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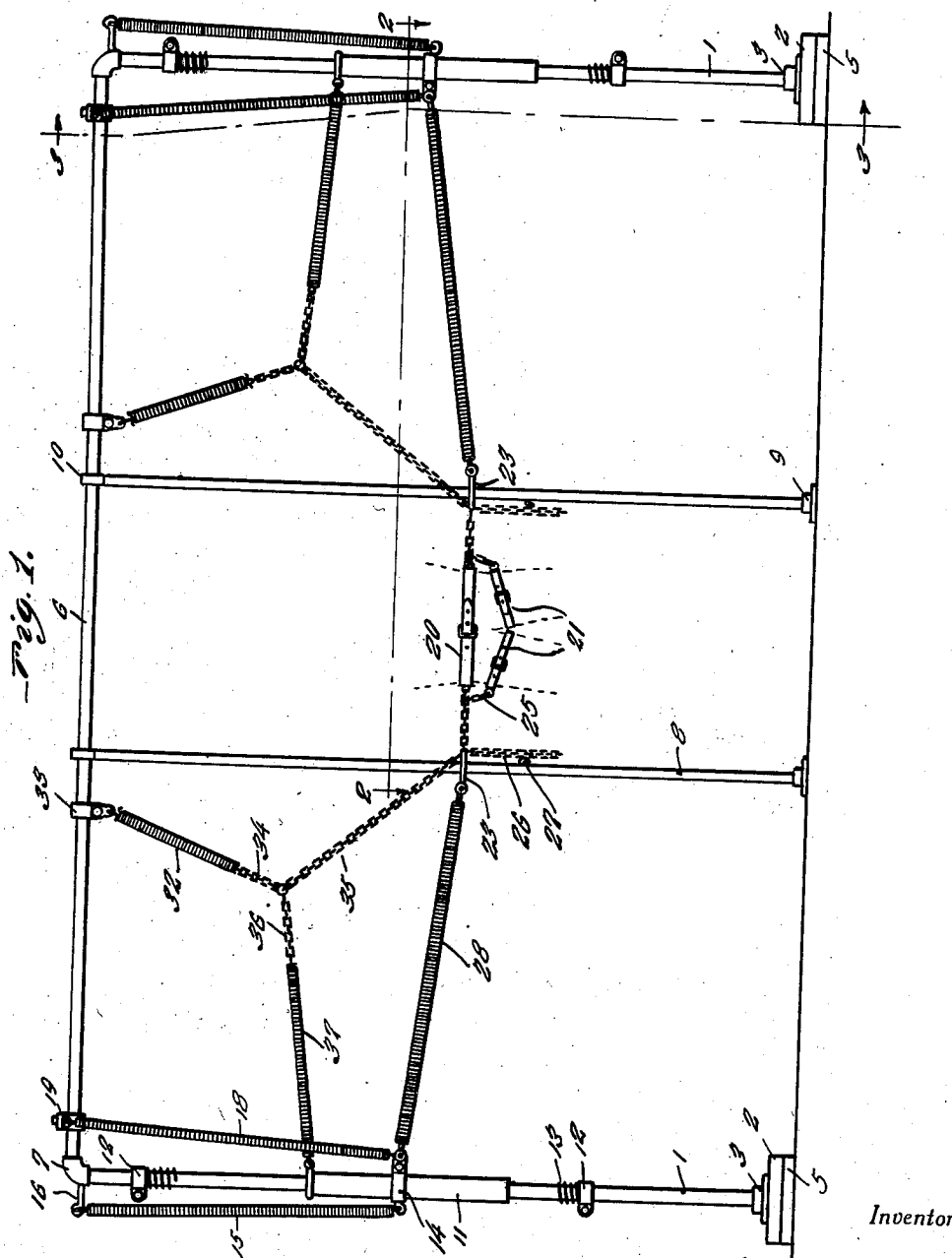
O. O. HOWLAND

