

June 17, 1924.

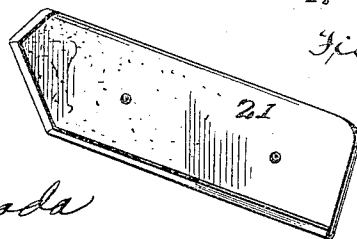
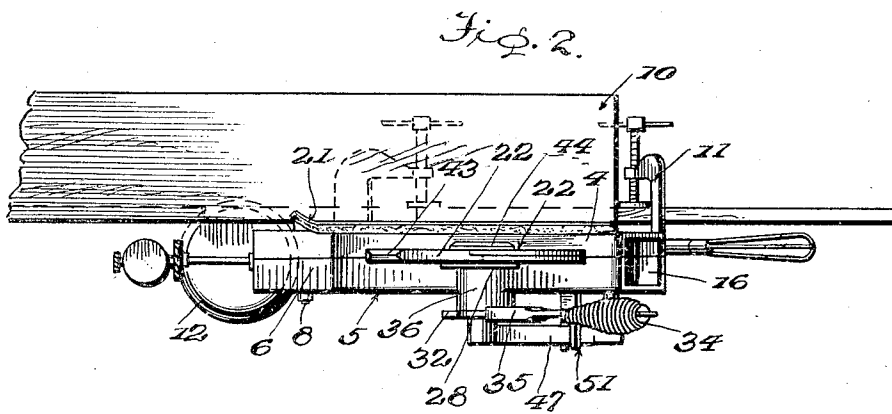
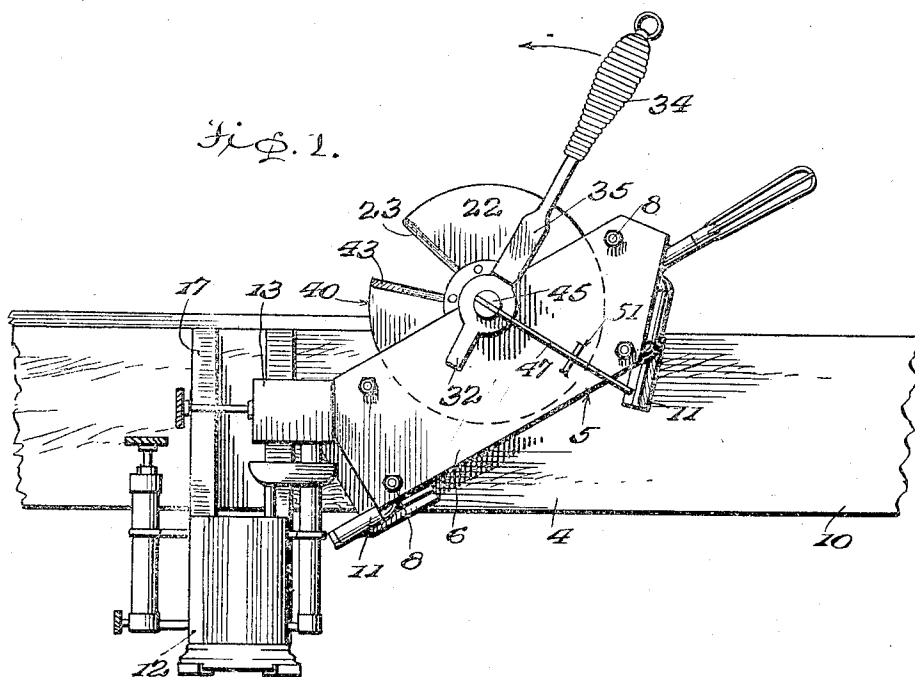
R. FLICK ET AL

