

## PATENTS EXAMINATION BOARD

Subject: The Drafting of Patent Specifications - Paper 1

Date: July 2018

Time: 09h00 -13h00 (although candidates requiring extra time are entitled to an additional two hours)

Examiners: J Fiandeiro  
V Williams

Moderator: J D Whittaker

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### **Question 1**

Your client, an avid horse rider, shows you drawings of her new horse bits. She explains that a bit is a form of horse tack which is used to assist a rider in communicating with a horse. The bit, which fits inside the horse's mouth, is held in place by a bridle and is attached to reins for use by a rider. The bit presses on the tongue and applies pressure to the bars in the mouth which are made of sensitive cartilage and which easily feel the movement of the bit as it responds to the reins. The idea is that, by moving away from the discomfort of the pressing bit, the horse moves in the direction the rider wants to go.

Your client tells you that she has designed new snaffle and curb horse bits which can be elongated or abbreviated to an appropriate length to fit the mouth of any particular horse. In addition, once fitted to a particular horse, each of the new bits may subsequently be elongated or abbreviated to ensure a proper fit as the horse grows.

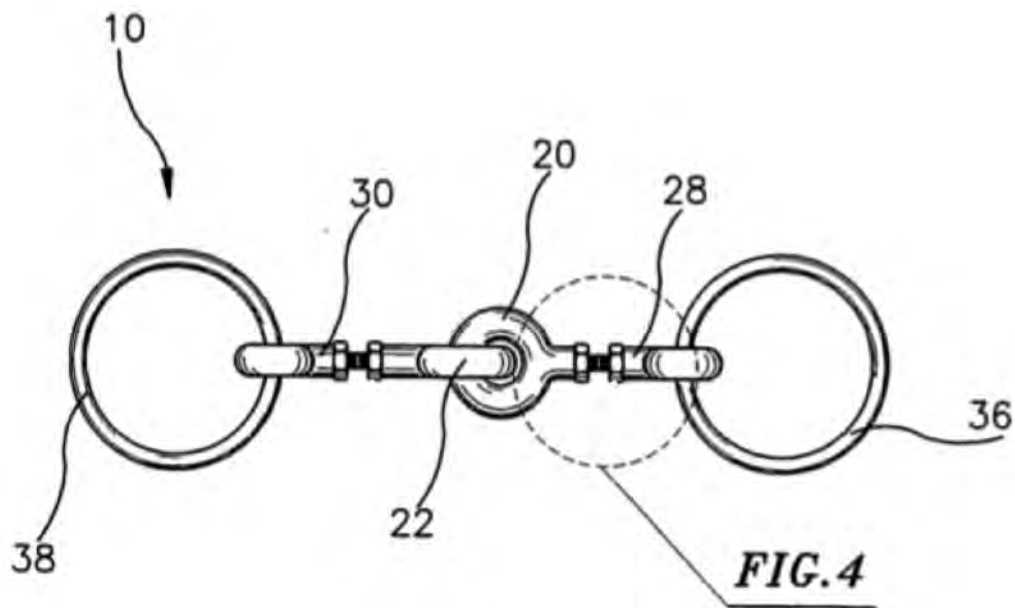
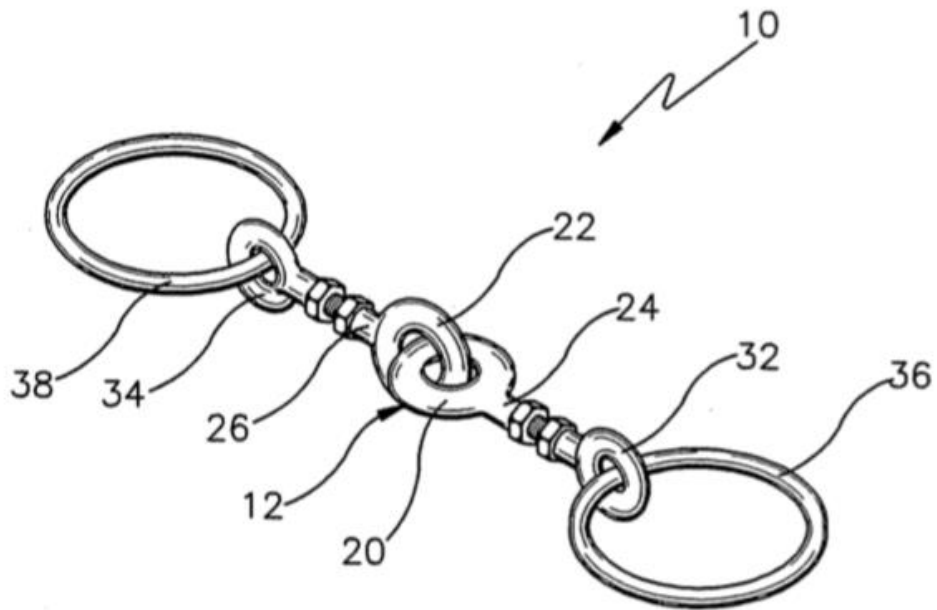
In a first embodiment, figures 1 to 4 show your client's snaffle bit 10 having a mouthpiece 12 which may be inserted into the mouth of a horse 14. The mouthpiece 12 includes a pair of interlocked center eyelets 20

