April 3, 1962 K. M. CRAIG 3,028,133

BABY BOTTLE HOLDER

Filed May 4, 1960 2 Sheets-Sheet 1

Fig. 1

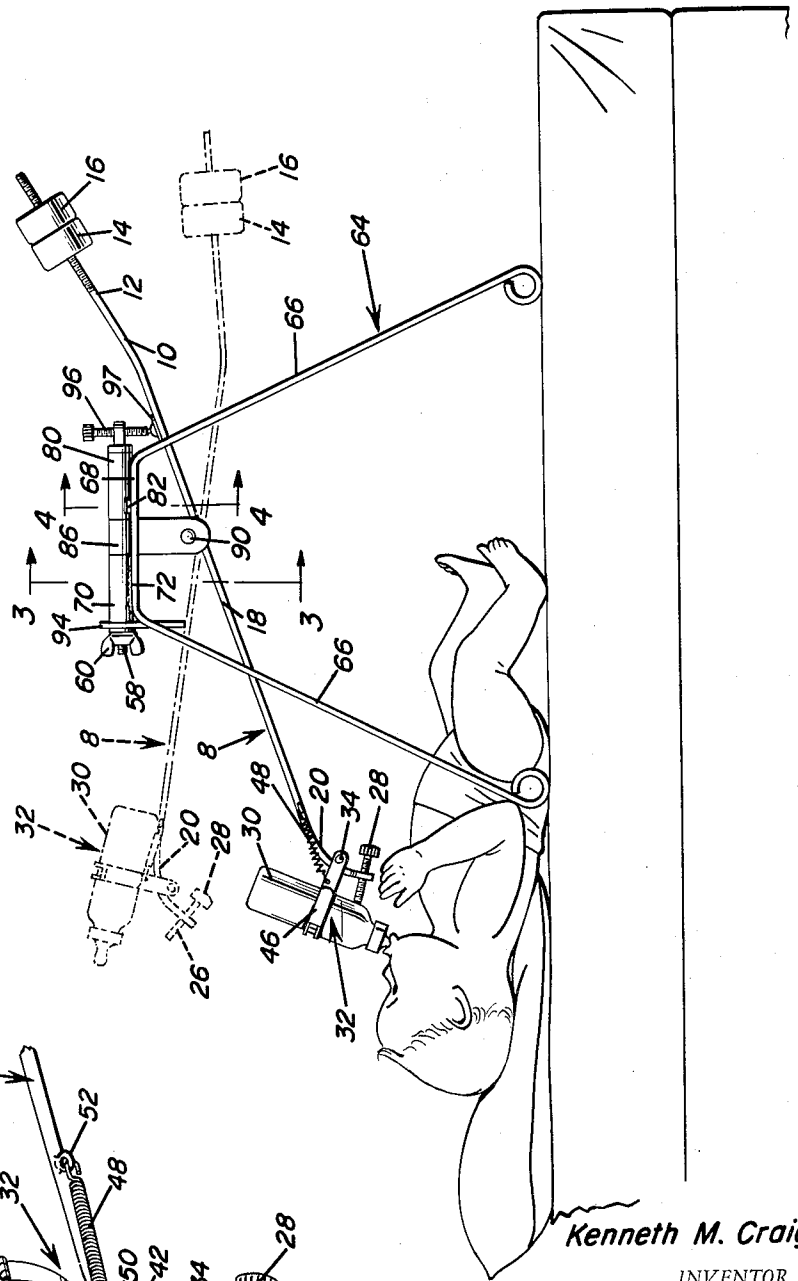
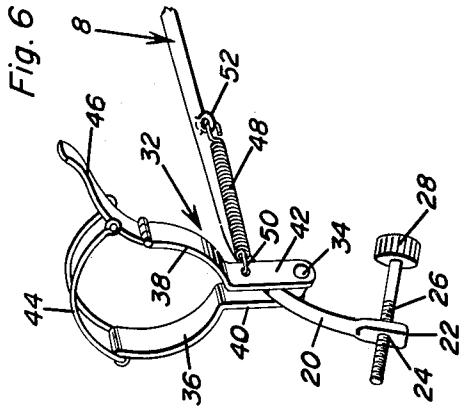


