This invention relates to baseball practice devices and more particularly to a practical device for use by baseball pitchers to define a strike zone at which a pitcher may practice throwing baseballs.

The term "strike zone" as used in present specifications and claims is herein defined as a vertical rectangular area of a given width and adjustable height normally defined by the distance between the knees and shoulders of a baseball player at bat.

Hitherto, practice devices for defining a strike zone or receiving area of a pitched ball have generally been rigid structures with a rectangular opening. In such instances, if the ball strikes the structure itself, the structure as well as the ball may become damaged. Further, the ball can bounce off the structure at different angles and thereby be difficult to retrieve. If a catcher is practicing with the pitcher and stands behind such a structure, a full view of the pitcher and the ball may be eclipsed by portions of the structure defining the strike zone. Further, if a "strike" is not pitched, the catcher cannot conveniently retrieve the ball since the ball will bounce off of the frame structure defining the strike zone area.

In addition to the foregoing, rectangular type structural openings defining a strike zone are usually of a fixed size and thus are not realistic in that they cannot be adjusted to simulate the correct zone for different sized batters. Finally, such devices are generally expensive and thus not economically available to individuals or small leagues such as Little League players for practice purposes.

Bearing all the foregoing in mind, it is accordingly a principal object of this invention to provide a novel baseball practice device for defining a strike zone for pitchers which overcomes the foregoing problems.

More particularly, it is an object to provide a baseball practice device in the form of a frame structure defining a strike zone which may be adjusted as to vertical height so as to realistically represent the strike area for a particular sized batter.

Another object is to provide a practice device in which a strike zone is defined and yet in which a catcher may practice with a pitcher and retrieve balls even though the same may pass outside of the strike zone area. Also in which the strike zone defining structure does not appreciably eclipse any of the view of the pitch by the catcher.

Still another object is to provide an improved baseball practice device for defining a strike zone which is inexpensive, may be compactly shipped and easily assembled, and may be readily adjusted without special tools so as to vary the size of the strike zone area.

Briefly, these and many other objects and advantages of this invention are attained by providing a basic frame structure formed from tubular members which may be telescoped into a vertically extending rectangular shaped frame. Cooperating with vertically extending upright members of the frame are upper and lower lines stretched between the upright members to define the upper and lower boundaries of the strike zone. Also provided are additional lines extending between upper and lower cross tubular members defining the frame and extending parallel to each other in a vertical direction. By this arrangement, the crossing of the lines define a smaller rectangle within the larger rectangle which smaller rectangle constitutes the strike zone.

In the preferred form of the invention, the lines are formed by an elastic cord material, the ends of the horizontally extending upper and lower cords being looped about the upright frame members so that they may be moved in a vertical direction along the upright members to vary the overall height of the strike zone.

As a consequence of the use of elastic cord material, the smaller rectangular area defined by the cords is flexible so that if the baseball should strike the cord itself it will simply push it to one side without being appreciably deflected. On the other hand, the fact that the ball hit the cord will be clearly evident as a consequence of vibration of the cord.

The entire structure may be readily assembled without special tools by simply telescoping the various tubular members together to provide a basic rectangular frame to which the elastic cords are attached.

A better understanding of the invention will be had by now referring to a preferred embodiment thereof as illustrated in the accompanying drawings in which:

FIGURE 1 is a front elevation view of the baseball practice device in assembled condition for use; FIGURE 2 is a side elevation view thereof; FIGURE 3 is an enlarged fragmentary view partly cut away of a portion of the structure enclosed within the circular arrow 3 of FIGURE 1; and FIGURE 4 is a fragmentary perspective view of a portion of the structure enclosed within the circular arrow 4 of FIGURE 1.

Referring first to FIGURE 1, the practice device comprises a frame structure including first and second tubular shaped stand members 10 and 11 coupled together by the opposite ends of a lower horizontally extending cross tubular member 12. As shown best in the side view of FIGURE 2, the stand member 11 includes an upright extending portion 11a and two horizontally extending portions 11b and 11c to provide stability. A portion 11d as shown in FIGURE 1 serves to couple the end of frame tubule 12. The stand 10 is identical in construction except that it constitutes a mirror image of the stand 11.

With particular reference to FIGURE 1, a pair of parallel upright tubular members 13 and 14 are coupled to the base members 10 and 11 respectively. The upright tubular members may each include a telescoping tubular section such as indicated at 15 for the member 13 and at 16 for the member 14, to increase the overall height of the frame structure. The frame is completed by an upper cross-tubular member 17 arranged to be coupled to the extension member sections 15 and 16. The lower cross-tubular member 12 includes fastening eyelets 18 and 19 at spaced horizontal points and similarly, the upper cross-tubular member 17 includes spaced eyelets 20 and 21. Between these eyelets there are respectively stretched elastic cords 22 and 23. The spacing between the cords is indicated at W and constitutes the normal width of a strike zone area.

Also provided are lower and upper horizontally extending parallel elastic cords 24 and 25, having their ends coupled to the upright members 13 and 14 respectively and/or the tubular sections 15 and 16. The vertical distance between the horizontally extending cords 24 and 25 is designated by the letter H and constitutes the normal vertical height of the strike zone.