and 22 having outwardly extending center shanks 24 and 26 with threaded bores (not shown) for receiving a threaded end 44 of a rod 40. The mouthpiece 12 also includes a pair of outer eyelets 32 and 34 having inwardly extending outer shanks 28 and 30 with threaded bores (not shown) for receiving a threaded end 42 of the rod 40. The threaded ends 42 and 44 are threaded in opposing directions to facilitate accelerated elongation or abbreviation of the mouthpiece 12, in use. Fixing nuts 46 and 48 are provided to fix the center shanks 24, 26 and the outer shanks 28, 30 in position on the rod 40 when the mouthpiece 12 is of a desired length. The outer eyelets 32 and 34 are connected to bridle rings 36 and 38 which are operable to capture a pair of strap anchors (not shown). The bridle rings 36 and 38 are substantially circular in shape, but could be formed in other shapes such as, for example, a D-shape.

A second embodiment of the invention is shown in figures 5 to 8 in which reference numeral 50 designates a new curb horse bit. This bit has a mouthpiece 52 which includes a center shank 54 defining a central curved port area 56. The center shank 54 includes threaded bores (not shown) at respectively opposed ends thereof which are operable to receive the threaded end 44 of a rod 40 (see figure 8). As can be seen in figures 6 and 8, a pair of connectors 58 and 60 also have threaded bores (not shown) therein for receiving the threaded end 42 of the rod 40. As was the case in the first embodiment, fixing nuts 46 and 48 are provided to fix the center shank 54 and the connectors 58 and 60 in position on the rod 40 when the mouthpiece 52 is of a desired length. A pair of strap anchors, illustrated in this embodiment as a pair of side arms 62 and 64, are captured upon respective connectors 58 and 60 by a pair of spherical nuts 66 and 68 which engage threads 70 on each of the connectors 58 and 60. Each of the side arms 62 and 64 has a plurality of apertures 72 which facilitate a connection of reins and other straps to the curb horse bit 50.