1,497,975

DOCKING MACHINE

Filed Aug. 8, 1921

2 Sheets-Sheet 1



WITNESSES

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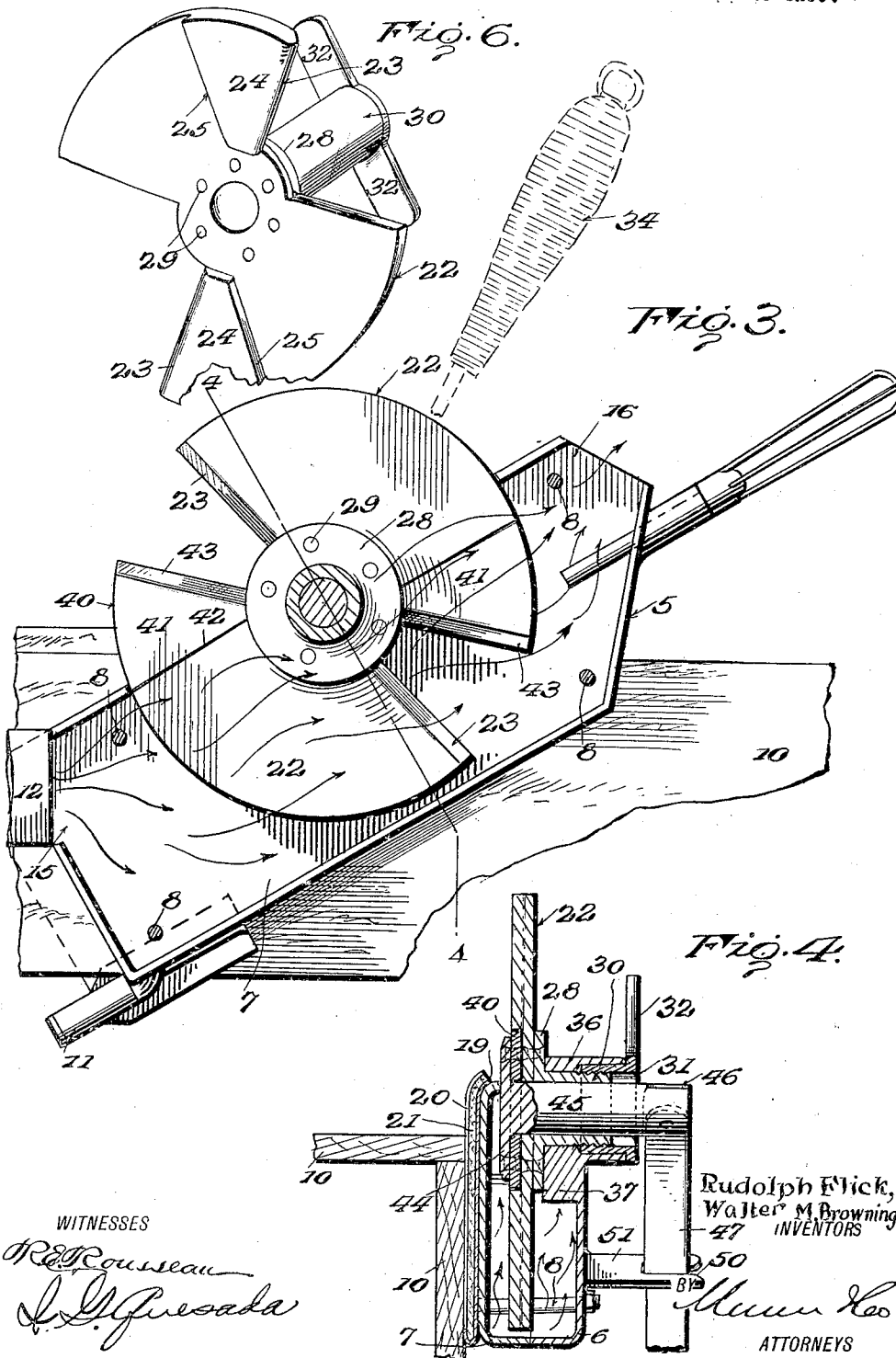
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WITNESSES

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UNITED STATES PATENT OFFICE.

RUDOLPH FLICK, OF SHERIDAN, AND WALTER M. BROWNING, OF GLASGOW,
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DOCKING MACHINE.

Application filed August 8, 1921. Serial No. 490,548.

