

March 29, 1932.

K. SCHINDLER

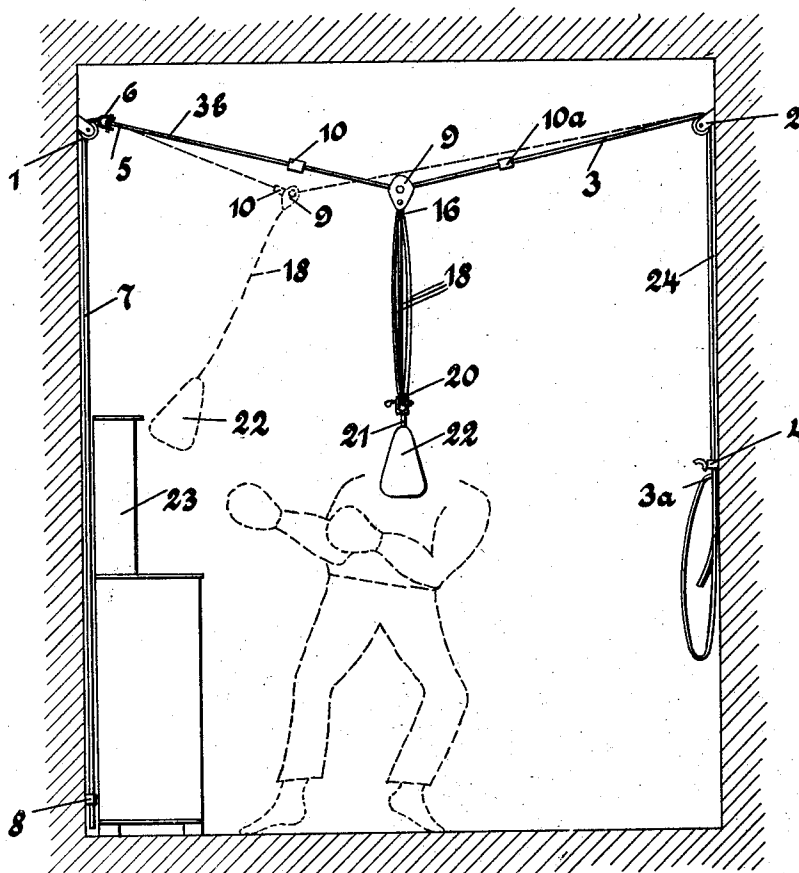
1,851,649

PUNCHING BALL

Filed Dec. 1, 1930

3 Sheets-Sheet 1

Fig. 1



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3 Sheets-Sheet 2

Fig. 2

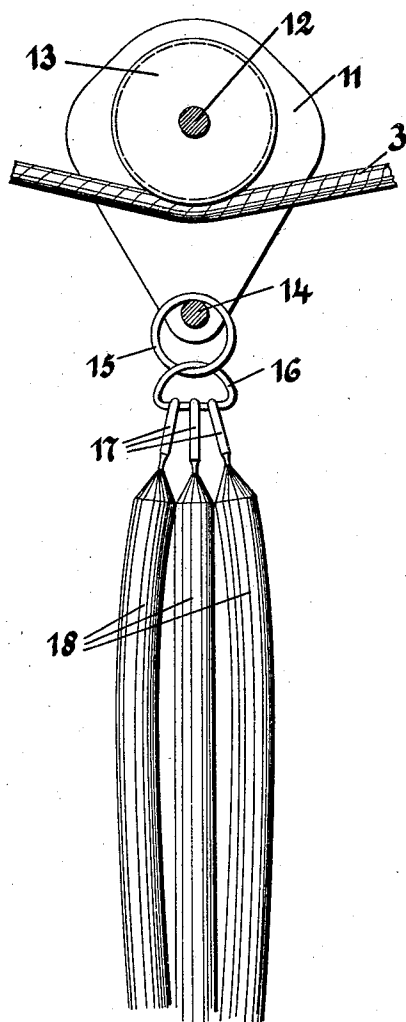
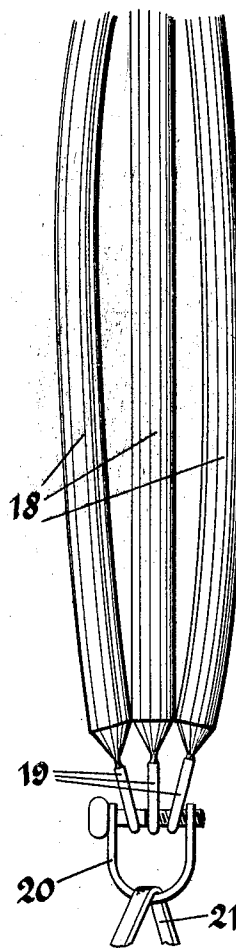