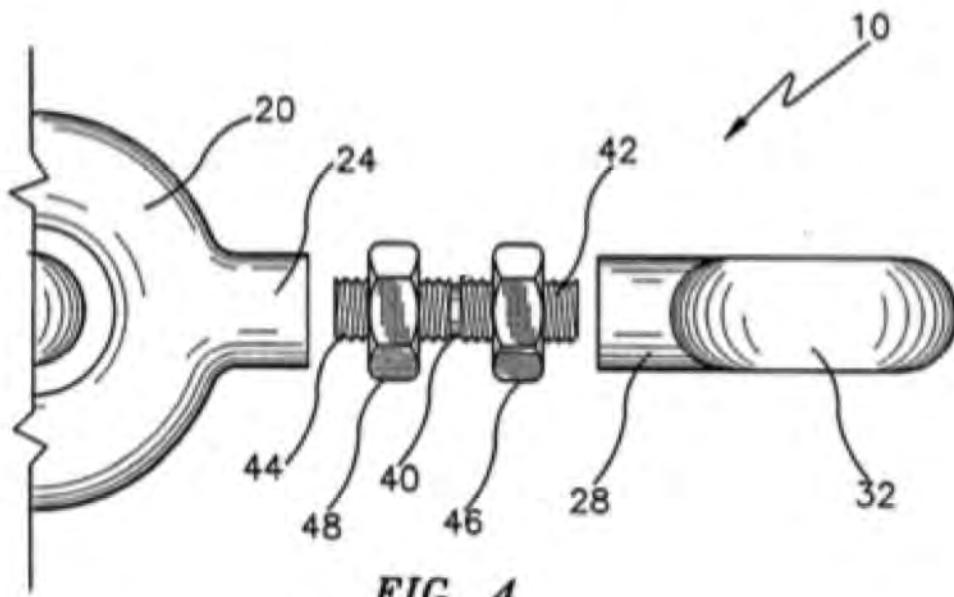
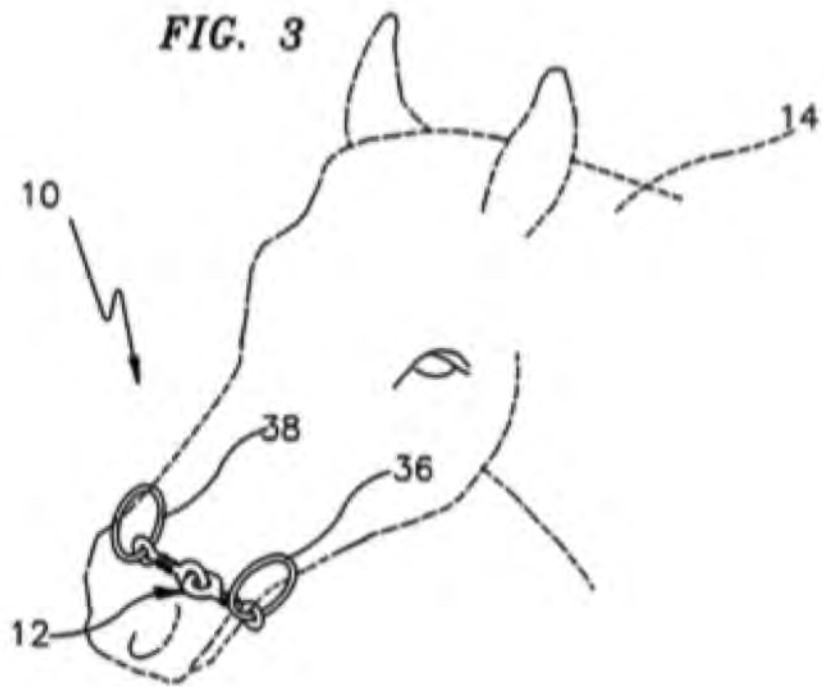
You are required to identify the inventive feature(s) of the invention, and