To all whom it may concern:

Be it known that we, RUDOLPH FLICK and WALTER M. BROWNING, citizens of the United States, and residents, respectively, of Sheridan, in the county of Madison and State of Montana, and Glasgow, in the county of Valley and State of Montana, have invented certain new and useful Improvements in Docking Machines, of which the following is a specification.

This invention relates to docking machines for lambs.

An important object is to provide a docking machine for lambs having two pairs of cutting blades, one pair of which may be heated while the other pair is in use.

A further object of the invention is to provide simple means whereby either pair of blades may be arranged in an operative position when the other pair becomes cool.

Another object of the invention is to provide a docking machine which is economical to operate, of highly simplified construction and cheap to manufacture.

Other objects and advantages of the invention will be apparent during the course of the following description.

In the accompanying drawing forming part of this application and in which like numerals are employed to designate like parts throughout the same,

Figure 1 is a side elevation of the improved docking machine applied to a suitable support.

Figure 2 is a plan view of the machine applied.

Figure 3 is a vertical sectional view through the machine, the view illustrating a pair of coacting disks having cutting blades.

Figure 4 is a transverse sectional view taken on line 4—4 of Figure 3.

Figure 5 is a perspective of an insulating sheet embodied in the invention.

Figure 6 is a perspective of a relatively movable disk embodied in the invention.

In the drawing wherein for the purpose of illustration is shown a preferred embodiment of the invention, the numeral 5 designates an elongated casing which is composed of sections 6 and 7 having inwardly directed flanges connected by means of fastening bolts 8. The fastening bolts 8 of course extend through the sides of the sections 6 and 7 and cause the edges of the

inwardly projecting flanges to lie snugly in contact with each other. The casing 5 may be secured to a suitable support 10 by means of clamps 11 and is preferably secured in an inclined position in the manner illustrated in Figures 1 and 3.

With reference to Figure 3 it will be observed that the casing 5 is provided with a longitudinally extending heating chamber which is supplied with heat from a gasoline torch 12 of any desired type. The mouth 13 of the torch 12 discharges into an inlet opening 15 at the lower portion of the casing. The heat from the torch 12 is directed through the casing and more particularly into the heating chamber and is discharged through an outlet opening 16 in the upper portion of the casing, the said outlet opening being provided by cutting away portions of the inwardly extending flanges of the casing. Suitable hangers 17 may be provided for supporting the torch 12 in its proper position with relation to the heating chamber. With reference to the foregoing it will be seen that a high degree of heat is passed through the heating chamber of the casing in the use of the machine.

A suitable metallic plate 19 is arranged between the section 7 and the support 10 and has inwardly extending flanges 20 to form a supporting means for a sheet of insulating material 21 such as asbestos. The insulating sheet 21 prevents the casing from burning the support 10.

The docking means includes a pair of cutting disks one of which is movable with relation to the other. However, both of the disks may be rotated for arranging a new pair of blades in an operative position and for again heating the pair of blades which may have become cool.

The relatively movable blade is in the nature of a disk having oppositely arranged segments provided with cutting edges 23. The movable disk 22 has its oppositely arranged segments provided with thickened portions 24 which provide relatively wide cutting edges and which also provide stop shoulders 25. The cutting blades 23 which are two in number cooperate with similar blades of the relatively stationary disk.

With particular reference to Figure 6 it will be noted that the movable blade 22 has its hub secured to an annular flange 28 by means of rivets 29, the said annular flange

being formed at one end of a sleeve bearing 30. The sleeve bearing 30 receives the attaching portion 31 of a pair of oppositely arranged arms 32 by means of which the bearing 30 may be manually rotated for operating the movable disk 22. A handle 34 has its forward portion provided with a socket 35 which receives one of the arms 32 and which is adapted to be rocked for rotating the disk a limited extent.

The sleeve bearing 30 is rotatably extended through a bearing 36 carried by the upper edge of the section 6 of the casing. The section 6 is also provided with a curved shoulder 37 with which the flange 28 contacts to limit the endwise travel of the relatively movable disk 22.

A relatively stationary disk generally designated by the numeral 40 coacts with the movable disk 22.

