United States Patent

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[54] **SEAM SEALER APPLICATOR**
9 Claims, 6 Drawing Figs.

[52] **U.S. Cl.** **401/9,**
401/48, 401/183, 401/193, 401/266
[51] **Int. Cl.** **B43m 11/06**
[50] **Field of Search** 401/9, 48,
193, 261—266

[56] **References Cited**

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ABSTRACT: A shaped implement through the end of which fluid sealer is dispensed has an element for parting adjacent abutting edges of sheet floor covering along a seam immediately ahead of the dispensed sealer fluid, there also being elements to control the vertical penetration depth of the implement between said sheet covering abutting edges.

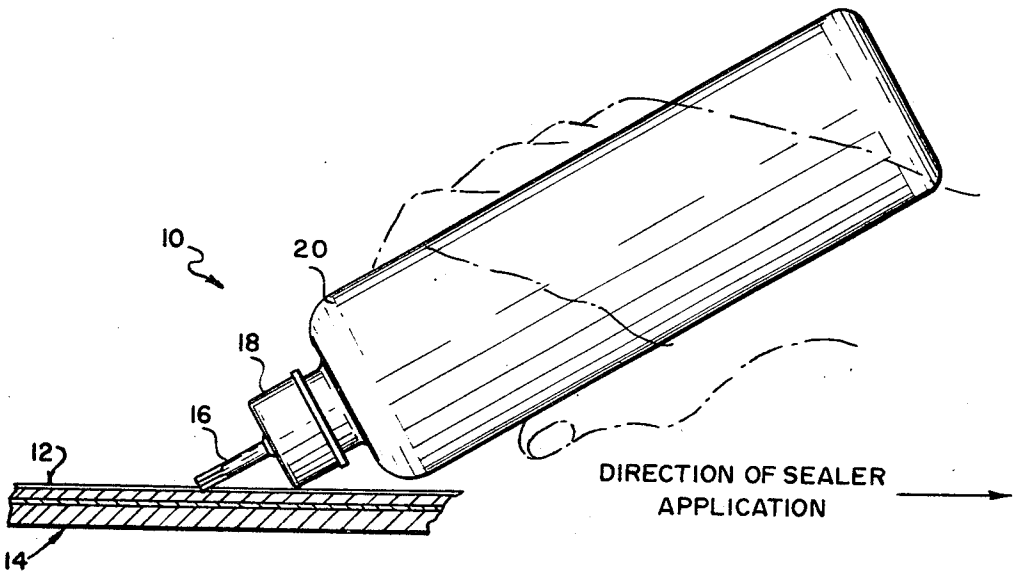


Fig. 1

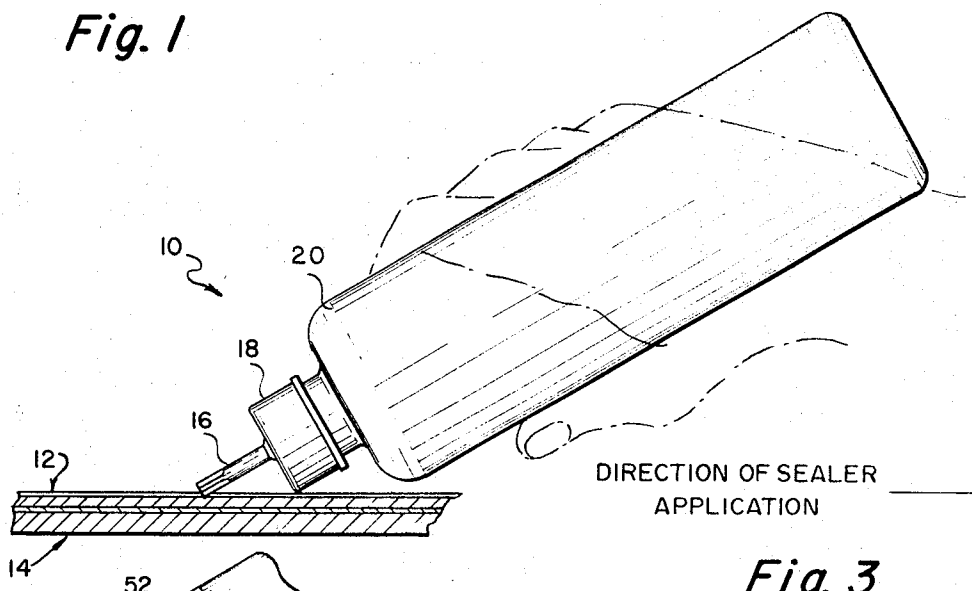


Fig. 3

