Dec. 9, 1930. R. H. FIKE 1,784,183

MECHANICAL BUCKING HORSE

Filed Jan. 15, 1929 3 Sheets-Sheet 1

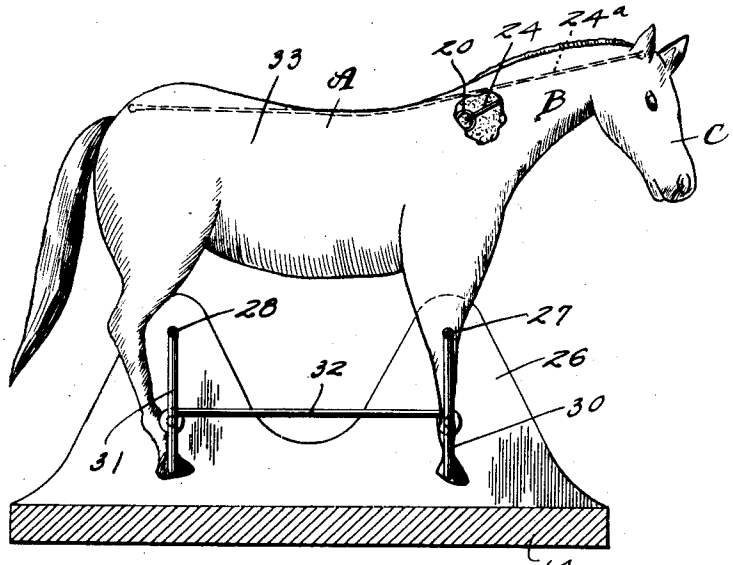


Fig. 1.

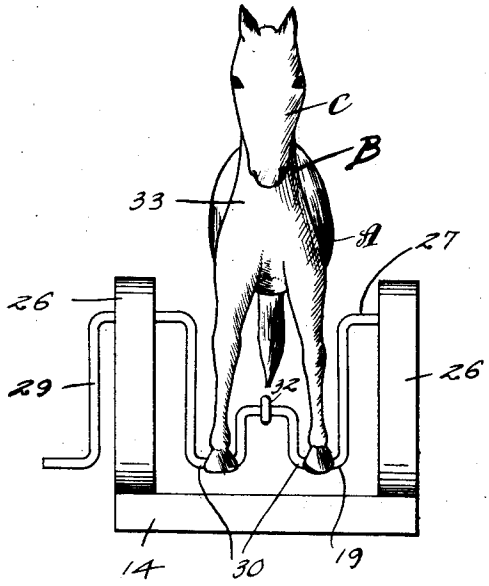


Fig. 2.

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MECHANICAL BUCKING HORSE

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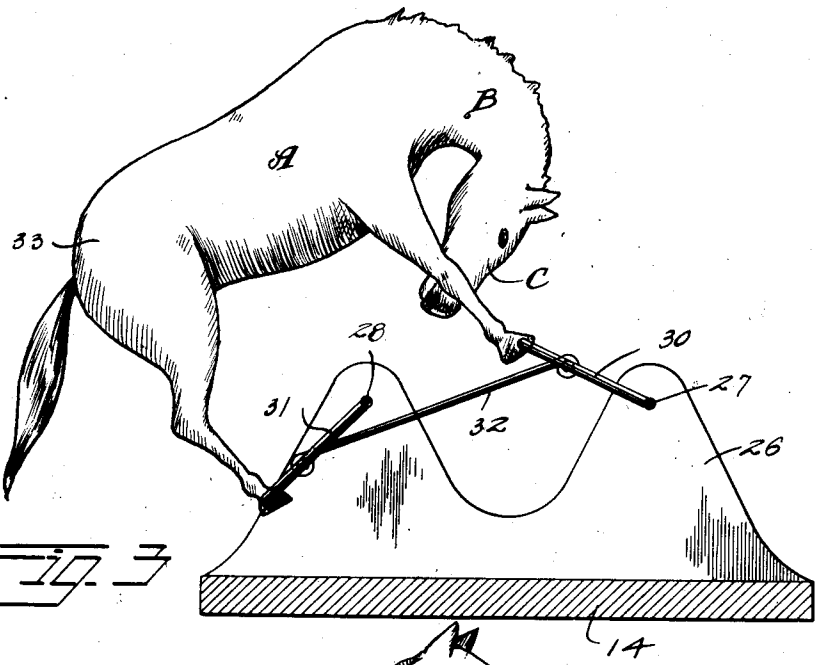


