

PATENT EXAMINATION BOARD

DRAFTING OF PATENT SPECIFICATIONS – GROUP 2(e)

Paper 2

June 2025

Examiner: L Steyn

Moderator: J Whittaker

Time: 6 Hours

Total marks: 100

This paper consists of 5 pages (including this cover page) and 5 sheets of figures

Instructions:

- Answer all questions
- Write legibly

You receive the below email and attached figures from your client:

“As you know, I am an avid fitness enthusiast, and I love exercising at the gym. Many of my training exercises involve the use of a standard barbell as shown below. Generally, the barbell has an elongate central gripping portion and two side portions on either end thereof for receiving and carrying weight plates. Shoulders separate the gripping portion and the side portions to provide a positive stop for the weight plates to rest against.



Figure 1 - Prior art

Different types of exercises require different barbells with different weights. A specific number and configuration of weight plates are therefore placed onto the side portions of the barbell, depending on the requirement. To prevent the plates from moving around too much, or in a worst-case scenario, falling from the ends of the side portions (which can cause serious injuries, instability, and the like), locking collars are placed onto the side portions to fix the positions of the plates. The plates are therefore sandwiched between the locking collars and the shoulders of the barbells. Three types of locking collars exist, and even though they generally perform well, they all have drawbacks.

The most commonly used locking collars are spring collars as shown in figure 2 below (here, the standard barbell is loaded with three weight plates on each side and the weight plates are secured by spring collars).



Figure 4 - Prior art



Figure 3 - Prior Art



Figure 2 - Prior Art

Spring collars are known to slip easily, become worn quickly, and require strong hands and a degree of dexterity to install and remove.

In another example (as shown in figure 3 above) the barbell side portions are threaded, allowing a threaded nut to be screwed onto the side portion, thereby securing the weight plates in place. Installation of these nuts is laborious (due to the length of the side portions) and in many instances the nuts get stuck, making removal thereof very difficult. Cross-threading also complicates the installation process and can damage the threads.

The third type of known locking collars comprises sleeve clamps that are slid onto the side portions and clamped into position. These work relatively well, but may again become worn out, may slip on the side portions, or may be difficult to remove. An example of a known sleeve clamp is shown in figure 4 above.

In addition to the individual drawbacks of the various locking collars discussed above, they all also suffer from the drawback of being separate from the barbell. Every gym-goer has experienced the frustration of trying to find misplaced locking collars, only to end up using the barbell without them – a situation which should best be avoided.

I have now invented a revolutionary solution that I believe has the potential to solve all of these problems and to become a staple in gyms around the world.

My invention is illustrated in figures 5a to 11 of the attached drawings. I call my invention the "Slide-lock Barbell Collar" and it comprises a collar 10 and a barbell 11, both of which are purpose made to facilitate interaction. As with other barbells, the barbell 11 has a central part 13 for a user to hold on to and outer parts 17 which receive weight plates 19.

As best shown in figure 11, where the collar is shown upside down to reveal its inner structure, the collar has formations 12 which sit in tracks 14 formed on the outer parts 17 of the barbell 11. A height of the tracks 14 exceeds that of the formations 12, such that the collar 10 can move upwards and downwards (directions as shown in the figures). When displaced upwards, the collar 10 can slide axially along the track 14. Each outer part 17 of the barbell has a series of grooves 18 within which ribs 20 formed on the inside of the collar 10 are received when the collar 10 is displaced downwards (provided the ribs 20 and grooves 18 are aligned). Interaction between the ribs 20 and grooves 18 prevents axial displacement of the collar along the track 14. Magnets 22 are provided in the collar 10, which retain the collar 10 in the downward position in use.

Towards an end of the barbell, the tracks 14 step downward, and a recess 30 (which can be seen, for example, in figures 8a and 8b) is formed within which the collar 10 can be received, such that the outer surface of the collar 10 is flush with the corresponding surface of the outer part 17, as shown in figures 5a to 5c and figure 6. This allows the weight plates 19 to be received onto the barbell and removed therefrom, without interference with the collar 10. However, this in turn means that the collar 10 never has to be completely removed from the barbell.

Figures 5 to 9 show the different operational steps of securing the weight plate 19 to the barbell 11 in accordance with the invention. In each of figures 5 and 7 to 9, figure "a" shows a perspective view, figure "b" shows a side view, and figure "c" shows a sectional view (from which the weight plate has been removed for greater clarity). I believe these figures are self-explanatory.

I have an upcoming discussion with a manufacturer of gym equipment with whom I wish to collaborate to take my invention to market. Before doing so, I would like to file a South African patent application to protect the invention.”

Question: You are required to draft a patent specification for the invention including at least the following:

1. Title
2. Background to the invention
3. Brief description of the drawings
4. Description of the illustrated embodiment
5. Claims
6. Abstract

Note that no “Summary of the Invention” is required.

Also note that a set of figures without reference numerals is provided – please hand these in with your answer sheet and include the reference numerals you used (your reference numerals may differ from those used above).