Nov. 19, 1940. S. DEUTSCHER 2,222,256

FUR SLITTING APPARATUS

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Fig. 1

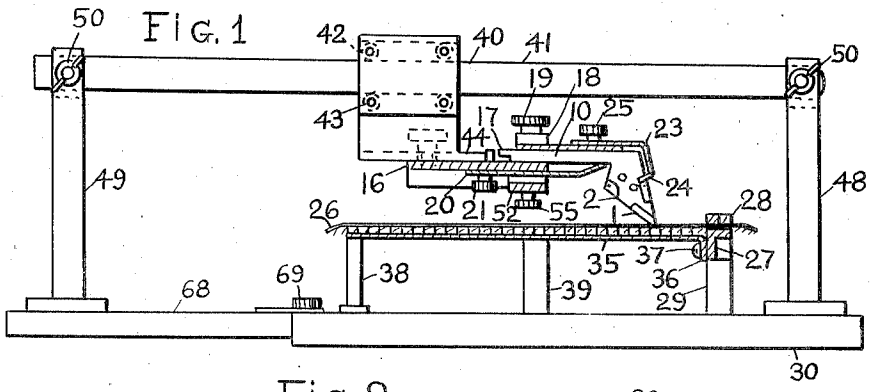


Fig. 2

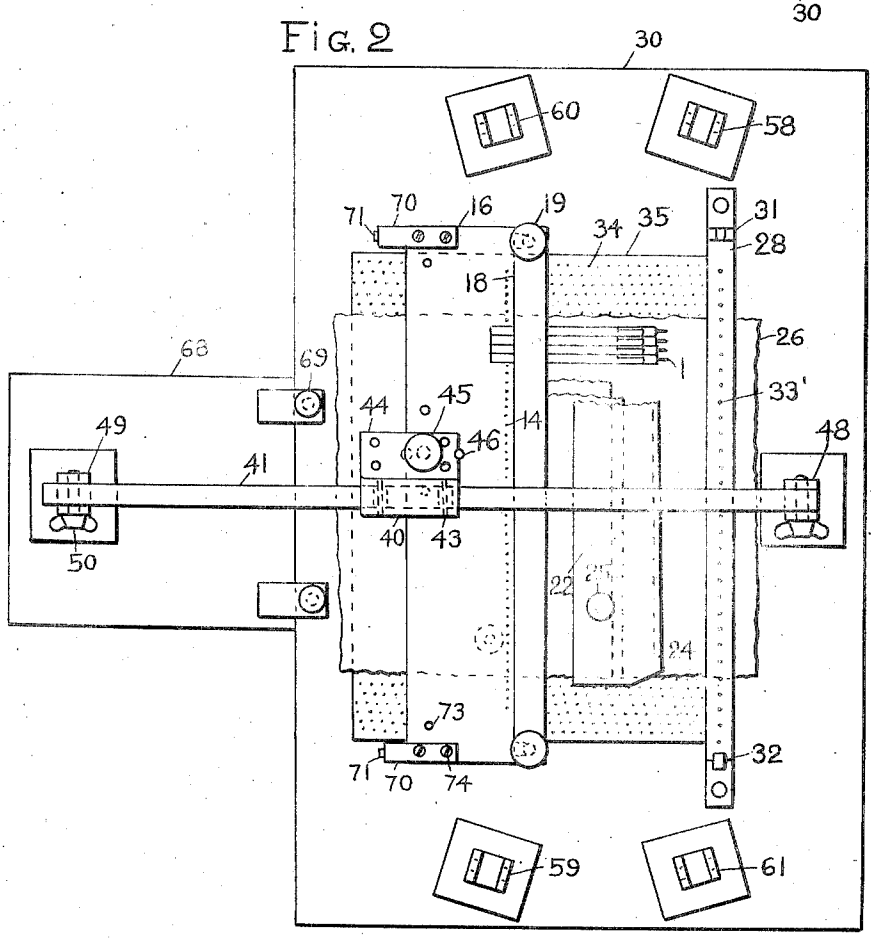
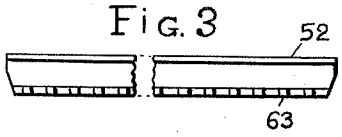


