

Nov. 7, 1950

C. GABEL

2,528,508

RUBBER RING EXPANDING TOOL

Filed May 3, 1949

Fig. 1.

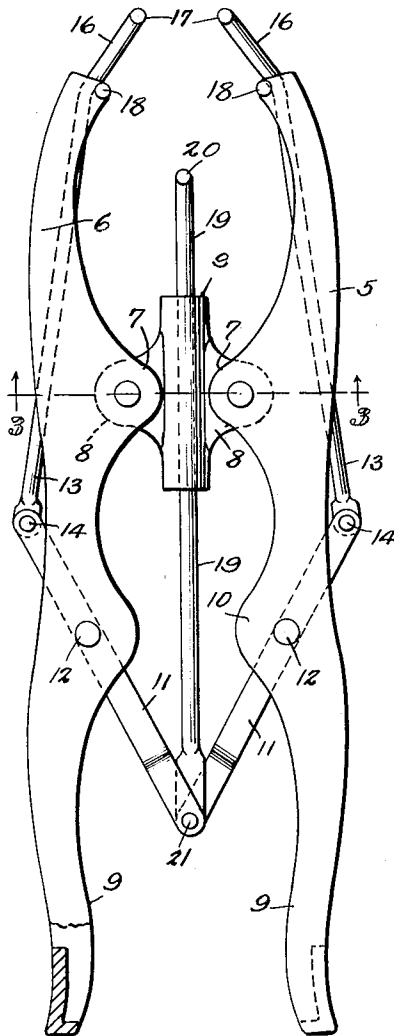


Fig. 2.

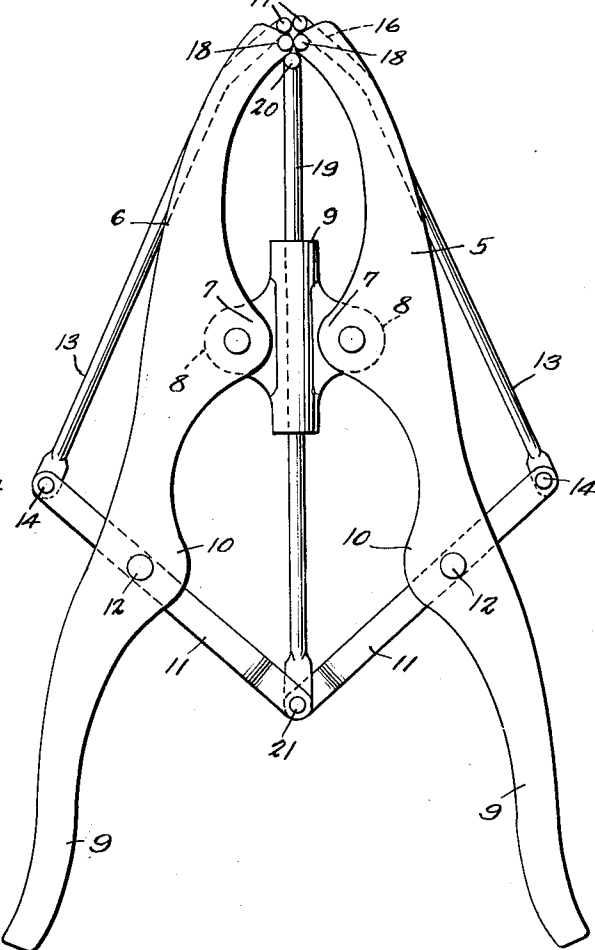


Fig. 3.

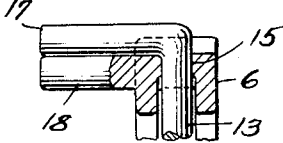
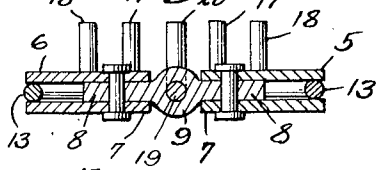
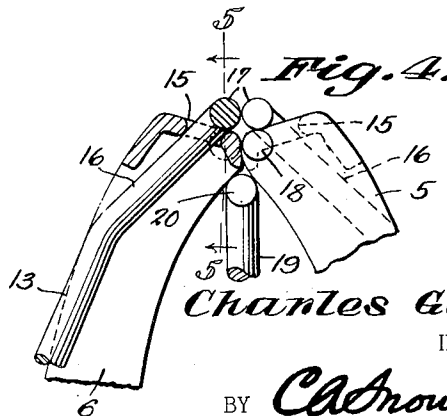


Fig. 5.

Fig. 4.



Charles Gabel
INVENTOR
BY *CAknowles.*
ATTORNEYS.

UNITED STATES PATENT OFFICE

2,528,508

RUBBER RING EXPANDING TOOL

Charles Gabel, Hawkeye, Iowa

Application May 3, 1949, Serial No. 91,095

5 Claims. (Cl. 128—303)

1

This invention relates to a rubber ring expanding and holding tool, the primary object of the invention being to provide a rubber ring expander including a plurality of rubber supporting studs so constructed and arranged with respect to each other that the rubber ring held on the studs will be stretched round to facilitate the application of the rubber rings on animals in carrying out a particular purpose in animal husbandry.

Another object of the invention is to provide a ring expander wherein the ring studs of the device will be uniformly moved with respect to each other to spread the ring in a true circular formation and avoid the possibilities of the instrument twisting while in use.

Still another object of the invention is to provide a central stud-carrying rod which operates through a bearing that also provides the support for the jaws of the tool or instrument, thereby providing a structure which is exceptionally simple in construction, light in weight, and one which is easily operated.

