

Jan. 10, 1967

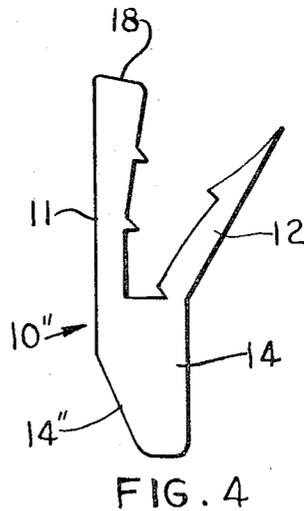
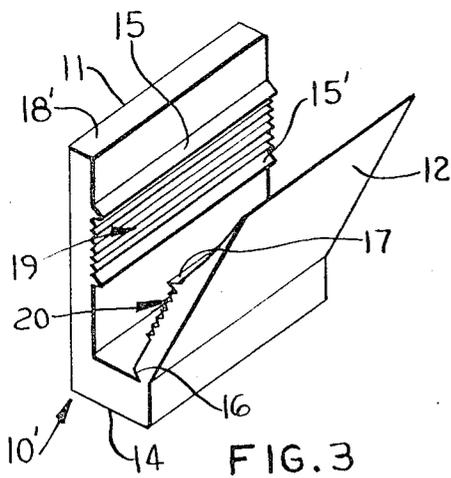
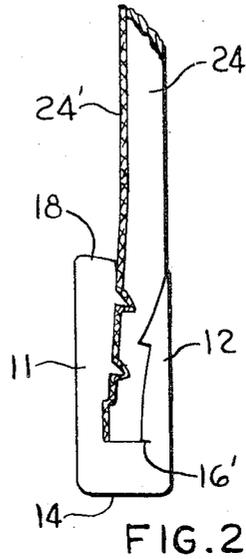
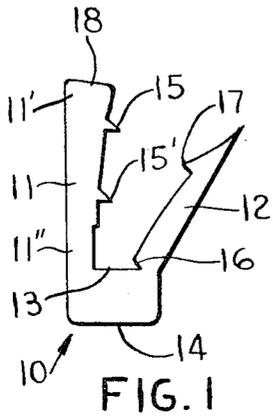
A. D. KIRKPATRICK

