Title: SYSTEM AND METHOD FOR ELICITING MILK FROM MAMMALS

Abstract: The invention provides a system (500) and a method of eliciting milk from all mammals that possess teats, including but not limited to dairy animals and humans. A system (500) may be comprised of an elastic system (100) and a vacuum supply (200). A method may include a milk elicitation system (500) comprised of an elastic system (100) and a vacuum supply (200). Through the application of vacuum, the elastic system (100) forms, differentiates, seals and adapts to a teat, from the area it ends until up to where the udder ends and it begins, without coming in contact with the teat-end sphincter/lactiferous duct(s). The elastic system (100) interacts proportionately according to the tendencies expressed by teat physiology and dynamics according to the milk pressure change, blood flow, and the effects of applied vacuum, throughout the milk elicitation process, resulting in continuous and complete milk elicitation and supporting the physiological teat return, after the process.
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AMENDED CLAIMS
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CLAIMS:
The claimed invention is:

L A system (500) for eliciting milk from mammals characterized by:

an elastic system (100), for accommodating and adapting on all teat sizes and shapes for each mammal class; comprised of an upper area (110) which includes at least one association means (111), for associating the elastic system (100) with a vacuum supply (200); a mid area (120) and a lower area (130) with smaller diameters than the teat end, that provide sealing of the elastic system (100) around the teat end sphincter/lactiferous duct(s), from continuous vacuum and influx of atmospheric air in its sealing area; the lower area (130) includes at least one lower end area (131), that provides and maintains continuous vacuum communication and equalization inside and outside the elastic system (100); and

a vacuum supply (200), for holding an elastic system (100) in its inner area (201) and for application of continuous vacuum, for transfer of milk flow and for introducing continuous atmospheric air for milk flow enhancement; comprised of an upper end area (210), which includes at least one fitting area (211) serving for the attachment of an elastic system's (100) association means (111); and at least one rim (212) fashioned circumferentially, designed to provide an interface area to the teat.

3. The system (500) for eliciting milk from mammals according to Claim 1, wherein the association means (111) of the upper area (110) and the lower end area (131) of the elastic system (100) have an annular shape.

4. The system (500) for eliciting milk from mammals according to Claim 1, wherein the association means (111) of the upper area (110) of the elastic system (100) is of a section surface with suitable shape that provides adequate attachment of elastic system (100) to vacuum supply (200) during operation and the application of vacuum.

5. The system (500) for eliciting milk from mammals according to Claim 1, wherein the lower end area (131) of the elastic system (100) comes to a contact point with the vacuum supply (200) to assist in elastic system's (100) removal practices from the teat.
6. The system (500) for eliciting milk from mammals according to Claim 1, wherein the lower end area (131) of the elastic system (100) ends to a milk collection receptacle.

8. The system (500) for eliciting milk from mammals according to Claim 1, wherein the vacuum supply (200) is the milk collection receptacle.

11. The system (500) for eliciting milk from mammals according to Claim 1, wherein the fitting area (211) is fashioned circumferentially for attachment to an association means (111), dependent on teat/udder structure, replacement practices for the elastic system (100), manual or automated replacement and preferred construction methods.

13. The system (500) for eliciting milk from mammals according to Claim 1, wherein the vacuum supply upper end (210) and fitting area (211) are designed to provide an additional interface area to the teat.

16. The system (500) for eliciting milk from mammals according to Claim 1, wherein the elastic system (100) and vacuum supply means are constructed for a variety of service lifetimes.

17. The system (500) for eliciting milk from mammals according to Claim 15 wherein the elastic system (100) is single-usage.

18. The system (500) for eliciting milk from mammals according to Claim 1, wherein the elastic system (100) and vacuum supply (200) are constructed as a single element.

19. A method of eliciting milk from mammals by the use of a system (500), which comprises an elastic system (100) and a vacuum supply (200), characterized by the following steps:

   providing a continuous vacuum through vacuum supply (200) inside and outside the elastic system (100), a formation of the elastic system (100) before or during introduction of the teat;
   
   providing a differentiation of the elastic system (100) from the teat due to the influx of air from the upper area (110), until sealing takes place;
   
   providing a sealing of the elastic system (100) around the teat end sphincter/lactiferous duct(s), from continuous vacuum applied inside the elastic system (100) and influx of atmospheric
air from the upper area (110);

providing an adaptation of the elastic system (100) from the sealing area around the teat end sphincter/lactiferous duct(s), up to the entire teat;

providing a continuous milk flow by continuous vacuum on the teat end sphincter/lactiferous duct(s), and outside the elastic system (100);

providing a proportionate interaction of the elastic system (100) with an area up to the entire teat, according to cisteraal/lactiferous ducts milk pressure and blood flow in the teat, in dynamic equilibrium with continuous vacuum, continuous milk flow and continuous atmospheric air for milk flow enhancement, throughout the milk elicitation process; and

providing a cessation of the vacuum that unseals and disengages the elastic system (100) from the teat end sphincter/lactiferous duct(s).