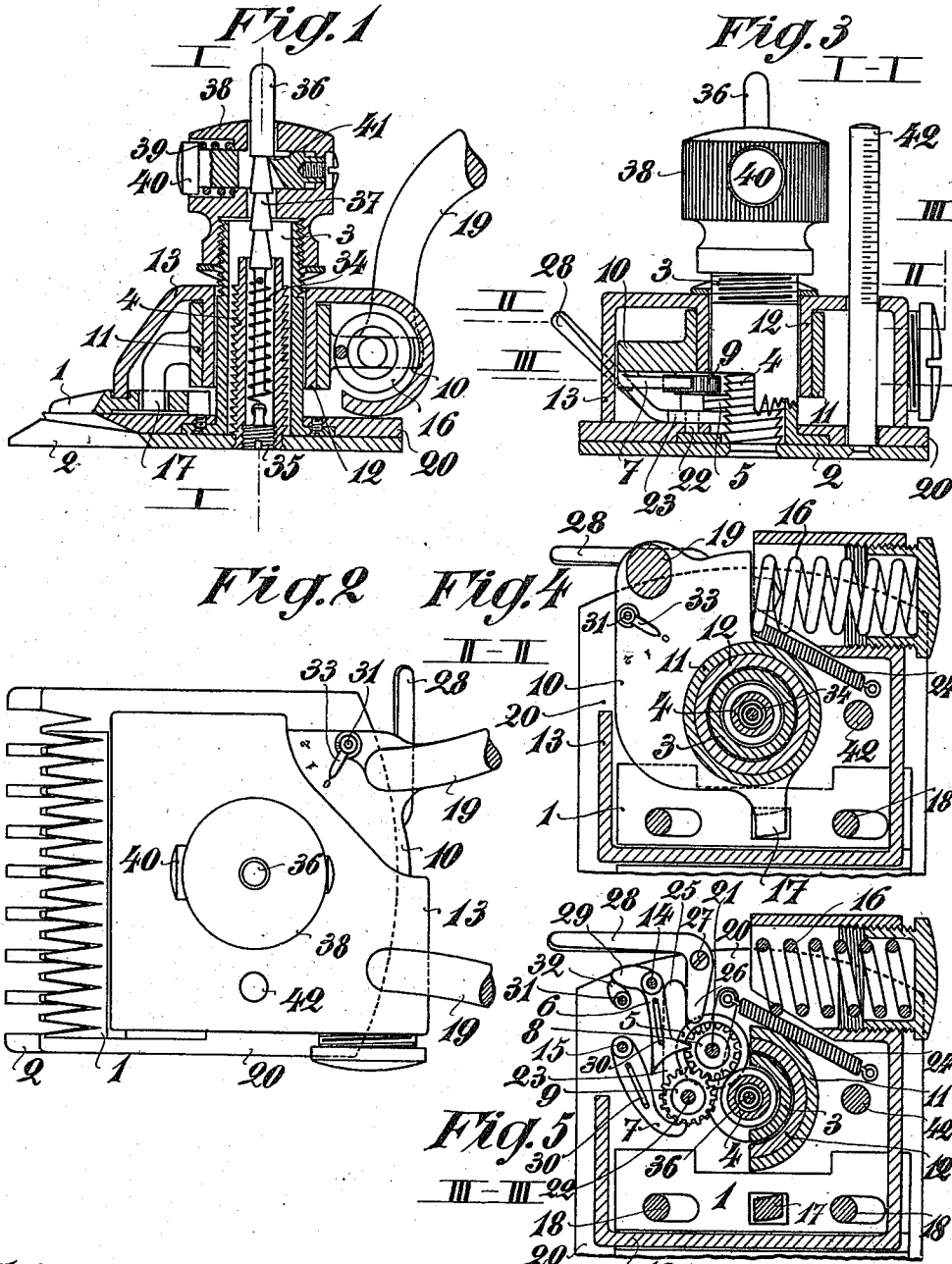


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ANIMAL SHEARS,
APPLICATION FILED OCT. 15, 1908.

974,604.

Patented Nov. 1, 1910.



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ANIMAL-SHEARS.

974,604.

Specification of Letters Patent.

Patented Nov. 1, 1910.

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To all whom it may concern:

Be it known that I, GREGOR SCHNEIDER, a subject of the German Emperor, and resident of 8 Augustinerstrasse, Würzburg, Germany, have invented certain new and useful Improvements in Animal-Shears, of which the following is a specification.

