My invention relates to fur slitting machines and has particular reference to machines for cutting furs or pelts into narrow strips as required for the preparation of fur garments.

My invention has for its object to provide a machine for cutting a piece of fur into narrow strips of desired width, using a plurality of knives mounted on a common supporting bar, which can be moved simultaneously over a piece of fur, stretched on a supporting board. In order to facilitate the rearrangement of the knives on the supporting board for a desired spacing, I provide my knives with hinged shanks, so that certain knives can be raised into an inactive position by turning the shanks on the hinges.

Another object of my invention is to provide a supporting board for the fur which can be turned into any desired position for slitting the fur in a desired angular direction.

Another object of my invention is to provide a supporting board for the fur with a plurality of sharp pins. In order to uniformly impale the fur on the pins, I provide a clamping board with holes for the pins, the board being placed on the fur and pressure applied until the pins penetrate the fur to a uniform depth. The clamping board may be provided with through slots for guiding the knives during the cutting operation.

Another object of my invention is to provide means to stretch the fur over the pins, the stretching means remaining in position when the top board is placed on the fur.

Still another object of my invention is to provide means to print consecutive numbers or symbols on the strips when the fur is being cut.

My invention is more fully described in the accompanying specification and drawing, 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 fractional top plan view of the same;
Fig. 3 is a top plan view of a knife assembly;
Fig. 4 is a fractional top plan view of the knife;
Fig. 5 is a fractional plan view of the knives assembled at an angle;
Figs. 6 and 7 are views of a fur stretching device;
Fig. 8 is a fractional view of a knife guiding plate;
Fig. 9 is a similar view of a modified guiding plate;
Fig. 10 is a sectional view of the same; Figs. 11 and 12 are detail views of a printing or marking device.

My fur slitting apparatus consists of a plurality of knives, shown in detail in Figs. 3, 4 and 5, 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 consisting of a front portion 80 extending at an angle to the rear edge of the plate 2 and a rear portion 78 pivotally connected with the portion 89 at 78. The rear shank portions 78 are held tightly in place by a clamping bar 81 fastened to a supporting plate 16 by screws 19, the bar extending to the hinge 19. The blade portion is held by a second clamping bar 82 removably fastened with screws 83. The bar extends to the other side of the hinge 19. For removing certain of the knives or placing them into an inoperative position, the bar 82 is removed, and these knives are turned upward on their hinge, as shown in Fig. 1 or in dotted lines in Fig. 3. The bar 82 is then replaced, holding the operative and inoperative knives in their respective positions.

In order to keep the knives properly spaced when alternate knives are removed, spacers 84 are provided, rotatively mounted on pins 86. When turned inward, the spacers take the place of the missing knives. Plates 20 and 23 provide additional support for the knives on the plate 16.

Rollers 85 may be provided at the under side of the knives for holding down the fur as it is being cut.

For guiding and supporting the knife holding plate 16, it is provided with a hanger 15 with a hook on top slidably engaging a rail 41. The rail 41 is supported at the ends on post 48 and 49 mounted on a 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 without cutting the hair underneath.

A piece of fur 26 to be cut is placed with its hair at the under side and is impaled on sharp pins 34 extending from a supporting plate 17. The pins 34 extend in rows spaced at the same
For impaling a piece of fur on the pins 34, a board 87, Figs. 6 and 7, may be employed. The board has holes 88 corresponding to the pins 34 and has also dowel pins 89 at the ends 30. The board 87 is removed when the fur is properly impaled on the pins 34. The fur may be stretched during this operation by pulling on its edge, using sharp hooks 91 for this purpose (Figs. 6 and 7). The hooks being provided on the ends of thin bars 92 joined together by a cross-bar 93. The latter is held in a hand for pulling the fur, the board 87 being then pressed against the fur.

The bars fit between the rows of the pins and under the board as shown in Figs. 6 and 7. A modified arrangement for holding the fur on the pins is shown in Figs. 8, 9 and 10. A board 94 is used for this purpose, provided with transverse slots 95 extending between the rows of the pins. Grooves 56, Fig. 9, are provided on the underside of the board for the ends of the pins. The board is held tightly against the fur with the slots 95 extending in direct direction of movement of the knives. The blades 1 of the knives extend into slots for cutting the fur, the slots forming guides for the knives. The rollers 96 are not needed when the board 94 is used. The board may be made of a transparent material and provided with numbers 1, 2, 3, etc., at the sides in order to watch the cuts when the middle portions of the slots are covered by the board 16. A board 95 with straight slots 99 may be used when it is desired to cut straight strips. Holes 97 may be employed instead of the grooves 98 for the pins. The board 94 may have right or left hand diagonal or bias slots 95. For convenience in planning the work, the knives on the board or plate 18 may be numbered as well as the rows of the pins 34. Lines may be drawn, preferably in different colors, on the board 16 between the rows of the pins.