Fig. 6



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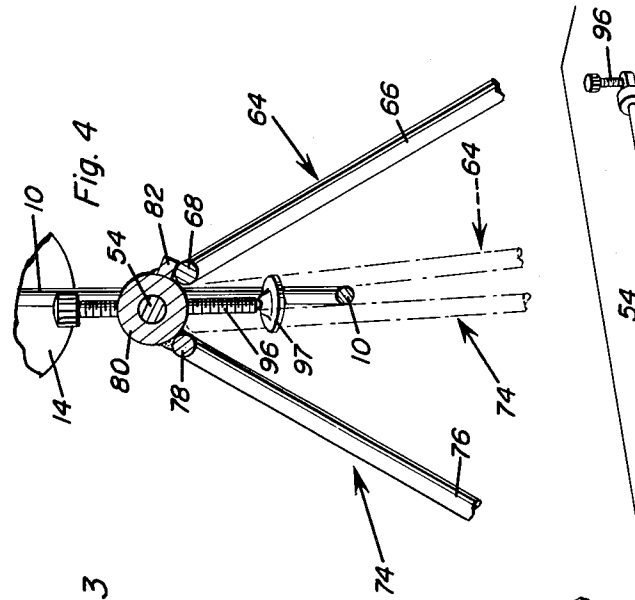
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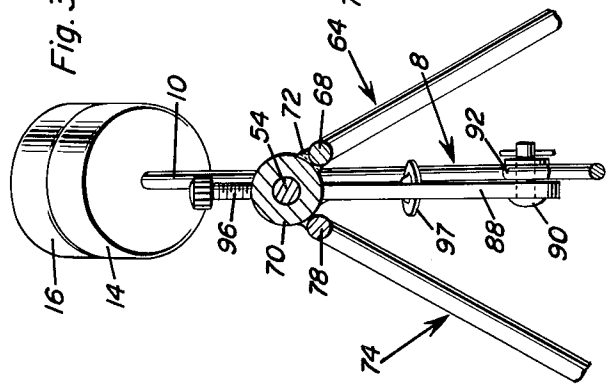
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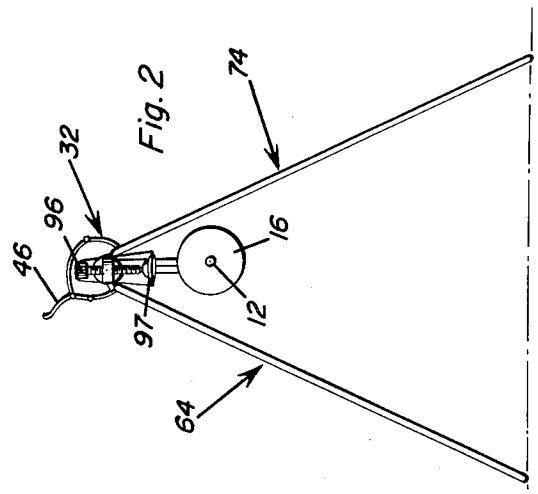
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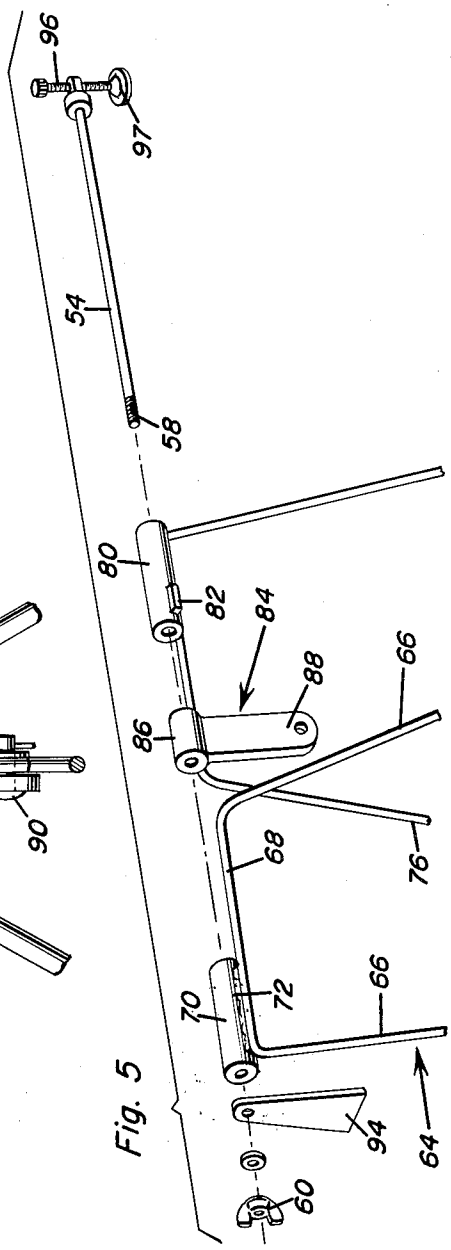
BABY BOTTLE HOLDER