Fig. 3

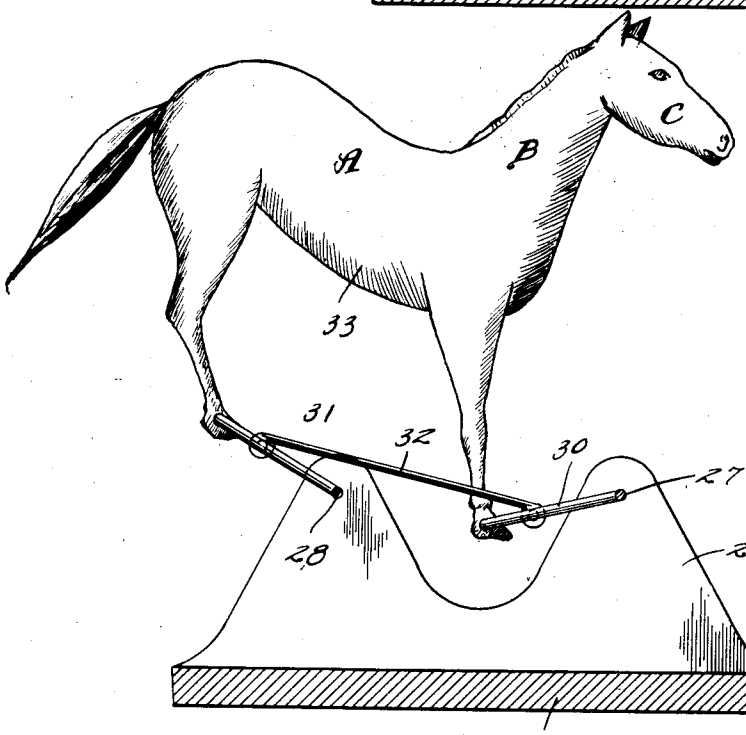


Fig. 4

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MECHANICAL BUCKING HORSE

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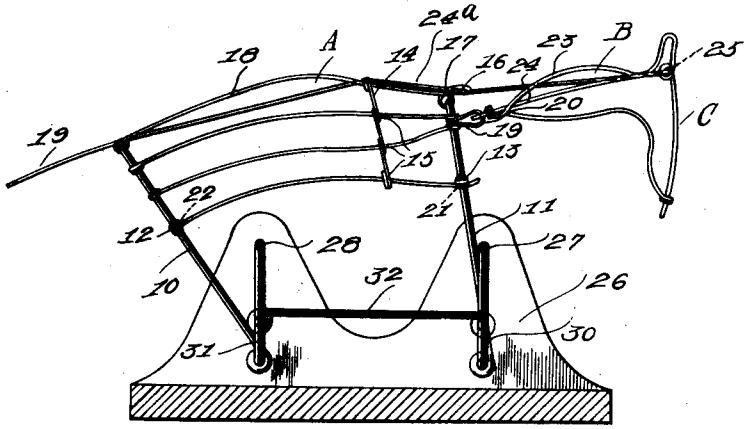


Fig. 5.

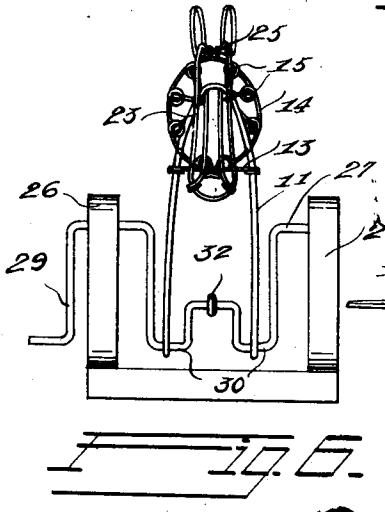


Fig. 6.

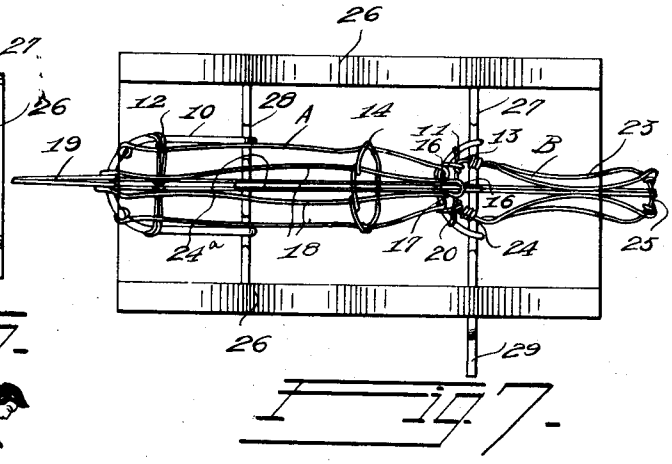


Fig. 7.