2,107,377

APPARATUS FOR TEACHING TUMBLING

Filed Oct. 30, 1937

3 Sheets-Sheet 1



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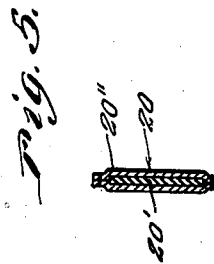
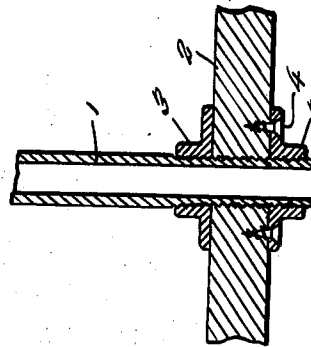
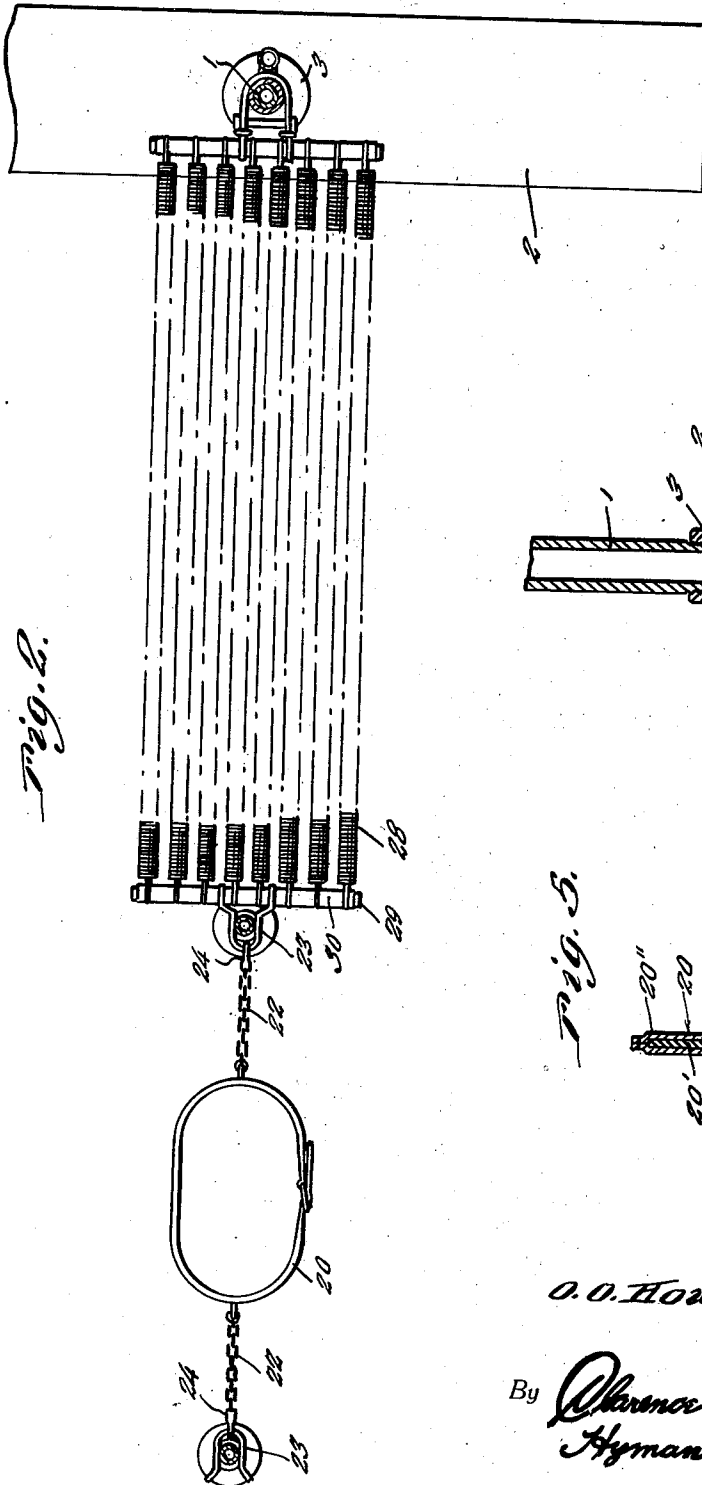
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3 Sheets-Sheet 2