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BABY BOTTLE HOLDER

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11 Claims. (Cl. 248—106)

This invention relates to certain new and useful improvements in mechanical devices which are constructed and suitably designed to hold a baby bottle and to take over the task of feeding the contents of the bottle to a baby and the general objective is to improve upon prior art holders and, in so doing, to recognizably advance the art.

As the preceding general statement implies, baby bottle suspending and holding devices are not new. In fact, the field of endeavor under advisement is reasonably well developed. Many and varied adaptations have been deviced and fields of use explored. However, and inasmuch as such accomplishments appear not to have met with widespread adoption and use, the present invention has been perfected in the belief that it will better and more satisfactorily serve the purposes for whcih it is offered and used.

To the above ends it will be herein shown that a number of significant and worthwhile improvements have been achieved. For example, the means herein utilized is such that it will suspend the bottle so that it will stay put and will not fall or move away from the intended feeding position. The baby cannot accidentally displace the securely held bottle. Important too is the fact that the bottle assumes the necessary angle to insure that the milk will gravitate with requisite nicety and reliability.

The construction is such that a feasible suitably poised beam or tip-up arm functions to take the bottle away from the baby when he has had his fill. Generally, a baby leaves an ounce or so of the formula when he has had enough. Then, and at this stage the beam automatically tips to an up out-of-the-way position even though some of the formula is still left in the bottle.

Another improvement resides in the fact that the bottle is held in a position of safety to the end that the baby is permitted to squirm and move freely without hindrance from the bottle or the means holding it.

Experience with the invention has shown that it enables a busy and often perplexed mother to effectively feed her baby soon after birth and until the time the baby is able to hold his own bottle. Consequently, this time-saving and practical facility frees the mother from the bottle holding chore so that the other pressing household duties can be readily taken care of.

As is evident with prior art devices, when milk is left in an inverted bottle it drips and creates an undesirable situation. This objectionable aspect is overcome with the present arrangement for the reason that the bottle is not only lifted gently away from the baby but is automatically pivoted and swung to an upwardly inclined position and leaking and dripping is consequently prevented.

As will be hereinafter revealed the invention features a novel portable support. More specifically, this support comprises a folding stand characterized by pivoted or hingedly connected leg-frames which are capable of being collapsed or folded together to promote compactness and convenience for handling and storage. By the same token, the legs may be spread apart when in supporting position to rest reliably on the supporting surface. Then, too, it will be noted that the stand resembles a trestle-like "sawhorse" with the result that it may be dressed (not shown) with an appropriately constructed covering to provide eye appeal in the sense that the stand then becomes an attractive toy. In fact, this "toy aspect" of the concept

may be enlarged upon in many and varying styles and ways.

