Sept. 25, 1962 H. A. BURDWOOD 3,055,248

SLITTING MACHINE

Filed June 5, 1959

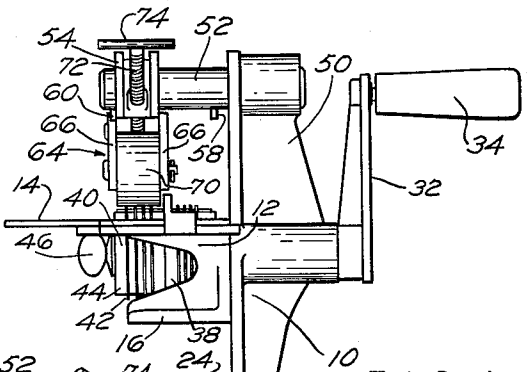
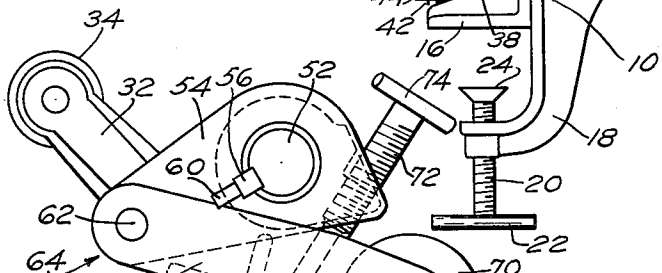


FIG. 1



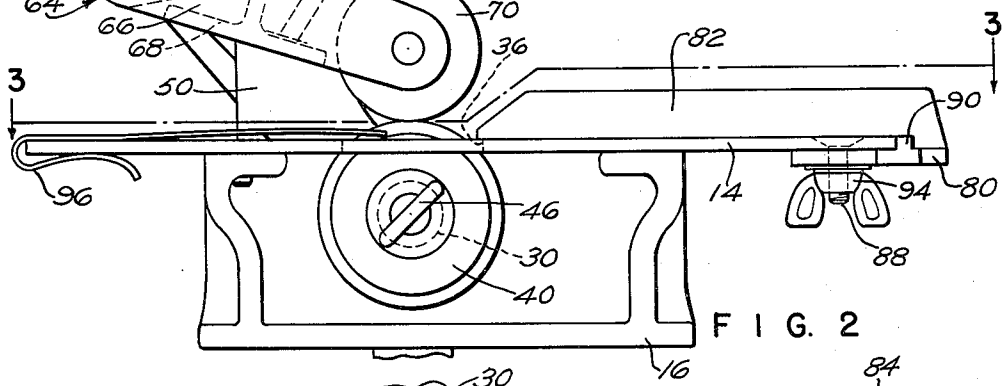


FIG. 2

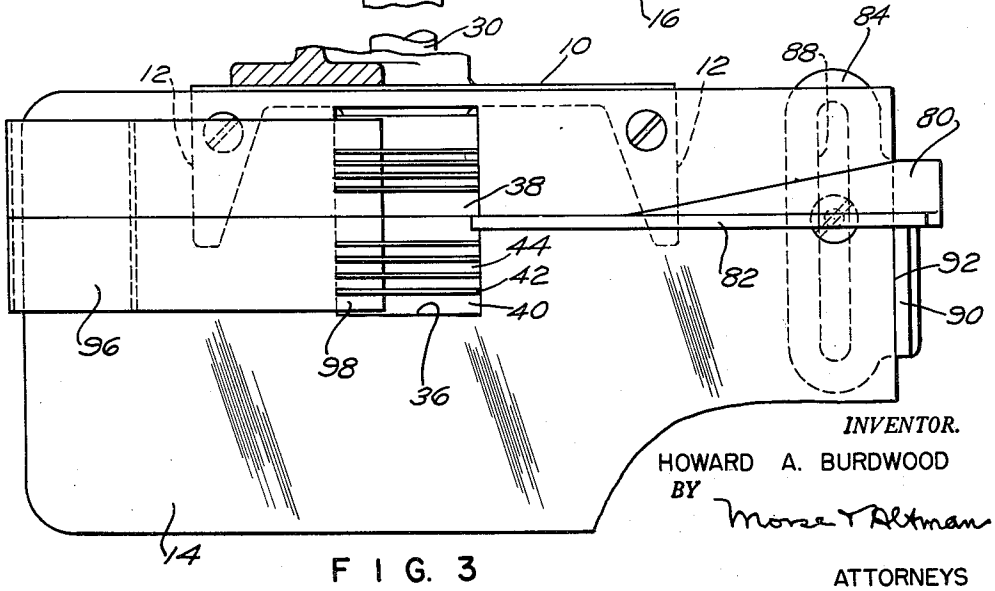


FIG. 3

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SLITTING MACHINE

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1 Claim. (Cl. 83—471)

This invention relates to improvements in manually operable slitting machines such as are used to cut cloth into narrow strips for use in making rugs. It often happens that after using cloth strips of a certain width it is desired to use strips of a different width. To make such strips by present machines of this type it is necessary to remove the cutter roll from the machine and to replace it with another cutter roll if the latter is available and has not been lost or misplaced. According to the invention, a machine of the type shown in my Patent No. 2,662,598, granted December 15, 1953, is provided with two cutter rolls and a press roll which is mounted so as to be usable with either of the cutter rolls. In this way, strips of a different width can be had by a simple adjustment of the machine.