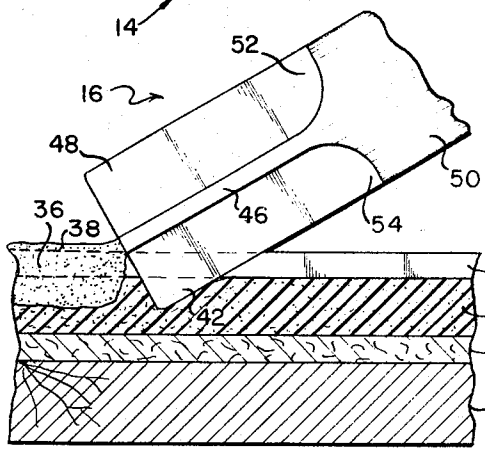
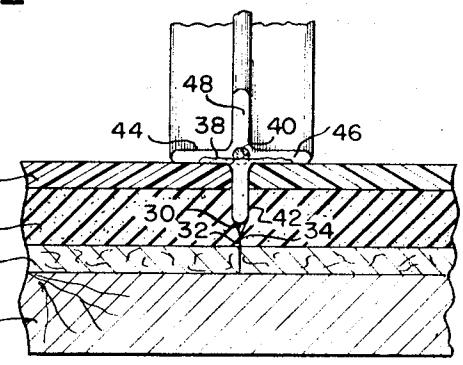


Fig. 2



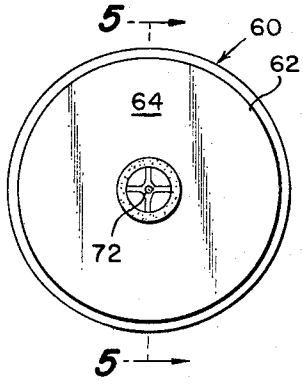


Fig. 4

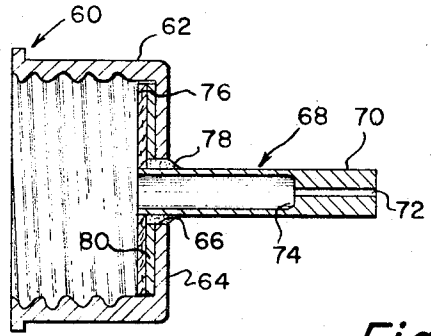


Fig. 5

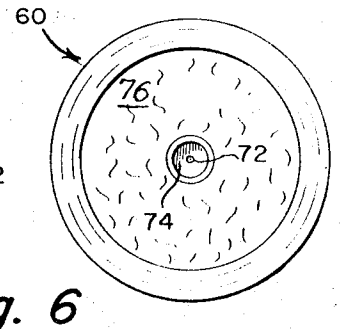


Fig. 6

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SEAM SEALER APPLICATOR

SUMMARY OF INVENTION

This invention relates to installed sheet material floor covering, such as vinyls, and is directed particularly to the sealing of the seam between adjacent pieces of vinyl floor covering.

The sheet floor covering field has progressed to the state where many different types of patterns and textures of material are available, and the standard of acceptable appearance has risen to such a degree that acceptable seams between adjacent pieces of floor covering must be nearly invisible to the eye.