Several plates 16 may be provided with holes spaced for different distances between the knives. Saddles 160 may be placed on the knives for keeping them apart when the spacing is larger than the thickness of the knife shank.

The pins 34 may be formed on blades 34', as shown in Fig. 10.

For slitting the fur or pelt 28, it is stretched on the plate 76 and held by the pins 34, the rail 41 with the knife holding plate 16 being placed on the posts 46 or 48. The knife 50 is held by the screws 52 at a desired height, so that the knife points will 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 board 76 is then turned on its pin 17 to a desired position in relation to the rail 41.

For a very long knife-holding plate 16, two 75 rails 41 may be employed, one at each end of the plate.

The bar 16 with the knives may be raised while the fur is being stretched on the pins 34. The front screw 59 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.

A clamping bar 28 may be provided at the end of the board 76, hinged at 31 and being held against the board by a screw 29 provided with a raised character or numbers as shown in Figs. 11 and 12, at the under side for printing the numbers on the strips of the fur. Holes 33' are provided in the bar for the pins 34.

It is understood that my fur slitting machine 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 machine comprising a base; means to support a piece of fur on the base; a bar slidably supported above the base; a plurality of knives with shanks on the bar adapted to cut the fur into strips when the bar is moved, the knife shanks having rear and front portions hinged together, the front portions being adapted to be turned into an inoperative position; means to attach the rear portions to the bar; and means to attach the front portions of the shanks to the bar with the knives in an operative position or to support the front portions in an inoperative position.

2. A fur slitting machine comprising a base; means to support a piece of fur on the base; a bar slidably supported above the base; a plurality of knives with shanks on the bar adapted to cut the fur into strips when the bar is moved, the knife shanks having rear and front portions hinged together, the front portions being adapted to be turned into an inoperative position; means to attach the rear portions to the bar; and means to attach the front portions of the shanks to the bar with the knives in an operative position or to support the front portions in an inoperative position; and means on the knives to keep them apart when alternate knives are raised into an inoperative position.

3. A fur slitting machine comprising a base; means to support a piece of fur on the base; a bar slidably supported above the base; a plurality of knives with shanks on the bar adapted to cut the fur into strips when the bar is moved, the knife shanks having rear and front portions hinged together, the front portions being adapted to be turned into an inoperative position; means to attach the rear portions to the bar; and means to attach the front portions of the shanks to the bar with the knives in an operative position or to support the front portions in an inoperative position; and means on the knives to keep them apart when alternate knives are raised into an inoperative position.

4. A fur slitting machine comprising a base; means to support a piece of fur on the base; a bar rotatably supported on the base; means on the board to support a piece of fur; means to cut the fur into strips; and means to imprint symbols on the strips.

5. A fur slitting machine comprising a base; a board rotatably supported on the base; means on the board to support a piece of fur; means to cut the fur into strips; a member hingedly supported on the board; and means on the underside of the
6. A fur slitting machine comprising a base; a board on the base; a plurality of steel blades supported edgewise on the board at equal distances apart; sharp points on the upper edges of the blades adapted to support a piece of fur; and means to slit the fur into strips.

7. A fur slitting machine comprising a base; means to support a piece of fur on the base; a bar slidably supported above the base; a plurality of knives with shanks on the bar adapted to cut the fur into strips when the bar is moved, the knife shanks having rear and front portions hinged together, the front portions being adapted to be turned into an inoperative position; means to attach the rear portions to the bar; means to attach the front portions of the shanks to the bar with the knives in an operative position or to support the front portions in an inoperative position; and rollers supported on the under sides of the knives in front of the cutting edges for pressing the fur against its supporting means.

8. A fur slitting machine comprising a base; means to support a piece of fur on the base; a bar slidably supported above the base; a plurality of knives with shanks on the bar adapted to cut the fur into strips when the bar is moved, the knife shanks having rear and front portions hinged together, the front portions being adapted to be turned into an inoperative position; means to attach the rear portions to the bar; means to attach the front portions of the shanks to the bar with the knives in an operative position or to support the front portions in an inoperative position; and extensions on the under sides of the knives for pressing the fur against the supporting means.

9. A fur slitting machine comprising a board; a plurality of equally spaced sharp pins extending upward from the board adapted to support a piece of fur to be cut into strips; a clamping board for the fur having holes for the pins for impaling the fur on the pins; a flat member with a plurality of prongs adapted to extend between rows of the pins; and hooks on the ends of the prongs for engaging the fur, the member being adapted to be used for stretching the fur over the board prior to being impaled on the pins and adapted to remain under the clamping board.

SAMUEL DEUTSCHER.