In carrying out a preferred embodiment of the invention an arm or rod of suitable length is utilized as a balanced bottle suspending beam. The medion or central portion of this beam is pivotally mounted on the stand or other equivalent support to provide the desired tip-up or teeter-action. On the end of the beam adjacent the baby, referred to as the proximal end, an appropriate bottle holding clamp is provided. On the opposite rearward or distal end the beam is provided with manually adjustable counterbalancing weights whereby to thus regulate the vertical up or down movements of the beam and to timely position the bottle initially in its feeding position and to take it away and swing it up to an out-of-the-way position as already touched upon.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIG. 1 is a view in side elevation of the improved bottle holder illustrating the preferred structural embodiment thereof and showing, in full and dotted lines, the up and down positions of the bottle suspending and holding beam;

FIG. 2 is an end elevational view observing the construction seen in FIG. 1 in a direction from right to left;

FIGS. 3 and 4 are enlarged detailing sections on the vertical lines 3—3 and 4—4, respectively, of FIG. 1;

FIG. 5 is an exploded perspective view wherein the components which go to make up the trestle-like stand are adequately illustrated; and

FIG. 6 is an enlarged view in perspective showing the proximal end portion of the beam and the bottle clamp.

With reference to FIG. 1 the aforementioned elongated rod or arm is denoted generally by the numeral 8 and this part constitutes the aforementioned liftable and lowerable tip-up beam. The right hand end portion is to the rear, so to speak, and this portion **10** is designated as the distal end. It is suitably screw-threaded at **12** to accommodate the complemental counterbalancing weights **14** and **16**. The median or central portion **18** is pivotally suspended in a manner to be described later. The forward or proximal end portion of the beam is bent down and is designated as the proximal end. The terminal thereof, as best shown in FIG. 6, is flattened at **22** and is provided with a screw-threaded hole **24** to accommodate the screw-threaded shank **26** of a setscrew **28**. This setscrew constitutes an adjustable bottle stop and functions in the manner shown in FIG. 1 where it regulates the tilted angle of the nursing bottle **30**.

With further reference to FIG. 6 it will be seen that the numeral **32** designates the bottle holder which, more specifically, comprises a bottle embracing clamp. This clamp, as an entity, is pivotally mounted on the end portion **20** as at **34** to allow the bottle to move relative to the beam. The clamp may, of course, vary in construction. The one shown comprises cooperating diametrically opposite embracing grips or members **36** and **38** having vertical depending lower ends **40** and **42** which straddle the beam and are hingedly mounted in any suitable way as at **34**. The hinged components **44** and **46** provide readily usable openable and closable fastening means for the clamp and bottle.

As previously pointed out, it is desirable in a construction of this type to cause the lifted bottle to assume an upwardly inclined non-drip position as illustrated in phantom lines in FIG. 1. While some other means may

be employed to accomplish this result it has been found satisfactory to employ an appropriate coil spring 48. The spring is secured at one end as at 50 to the pivoted clamp and the other end is anchored at 52 on an anchoring eye fixed on one side of the shaft or beam.

The beam 8 with these appurtenances is responsively balanced and, of course, the sensitivity and responsiveness is attained with the proper positioning and adjustment of the counterweights 14 and 16.

The impoved support means or stand for the beam is collapsible or foldable so that it may be opened up as shown in full lines in FIG. 4 or folded into compact relationship as shown in dotted lines in the same figure. The construction of the stand can best be ascertained by reference to FIG. 5 wherein it will be seen that the numeral 54 designates a shaft having rearward and forward ends 56 and 58 suitably screw-threaded to accommodate the front and rear thumb nuts 60 and 62, respectively. Two leg-frames are provided and these are substantially duplicate in construction and one leg-frame is designated by the numeral 64, the legs at 66 and the bight portion at 68. Mounted on the left hand end of the bight portion is an attaching and hinging sleeve 70 which is welded in place as at 72. The other leg-frame 74 comprises legs 76 and the bight portion 78 the right hand end portion of which is provided with a companion sleeve 80 with a radial surface stop lug 82. These sleeves 70 and 80 are hingedly mounted on the end portions of the shaft 54. There is also a bracket provided at 84 which constitutes a hanger. This has a sleeve 86 mounted on the median portion of the shaft between the two sleeves 70 and 80. It also has a depending lug 88 which is provided as shown in FIG. 3 with a hinge pin 90 for the hingedly connected eye 92 on the cooperating median portion of the beam 8.