For a more complete understanding of the invention, reference may be had to the following description thereof, and to the drawing, of which—

FIGURE 1 is an end elevational view of a machine embodying the invention;

FIGURE 2 is a side elevation of the same on a larger scale; and

FIGURE 3 is a sectional view on the line 3—3 of FIGURE 2.

The machine shown on the drawing comprises a main frame 10 which may be a single casting having horizontal fingers 12 on which is secured a work table 14. The lower portion of the frame 10 is in the form of a screw clamp by which the mechanism can be mounted at the edge of a table or a desk. This clamp includes a projection 16 having a bottom face which is horizontal and a bracket 18 in which is screw threaded a clamp screw 20 with a suitable finger piece 22 and a head 24 which is below the bottom surface of the projection 16.

A horizontal shaft 30 is journaled in the frame 10. A crank 32 with a handle 34 is secured to one end of the shaft. The shaft projects from the frame under a rectangular aperture 36 in the table 14. Removably mounted on and splined to the shaft 32 are two cutter wheels 38 and 40. Each wheel consists of a series of disk knives 42 of equal diameter, these knives being coaxially arranged and uniformly spaced from one another. Each cutter wheel also has a cast metal core 44 in which the knives are embedded except for the peripheral margins. The cutter wheels can be secured on the shaft 30 by any suitable means, a thumb screw 46 threaded into a hole in the end of the shaft 30, being employed for this purpose. As indicated in FIGURE 2, the upper portions of the cutter wheels 38 and 40 project above the top of the table 14 so as to be engageable by sheet material such as cloth which is pushed along the top of the table toward them.

The frame 10 also includes a bracket 50 from which projects horizontally a pin 52, the outer end of the pin being free. This pin extends out over the table 14 and supports a bracket 54 which is slidable along the pin 52 but is splined thereto by a suitable spline 56 so as to be incapable of any angular movement relative to the pin. Two stop elements 58 and 60 are mounted on the pin 52 to limit the sliding movement of bracket 54 on the pin. Hinged to the end of the bracket 54 as at 62 is an arm 64 consisting of a pair of parallel links 66 connected by a transverse bridging member 68. A cylindrical press roll 70 of hard steel is journaled at the end of the

arm 64 remote from the hinge 62. This press roll is rotatable about a horizontal axis and is of sufficient length to bear simultaneously on all of the knives of either of the cutter wheels 38 and 40. The stop elements 58 and 60 are so arranged that when the bracket 54 is moved against the stop 58, the press roll 70 will be directly above and in contact with the knives of the cutter wheel 38. When the bracket 54 is shifted to engage the stop element 60, the press roll 70 is then directly above and in contact with the knives of the cutter wheel 40. In order to press the press roll 70 firmly against the blades of one or the other of the cutter wheels, a screw 72 is threaded through a projection in the hub of the bracket 54. The lower end of the screw bears against the cross member 68 of the arm 64. A convenient finger piece 74 is at the upper end of the screw 72. By turning the screw so that it presses down against the cross member 68, any desired degree of pressure can be had between the press roll 70 and the blades of the cutter wheel thereunder. By mounting on the shaft 30 cutter wheels having blades which are differently spaced from each other, such wheels can be alternatively used to cut from sheet material wider or narrower strips. This can be done by relieving the pressure of the press roll on the knives of one of the cutters and shifting the bracket 54 along the pin 52 to bring the press roll directly over the other cutter wheel. The screw 72 is then turned to press the press roll strongly against the knives of this cutter wheel whereupon the mechanism is again ready for immediate use.

A work guide 80 is provided, this guide having a straight elongated member 82 supported edgewise on the surface of the table. Integral with this elongated member 82 is a transverse member 84 which is slotted at 86 to receive a screw 88 extending down from the table 14. The transverse member 84 is disposed underneath the table 14 and has a short upstanding flange 90 with an edge 92 at right angles to the elongated member 82, the edge 92 being arranged to engage an edge of the table 14 so that the member 82 will be parallel to the side edges of the table 14. A wing nut 94 is employed to secure the guide member 80 in adjusted position. By slacking off on the wing nut 94, the guide member can be readily adjusted to guide the work piece either to the cutter wheel 38 or the cutter wheel 40, whichever is at that time pressed by the press roll 70. Thus all the adjustments necessary for changing the mechanism from cutting one width of strip to cutting another width are easily and quickly made.

Stripper members 96 may be provided at the other end of the table, these members being pieces of spring steel which are clamped on the end of the table, each having teeth 98 spaced to fit between successive knives of one of the cutter wheels.

I claim:

A machine for slitting cloth and the like comprising: a frame, a horizontal work table mounted on said frame, said table having an aperture therethrough, a rotatable shaft journalled in said frame and projecting horizontally therefrom under said aperture, two cutter wheels removably secured on said shaft, each of said wheels having a series of uniformly spaced disk knives with the knife spacing of one differing from that of the other wheel, a pin projecting from said frame above and parallel to said shaft and table and having one free end, a bracket splined on said pin and movable axially thereon, a cylindrical press roll rotatably carried by said bracket, wherein movement of the bracket on the pin will bring said roll into selective cooperation with either of said cutter wheels, means on said bracket pressing said roll on the cutter wheel beneath it, and means for rotating said shaft and cutter wheels.

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