Fig. 3



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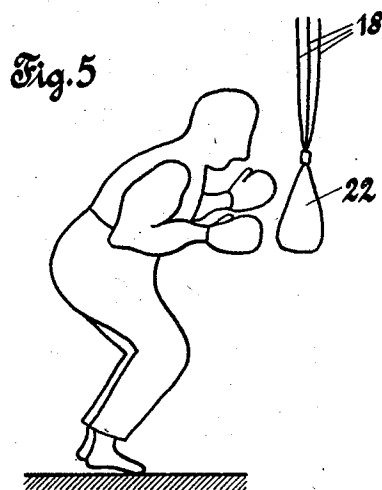
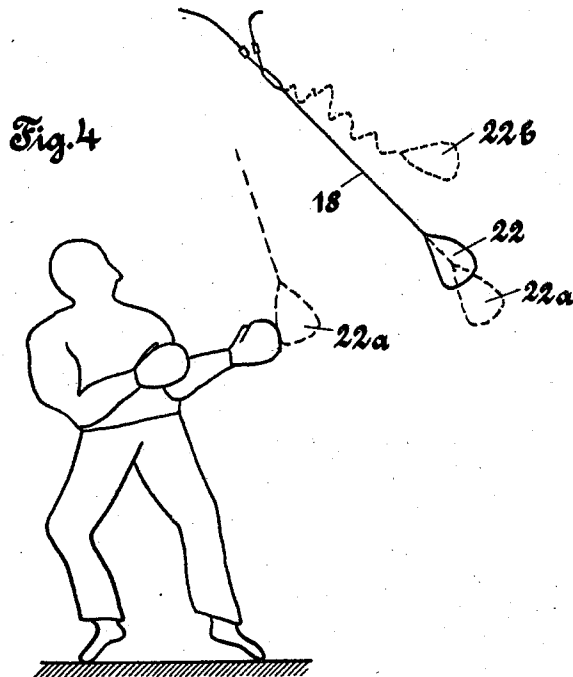
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3 Sheets-Sheet 3



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## UNITED STATES PATENT OFFICE

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## PUNCHING BALL

Application filed December 1, 1930, Serial No. 499,393, and in Germany October 23, 1930.

There has become known, under the designation "punching ball", a device employed for training by those engaged in the sport of boxing, the said device consisting of an approximately pear-shaped leather casing, filled with maize or other suitable material, which is suspended from the ceiling of a roof by means of a rope, string or the like. Such balls are liable to the defect that their efficiency is very restricted, owing mainly to their mode of suspension from a string. In view of this defect a mode of fitting of the end of the string from a rail has been devised, but the result obtained in such a manner is by no means satisfactory, owing to the great amount of space required by such arrangement, and which is not always available in the case of amateur boxers. This arrangement also suffers the inconvenience that the ball is never swung back towards the boxer after a blow, and that the boxer, before aiming a further blow at the ball, must always fetch it back first.

All the imperfections described above are now completely eliminated by the present invention. This device can be fitted in the smallest rooms, without any danger of the ball striking the walls or the furniture. The back and forward motions of the ball, and all its other motions, are intensified to the greatest extent, thus enabling the man to adjust his tactics to special intricacies, or to assumed physical advantages or disadvantages of an opponent. The said invention possesses a further advantage in that it can be employed in any room, even in a bedroom or a dining-room, and that it can be removed after use, so as not to detract from the appearance of such places. It can, moreover, be taken away on voyages, and it can easily be fitted in hotel-rooms and the like, and even on board ships.

The means chiefly employed for obtaining such results are that the ball, instead of being fitted, as hitherto, on a non-elastic string of plain type, is mounted on one or several elastic rubber cords, or on metallic spirals or springs, connected with a line running through the whole width of a room and fitted with adjustable stops limiting the amplitude of the oscillations of the ball, and that this

line is also designed in such a manner that the ball can be adjusted at a higher or lower level, corresponding, therefore, to the physical build of the man in training as well as of the opponent represented by the ball.

The securing line is fitted, for this purpose, in such a manner that it does not run in a rectilinear direction, like the suspension rails hitherto employed, but forms an angle in a downwards direction, at the apex of which the carrier is in its position of rest. As a consequence of this arrangement, at each blow, some of the force of the impact is taken up by the roller, which, however, is set into motion a little later than the ball itself, with the consequence that the latter swings back whilst the roller is still leading.

This arrangement prevents the ball striking the walls of the room, or damaging furniture, pictures, or the like.

An embodiment is illustrated by the accompanying drawings, wherein:—

Figure 1 shows a section of a room in which the subject-matter of this invention is fitted.

Figures 2 and 3 are partial views of Figure 1 on an enlarged scale.

Figures 4 and 5 illustrate the mode of operation of the subject-matter of this invention in various boxing positions.