Fig. 3



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Fig. 4

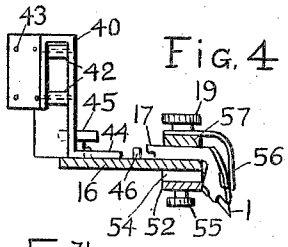


Fig. 6

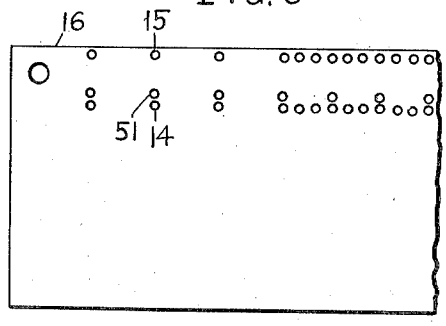


Fig. 5

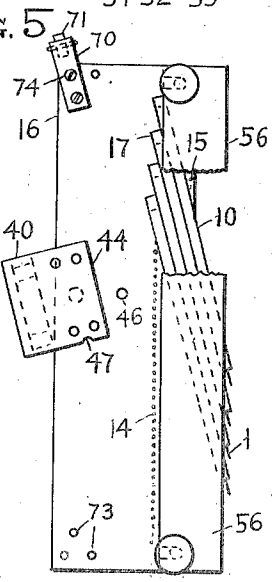


Fig. 7

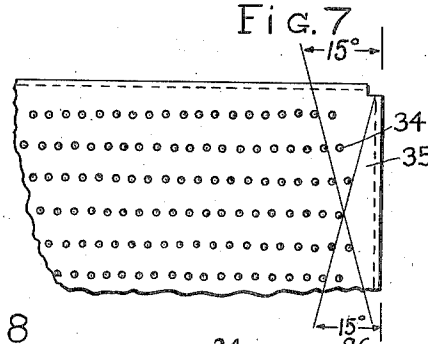


Fig. 8

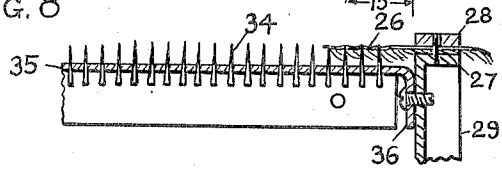


Fig. 9

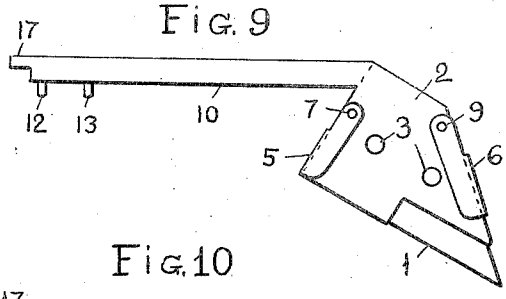


Fig. 11

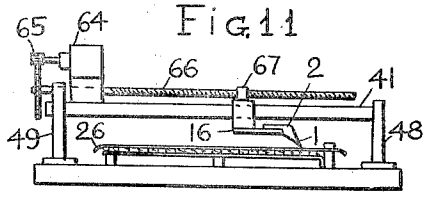


Fig. 10

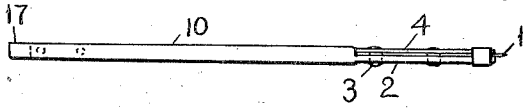
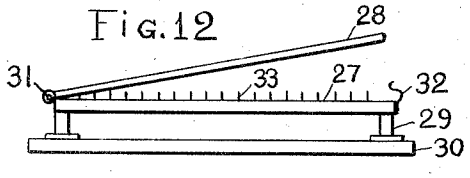


Fig. 12



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Patented Nov. 19, 1940

2,222,256

UNITED STATES PATENT OFFICE

2,222,256

FUR SLITTING APPARATUS

Samuel Deutscher, Brooklyn, N. Y.

Application May 31, 1940, Serial No. 337,978

5 Claims. (Cl. 164—73)

My invention relates to fur slitting devices and has particular reference to devices for slitting or cutting furs into narrow strips for the preparation of matched fur covering for articles of wearing apparel.