The trend in recent years toward textured and intaglio surfaces in such material, and the recent development of cushioned vinyl floor covering has placed further demands upon the installation of flooring in which the seam is not visible to the observer. Cushioned vinyl flooring is gaining wide acceptance in the market, and requires a sealed seam. It will probably be one of the principal types of floor covering sold on the market within the not too distant future.

This invention is directed toward providing a simple and effective means for sealing the seams of sheet floor covering, and primarily for sealing cushioned vinyl floor covering.

Cushioned vinyl flooring, in addition to requiring the hiding of the seam so as not to detract from the appearance of the finished floor, requires joining of the adjacent edges because of its construction. The cushioned vinyl floor covering consists of a lower resilient pad of foam rubber or similar type of material, covered by a thin upper wearlayer of sheet vinyl material. This seam must be filled and the adjacent vinyl wearlayer edges joined together for satisfactory installation.

This invention contemplates accomplishing this by means of a hand implement which parts the adjacent abutting edges of the two pieces of sheet material, and dispenses a sealing lacquer into the open seam prior to the closing thereof, permitting the sealer to wet and join the adjacent edges of the two sheets of floor covering.

With this tool or implement it is possible quickly and easily to apply seam sealer fluid along the seam between the adjacent sheets of floor covering material. The adjacent sheets of material are slightly parted as seam sealer is applied, while at the same time provision is made for holding the two adjacent sheet material surfaces level with one another and allowing the sealer lacquer to flow into the opened seam.

DESCRIPTION OF DRAWINGS

FIG. 1 is a side elevational view showing the seam sealer applicator being used;

FIG. 2 is an enlarged side elevation of the tip of the nozzle showing it being moved along the seam;

FIG. 3 is an enlarged front elevational view of the tip of the applicator illustrating the operation thereof;

FIG. 4 is a plan view of the applicator cap and nozzle assembly;

FIG. 5 is a sectional view of the applicator cap of FIG. 4;

FIG. 6 is a plan view showing the internal construction of the applicator cap illustrated in FIGS. 4 and 5.

DESCRIPTION OF THE INVENTION

Referring particularly to FIG. 1, the seam sealer applicator generally indicated at 10 is shown in use, applying seam sealer fluid to the seam between two adjacent sheets of floor covering generally indicated at 12, the floor covering being supported on subflooring 14. The seam sealer applicator unit has an applicator nozzle 16 through which the sealer fluid is applied to the seam between adjacent sheets of floor covering. A nozzle cap 18 on which the applicator nozzle 16 is rigidly supported, is screwed onto the top of a flexible plastic bottle 20 in which the supply of sealer is contained. The bottle as indicated in FIG. 1 is small enough to be held in the hands of the individual who is to seal the seams. The unit is held at an angle with the floor as indicated and is moved along the seam so as to apply a continuous flow of seam sealer.

A detailed showing of the actual manner in which the sealer is applied to the seam is shown in FIGS. 2 and 3. In these figures the subflooring 22 supports the sheet material which may have a thin felt base 24, an intermediate resilient foam rubber material section 26, and a top exposed wearlayer surface of vinyl material 28.

Each of the adjacent floor covering sheets are placed side by side on the subflooring 22 and come together at a seam 30 as illustrated in FIG. 3, with their adjacent side edges 32 and 34 in contact with each other.

The seam sealer 36 flowing from the end of the applicator nozzle 16 flows into the seam filling up the void, and forming a bead 38 about one-sixteenth to one-eighth of an inch wide above the seam 30.

The seam sealer is a thin liquid that flows freely out through the nozzle orifice 40 which has a diameter of between eighteen- to thirty-thousandths of an inch, depending upon the viscosity of the sealer used.

The sealer applicator nozzle has a starlike configuration adjacent to its end with four perpendicularly disposed longitudinally extending fins, each of the same size and shape. The maximum thickness of the fins is approximately twenty-thousandths of an inch. The width of the fins is either equal to or less than the combined thickness of the wearlayer 28 and the cushioned section 26.