3,296,673

PRINTING BLANKET EDGING AND ANCHORING MEANS

Filed May 4, 1964

2 Sheets-Sheet 1



INVENTOR.
Alvon D. Kirkpatrick
BY
Peter J. Gaylen
ATTORNEY

Jan. 10, 1967

A. D. KIRKPATRICK

3,296,673

PRINTING BLANKET EDGING AND ANCHORING MEANS

Filed May 4, 1964

2 Sheets-Sheet 2

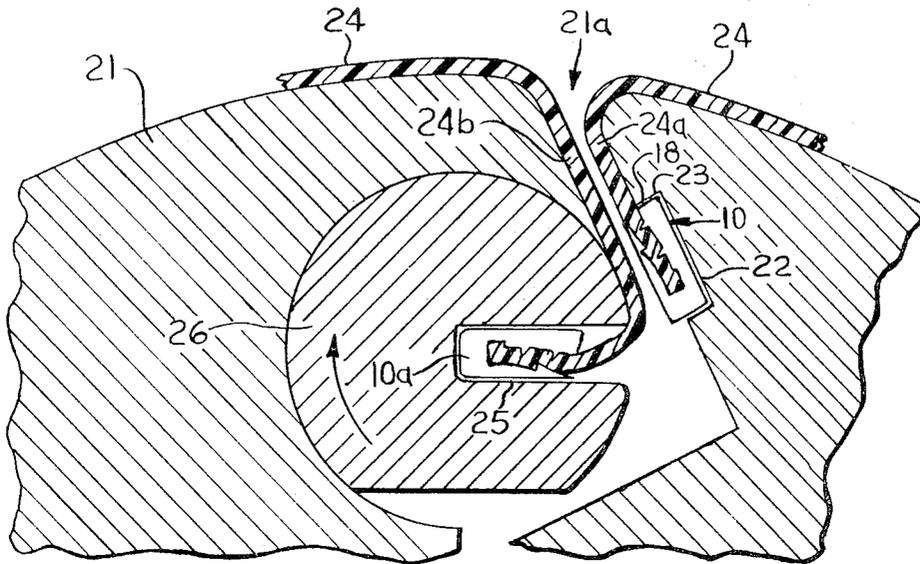


FIG. 5

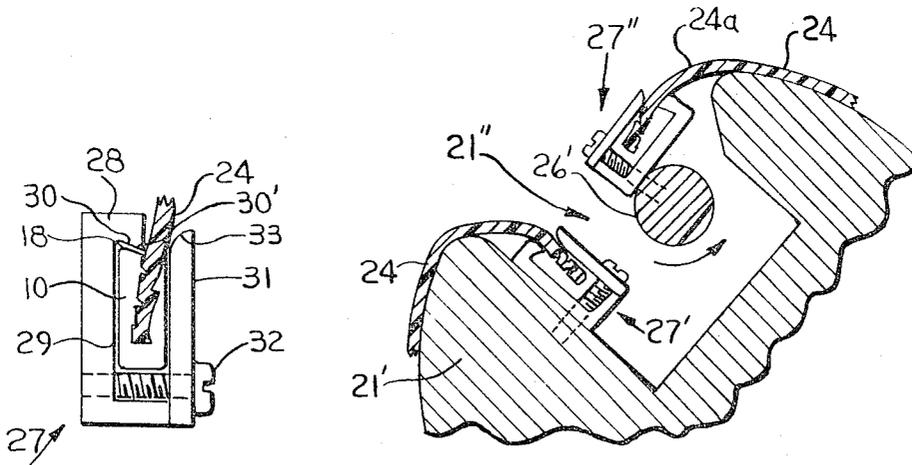


FIG. 6

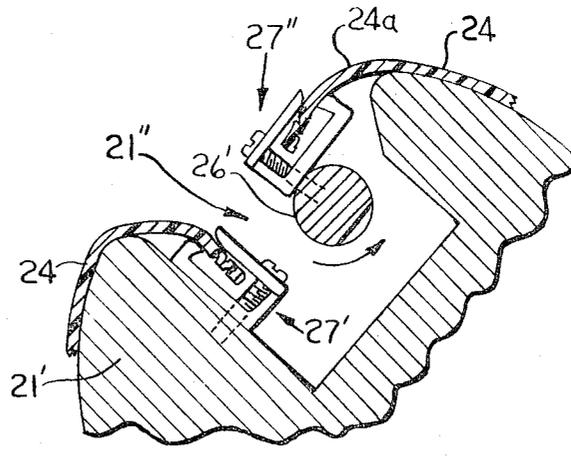


FIG. 7

INVENTOR.
Alvon D. Kirkpatrick
BY
Peter J. Gayle
ATTORNEY

1

3,296,673

PRINTING BLANKET EDGING AND ANCHORING MEANS

Alven D. Kirkpatrick, Westminster Place,
Morristown, N.J. 07960

Filed May 4, 1964, Ser. No. 364,457
3 Claims. (Cl. 24-265)

This invention deals with edging and holding means therefor for use on rubber blankets of offset printing presses. More specifically, it relates to an extruded edging to be pressed over the edges of a rubber blanket of an offset press to hold same on the cylinder, and anchoring means for anchoring one or both of said edges onto said cylinder.

Offset printing presses, such as those used for lithographic work, employ a rubber sheet, known as a blanket, which is a heavy cotton backing coated with rubber, or rubbery polymer, that is fastened around the machined periphery of one of the printing rolls or cylinders, to pick up the ink design or image deposited thereon by the inked matrix or master, for transfer onto the paper or metal to be printed. The cylinder, onto which the blanket is fastened, is provided with a gap or opening in its periphery, into which the ends of the blanket are inserted and anchored, in concealed relation to the blanket surface. One (leading) edge of the blanket is provided with a protruding strip which is inserted and held in the cylinder cavity. The blanket, then, is wrapped around the cylinder, and the other (tail) end of the blanket is inserted in the gap of the reel rod within the cylinder, after which, the reel rod is wound to take up the slack, so as to insure a tight fit of the blanket against the surface of the cylinder. Up to the present time, the edging applied to the leading edge of the blanket comprised a strip of steel, bone fiber, or the like, cemented, in abutting relation to the blanket edge, and then drilled at intervals with holes, into which were fastened the rivets for insuring a good hold of the strip onto the blanket edge. Such a strip is time-consuming and expensive to apply, and has a number of other serious disadvantages.

According to the present invention, a new type edging is presented which is readily applied to the blanket edge, and which provides a superior blanket edge of high holding power and high accuracy. Also, there is provided an adapter which fits into the cavity and gap of a sheet fed offset press cylinder, and serves as an unusual and valuable anchoring means for said blanket edges of the present invention.