In the preparation of coats and similar articles of wearing apparel from high-priced furs such as mink, etc., the individual pelts are cut into narrow strips, usually about one-eighth of an inch wide, preferably on bias, and such strips are sewed together again, shifting every strip in relation to the other so as to produce a relatively long and narrow piece of fur. This operation is called "let out" and "reset" in the fur trade.

The slitting operation is usually performed by hand, cutting one strip at a time, using special thin knives, preferably made of razor blades held in special flat holders. Such an operation requires considerable skill, is very slow, and, therefore, considerably adds to the cost of the product.

My invention has for its object to provide means for cutting simultaneously a large number of narrow strips from a pelt at an angle, thereby insuring accuracy of the work and uniformity of the strips. I provide for this purpose a more or less large number of thin knives removably supported on an elongated holder which can be held in a hand while applying the knives to a pelt in a desired direction.

The pelts, such as mink, are usually cut on a bias or in an angular direction for "let out" and "reset" cutting, to the right or to the left, and, occasionally, straight across. Another object of my invention is therefore to provide means for mounting the knives on my holder in an angular position, to the right or to the left, as desired, or at right angles to the holder, and to provide means to support and guide the holder in a corresponding angular direction.

Another object of my invention is to provide a supporting and stretching frame for pelts so as to facilitate the slitting operation. In the slitting operation it is important to support not only the pelt before cutting but also the individual strips after the slitting operation. I provide for this purpose a board, preferably of metal, having a plurality of sharp pins on which the pelt is impaled. The pins are so spaced as to allow free passage of the knives between them.

In a modified form of my invention I employ an electric motor or other suitable source of power including a manually operable pedal, for moving the holder with the knives, a suitable switching device being provided for controlling the motor.

My invention is more fully described in the accompanying specification and drawings in which—

Fig. 1 is a side view of my apparatus partly in section, showing knives at right angles to the holder;

Fig. 2 is a top plan view of the same;

Fig. 3 is a front view of a knife clamping plate;

Fig. 4 is an end view of a knife holder with the knives set at a small angle;

Fig. 5 is a top plan view of the same;

Fig. 6 is a fractional detail view of the holder;

Fig. 7 is a fractional detail view of the pelt supporting plate;

Fig. 8 is an end view of the same;

Fig. 9 is a detail view of a knife holder;

Fig. 10 is a top plan view of the same;

Fig. 11 is a diagrammatic view of a modified device employing an electric motor;

Fig. 12 is an elevational view of a clamp for the fur shown on a reduced scale.

My fur slitting apparatus consists of a plurality of knives, shown in detail in Figs. 9 and 10, comprising thin blades 1 removably fitted in holders 2. The blades may be conveniently made of ordinary razor blades by breaking or splitting them into parts of triangular shape and providing with sharp points for piercing and cutting furs. The holder 2 has pins 3 engaging corresponding holes in the blade, the ends of the pins entering also holes in a clamping plate 4 which is held against the holder by U-shaped clamps 5 and 6 pivoted at 7 and 9. The holder plate 2 has a straight shank 10 extending at an angle to the rear edge of the plate 2. Pins 12 and 13 are provided at the end of the shank, the pins registering with corresponding holes 14 and 15 in a knife-supporting plate 16 shown in detail in Fig. 6. The pin 12 passes through the shank and forms a hooked handle 17 on top for pulling the shank out of its place on the plate 16. The holes 14 and 15 are placed at a small distance apart, preferably one-eighth of an inch. The holders are also made one-eighth of an inch thick at the shanks and at the clamps, so that they abut each other when placed side by side on the supporting plate 16. Every pair of holes 14 and 15 is aligned at right angles to the edge of the plate 16, so that the knives also extend at right angles to the plate. The shanks are clamped against the plate by a bar 18 attached at the ends by thumb screws 19. The knife holders are supported underneath by a plate 20 fastened to the under side of the holding plate 2 by thumb screws 21. An upper plate 22 extends from the bar 18 over the shanks of the knife holders, the holders them-

selves being further pressed against the plate **20** by a curved guiding plate **23** having teeth **24** at the ends engaging the end knife holders. The guiding plate **23** has elongated holes for screws **25** holding it against the plate **22** so that its position can be adjusted for pressing the knives together and against the supporting plate **20**.