The object of my present invention relates to a hair-cutter the chief advantage of which consists in a mechanism for adjusting a foot-comb. By means of said adjusting mechanism I can cut the hairs shorter or longer by the same apparatus by simply adjusting the foot comb into the desired position as the foot comb is either quickly or slowly removed from the cutting comb.

A further improvement consists in the arrangement of a mechanism to rebend the spring causing the backward movement of the foot-comb.

In the accompanying drawings in which I have illustrated my improved hair-cutter like numbers of reference refer to like parts throughout the different views.

Figure 1 shows a vertical section of the cutting apparatus, Fig. 2 shows a plan view of Fig. 1, Fig. 3 shows a section according to line I—I of Fig. 1, Fig. 4 shows a section according to line II—II of Fig. 3. Fig. 5 shows a section according to lines III—III of Fig. 3.

The foot-comb which can be vertically moved toward the horizontally movable cutting-comb 1 is fastened on a screw spindle 4 guided in a hollow shaft 3 of the cutting comb 2 which screw spindle coöperates with a worm-wheel 5. This worm-wheel 5 is driven by the switching levers 6 and 7 either only by the switch lever 7 or by both switching levers 6 and 7, the switch lever 7 engaging a toothed wheel 9 coöperating with a toothed wheel 8 engaging the worm-wheel 5. The switching levers 6 and 7 are rotatably mounted by means of pins 14 and 15 on the plate 10 the box 11 of which is rotatably mounted around the tube like box 12 of the fixed case 13. The plate 10 as shown in Figs. 1-4 acts under the influence of the pressure of an adjustable spring 16 and engages by its projection 17 a groove of the horizontally movable cutting-comb 1 guided by the pins 18 as shown in Figs. 4 and 5. The horizontal movement of the cutting-comb 1 is attained in the well known manner by pressing together the scissor like arms 19

the backward movement of the comb being effected by means of a spring 16.

The toothed wheels 8 and 9—the wheel 8 engages the screw spindle 4 by means of the worm-wheel 5—are operated as above described by the levers 6 and 7 and are rotatably mounted on the shafts 21 and 22, the shaft 22 being fixed to the base plate 20 as shown in Fig. 2 while the shaft 21 of the wheel 8 is mounted on a plate 23 rotatable around the shaft 22 said plate acting under the influence of a draw spring 24 as shown in Fig. 5. The plate 23 is provided with a projection 25 against which rests a thumb 26 of a hand lever 28 rotatably mounted on the pivot 27. By this arrangement it is attained that by pulling backward the hand lever 28 a sidewise turning of the plate 23 takes place so that the worm-wheel 5 usually engaging the screw spindle 4 is disengaged.

The switch lever 6 rotatable around the pin 14 of the plate 10 having the scissor like arms 19 is formed as an angle lever by means of a nose 29 and serves to directly actuate the switch wheel 8. The other switch lever 7 acts on the toothed wheel 9 which transfers its motion to the switch wheel 8. Both switch levers act under the influence of springs 30 fixed to the plate 10 and it is in this manner that they are caused to continually engage the desired switch wheels.

In order to disengage the lever 6 I provide a tappet 32 at the lower end of a shaft 31 rotatably mounted on the plate 10 which coöperates with the nose 29. On the upper end of this shaft 31 I mount an indicator 33 which points to certain signs 0, 1, 2. I furthermore provide an arrangement to cause, if the worm-wheel 5 is disengaged, an automatic backward movement of the comb 2 into its original position. This movement is caused by a draw spring 34 inserted inside the hollow screw spindle 4 which spring is connected at one end by means of a screw 35 to the foot-comb 2 and at the other end to a pin 36 provided with a number of conically pointed step projections 37 guided in a cap 38. Inside the cap 38 I locate a horizontally movable bolt 40 acting under the influence of a spring 39 said bolt having a hole and providing a tooth like nose serving to arrest the pin 36. If the pin 36 is drawn upward the nose 41 of the bolt 40 will engage the next conical projection 37 and the spring 34 is more strongly rebent.