to draft up to three claims to protect the invention.

**FIG. 1**

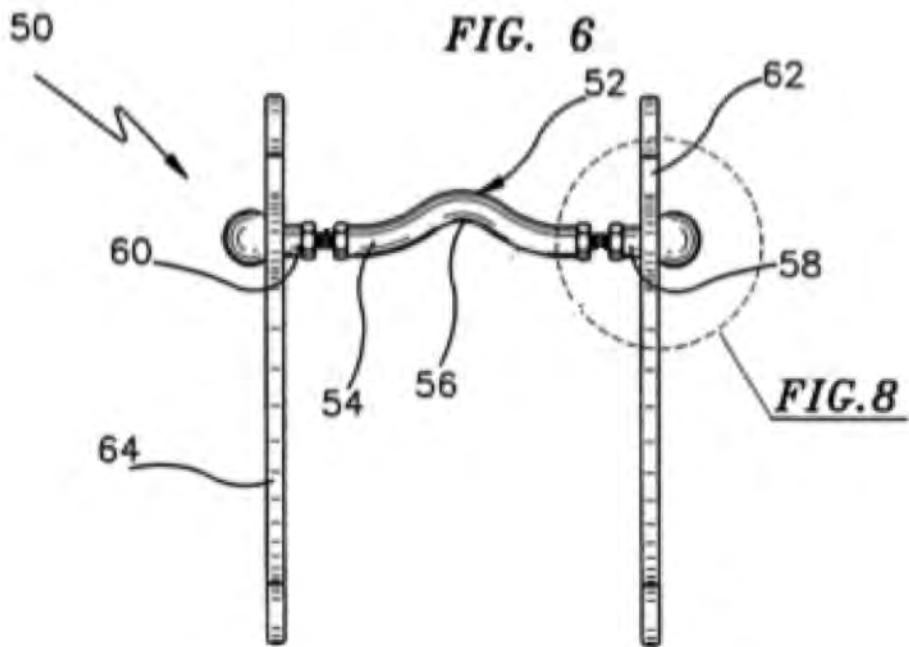
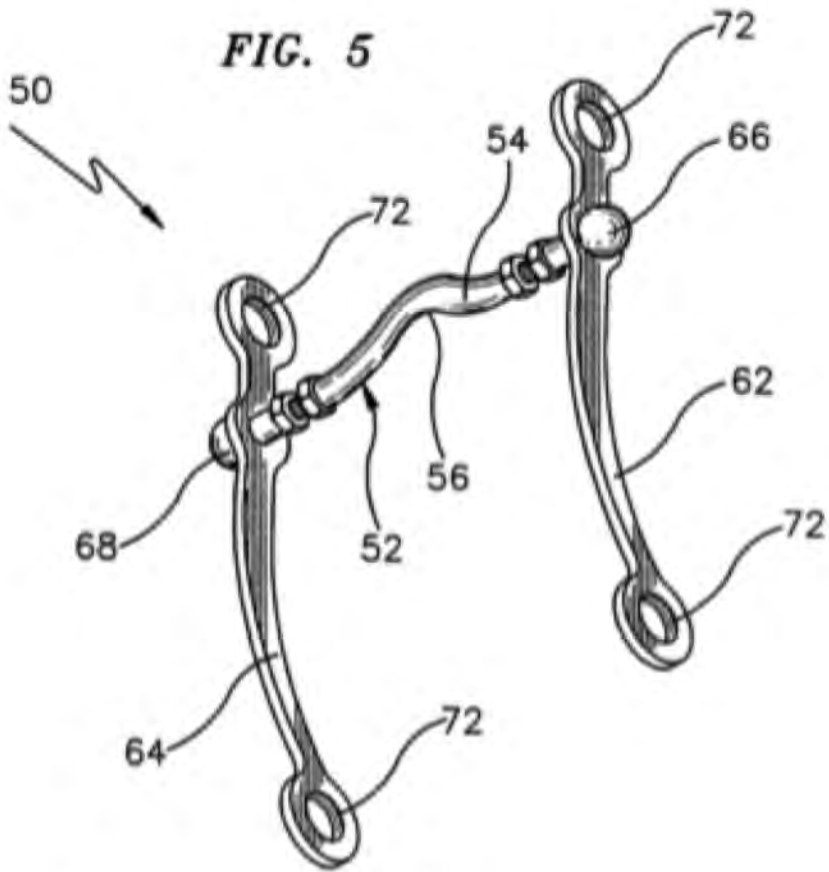


