according to claim 1, wherein the brackets are U-shaped and cut away at their bottoms to form a pair of spaced apart cradle straps, the brackets provided with angle wings that are apertured for connection to the pen, the arms and the extension means being tubular and telescopic with respect to each other, the inner end of each arm when in the horizontal net supporting position being supported in the brackets to have a normal resting support upon the cradle straps, the arms being swingable in a vertical plane to be shifted axially downwardly between the spaced cradle straps to dispose the arms in positions parallel with the corner posts, means carried adjacent the inner ends of the arms whereby when the arms are in the horizontal position they may be axially shiftable to have interlocking engagement with the brackets to prevent swinging movement, pin and slot connection between the arms and the extension means to limit the shifting movement of the extension means, the extension means when in the extended position having interlocking connection with the arms, the outer ends of each of the extension means having a detachable connection with the resilient hem of the net.

4. In combination a catch net device and a child's play pen and with the catch net having detachable connection with the play pen in a manner whereby it is disposed entirely around the circumference of the pen, the net provided with a lower hem having a draw and tie cord to snugly engage the hem entirely around a bottom of the pen, the net provided with an upper resilient hem for its entire circumference that is provided with grommets at equally spaced points in its circumference, the pen having corner posts and open sides, brackets rigidly secured to the corner posts adiacent their upper ends, the brackets being U-shaped and comprising spaced apart side walls open at the top and with the bottoms cut away to provide a pair of spaced apart cradle straps that provide an elongated slot, apertured wings carried by the side walls in fixed connection to the upper end of the pen, a tubular arm supported at one end in each of the brackets to have normal resting support upon the cradle straps, a pivot pin carried by the inner end of each arm to have traverse engagement in the elongated slot, the outer ends of the arms being open and flanged, the arms when in one position overlying both cradle straps of their respective brackets with their pins contacting the lower edges of the side walls to lock the arms against vertical swinging movement, the arms being axially shiftable outwardly to disengage the innermost cradle straps to permit the arms to be swung upwardly to be projected axially downwardly through the slots to assume positions parallel with the corner posts, the arms being limited in their downward movement by the abutment of the flanges with the upper edges of the walls, a tubular extension rod axially shiftable into and out of each of the tubular arms, a pin and slot connection between the arms and the rods to limit the shifting movement of the rods, the rods when shifted to the limit of their outer movement being partially rotatable to having interlocking engagement with the arms, the outer ends of the extension rods formed open and connecting means between the outer ends of the rods and the resilient hem that comprises headed pins that pass through the grommets and have frictional engagement with the tubular rods, the arms and the rods when in one position serving to support the net device in a position of angularity outwardly from the sides of the pen an equal distance throughout the circumference of the pen, the

arms when shifted to a position parallel with the corner posts serving to dispose the net against the sides of the pen.

5. The device according to claim 4, wherein the spacing of the bracket side walls is substantially identical with the diameter of the arms and wherein the opening of the slot is such as to permit the projection of the arm downwardly therethrough, the engagement of the inner ends of the arms within the brackets at all times being such as to prevent lateral movement of the arms, the headed pins connecting the resilient hem of the net being cylindrical and of a diameter corresponding to the inner diameter of the extension rods with the pins being first inserted through the grommets to axially and frictionally engage the inner face of the rods.

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