The blanket edging of the present invention comprises an extruded channel, preferably of aluminum or steel, having an open-V cross-section, wherein the juncture inside the V has a width sufficient to accommodate the thickness of the blanket edge, and the inside surfaces of the V have protruding biting ridges on each side, in staggered relation or out of register, with respect to each other of the sides. Also, the strip for the leading edge of the blanket in many cases has one side of the V thicker than the other, the said thicker side being a straight channel member, while the other is bent or curved to form the V. Furthermore, there is provided an extruded strip adapter for anchoring each blanket edge onto a sheet fed offset cylinder.

The invention will be more readily understood by reference to the accompanying drawings in which a preferred embodiment is described, and in which FIGURE 1 illustrates an enlarged end view of a preferred edging for the leading edge of an offset printing blanket, in open position, while FIGURE 2 presents the same edging, when closed, in gripping relation onto the end of a rubber blanket. FIGURE 3 depicts an isometric end

2

view of a short strip of edging of a different embodiment, in open position, and FIGURE 4 shows an end view of a still different embodiment, also in open position. FIGURE 5 illustrates a cross-sectional end view of a portion of a printing cylinder showing a rubber blanket with leading edge and tail edge thereof provided with edging of the present invention. FIGURE 6 presents an end view of an adapter clamp used on a sheet fed offset press cylinder, while FIGURE 7 illustrates the use of two of such clamps to hold the leading edge and tail edge of a rubber blanket mounted on a sheet fed offset press cylinder. Similar numbers refer to similar parts in the various figures.

Referring again to the drawings, numeral 10 designates generally a blanket edging of the present invention, as used mainly for the leading edge of a rubber blanket. When in open condition, as in FIG. 1, the edging has the general shape of a V, or a U channel, with one of its sides turned outwardly. One straight side 11 of the channel is thicker than the other turned side 12, and it is thicker at its open end 11' than at the portion 11'' near the junction 13. Junction 13 is preferably parallel to squared bottom or outward bottom edge 14. Also, junction 13 has a width at least that of the thickness of blanket 24, the edge of which it is to hold. The inner surface of side 11 is provided with sharp ridges 15 and 15' designed to bite into the blanket and hold it firmly. Side 12 projects angularly and outwardly from the vertical at an angle of about 30°, and it has a notch 16 at its junction with bottom 14, the latter being about 60° with respect to the horizontal, and its purpose is to permit arm 12 to be pressed against the blanket without causing a bulge at 16', which otherwise would occur if the notch were not present. The outside surfaces of both sides 11 and 12 are straight, whereas the inner surface of side 12 is tapered so as to be in parallel relation with the inner surface of side 11 when side 12 is pressed into gripping relation upon the blanket edge. The inner surface of side 12 is also provided with a sharp projecting ridge 17 disposed out of register with ridges 15 and 15', and preferably disposed between them, thereby providing a biting edge on the other side of the blanket. Before side 12 is pressed over the blanket edge, the entire interior surface of edging 10 preferably is coated with an adhesive or a cement, to insure against any accidental slippage in any portion. When the cemented edging is slipped over the leading edge of blanket 24, so that side 11 is adjacent the fabric side 24', the assembly is placed in a press and side 12 is pressed to a position where its outer surface is parallel with the outer surface of side 11, as in FIG. 2. It will be noted that the blanket's leading edge thus is provided with a thrust shoulder 18 for mounting into the printing press cylinder, as will be outlined later.

In FIG. 3 is shown a portion of a channel strip edging 10' which likewise has sides 11a and 12a, and bottom 14. However, in this case, the inner surfaces of the sides are provided not only with longer projecting ridges 15, 15' and 17, but also with shorter parallel ridges indicated generally as 19 and 20.

Another type of edging 10'' depicted in FIG. 4, is similar to that shown in FIGS. 1-2, with the exception that bottom 14' is somewhat longer and is cut off at an angle at 14'' for easier insertion into the cavity of the printing press cylinder.

FIG. 5 shows a cross-sectional portion of an American Type Founders web printing press cylinder 21 on which a rubber blanket 24 has been mounted. It will be observed that leading edge 24a of the blanket is inserted into axially-disposed opening 21a in cylinder 21, and edging 10 is inserted in locking groove or cavity 22, so that shoulder 18 abuts top edge 23 of the cavity. The blanket 24 then is pulled tightly around the periphery

of cylinder 21 and the tail portion 24b is inserted into gap 25 of reel rod 26, so that tail edging 10a (which is similar to edging 10 or 10' or 10'', but which may be similar to edging 10' with both sides 11 and 12 of the same thickness, since an abutting shoulder is not necessary in this case) is held in gap 25 while reel rod 26 is turned in the direction of the arrow until the blanket is tightly wrapped around the cylinder, whereupon the reel rod 26 is locked in place, and the cylinder is ready for the printing operation.