The numeral 94 at the left in FIG. 5 designates a depending plate or cleat which constitutes a front stop to limit the upward tilt or swing of the beam as shown in dotted lines in FIG. 1. A similar limit stop, preferably an adjustable setscrew 96 with a self-adapting head 97, is mounted in a fixed nut 99 at the rear of shaft 54 (FIG. 5) and this means constitutes a rear stop for the cooperating aligned portion of the beam. These limit stops may be adjusted to enable the user to properly regulate the interaction of all of the parts to achieve the most satisfactory operating results. In fact, the setscrew 96 may have to be regulated every time the bottle is given to the baby. The thumb nut 60 may be loosened or tightened to bind the legs together in folded relationship (as shown in dotted lines) or the legs may be swung out to divergent supporting positions and the thumb nut tightened to retain the legs in the intended position.

The use and operation of the invention should be clear from the specification and the accompanying illustrative views in the drawings. However, a brief resume will now be given. Assuming that the stand is folded to start with, first, loosen the thumb nut 60 and unfold the leg-frames 64 and 74 to the desired divergent reclining baby. Then, tighten the nut 60 against the adjacent washer or washers and it will, of course, stay put. Insert the bottle in the bottle holding and tilting clamp 32 as evident from FIGS. 1 and 6. Close the component fasteners or members 44 and 46 of the clamp (this construction is similar in some respects to a suitcase fastener). Generally, two-thirds of the bottle should be behind the clamp, that is, away from the nipple. Then, lower the bottle and put the nipple in the baby's mouth.

Next, the setscrew 28 which regulates the bottle angle should be properly adjusted to put the bottle at a correct inclined gravity feeding angle or position. The setscrew or limit stop 96 should be adjusted so that the balancing beam 8 holds the bottle at the correct distance above the baby and so that there shall not be any excess weight imposed objectionably on the baby. In case the baby moves the bottle does not drop, obviously. The counterweights 14 and 16 should be adjusted to more than counterbalance a bottle containing one to two ounces of leftover milk. This is done by screwing the counterweights either way on the beam. When this predetermined balance-action is attained the weights should be screwed tightly together to lock them in position.

Assume now that the baby drinks all but two ounces of the formula or milk in the bottle. When he has had enough, he forces the nipple out of his mouth and the counterweighted beam takes over and lifts or tilts the bottle up to the out-of-the-way position illustrated in phantom lines in FIG. 1. The shaft or beam tips up until it strikes the aligned limit stop 94. Thus, the bottle is up but the nipple is still in a downward position and inasmuch as the bottle is clamped in the holder with two-thirds of it back of the clamp away from the nipple and tends to rock toward the beam or shaft leaving the bottle in a tilted position. Manifestly, the spring 48 comes into play at this stage and functions and makes sure that the clamp and bottle assume the dotted line non-drip position.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. A baby bottle suspending and feeding device comprising a portable stand, an elongated beam having a median portion pivotally mounted on and suspended by said stand, limit stops mounted on said stand limiting the tilting movement of the beam up or down as the case may be, bottle holding means mounted on a proximal end of said beam, and adjustable counterbalancing weights mounted on the distal end of the beam, said bottle holding means comprising a clamp hingedly mounted on said proximal end, and an adjustable stop carried by said proximal end and against which a forward end portion of the bottle may rest in an inclined position.

2. A baby bottle suspending and feeding device comprising a portable stand, an elongated beam having a median portion pivotally mounted on and suspended by said stand, limit stops mounted on said stand limiting the tilting movement of the beam up or down as the case may be, bottle holding means mounted on a proximal end of said beam, and adjustable counterbalancing weights mounted on the distal end of the beam, said bottle holding means comprising a clamp hingedly mounted on said proximal end, and an adjustable stop carried by said proximal end and against which a forward end portion of the bottle may rest in an inclined position, and means for pivoting the clamp and bottle to assume a predetermined angular position when the proximal end automatically swings up to an elevated position, that is, after the contents of the bottle has been substantially fed to the baby.

3. The structure defined in claim 2, and wherein said means comprises a tensioned coil spring, one end secured to the clamp and the other end to the beam.