The lowest fin 42 is inserted in the seam spreading the abutting side edges 32 and 34 of the adjacent sheet material apart to provide an opening into which the sealer material can flow. This permits the two sections to be in effect, welded together. The side fins 44 and 46 extend outwardly in a common plane and rest upon the top surface of the abutting floor covering sheets, keeping the upper surfaces level with each other. In addition, the side fins 44 and 46 act as a stop which prevents the lower fin 42 from being depressed too far between the adjacent floor covering sheets, which could possibly result in upward flow of adhesive previously applied to the subflooring.

The upper fin 48 is used as a sighting element for the installer enabling him more quickly and accurately to draw the applicator nozzle 16 along the seam.

The sealer liquid is essentially a lacquer having a relatively low viscosity.

The upper section of the applicator nozzle 16, as shown in FIG. 2 and in FIG. 5, is circular tubing. The finned section, as generally indicated by depressing sections 52 and 54 of FIG. 2, is formed by pressing the circular tubing inwardly to form the four fins.

FIG. 4 shows a top view of the applicator cap and nozzle assembly 60 which has a sidewall 62 and a top wall 64. The cross-sectional view of this assembly shown in FIG. 5 illustrates the internal structural configuration. The sidewall 62 of the cap is internally threaded, while the top wall 64 has a central opening 66 through which the tubular nozzle 68 extends. The perpendicularly disposed fins 70 are formed from the end of the tubular nozzle member and the elongated sealer dispensing passage 72 is retained centered among them, extending from the outer end of the nozzle to the interior shouldered section 74.

The tubular nozzle member 68 at its interior end is integrally connected to a washer 80 and an annular supporting shoulder 78, the supporting shoulder 78 also being integral with the washer 80. The sealing washer 76 is fitted in behind the supporting washer 80, and the supporting cap and nozzle assembly is then threaded onto the top of the plastic liquid sealer bottle 20.

FIG. 6 is a plan interior view of the nozzle and cap assembly showing the sealing washer 76 in position.

OPERATION

To apply the sealer to a seam, the applicator bottle is first partially filled with sealer lacquer, and the applicator cap and nozzle assembly is screwed onto the top of the bottle.

The operator then inserts any one of the four (equal) fins in the seam to be sealed, applying light finger pressure to the plastic bottle so that the sealer liquid flows from the nozzle orifice **40** and into the section of the seam **30** immediately behind the lower parting fin 42. The applicator unit is drawn along the seam at a linear rate which will permit accumulation of a sealer lacquer bead of approximately one-sixteenth to one-eighth of an inch in width. The sealer lacquer flowing down between the opened abutting side edges of the adjacent sheets of cushioned vinyl flooring will fuse together both the wearlayer **28** and the foam resilient cushion **26** of each of the adjacent sheets. The applicator unit is drawn the entire length of the seam to be sealed, and after drying of the seam sealer, a closed and fused joint results.

This unit makes it possible very quickly and simply to seal the seams of vinyl floor covering with a very inexpensive device, which requires little skill on the part of an installer.

Having thus described our invention, what we claim is:

1. A device for sealing a seam between adjacent edges of floor covering, comprising:

a. a small pliable container which is held in the hand at an angle to the horizontal,

b. a removable cap and nozzle assembly mounted on said container for depositing sealer fluid along said seam,

c. said nozzle assembly including an elongated tube axially aligned with the container and having an orifice at the end thereof disposed at a level with the floor covering upper surface,

d. a longitudinal parting fin on said nozzle adjacent and extending below the orifice during the sealing operation, the fin being slightly thicker than the seam width to slightly part abutting seam edges as the fin is moved there along ahead of the sealer issuing from the orifice, whereby the sealer fluid flows along the seam and down between the abutting edges, and

e. a pair of side fins on said nozzle, one on each side of said parting fin, which act as a stop to preclude extending the parting fin too far downward into the seam.

2. The device for sealing a seam as set forth in claim **1**, wherein:

a. said parting fin is no wider than the width of the wearlayer and the resilient cushion of the sheet floor covering on which it is to be used.