The manner in which the various tubular members are coupled together is illustrated in FIGURE 3 which shows the coupling of the left end of the cross-tubular member 17 to the upper end of the extension 15. All of the various couplings may be identical and therefore detailed description of one will suffice for all.
Referring to FIGURE 3, it will be noted that the upper end of the extension tube 15 is swaged outwardly to provide an enlarged internal diameter portion as indicated at 26. This increased diameter portion corresponds substantially to the outside diameter of the cross-tube 17 so that the lower end of this cross-tube may be received within the enlarged swaged portion 26 as indicated at 27. By providing a taper to the swage, a force fit may be effected so that the tubular members will be frictionally retained together. It should be understood as stated, that the assembly of the lower cross-tube 12 and the uprights 13 and 14 to the stands 10 and 11 may be similarly effected by simple telescoping friction fits.

FIGURE 4 illustrates the end view perspective of the manner in which the ends of the horizontally extending elastic cords 24 and 25 may be coupled to the upright members, such as the members 13 and 14, or extension sections 15 and 16. As shown in FIGURE 4, the elastic cord 25, by way of example, has its left end formed into a loop at 28 which simply passes over the member 15. The loop 28 is permanently formed on the elastic cord 25 and when assembling the device, the tube 15 is simply inserted through the loop prior to assembling the frame structure.

Because of the elastic nature of the cord, the end of the cord will be retained by friction at any set position on the upright member. To change the level of the cord, it is only necessary to move the cord vertically along the upright tubular member.

In the operation of the device as described, the structure may be unpacked from a compact packing case and the various tubular members assembled. For normal baseball practice, the extension tubes 15 and 16 will be used to provide a sufficiently large frame so that a strike zone may be defined which would correspond to that for a fairly tall batter. On the other hand, if the device is being used by shorter children, it is not necessary that the extension telescoping sections 15 and 16 be used so that the upper cross-bar member 17 may be coupled directly to the upper ends of the uprights 13 and 14. In either event, the elastic cords such as 22 and 23 are sufficiently elastic that they will take up any slack as a result of vibration in the overall height of the frame structure.

With the frame structure assembled and the elastic cords in position as illustrated in FIGURE 1, the cords 24 and 25 may be adjusted in vertical height to correspond to the strike zone for a particular batter. A pitcher may then stand the normal distance from home plate and practice pitching the ball by attempting to throw the ball through the rectangular area defined by the crossover points A, B, C and D of the cords. A catcher may participate and even if the ball should pass outside of the strike zone area defined by the inner rectangle, the catcher can still see and retrieve the ball. If the ball should strike one of the elastic cords, it will merely cause the cord to vibrate slightly and thus clearly indicate to both the catcher and the pitcher that the ball barely passed within the strike zone. The elastic nature of the cords is such that any vibration caused by the ball striking the same will be dampened out before the ball is returned to the pitcher and another ball thrown.

It will be evident also from the foregoing description that no damage will occur to the frame structure or the bat should the ball strike the elastic cords. Thus, a very simple and economical practice device is provided in which, not only is a strike zone defined, but the strike zone itself may be adjusted to realistically represent that area at which a strike would be called for a particular sized batter.

While only one particular embodiment of the invention has been shown and described for illustrative purposes, it should be understood by those skilled in the art that minor variations falling clearly within the scope and spirit of the invention can be effected. The baseball practice device is therefore not to be thought of as limited to the particular structure set forth merely for illustrative purposes.

What is claimed is:

1. A baseball practice device for defining a strike zone for pitchers, comprising, in combination: a frame structure including two generally vertically extending parallel upright tubular members spaced apart by a distance greater than the horizontal width of said strike zone; and upper and lower cross tubular members coupled to the upper and lower ends of said upright tubular members respectively to define a rectangular shaped frame; left and right vertically extending parallel elastic cords stretched between said upper and lower cross-tubular members with their upper and lower ends secured at spaced horizontal points to said upper and lower cross-tubular members so that they are spaced apart a horizontal distance corresponding to the horizontal width of said strike zone; and upper and lower horizontally extending parallel elastic cords spaced apart to define a rectangular shaped frame, the respective ends of said horizontally extending elastic cords being looped about said upright members in frictional engagement therewith whereby said latter mentioned ends may be vertically moved along said upright members to vary the height of said cords and thereby enable adjustment of the vertical height of said strike zone.

2. A device according to claim 1, in which said upright tubular members each include at least one telescoping tubular section adapted to be removed to vary the overall height of said frame structure.

3. A baseball practice device for defining a strike zone for pitchers, comprising, in combination: a frame structure including two generally vertically extending parallel upright members spaced apart by a distance greater than the horizontal width of said strike zone; and upper and lower cross members coupled to the upper and lower ends of said upright members respectively to define a rectangular shaped frame; left and right vertically extending parallel elastic cords spaced apart to define a rectangular shaped frame, the respective ends of said horizontally extending elastic cords being looped about said upright members in frictional engagement therewith whereby said latter mentioned ends may be vertically moved along said upright members to vary the height of said elastic cords and thereby enable adjustment of the vertical height of said strike zone.

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