A piece of fur **26** to be cut is clamped at the rear edge between bars **27** and **28**, the bar **27** being supported on posts **29** mounted on a base **30** and the bar **28** being hinged to the lower bar **27** at **31**. The other end of the bar **28** is clamped against the end of the bar **27** by a resilient clamp or latch **32**. A row of sharp pins **33** extend from the bar **27**, engaging corresponding holes **30'** in the bar **28**. The fur is placed with its hair at the under side and is impaled on sharp pins **34** extending from a supporting plate **35**. The latter is provided with a flange **36** at the rear attached to the bar **27** by screws **37**, the front end being supported on posts **38**. Additional posts **39** may be provided on the base **30** for the middle portion of the plate **35**. The pins **34** extend in rows spaced at the same distance apart as the knives, so that the latter pass between the pins without touching them while slitting the fur.

For guiding and supporting the knife holding plate **16**, it is provided with a supporting bracket **40** in the shape of an inverted U-shaped hook slidably engaging a rail **41**. Rollers **42** are provided in the U portion of the bracket or hook **40** rotating on pins **43** and engaging the upper and lower sides of the rail, so as to reduce friction when the plate **16** with the knives is moved on the rail. The bracket **40** has a flange **44** with a hole in the middle for a thumb screw **45** attaching the flange to the plate **16**. A dowel pin **46** in the plate **16** engages a slot or hole **47**, Fig. 5, in the flange for holding the bracket in the correct position at right angles to the plate **16**.

The rail **41** is supported at the ends on posts **48** and **49** mounted on the base **30**. The forked upper ends of the posts have elongated holes for screws **50**, so that the height of the rail can be adjusted. This is necessary in order to have the knives pierce the skin of the fur only without cutting the hair underneath.

For slitting the fur or pelt **26** stretched on the plate **35** and held by the pins **34**, the rail **41** with the knife holding plate **16** is placed on the posts fixed by the screws **50** so that the knife points just penetrate the skin. The plate **16** is then moved over the rail, the knives cutting slits in the fur. The strips thus obtained remain attached to the plate **35** by the pins **34** and cannot therefore become displaced and damaged during the cutting operation as invariably happens with multiple knives without such support for the strips.

It is often required to cut the fur into diagonal or bias strips, usually at an angle of fifteen degrees. The knives are replaced for this purpose at an angle to the plate **16** as shown in Figs. 4, 5. Additional holes **51** are provided in the plate **16** for the pins **13** for this purpose, the pins **12** being placed in every fourth hole **14**. The inner edges of the knife holding members **2** rest against a bar **52** held under the plate **16** on end blocks **54** and fastened by screws **55**. Elongated holes are provided in the bar for the screws so that the bar can be pressed against the holders **2**. The holders **2** are also held on top by a curved plate **56** extending from an upper bar **57** held by the screws **19**. The rail **41** for this purpose is placed on the end posts **60** and **61** for the right hand position of the knives. With this arrangement, when placed at an angle of fifteen degrees, the knives will be also the same distance apart, that is one eighth of an inch. For larger distances the knives may be placed in every second, third hole, etc., in which case they are held separated at the ends by a plate **62**, Fig. 3, having teeth **63** of a corresponding thickness and spacing.

The plate **16** with the knives may be moved on the rail **41** by an electric motor **64**, Fig. 11, which may be mounted on the rail and connected by gears **65** with a lead screw **66** engaging a nut on the hook **67**. The rail with the motor can be placed in any angular position for left or right hand bias cutting or for cutting straight across as in Figs. 1 and 2.

For a very long knife holding plate **16**, two rails **41** may be employed, one at each end of the plate.

For diagonal cutting the front extension **68** may be removed by loosening the screws **69**.

I have found that the fur can be conveniently placed on the pins **34** by pressing the fur with a board covered with thick felt. A wooden bar covered with felt can be impaled on the pins at the outer edge of the fur to provide a stop for the knives.