The disk 40 is formed with a pair of oppositely arranged segments arranged in contact with the segments of the disk 22. One edge portion of each segment of the stationary disk 40 is thickened as indicated at 41 to provide a pair of stop shoulders 42 which engage the adjacent edges of the movable segments and thereby limit the rotation of one disk with relation to the other. The thickened portions 41 of which there are two provide cutting edges or blades 43 with which the movable cutting edges 23 coact. When the movable blade 22 is operated the blades 23 and 43 are brought into contact for performing the desired operation and they do not pass each other. The relatively stationary blade which is designated by the numeral 40 has its hub secured to a flange 44 by means of rivets, the said flange being formed at one end of a shaft 45. The shaft 45 is extended through the sleeve bearing 30 and has one end slotted as indicated at 46. A locking handle 47 is pivotally connected to the slotted portion of the head 45 and may be swung to either side of the shaft. With reference to Figures 1 and 4 it will be noted that the locking handle is adapted to be received within a slot 50 in a laterally projecting bracket 51 carried by the section 6. When the locking handle 47 is thus secured to the bracket 51 the shaft 45 is prevented from rotating. With the shaft 45 thus held against rotation the disk 40 is held in a relatively stationary position. However, the disk 22 is permitted to move so that the blades 23 and 43 may be brought into contact.

In operation the torch is mounted so that the heat from the same will be directed into the heating chamber in the casing 5. The heat thus directed through the heating chamber will be caused to heat the lower portions of the relatively stationary and movable disks since the disks have their lower portions received within said cham-

ber. However, as illustrated in Figure 2 the disks have a rather snug fit with the casing so that heat will not be permitted to escape upwardly between the casing and the disks. It is thus seen that while one pair of cutting blades 23 and 43 are being used the other pair are being heated. When the pair of blades in use have become cool the locking handle 47 may be released from engagement with the bracket 51 and subsequently swung on its pivot to the opposite side of the shaft 45 whereupon the shaft 45 is rotated and the locking handle 47 again engaged with the bracket 51. When the shaft 45 is thus rotated both of the disks are rotated for exposing a new pair of cutting blades and for subjecting the cooled blades to the action of the heat.

A docking machine constructed in accordance with this invention operates with no loss of blood to the animal since the wound is seared and quickly heals. Also the machine may be rapidly operated since it is merely necessary to swing the handle 34 in the direction indicated by the arrow in Figure 1 for contacting the blades 23 and 43. Actual tests performed on a large herd of lambs demonstrated that the machine can be rapidly operated and will cause no loss of blood or weight by the animals.

We claim:—

1. A docking machine comprising a pair of coacting disks having oppositely arranged segments provided with pairs of cutting edges, and means to heat one pair of cutting edges while the other pair of cutting edges is in use.
2. A docking machine comprising a pair of coacting disks having oppositely arranged segments provided with pairs of cutting edges, means to heat one pair of cutting edges while the other pair of cutting edges is in use, and means to lock one of said disks in a stationary position.
3. A docking machine comprising a pair of coacting disks having oppositely arranged segments provided with pairs of cutting edges, means to heat one pair of cutting edges while the other pair of cutting edges is in use, means to lock one of said disks in a stationary position, and means whereby the other disk may be rotated for engaging the cutting edges of each pair.
4. A docking machine comprising a pair of coacting disks having oppositely arranged segments provided with pairs of cutting edges, means to heat one pair of cutting edges while the other pair of cutting edges is in use, means to lock one of said disks in a stationary position, and means whereby the movement of one disk with relation to the other is limited.
5. A docking machine comprising a pair of coacting disks having segments provided with pairs of cutting edges, means to heat

one pair of cutting edges while the other pair of cutting edges is in use, means to lock one of said disks in a stationary position, means whereby the other disk may be rotated for engaging the cutting edges of each pair, and means whereby the movement of one disk with relation to the other is limited.

6. A docking machine comprising a pair of coacting disks having pairs of cutting edges, and means whereby one pair of cutting edges may be heated while the other pair of cutting edges is in use.

7. A docking machine comprising a pair of coacting disks having pairs of cutting edges, means whereby one pair of cutting edges may be heated while the other pair of cutting edges is in use, and means whereby one of the disks may be rotated with relation to the other.