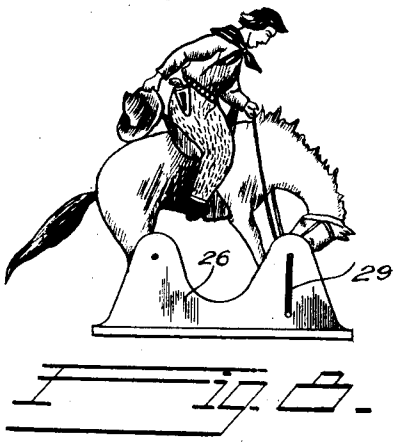


Fig. 8.

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Patented Dec. 9, 1930 1,784,183

UNITED STATES PATENT OFFICE

ROY H. FIKE, OF EAGLE, IDAHO

MECHANICAL BUCKING HORSE

Application filed January 15, 1929. Serial No. 332,713.

This invention relates to exercising machines or toys and particularly to an exercising machine or toy having the similitude of a bucking horse. The general object of the invention is to provide a device of this description so constructed that by rotating a handle, the bronco may be caused to imitate the action of a bucking horse attempting to throw its rider.

Another object is to so construct the device that the body of the horse as the handle is rotated will take different positions sometimes with the head down, sometimes with the head up and the buttocks down and sometimes with the body extending more or less horizontally while the body rises and falls, thus imitating quite naturally the actions of a horse attempting to throw its rider.

A further object is to provide a device of this character which may be made either in full size and thus be used as an exercising machine or in bucking contests or which may be made as a toy.

Other objects will appear in the course of the following description.

My invention is illustrated in the accompanying drawings, wherein:—

Figure 1 is a side elevation of my device in one position of the parts, the outer covering at the junction of the neck with the body being broken away to show the pivotal connection of the neck frame with the body frame;

Figure 2 is a front elevation of the device;

Figure 3 is a side elevation, the base being in section as in Figure 1 and showing another position of the horse;

Figure 4 is a like view to Figure 3 but showing still another position which the parts take;

Figure 5 is a side elevation of the framework, the base and cranks being in section;

Figure 6 is a front elevation of the front and the base;

Figure 7 is a top plan view of the same;

Figure 8 is a side elevation showing the figure with a manikin mounted thereon.

In the embodiment of my invention which I have illustrated, the frame of the bronco or other animal is preferably formed of wire. I do not wish to be limited to this, however, as obviously, except in certain features, the frame of the bronco might be made of other material than wire. The body A has hingedly connected to it the neck B formed with the head C which is rigid with the neck. The rear legs of the animal are shown as being formed of an elongated loop or U-shaped member 10 of relatively heavy and stiff wire, the forelegs of the animal being formed by the elongated loop or U-shaped member 11 also being formed of stiff wire. These loops 10 and 11 are disposed in slightly angular relation to each other so that if the forelegs 11 are approximately vertical, the hind legs will extend downward and forward.

Connecting the hind legs is a cross bar of wire designated 12 and connecting the forelegs is a cross bar of wire designated 13.

This wire is wrapped about and securely engaged with the forelegs and hind legs formed by the members 11 and 10. Extending around approximately the chest of the manikin is an approximately elliptical wire brace 14 formed at intervals with eyes 15. To form the backbone, as it may be termed, of the animal, a single length of wire is taken and folded at its middle, the bight end of the wire being bent to form an eye 16, the loop 17 embracing the forward U-shaped member 11 adjacent its apex. The two lengths of wire designated 18 are then extended rearward and wrapped around the rear U-shaped member 10 and then extended further rearward to constitute the tail or core of the tail 19. To constitute the flanks of the animal or the sides of the animal, two lengths of wire are taken and bent at the middle to form a bight and then looped around the forward U-shaped member 11 on each side of the animal as at 19, then extended forward to form the loop 20. The two lengths of the folded wire are extended rearward through the eyes 15 and engaged with by wrapping around the leg or member 10. The under side of the frame constituting the body is formed by a single length of wire bent at its middle, the bight end of the wire being wrapped around the cross bar 13 as at

21, the length of wire then being extended rearward and wrapped around the cross bar 12 as at 22. Thus it will be seen that a frame is formed which has the general contour of a horse and upon this frame a suitable padding and covering may be placed.

To the loops 20 is pivotally connected a framework designated generally 23 and formed of wire in resemblance of a horse's head. The wire frame may be made in any desired manner but it is formed with the two loops 24 which engage with the loops 20 so that the horse's head may swing in a vertical plane on these loops. An elastic cord 24[a] of any suitable nature is connected to a cross bar 25 of the frame and extends through the eye 16, then over the circle 14 and is looped beneath the tail 19. This elastic cord may be made of a rubber band.

This cord will elastically hold the head either in a fully raised position or fully lowered position but will permit the head to swing up or down sometimes past its center as the body of the horse is violently oscillated by means which will now be described.