In the case of sheet fed offset press cylinders, such as that depicted in FIG. 7, an adapter clamp 27 is provided to hold and anchor both edges of the blanket 24, which is held tightly over cylinder 21' of the press. The clamp, which is shown in the enlarged view in FIG. 6, comprises body portion 28 having its exterior rear portion 29 contoured to fit the contour of of the particular machine in which it is mounted. This clamp is provided with a groove 29 into which fits edging 10 mounted on the edge of blanket 24. The upper abutting edge 30 of groove 29 is preferably given a downward direction to an extent of about 9° to provide a biting edge 30' which serves to prevent dislodgement of shoulder 18 of edging 10. When edging 10 is inserted in groove 29, a locking plate 31 is placed over the edging and locked thereover by screw 32, so that edging 10 is securely anchored in groove 29. The inner upper edge 33 of plate 31 preferably is rounded to prevent cutting of blanket 24. As can be seen in FIG. 7, the leading edge of blanket 24 is anchored in clamp 27' and the blanket is wrapped around cylinder 21', and the tail edge 24a of the blanket then is anchored in clamp 27'' mounted on reel rod 26', all of which are housed in axially-disposed opening 21'' of cylinder 21'. Reel rod 26' then, is turned in the direction of the arrow until the blanket is tightly wound around cylinder 21'.

As an example of an edging for use with a 3-ply blanket of 0.065'' thickness, the width at juncture 13 for an edging of the type shown in FIGS. 1-2, is 0.065'', using a thin cement, and 0.070'' using a thick cement. The outside thickness of bottom 14 is 0.170'', and the overall length of side 11 is 0.440''. The thickness of side 11' (at the end) is 0.110'', while the projecting ridges 15, 15' and 17 are 0.02'' in length.

I claim:

1. An edging for a rubber printing blanket used on an offset printing press, comprising,
 - a channel having a straight side thicker at its open end than at the juncture, and an outwardly-bent side which is thinner at its open end, in a manner such that the two inner surfaces of the sides are disposed in substantially parallel relation when said bent side is pressed so that the outer side surfaces are substantially in parallel position,
 - a multiplicity of pointed ridges projecting from the inner surface of one side and designed to bite into but not through said blanket,

- at least one similar ridge disposed on the inner surface on the other channel side in off-register relation with respect to those on the opposite side, and said edging being designed to accommodate an edge of a blanket at said juncture and be anchored to said blanket edge by application of pressure upon the bent side, whereby said bent side is bent into outer substantially parallel relation with said other side.
2. An edging for a rubber printing blanket used on an offset printing press, comprising,
 - an imperforate channel having a straight side thicker at its open end than at the juncture, and an outwardly-bent side which is thinner at its open end, in a manner such that the two inner surfaces of the sides are disposed in substantially parallel relation when said bent side is pressed so that the outer side surfaces are substantially in parallel position,
 - a multiplicity of vertically-spaced pointed ridges projecting from the inner surface of one side and designed to bite into but not through said blanket and disposed in parallel relation to said juncture,
 - at least one similar ridge disposed on the inner surface on the other channel side in off-register relation with respect to those on the opposite channel side, and said edging being designed to accommodate an edge of a blanket at said juncture and be anchored to said blanket edge by application of pressure upon the bent side, whereby said bent side is bent into outer substantially parallel relation with said other side.
3. An edging according to claim 2 in which smaller parallel pointed ridges project from said inner surfaces, in addition to the ridges already specified.

References Cited by the Examiner

UNITED STATES PATENTS

384,407	6/1888	Walton	24—265.1
783,824	2/1905	Dick	101—415.1
1,391,117	9/1921	Huebner	101—415.1
1,480,489	1/1924	Banzett	101—415.1
1,686,065	10/1928	Blaine	101—415.1
1,827,300	10/1931	Pritchard et al.	101—415.1
1,996,582	4/1935	Marchev	101—415.1 X
2,046,122	6/1936	Hunt	51—367
2,662,382	12/1953	Potchen	29—509
2,850,970	9/1958	Brodie	101—415.1
2,937,593	5/1960	Ritzerfeld et al.	101—415.1
3,124,095	3/1964	Kanser	24—265.1 X

FOREIGN PATENTS

1,075,635 1/1960 Germany.

ROBERT E. PULFREY, *Primary Examiner.*

J. R. FISHER, *Assistant Examiner.*