The Evolution Of Better Multi-Sided Dumbbells

By Tom Lincir,
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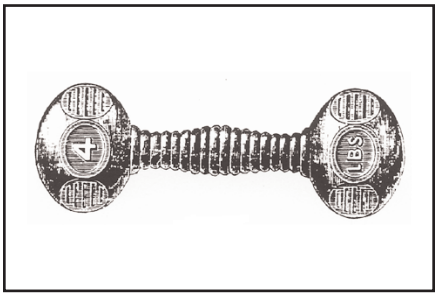
Note: This article represents the thoughts and opinions of the author, Tom Lincir, not those of National Fitness Trade Journal. The material is based on Ivanko's extensive primary and secondary research, and more importantly, trial & error and learning over 34 years of manufacturing strength products. Ivanko believes an ongoing exchange of information and discourse is healthy for our industry. When you stir the pot, you stir creativity, challenge the status quo, and stimulate out-of-the-box thinking. Ivanko believes this leads to more informed and intelligent buying decisions, and advances higher standards in safety, durability, and member appreciation. Your comments and questions are always welcome and appreciated, and may be grist for future articles.

In a 19th century news release for a new type of hex dumbbell introduced by Messrs. Hardy and Padmore, it was written, "This hexagonal form is often convenient, the bell being thereby prevented from rolling along should it be left on an uneven bench or table or floor."



6 sided dumbbell, advertising illustration, Hardy & Padmore, England, 1890.

I have never subscribed to the anti-roll rationale. I have always thought that if your exercise floor is flat, a dumbbell won't roll, unless someone pushes it, which is usually when they want to move it into position for an exercise. When it doesn't roll, you have to lift it into position, which is less user friendly or harder to use.

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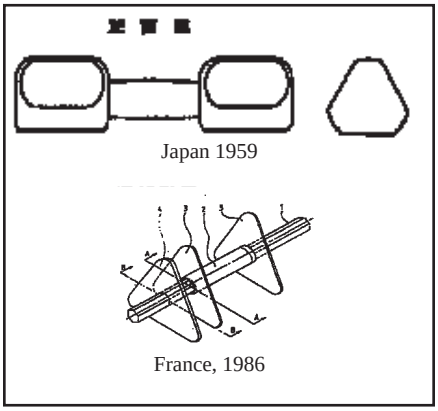
Nevertheless, I understand the strategy of concocting an anti-roll problem to justify a multi-sided dumbbell. Some companies approach innovation by creating a gimmick, then inventing imagined needs or problems to justify it. In contrast, as I explained in my original article, "The Evolution of Better Ideas" (National Fitness Trade Journal, Winter, 2001), proper innovation begins with identifying real needs and real problems, then innovating to improve upon reality. Innovation should be driven by "serving the marketplace better."

If anti-roll were a real problem, then the marketplace would drive innovation toward progressively less rollable dumbbells. A three sided dumbbell would be the market leader, because it would be the hardest to roll, followed by four and five sided dumbbells. Six and eight might be considered semi-roll, and 10, 12, 14 and 16 would be progressively easier to roll. There is, of course, a real reason why flat sided dumbbells exist, but it has little to do with anti-roll. It has more to do with aesthetics. Read on.

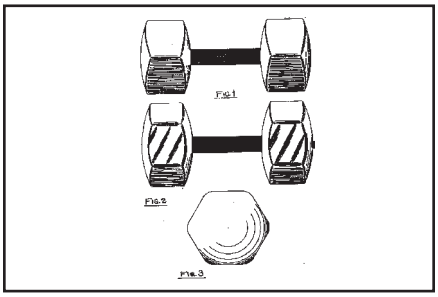
When I was a young man, about 25 years ago, I had a brilliant idea, or so I thought. I conceived of and designed a six sided dumbbell with rounded ends and rounded corners. My idea was not, as explained above, inspired by the "anti-roll" issue.