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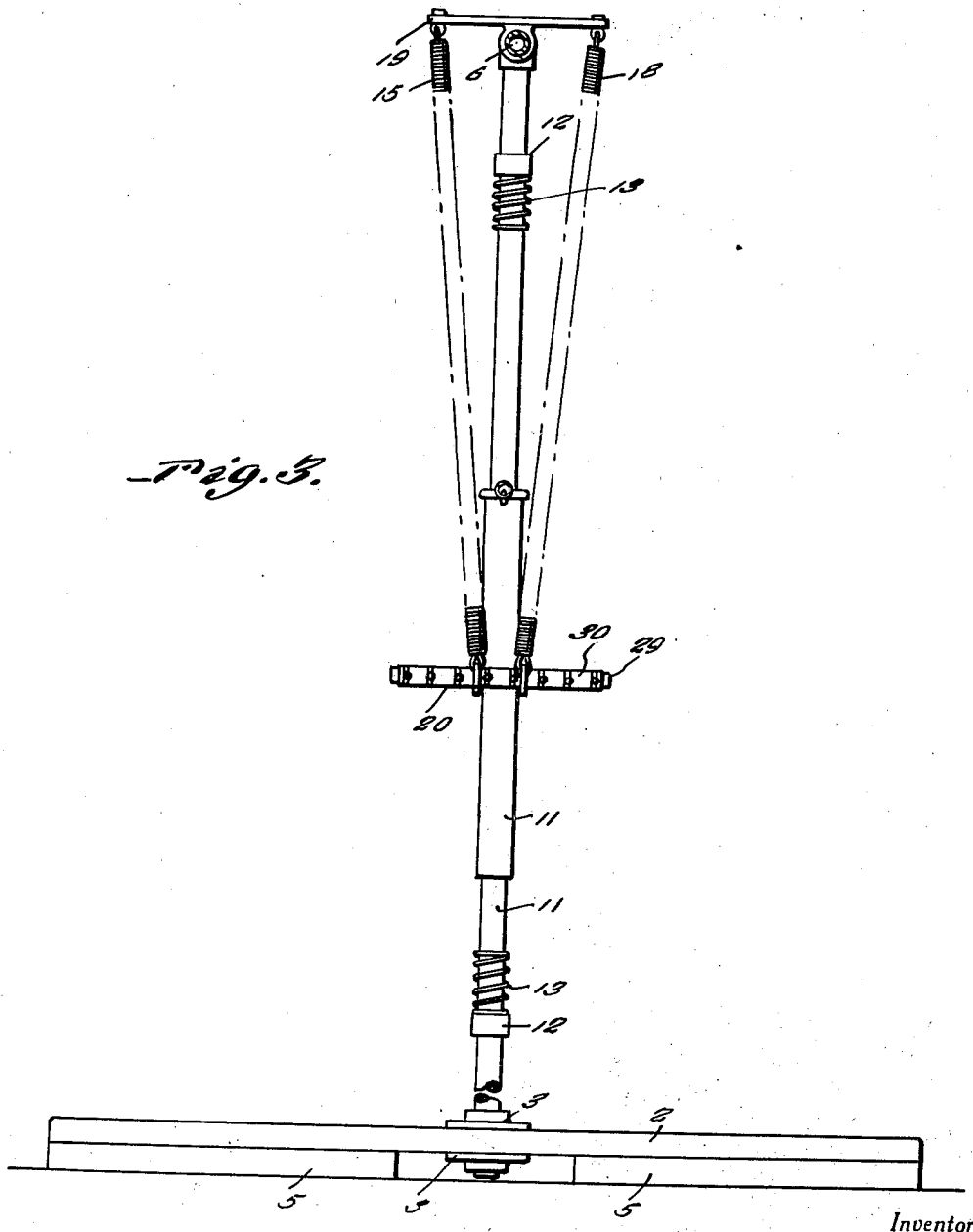
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APPARATUS FOR TEACHING TUMBLING

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UNITED STATES PATENT OFFICE

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APPARATUS FOR TEACHING TUMBLING

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3 Claims. (Cl. 272—60)

This invention relates to an apparatus for use in teaching tumbling or forward and backward somersault, the general object of the invention being to provide a frame having spring means for connecting to straps which encircle portions of the body of the student, the springs being so arranged as to prevent injury to the student while performing the tumbling or somersaulting motions.

This invention also consists in certain other features of construction and in the combination and arrangement of several parts, to be hereinafter fully described, illustrated in the accompanying drawings and specifically pointed out in the appended claims.

In describing the invention in detail, reference will be had to the accompanying drawings wherein like characters denote like or corresponding parts throughout the several views, and in which:—

Figure 1 is a front view of the apparatus.

Figure 2 is a section on the line 2—2 of Figure 1.

Figure 3 is a section on the line 3—3 of Figure 1.

Figure 4 is a view in section showing how one of the posts is supported at its lower end.

Figure 5 is a sectional view through the belt.