By releasing the pin 36 by a pressing backward of the bolt 40 and by disengaging the switch wheel 8 I can remove the comb 2. The spring 34 is released by removing the

5 screw 35. The foot-comb 2 preferably carries a pin 42 providing a millimeter division serving to read the length of the cuts. The operation of the apparatus is as described hereafter. In consequence of the
10 pressing together of the arms 19 a rotation of the plate 10 around the box 12 of the case 13 is caused and accordingly by the switch lever 7 a rotation of the toothed wheel 9 which on its part rotates the wheel
15 8 and by means of the worm-wheel 5 transfers a downward motion to the spindle 4 and the foot-comb 2. At the backward motion of the arms 19 caused by the pressure of the spring 16 the switch lever 6 engages the
20 switch wheel 8 and again causes a rotation of the worm-wheel 5 and consequently a downward motion of the foot-comb. In other words a step like downward movement of the foot-comb is caused during the forward and backward motion of the arms 19. If a slower moving down of the foot-comb is desired the lever 33 is placed upon the sign 1, whereby a little rotation of the angle lever 6 around its pin 14 is caused thereby
30 disengaging the wheel 8. At the pressing together of the arms 19 a rotation of the toothed wheel 9 and of the toothed wheel 8 is caused by the switch lever 7. At the backward movement of the arms 19 a rotation of the wheel 8 by the lever 6 is not
35 caused. As now the downward movement of the foot-comb is only caused by the pressing together of the arms 19 the comb 2 will move accordingly slower. If the lever 33 is
40 changed to show upon the sign 2 a still greater turn to the right of the lever 6 is attained whereby the lever 7 is also turned aside and comes out of engagement with the wheel 9. In this position a rotation of the
45 wheel 9 is prevented and consequently a downward movement of the foot-comb 2.

What I claim as new and desire to secure by a United States Letters Patent, is:—

1. In a hair cutter the combination of a
50 switch wheel (8), a worm-wheel (5) provided on said switch wheel, a screw spindle (4) engaged by said worm wheel, a second switch wheel (9) cooperating with said first switch wheel, a movable plate (10), levers
55 (6 and 7) rotatably mounted on said plate, springs influencing said levers adapted to cause the first switch wheel (8) to rotate, scissor like arms (19) fixed to said plate, and means to cause at a pressing together of said
60 arms a step like rotation of the worm-wheel by the switch lever (7), and at the backward

motion of said arms a movement of said worm wheel by the second switch lever (6), substantially as described and for the purpose set forth. 65

2. In a hair-cutter the combination of a switch wheel (8), a worm wheel (5) provided on said switch wheel a screw spindle (4) engaged by said worm wheel, a second switch wheel (9) cooperating with said first
70 switch wheel, a movable plate (10), a switch lever (6) rotatably mounted on said plate spring influencing said levers, a nose (29) provided on said switch lever, a shaft (31), a lever (33) having the form of a finger
75 mounted on the upper end of said shaft, a tappet (32) mounted on said shaft (31) adapted to cause a rotation of the switch lever (6) and a disengaging of the switch wheel (8), a second switch lever (7) also
80 rotatably mounted on said plate (10), scissor like arms (19) fixed to said plate, and the engagement of said second switch lever with said second switch wheel (9) adapted to cause in greater intervals a motion of the
85 screw spindle and of the foot comb substantially as described and for the purpose set forth.

3. In a hair-cutter the combination of a switch wheel (8), a shaft (21) for said
90 switch wheel, a rotatably mounted plate (23) carrying said shaft springs influencing said levers, a worm-wheel (5), a screw spindle (4) engaging said worm-wheel, a hand lever (28), a thumb (26) provided on said hand
95 lever adapted to rotate said plate and to disengage the worm wheel and the screw spindle, substantially as described and for the purpose set forth.

4. In a hair-cutter the combination of a
100 hollow spindle (4), a draw spring (34) located inside said spindle and fixed with one end to a screw (35), a pin (36) provided with conically pointed projections (37) and connecting with the other end of said spring,
105 a cap (38) guiding said pin, a bolt (40) acting under the influence of a spring and providing a hole for said pin to pass through, a tooth like nose (41) located inside said hole on said bolt, engaging the conical projections of said pin adapted to arrest the same and to rebend the spring at an upward motion of said pin, substantially as described and for the purpose set forth.

In testimony whereof I have hereunto
115 signed my name this 29th day of September, 1908, in the presence of two subscribing witnesses.

GREGOR SCHNEIDER.

Witnesses:

JOHANN SCHAITZLIM,
JEAN GRUND.