8. A docking machine comprising a pair of coacting disks having pairs of cutting edges, means whereby one pair of cutting edges may be heated while the other pair of cutting edges is in use, means whereby one of the disks may be rotated with relation to the other, and means to lock one of the disks in a relatively stationary position.

9. A machine of the character specified comprising a casing having a heating chamber, a pair of disks having their lower portions arranged in the heating chamber and provided with pairs of oppositely arranged cutters, and means to confine one pair of cutters within the heating chamber while the other cutters are in use.

10. A docking machine comprising a casing having a heating chamber, a pair of disks partially arranged in the heating chamber and provided with pairs of oppositely arranged cutters, means to confine one pair of cutters within said heating chamber while the other pair of cutters are in use, and means whereby one of said disks may be rotated.

11. A docking machine comprising a casing having a heating chamber, a pair of disks partially arranged in the heating chamber and provided with cutters, means to limit the rotation of one disk with relation to the other, means to lock one of said disks in a relatively stationary position whereby to confine one pair of the cutters within said heating chamber while the other pair of cutters is in use, and a heating element for supplying said chamber with heat.

12. A docking machine comprising a casing having a heating chamber, a pair of disks partially arranged in the heating chamber and provided with oppositely arranged cutters, means to lock one of said disks in a relatively stationary position whereby to confine one pair of cutters within said heating chamber while the other pair of cutters is in use, a heating element for

supplying said chamber with heat, and attaching means for said casing.

13. A docking machine comprising a casing having a heating chamber, a pair of disks extending into said heating chamber and having segments provided with pairs of cutting edges, a shaft connected to one of said disks, a locking arm pivoted to said shaft, a bracket to detachably hold said shaft against rotation, a bearing receiving said shaft and rigidly connected to the other disk, oppositely arranged arms connected to said sleeve bearing, and an operating handle adapted to be engaged with one of said arms to rotate one of said disks with relation to the other.

14. A docking machine comprising a casing having a heating chamber, a pair of disks extending into said heating chamber and having segments provided with pairs of cutting edges, a shaft connected to one of said disks, a locking arm pivoted to said shaft, a bracket carried by said casing and adapted to receive said locking arm whereby to detachably hold said shaft against rotation, a bearing receiving said shaft and rigidly connected to the other disk, oppositely arranged arms connected to said sleeve bearing, an operating handle adapted to be engaged with one of said arms to rotate one of said disks with relation to the other, and a heating member for said heating chamber.

15. A machine of the character specified comprising a rotary cutting member having cutting edges and means whereby to heat one of the cutting edges during the use of the other cutting edge, there being means to limit the rotation of the cutting member whereby to retain the inactive cutting edges in the zone of heat during the use of the other cutting edge.

16. A docking machine comprising a pair of rotary cutting members having pairs of coacting cutting edges and means whereby to limit the rotation of the cutting members with relation to each other.

17. A machine of the character specified comprising a pair of rotary cutting members having pairs of cutting edges, and means whereby to heat one pair of the cutting edges while the other pair of cutting edges is in use, there being means to limit the rotation of the cutting members whereby to retain the pair of inactive cutting edges in the zone of heat during the use of the pair of active cutting edges.

18. A machine of the character specified comprising a pair of cutting members having pairs of cutting edges, means whereby to heat one pair of the cutting edges while the other pair of cutting edges is in use, and a locking device for holding one of the cutting members in a set position.

19. A machine of the character specified comprising a pair of cutting members hav-

ing pairs of cutting edges, means whereby
to heat one pair of the cutting edges while
the other pair of cutting edges is in use,
a locking device for holding one of the cut-
ting members in a set position, and means
5 whereby one of the cutting members may
be operated to bring the cutting edges into
engagement with the work.

20. A docking machine comprising a pair

of rotary cutting members having pairs of 10
coacting cutting edges and means whereby
to limit the rotation of the cutting members
with relation to each other, and a locking
device to hold one of the rotary cutting
members and the edges thereof in a set posi- 15
tion.

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