The pins **34** are longer than the pins **33**, so that the hair of the fur is not clamped against the plate **35** and is therefore prevented from being cut by the knives. The bar with the knives may be raised while the fur is being stretched on the pins. The front screw **50** is removed for this purpose and the rear screw is loosened so that the bar can be rotated on the rear screw and supported at an elevation during stretching of the fur.

The plate **35** may be placed directly on the base **30**, in which case the posts **38** and **39** may be dispensed with, as well as the posts **29** for the fur clamping bars **27** and **28**.

For very long knife holding plate **16** it may be provided with additional removable supporting feet **70** at the ends with rollers **71** engaging the base **30**. The plate **16** is provided with two sets of holes **73** for fastening screws **74**, so that the position of the feet can be changed for different angles of the knives.

It is understood that my fur slitting apparatus may be further modified without departing from the spirit of the invention, as set forth in the appended claims.

I claim as my invention:

1. A fur slitting apparatus comprising an elongated member, a plurality of knives, means to support the knives on the member in a parallel relation to each other selectively in one of two angular positions to the axis of the member in a horizontal plane, a base, a bar on the base, means to clamp one edge of a piece of fur against the bar, a board supported on the base abutting the bar, a plurality of sharp needles on the board adapted to support the main portion of the fur stretched in direction away from the bar, a rail, means to support the rail at an elevation above the board at an angle to the edge of the board, the needles being so positioned as to form free passage for the knives in either of the two angular directions of their movement and in a transverse direction perpendicular to the bar when the board is turned at 90°.

2. A fur slitting apparatus comprising a base, means to support a piece of fur on the base in a stretched position, a rail, an elongated member slidably supported on the rail for movement in a selected angular relationship thereto, a plu-

rality of knives spaced in parallel relation to each other and to the rail, the knives being adapted to cut the fur into parallel strips when the elongated member is moved on the rail, and a plurality of pairs of brackets on the base one pair being adapted to removably support the rail in the air above and across the fur at an angle to the right of the edge of the base, the other pair being adapted to support the rail at a left angle, and a third pair being adapted to support the rail at right angles to the edge of the base.

3. A fur slitting apparatus comprising an elongated member having a flat upper side, a plurality of knives consisting of blades and blade holders with elongated shanks placed on the flat side of the member, pins extending from the ends of the shanks, the member having a plurality of holes for the pins on the shanks, a bar extending over the shanks, and means to tighten the bar against the member for clamping the shanks, the blades extending downward when the shanks are supported in a horizontal position on the member.

4. A fur slitting apparatus comprising an elongated member, a plurality of knives, means to support the knives on the member in a parallel relation to each other selectively in one of two angular positions to the axis of the member in a horizontal plane, a base, a bar on the base, means to clamp one edge of a piece of fur against the bar, a board supported on the base abutting the bar, a plurality of sharp needles on the board adapted to support the main portion of the fur stretched in direction away from the bar, a rail, means to support the rail at an elevation above the board at an angle to the edge of the board, the needles being so positioned as to form a plurality of parallel rows at a small angle to the left of the edge of the board and also forming parallel rows at a small angle to the right of the edge of the board, and also forming parallel rows at right angles to the edge of the board, the needles thereby permitting free passage for the movement of the knives in two angular directions and in a direction at right angles to the edge of the board.

5. A fur slitting apparatus comprising an elongated member, a plurality of knives, means to support the knives on the member in a parallel relation to each other selectively in one of two angular positions to the axis of the member in a horizontal plane, a base, a bar on the base, means to clamp one edge of a piece of fur against the bar, a board supported on the base abutting the bar, a plurality of sharp needles on the board adapted to support the main portion of the fur stretched in direction away from the bar, a rail, brackets on the base for supporting the rail at an elevation above the board in a selected angular position to the edge of the board, means to slidably support the knife-supporting means on the rail, the knives being adapted to cut the fur into a plurality of parallel strips when the knife-supporting means is moved on the rail, the needles being positioned in rows extending at small angles to the right and to the left of the edge of the board for providing free passage for the knives.

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