The body is shown as being disposed between two walls or supports 26 and through these walls pass the crank shafts 27 and 28. One of these shafts, as for instance the shaft 27, is provided with a crank 29 whereby the shaft may be rotated. The shafts are formed with the cranks 30 and 31 and these crank portions pass through the eyes formed by the lower ends of the legs of the U-shaped members 10 and 11. Connecting the crank shafts between the portions 30 and 31 is a connecting rod 32.

With this construction, as the crank shaft is operated, the forward crank will cause the forward U-shaped member 11 to be alternately raised and lowered. Now if the rear crank shaft is positively connected with the forward crank shaft to have simultaneous movement at the same rate and in the same direction as the forward crank shaft, the body of the horse would move in a uniform, slightly elliptical path but as a matter of fact this does not occur with my mechanism for the reason that as the forward crank shaft moves downward and rearward a point will be reached where the connecting rod will exert an upward thrust upon the rear crank shaft and a further movement of the forward crank shaft will, therefore, force the rear crank shaft in an opposite direction, hoisting up on the rear of the animal while the head of the animal is downward.

A further movement carrying the crank shaft upward and forward will cause the rear crank shaft to shift downward and rearward rapidly, thus causing the tail of the animal to be depressed and upon a further movement of the forward crank shaft the rear crank will move upward and forward until suddenly the two crank shafts will come into momentary coincidence and the whole body of the horse will move downward.

If the rear crank shaft by any chance moves more rapidly than the front crank shaft as sometimes occurs the head of the horse will move downward while the rear of the horse will be uplifted. Thus while the general movement of the horse is that of bucking, the detailed movement is constantly varied depending upon the different relative positions of the two cranks 27 and 28.

It will be understood that a manikin as for instance a figure of a cowboy may be mounted upon the horse and move therewith and if the figure be loosely mounted upon the figure of the bronco but so that it cannot be detached, it will be obvious that the figure will take different positions depending upon the movement of the body of the horse which will simulate a cowboy attempting to ride a bucking bronco.

As before remarked, this device may be made either in a small size as in a small toy or in a larger size as an exercising machine or as a training machine upon which real cowboys may ride until unseated. The body of the horse takes a large variety of different positions quite similar to those taken by a bucking bronco, for instance, the bronco in bucking will rear upward upon its hind legs to try and slide the cowboy off backward or sometimes the bucking bronco will depress the head and elevate his body at the rear so as to cause the rider to slide off over the head of the animal. These positions are all taken by the mechanism which I have devised.

While I have illustrated certain details of construction, which permit the body of the toy to be very readily and yet cheaply made, yet I do not wish to be limited to this as obviously many changes might be made in the details of construction without departing from the spirit of the invention as defined in the appended claims.

I do not wish to be limited to any particular framework for the construction of this device as the frame might be varied in many ways within the scope of the claims. It is sufficient that there shall be a supporting frame and preferably the neck and head of the bronco will have a frame which is pivotally connected to the frame of the body and the head will be elastically held in a normal position.

I claim:—

1. A mechanism of the character described, comprising the similitude of an animal body having two forelegs and two hind legs, the legs being rigid with the body of the animal, a head having a neck, the neck being hingedly connected to the body and moving in a vertical plane, an elastic member attached to the body beyond the pivotal center of the head and neck and extending along the neck

and engaged with the head, the head when shifted in either direction beyond the neutral point carrying the elastic member across the pivotal center whereby the elastic member tends to yieldingly hold the head in one of two positions, forward and rear crank shafts connected to the respective forward and rear legs of the shafts, means for turning one of said crank shafts, and a connecting rod connecting the two crank shafts.

2. A mechanism of the character described, comprising a body having a similitude of an animal and having two forelegs and two hind legs, the legs being rigid with relation to each other, the legs at their lower ends being formed with loops, crank shafts having cranks engaging said loops, one of said cranks being formed with means whereby it may be rotated, a connecting rod connecting the two crank shafts, a head having a neck, the neck being hingedly connected to the body and moving in a vertical plane, the body being formed with an eye at the junction of the neck with the body, and an elastic member attached to the body and extending through said eye and then upward to the top of the head and longitudinally along the neck, this elastic member acting to yieldingly hold the head in either one of two positions past the dead center of the elastic member.

3. A mechanism of the character described, comprising a frame-work formed in the similitude of an animal body, and including an approximately U-shaped wire constituting forelegs of the animal and an approximately U-shaped wire constituting the rear legs of the animal, longitudinal wires forming the frame work of the body and joined with the first named wires, certain of the longitudinal wires at their forward ends being formed to provide loops, a head and neck frame hingedly connected to said loops and moving in a vertical plane, elastic means holding the head and neck yieldingly in one position, transversely extending crank shafts having cranks engaging the lower ends of the forward and rear legs, one of said cranks having means whereby it may be rotated, and a connecting rod between said crank shafts.

In testimony whereof I hereunto affix my signature.

ROY H. FIKE.