4. A baby bottle suspending, holding and feeding device comprising a portable stand having a hanger bracket, an elongated rod providing a beam, the median portion of said rod being horizontally pivoted on said bracket and swingable in a vertical plane, the forward proximal end of said rod being downwardly bent and carrying a setscrew providing an adjustable bottle-tilt stop, bottle holding means pivotally mounted on the down-bent end and serving to hold and position the bottle for cooperation with said setscrew, a coil spring connected at one end to said rod and at the other end to said holding means, the rearward distal end of said rod being screw

threaded and provided with adjustable counterweights.

5. The combination of claim 4, and front and rear limit stops mounted adjustably on said stand in line with cooperating portions of said rod, said hanger bracket being swingable from side-to-side on the stand.

6. The combination of claim 4, and front and rear limit stops mounted adjustably on said stand in line with cooperating portions of said rod, said hanger bracket being swingable from side-to-side on the stand, and said stand being collapsible and embodying leg-frames hingedly mounted on a shaft provided therefor.

7. A baby bottle holder comprising a folding portable stand embodying a shaft, a pair of inverted U-shaped leg-frames, said leg-frame being arranged in opposed relationship, the bight portion of each frame having a fixed assembling and hinging sleeve and said sleeves being hinged on said shaft for free rotation thereon, a hanger bracket also having a sleeve hinged on the shaft between the first-named sleeves, an elongated rod pivotally hung from said bracket and positioned for operation between the leg-frames, bottle holding means on one end of the rod, and weight means on the other end of the rod.

8. A baby bottle holder comprising a folding portable stand embodying a shaft, a pair of inverted U-shaped leg-frames, said leg-frames being arranged in opposed relationship, the bight portion of each frame having an assembling and hinging sleeve fixed thereon, said sleeves being axially alined, spaced apart and hinged on said shaft for free rotation thereon, a hanger bracket also having a sleeve hinged on a portion of the shaft between the first-named sleeves, an elongated bottle holding rod pivotally hung from said bracket and positioned for operation between the leg-frames, bottle holding means on one end of the rod, manually regulatable weight means mounted on the other end of the rod, and the respective ends of said shaft being provided with forward and rearward adjustably mounted limit stops alined with and serving to check the tilting angle of said rod relative to the horizontal.

9. A baby bottle holder comprising a folding portable stand embodying a shaft, a pair of inverted U-shaped leg-frames, said leg-frame being arranged in opposed relationship, the bight portion of each frame having a fixed assembling and hinging sleeve and said sleeves being

hinged on said shaft for free rotation thereon, a hanger bracket also having a sleeve hinged on the shaft between the first-named sleeves, an elongated rod pivotally hung from said bracket and positioned for operation between the leg-frames, bottle holding means on one end of the rod, weight means on the other end of the rod, one end of said shaft being screw-threaded and provided with a thumb-nut, a forward cleat-like plate having a slotted portion mounted on said threaded end and held clampingly and adjustably in place by the cooperating thumb-nut, and a setscrew mounted on the rearward end of the shaft providing a second limit stop for said rod.

10. A baby bottle holder comprising a folding portable stand embodying a shaft, a pair of inverted U-shaped leg-frames, said leg-frames being alike and arranged in opposed companion relationship, the bight portion of one leg-frame having an assembling and hinging sleeve at a forward end, the bight portion of the other frame having a similar sleeve at a rearward end, said sleeves being hinged on said shaft for free rotation, a hanger bracket also having a sleeve hinged on the shaft between and abutting the first named sleeves, an elongated rod pivotally hung from said bracket and positioned for operation between the leg-frames, spring biased bottle holding means pivotally mounted on a forward end of the rod, and adjustable weight means mounted on the rearward end of the rod.

11. The structure defined in claim 10, and in combination, manually regulatable motion limit stops mounted adjustably on the forward and rearward ends of said shaft, end portions of said rod being lined up with and located directly beneath their respective limit stops, and the second named sleeve having a stop lug on a peripheral surface and adapted, when in use, to abut the bight portion of said one leg-frame.

References Cited in the file of this patent

UNITED STATES PATENTS

1,624,355	Murray	Apr. 12. 1927
2,156,862	Maugard	May 2, 1939
2,412,426	Rayko	Dec. 10, 1946

FOREIGN PATENTS

151,395	Great Britain	Sept. 30, 1920