3 sided dumbbell patent illustrations.

"If anti-roll were a real problem, then the marketplace would drive innovation toward progressively less rollable dumbbells. A 3 sided dumbbell would be the market leader."

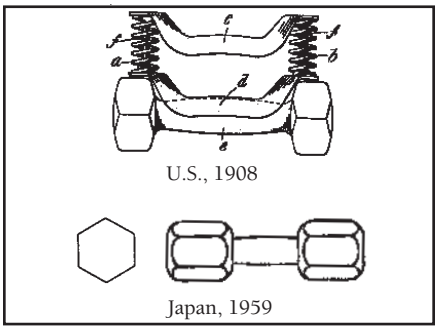
Rather, I chose this design simply because I believed that a well rounded hex is one of the most beautiful geometric shapes on Earth. And I am supported in this opinion by the fact that worldwide, hex dumbbells outsell



Ivanko 6 sided dumbbell with rounded ends and edges, patent application illustration, 1980.

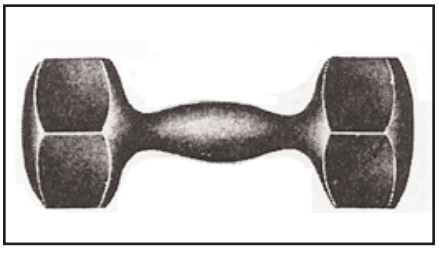
all other multi-sided dumbbells combined. Even though a six-sided dumbbell rolls easier than a three-sided dumbbell, hex wins on aesthetics, because that is much more important. The same level of aesthetics that members appreciate in furnishings and equipment throughout the club are appreciated just as much in the look of a dumbbell.

Unfortunately, almost all hex dumbbells sold today have what I consider to be ugly hard edged surfaces. This is probably because hard edges make it is easier to calculate the head volume that will precisely yield the declared weight. And rounded edges require more complex patterns that cost about ten times as much as hard-edged patterns. I felt, however, that a more eye-catching design was well worth the extra investment.

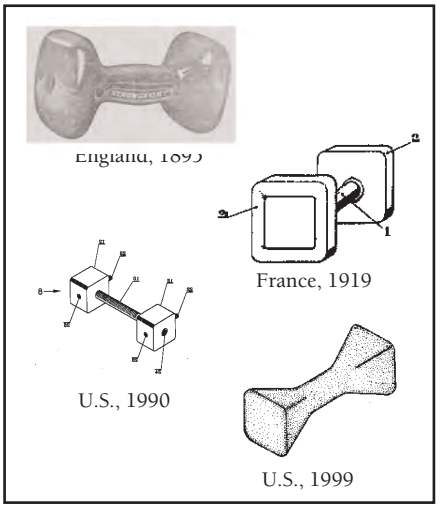


6 sided dumbbell patent illustrations.

Deciding to proceed with my idea, I hired David P. Willoughby to calculate the weight and do the drawings. Mr. Willoughby was the 1924 Light/Heavyweight national weight lifting champion, and a world renowned mathematician, draftsman, artist, and author. He performed all the calculations in long hand using pencil and paper, without a calculator or computer. Amazingly, his hand calculations yielded weight deviations less than +/-1/2% of true weight, which is as good or better than today's engineers are achieving with the latest digital technology.


6 sided dumbbell with rounded ends and edges, catalog illustration, Medart, 1932.

I promptly submitted the designs to the patent office for registration, and waited six months for an answer. My application was rejected because of a Medart dumbbell pictured in their 1956 catalog that was almost exactly the same. At first I was disappointed.



4 sided dumbbells: English catalog illustration and patent illustrations.

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Then, I realized that if I could conceive of an idea as good as a great company like Medart, I might have what it takes to succeed in this business. I also realized that to avoid duplication of other's efforts in the future, I needed to study the history of what was in use and published in the past. This led me to develop a worldwide network of contacts that are experts in various aspects of barbell and exercise history. I have also amassed a very large collection of research materials, catalogs, patent records, patterns, blueprints, and actual antique barbells and dumbbells.