With the foregoing and other objects in view which will appear as the description proceeds, the invention consists of certain novel details of construction and combinations of parts hereinafter more fully described and pointed out in the claims, it being understood that changes may be made in the construction and arrangement of parts without departing from the spirit of the invention as claimed.

Referring to the drawing

Figure 1 is an elevational view of a rubber ring expanding instrument, constructed in accordance with the invention, illustrating the ring supporting studs as expanded.

Fig. 2 is an elevational view of the instrument showing the jaws of the instrument moved to a position with the studs disposed in position for receiving the rubber ring to be expanded.

Fig. 3 is a sectional view taken on line 3—3 of Fig. 1.

Fig. 4 is an enlarged elevational view, one end of one jaw being shown in section, illustrating the stud supporting rods as supported thereby and extending through an opening in the end of the jaw.

Fig. 5 is a sectional view taken on line 5—5 of Fig. 4.

Referring to the drawing in detail, the instrument comprises a pair of jaws 5 and 6, the jaws having inwardly extended spaced ears 7 which are pivotally connected to the ears 8 that extend laterally from the tubular bearing 9, the ears 8 being supported between spaced ears 7.

2

The opposite ends of the jaws 5 and 6, provide handles 9, and these handles are provided with enlargements 10 to which the links 11 are pivotally connected as by means of the pivot pins 12. The links 11 are mounted intermediate their ends, and have pivotal connection with the rods 13, at 14, which rods extend through the openings 15 formed in the ends of the jaws 5 and 6.

As clearly shown by Fig. 1 of the drawing, the free ends of the rods 13 are bent inwardly at 16 where they are provided with upturned ends providing studs 17. Studs 18 extend from the jaws 6 and 7 and cooperate with the studs 17 in supporting a rubber ring.

Slidably mounted within the tubular bearing 9, is the rod 19 which carries the laterally extended stud 20 which is formed integral therewith. This rod 19 has pivotal connection with the lower ends of the links 11, at 21, with the result that when the handles 9' are moved from the position shown by Fig. 2 of the drawing, to the position shown by Fig. 1 of the drawing, the outer ends of the jaws are expanded and the rods 13 and 19 moved to positions as shown by Fig. 2, where the studs carried by the rods, are spread apart and assume a position to stretch the rubber ring in a complete circle for positioning on an animal, to carry out a particular purpose.

In the use of the instrument, a ring to be positioned is placed over the studs 17, 18 and 20, and the handles 9 are now moved towards each other with the result that the ring is expanded by the action of the studs. The ring may now be held in its expanded position for placing over the sack or tail of the animal, thereby providing an efficient and effective means for applying rubber rings.

Having thus described the invention, what is claimed is:

1. An instrument for applying elastic rings, comprising a pair of pivoted jaws, a tubular bearing disposed between the jaws at points intermediate the ends thereof, a pair of links pivotally connected with the jaws, a rod pivotally connected with the links and operating through the bearing, said rod terminating adjacent to the outer ends of the jaws, rods pivotally connected with the outer ends of the links and extending through openings in the jaws terminating at points adjacent to the outer ends of the jaws, studs formed on the free ends of the rods, studs formed on the jaws, said studs extending in the same direction and providing supports for a band, and handles formed on the jaws by means of which the rods are operated and the studs sepa-

rated, stretching the band positioned on the studs.

2. An instrument for applying elastic rings, comprising a pair of jaws, a central tubular bearing to which the jaws are pivotally connected, a pair of links pivotally connected to the jaws, a rod slidable through the bearing and being pivotally connected to the inner ends of the links, rods connected to the outer ends of the links, the latter rods moving through openings formed in the free ends of the jaws, ring receiving studs formed at the free ends of the rods and jaws, and said rods and studs being movable towards and away from each other with the movement of said handles towards and away from each other.

3. An instrument for applying elastic rings, comprising a pair of pivotally connected members, jaws formed on the members, handles formed at the opposite ends of the members, a pair of link members pivotally connected to the handles the inner ends of said links being pivotally connected, a slidable rod pivotally connected with the inner ends of the links, rods connected with the outer ends of the links, said jaws having openings through which the latter rods extend, the free ends of said rods being extended laterally in the same direction providing supporting studs, supporting studs formed on the jaws and extending in the same direction with the first mentioned studs providing a support for elastic rings, and said handles operating to move said jaws outwardly separating the studs and stretching the ring positioned over the studs.

4. An instrument for applying elastic rings comprising a pair of jaws, a bearing member, ears extending from the bearing member and to which said jaws are pivotally connected, pivoted links connected with said jaws, the free ends of

the links being pivotally connected, a rod slidable through the bearing and being pivotally connected with said links, the outer ends of the links extending beyond the outer edges of said jaws, rods extending along the outer edges of said jaws, means for pivotally connecting the latter arms to the links, the free ends of the latter rods passing through openings formed in the jaws, the outer ends of said rods being extended laterally at right angles providing supporting studs, studs secured to the jaws, the studs of the rods and jaws extending in the same direction, providing a support for an elastic ring, said rods and jaws being movable to stretch the elastic ring supported on the studs by inward movement of the handles of the instrument.

5. An instrument for applying elastic rings comprising a pair of pivoted members, jaws formed on the members, said jaws embodying spaced flanges, a tubular bearing to which the pivoted members are connected, links pivotally connected with the pivoted members, a rod connected with the links and extending through the bearing, rods connected with the outer ends of the links and extending between the flanges of the pivoted members, the latter rods extending through openings in the jaws, studs formed at the free ends of the rods, studs extending from the jaws, the studs of the rods and jaws extending in the same direction providing supports for an elastic ring, and said pivoted members being movable spreading the free ends of the rods and studs stretching an elastic ring supported thereon.

CHARLES GABEL.

No references cited.