Referring to the drawings, over two rollers 1 and 2 (Figure 1) is run a line 3, one of the ends 3a of which can be secured by a clamping device 4. Its other end 3b is hooked, by means of a snap-hook 5 or a like fitting, in the shackle 6 of a second line 7, which may be secured to the floor, or clamped to the wall by means of a suitable device 8.

On the line 3 is mounted a carrier 9, the stroke of which is limited by stops consisting of adjustable sliding bushes 10 and 10a. As shown by Figure 2 the carrier 9 consists of cheeks 11 forming the bearings of an axle 12 carrying a small rope-pulley 13. At the bottom end of the cheek 11 is fitted a pin 14 carrying a ring 15, which is traversed, in its turn, by a loop or shackle 16 to which three elastic traction cords 18 are secured by means of snap-hooks 17. At the bottom end of these traction cords 18 (Figure 3) are fitted further snap-hooks 19 holding a shackle 20 from

which the punching ball 22 (Figure 1) is suspended by means of noose or similar part 21.

The arrangement of the rings 15 and 16 favours a whirling motion (axial rotation) of the ball 22. With a view to taking into account, to the greatest possible extent, this twisting motion during the hurtling about, provision can be made of a ball-joint or other universal joint, instead of the loop or shackle 16, thereby preventing every twisting of the cords 18.

Figure 1 shows the stance of the boxer delivering a straight blow with his right, with subsequent clinching. In this instance the pear 22 has been projected to the extent that the runner 9 strikes the movable stop 10. The runner or carrier 9 having been forced upwards, a large part of the impact has been absorbed. The pear 22 is, however, already swinging back towards the boxer before the carrier 9 strikes the stop 10. Owing to this arrangement the ball 22, as shown by practical tests repeated over and over again, is absolutely prevented from striking the sideboard 23.

Figure 4 constitutes a view, turned through about 90°, of Figure 1, allowing of the swinging motions comprised within the plane of the drawing of Figure 1 being illustrated. In this instance the boxer has delivered a straight left, intending to follow up with his right. The ball 22 begins by swinging to its extreme position, in which the elastic cord or cords 18 is (or are) stretched under the influence of the weight of the ball, thus giving rise to the position 22a, whereupon the ball, consequent upon the reaction of the rubber cords, leaps into the position 22b, and returns to the position 22c, in which it can be stopped by the boxer.

Owing to the arrangement of the rollers, and of roller 2 (Figure 1), in particular, the ball can be lowered to any level required, so that it can be adjusted to any requirements of the stature of the man in training, as well as to any particular training stances. Figure 5, for example, illustrates the position of the ball lowered approximately to the height of the belt, for the purpose of practicing in-fighting and upper cuts by the boxer.

When it is required to remove this device from a room the line 3 is lowered by means of the line 7 (Figure 1) to the extent required for detaching the snap-hook 5 from the shackle 7. The line 3 can be hooked on in front of the roller 2 for the same purpose. If the line 7, and the opposite part of the line 3, marked 24, are then fitted in an unobtrusive manner in a guiding tube below the wallpaper, nothing is visible, after the central part of the device has been removed, but the two rollers 1 and 2, which are not, however, of such an obvious character as to interfere with the good general appearance of a room.

Various alterations can be made to this device, from the point of view of its mode of execution, without departing from the principles of the invention. It is immaterial, for instance, what design is given to the adjustable stops 10 and 10a. The clamping devices 4 and 8 can also be designed in any manner required. The cords 3 and 7 can be made of thick string or of thin wire.

What I claim is:—

1. A punching ball comprising a ball, an elastic suspension element to which the ball is attached, a line to support the suspension element, a carrier for the latter mounted to move along the line, and devices fixed to the latter to limit the movement of the carrier.

2. A punching ball comprising a ball, a plurality of elastic cords to which the ball is attached, an inextensible line to support the elastic cords, means whereby the centre of the line may be raised and lowered, a carrier for the elastic cords mounted to run along the line, and stops fixed to the latter to limit the running movement of the carrier.

3. A punching ball comprising a ball, an elastic suspension element to which the ball is adapted to be attached, a line provided with means whereby it may be detachably secured to a wall or the like, a carrier slidably mounted on the line and supporting the elastic suspension element, and two stops fixed on the line between which the carrier can move.

4. A punching ball according to claim 3 wherein the line is provided with means whereby it may be detachably secured at both ends to a wall or the like.

5. A punching ball comprising a ball, an elastic cord suspension element to one end of which the ball is attached, a line to support the suspension element, a carrier mounted to move freely along the line, and a universal joint on the carrier whereby the suspension element is attached thereto.

In testimony whereof I hereunto affix my signature.

KURT SCHINDLER.