3. The device for sealing a seam as set forth in claim **1**, wherein:

a. the thickness of said parting fin is approximately eighteen-thousandths of an inch.

4. The device for sealing a seam, as set forth in claim **1**, wherein:

a. there are four identical parting fins on said nozzle disposed 90° apart.

5. The device for sealing a seam as set forth in claim **1**, wherein:

a. said orifice diameter is varied in accordance with the thickness of the seam sealer used, and is approximately eighteen- to thirty-thousandths of an inch in diameter.

6. A device for sealing a seam between adjacent edges of abutting sheets of hard surfaced floor covering, comprising:

a. a fluid reservoir containing seam sealer fluid and which is adapted to be held in the hand at an angle with the horizontal,

b. applicator means mounted on and axially aligned with the fluid reservoir and including an elongated nozzle having a fluid passage terminating at an outer tip which is drawn along and in contact with the seam,

c. parting means integral with the tip of the nozzle immediately adjacent the fluid passageway which is substantially thinner than the nozzle and substantially thicker than the seam, extending from the periphery of the opening downwardly below the passage opening so as to extend into the seam, slightly parting abutting seam edges before the nozzle tip as it is drawn along and in contact with the seam with a slight downward pressure being applied thereto, so that the seam sealer will fall down between the adjacent edges before they again return to abutting contact with each other.

7. A device for sealing a seam between adjacent edges of abutting sheets of hard surfaced floor covering, comprising:

a. a fluid reservoir containing seam sealer fluid and which is adapted to be held in the hand at an angle with the horizontal,

b. applicator means mounted on and axially aligned with the fluid reservoir and including an elongated nozzle having a fluid passage terminating at an outer tip which is drawn along and in contact with the seam, and

c. parting means on said applicator at the tip of the nozzle adjacent the fluid passageway which extends downwardly from below the passage opening and into the seam, slightly parting abutting seam before the nozzle tip as it is drawn along and in contact with the seam with a slight downward pressure being applied thereto, so that the seam sealer will fall down between the adjacent edges before they again return to abutting contact with each other.

d. the applicator means has stop means integral with the tip of the nozzle for restricting the penetration depth of the parting means into the seam.

8. A device for sealing a seam between adjacent edges of abutting sheets of hard surfaced floor covering, comprising:

a. a fluid reservoir containing seam sealer fluid and which is adapted to be held in the hand at an angle with the horizontal,

b. applicator means mounted on and axially aligned with the fluid reservoir and including an elongated nozzle having a fluid passage terminating at an outer tip which is drawn along and in contact with the seam,

c. parting means on said applicator at the tip of the nozzle adjacent the fluid passageway which extends downwardly from below the passage opening and into the seam, slightly parting abutting seam before the nozzle tip as it is drawn along and in contact with the seam with a slight downward pressure being applied thereto, so that the seam sealer will fall down between the adjacent edges before they again return to abutting contact with each other.

d. said applicator means has level means on the tip of the nozzle for engaging the top surface of the adjacent sheets of hard surface floor covering to hold them at an equal level.

9. A device for sealing a seam between adjacent edges of abutting sheets of hard surfaced floor covering, comprising:

a. a fluid reservoir containing seam sealer fluid and which is adapted to be held in the hand at an angle with the horizontal,

b. applicator means mounted on and axially aligned with the fluid reservoir and including an elongated nozzle having a fluid passage terminating at an outer tip which is drawn along and in contact with the seam,

c. parting means on said applicator at the tip of the nozzle adjacent the fluid passageway which extends downwardly from below the passage opening and into the seam, slightly parting abutting seam before the nozzle tip as it is drawn along and in contact with the seam with a slight downward pressure being applied thereto, so that the seam sealer will fall down between the adjacent edges before they again return to abutting contact with each other.

d. four perpendicularly disposed longitudinal fins are disposed at the tip of the nozzle, any one of which can act as either a parting means or a stop means.