In these drawings, the numeral 1 indicates a pair of end posts, each of which is fastened to a board 2 by the upper and lower members 3 which are threaded to the lower end of the post and clamped between them and the board 2, the lower member being fastened to the board by the screws 4. Short boards 5 are placed under the board 2 and form a space for the lower end of the post and the lower member 3. The boards 2 and 5 can be fastened to the floor of a gymnasium or other surface in any suitable manner, if desired, though if the boards are made of sufficient dimensions they will support the device without being fastened to the surface on which the device is used.

A top bar 6 is connected to the upper ends of the posts 1 by the elbows 7 and a pair of spaced posts 8 are arranged one at each side of the center of the frame composed of the posts 1 and the bar 6, each post 8 having a base 9 at its lower end and an eye member 10 at its upper end to which the bar 6 passes. This permits the posts 8 to be adjusted toward or away from each other to adjust the space between them.

A vertically arranged tube 11 is slidably arranged on each post 1 and a pair of split collars 12 is carried by the post 1 one above and one below the tube for limiting the sliding movement of the tube. A bumper spring 13 is associated

with each collar for taking up the shock of the tube being stopped suddenly by a collar. A clevis 14 is connected with each tube 11 and an elongated spring 15 has one end connected with the clevis 14 and the other connected to a hook 16 attached to the elbow 7. The spring 15 is arranged outwardly of the post and a pair of similar springs 18 is arranged inwardly of each post. The upper ends of these springs 18 are connected to a cross bar 19 fastened to an end part of the bar 6 and the lower ends are connected to the clevis 14. As will be understood these springs 15 and 18 tend to raise the tube 11.

The student or person using the apparatus places a belt 20 around his waist and straps 21 around his thighs. The belt 20 is composed of spring steel 20' covered with leather 20'' as shown in Figure 5. The sides of the belt 20 are connected by the chains 22 to the clevises 23 which slidably engage the posts 8, each chain being connected to a clevis by a snap hook 24 and each strap 21 is connected by a snap hook 25 to a chain 22 adjacent its point of connection with the belt. A short length of chain 26 is connected with each clevis and a link of this chain may be connected to a hook 27 on a post 8 to hold the belt and straps against upward movement when they are being put in place about the person of the user.

Each clevis 24 is connected with a clevis 14 by a spring arrangement which includes a plurality of springs 28 paralleling each other and having their ends connected to a bolt or bar 29 with spacers 30 on the bar separating the ends of the springs from each other as shown more particularly in Figure 2. One of these bars or bolts is connected to a clevis 23 and the other to the clevis 14.

A safety spring 32 is provided for each side of the device, the upper end of the spring being connected to a clevis 33 connected to the rod 6 and has a chain 34 at its lower end which is connected by a chain 35 with the clevis 23 and by a chain 36 with a tension spring 37 which is connected with the upper end of the tube 11.

The posts 8 at the sides of the belt keep the spring arrangements from whipping the body back and forth after turning over and the spring arrangements will carry the parts upwardly at the same time the person jumps upwardly and the weight of his body brings the parts down again so that he is ready for the next jump. As the student gradually improves in his tumbling some of the springs at right and left can be unhooked from their supporting parts and when the device is used by a person of light weight

some of the springs can be unhooked. The safety springs should be kept in place at all times.

Having described the invention what is claimed as new is:—

5 1. In a device of the class described, an upright frame including end posts and intermediate posts, a member slidably arranged on each end post, a clevis slidably arranged on each intermediate post, a spring arrangement including
10 a plurality of springs connecting each clevis with the slidable member, body encircling straps flexibly connected with the clevises and spring means for moving the slidable members upwardly.

2. In a device of the class described, an upright frame including end posts and intermediate posts, a member slidably arranged on each end post, a clevis slidably arranged on each intermediate post, a spring arrangement including
15 a plurality of springs connecting each clevis with the slidable member, body encircling straps

flexibly connected with the clevises and spring means for moving the slidable members upwardly, means for limiting the movement of each slidable member including cushion means.

3. In an apparatus of the class described, an upright frame including a pair of end posts and a pair of intermediate posts, clevises slidably arranged on the intermediate posts, body encircling straps flexibly connected with said clevises, a member slidably arranged on each of the end posts, a plurality of parallel springs connecting each clevis to each slidable member, spring means
10 tending to hold each slidable member in raised position, a pair of safety springs connected with the top member of the frame, flexible means connecting each safety spring with a clevis, a spring
15 connecting the flexible means with the slidable member.

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