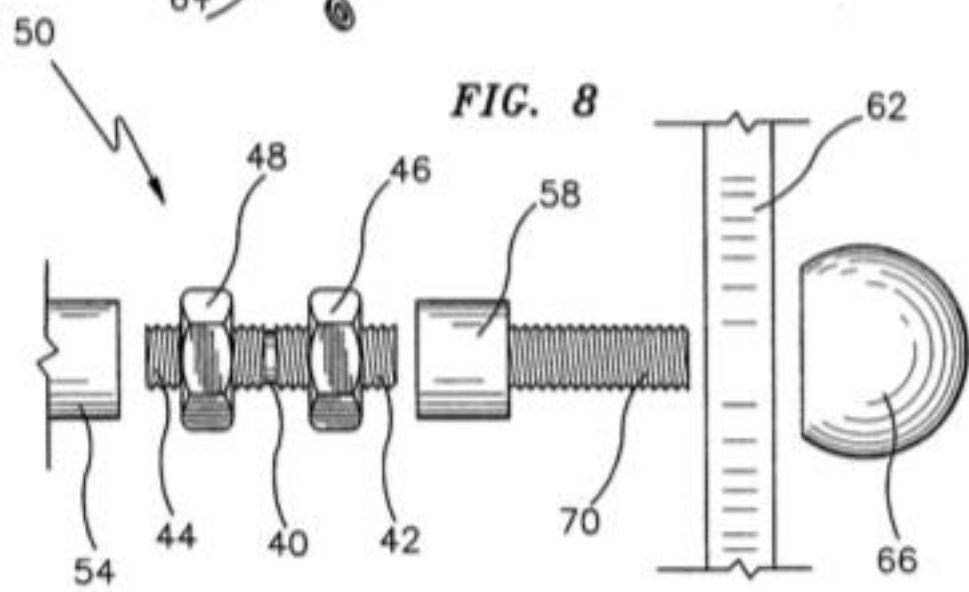
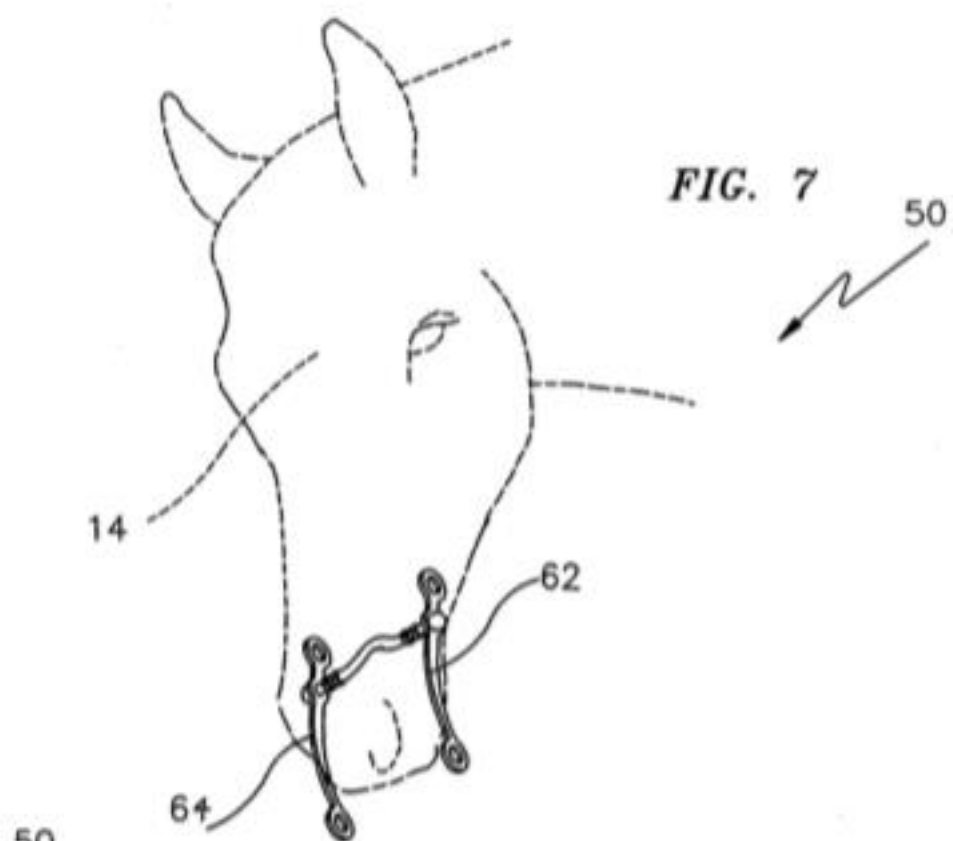
**FIG. 2**