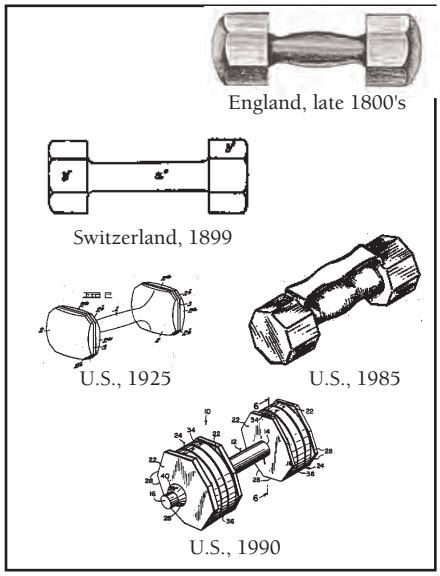
If your exercise floor is flat, Ivanko's round "1-sided" dumbbell is good looking and easier to roll into position for the exercise.

Over the course of accumulating all of this knowledge and paraphernalia, I have reached some important observations:

1. The same ideas keep recirculating generation to generation.

2. Patent applications often slip through because both the applicant and patent office is unaware of considerable prior art.

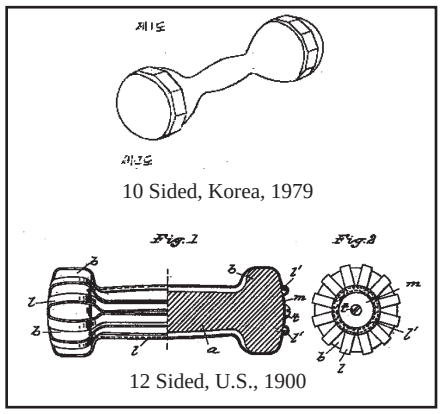
3. Almost everything involving levers, pulleys, cams, grip holes in barbell plates, or geometric shapes has been



8 sided dumbbells: English catalog illustration and patent illustrations.

done before, usually several times.

In the words of the French philosopher Alphonse Karr, "Plus ça change, plus c'est la meme chose" or



10 Sided, Korea, 1979

12 Sided, U.S., 1900

10 and 12 sided dumbbell patent illustrations.

"The more things change, the more they remain the same."

Historically, the popularity of flat sided dumbbells, from the most popular to the least popular, has been Six Sided, Eight Sided, Four Sided, Three Sided, and Ten Sided.

In summary, don't misjudge this article as anti-anti-roll. In fact, anti-roll dumbbells are great, especially for slope training. For example, the road up Mount Wilson is a constant slope. If you wanted to carry a pair of dumbbells with you on the way up, you would be well advised to bring a pair of anti-roll dumbbells, in case you wanted to set them down. Since I don't bring dumbbells up Mount Wilson, and I always train on a level floor, I don't have an anti-roll need. If your exercise floor is at a slant of 5° or more, the anti-roll feature would come in handy. If your exercise floor is flat, you can afford to let aesthetics govern your thinking. If you choose hex dumbbells, rounded ends and edges are more pleasing to the eye. If you think a round dumbbell is better looking yet, you can offer your members the additional benefit of a dumbbell that is easier to roll into position for the exercise.

These are, of course, just my opinions. If someone wants to challenge my beliefs once again, I guess this time I'll just have to plead *no-roll contendere*.

Ivanko Barbell Company was founded by Tom Lincir in 1967, and it is the leading provider of professional and commercial grade barbell and dumbbell products worldwide. Your comments or questions are welcome. Write Tom Lincir at Ivanko Barbell Company, P.O. Box 1470, San Pedro, CA U.S.A. 90733 or send email to tom@ivankobarbell.com.