**FIG. 3**



**FIG. 4**





## Question 2

Continuing with the horse theme, your client shows you some sketches of her new 'running' martingale which she has invented for her polo ponies to keep their heads down when playing polo. She explains to you that whilst 'standing' martingales are used to train polo ponies to keep their heads down, they are not allowed in polo competitions. Knowing that you are not a 'horsey' person, she patiently describes what a standing martingale is and how it works using the photograph below.



In essence the standing martingale shown above comprises a strap that extends between and attaches a nose band of a bridle to a saddle girth. In practice, the strap is lengthened or shortened so that, when threaded through the horse's throat latch which fits around or is looped around the horse's neck, the strap is held lightly in tension when the horse's head is in a neutral position as shown in the photo. Typically, standing martingales are used for horses that invert and toss their heads about. One of the great advantages of the standing martingale is that it is a self-correcting device that is activated by the horse, i.e. a passive device in the sense that, once the "correction" is made, the standing martingale no longer has any influence. However, a problem with the standing martingale is that it is very restrictive and cannot be easily loosened, which makes it dangerous if a horse falls or catches a leg. Consequently, and for this

reason alone, standing martingales are not allowed in polo competition circumstances.

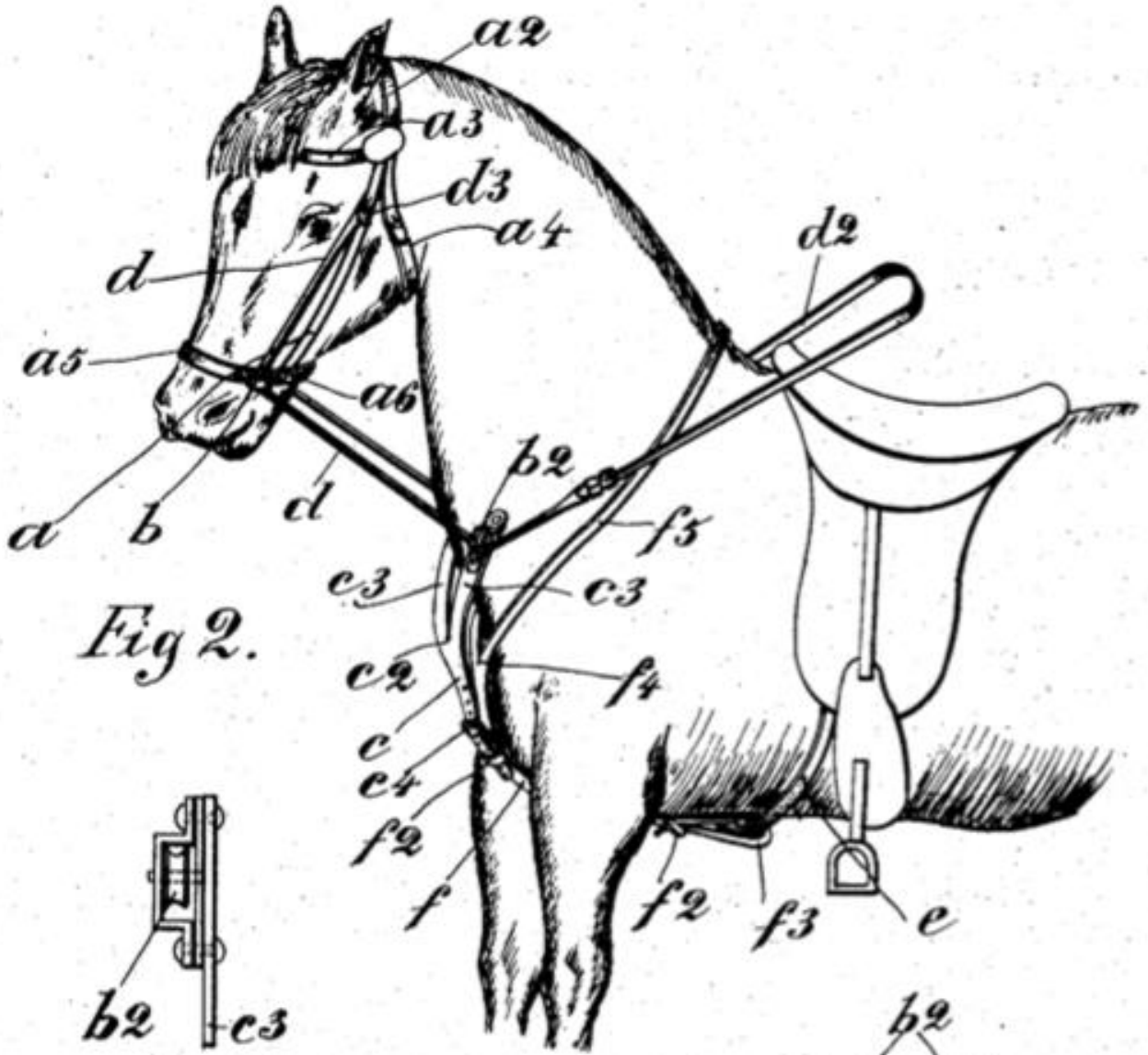
Turning to her sketches marked Figures 1 to 3, client's new 'running' martingale is comprised of a generally bifurcated breast-strap 'C' (figure 3) having pulleys 'b2' at its bifurcated ends 'C3'. The pulleys 'b2' allow rolling interconnection between the reins 'd' on either side of a nose-band 'a5' of a conventional, bitless polo pony bridle and the bifurcated ends 'C3' which are located below the nose-band 'a5', to prevent the horse from raising its head too high in use. The martingale further includes a supplemental strap 'f' for interconnecting a girth 'e' and the breast-strap 'C'. In particular, the supplemental strap 'f' is connected at one of its ends to the breast-strap 'C' via a buckle 'f2', and is connected at its other end to the girth 'e', when passed back onto itself to form a loop 'f3' around the girth 'e', via another buckle 'f2'. Although not essential, the supplemental strap 'f' may also include a looped neck portion or throat latch 'f5' which is hung around the neck of the horse and which serves to provide further support for the breast-strap 'C'.

For completeness, the headstall comprises side members 'a', a back head-band 'a2', a front head-band 'a3', a throat latch or strap 'a4' and the nose-band 'a5'. The side members 'a' are connected with the nose-band 'a5' at 'a6' in any desired manner.

You are required to identify the inventive feature(s) of the invention, and to draft up to three claims to protect the invention.



*Fig 1.*



*Fig 2.*



*Fig 3.*

