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DRY WALL JOINT TAPING APPARATUS

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FIG. 2.

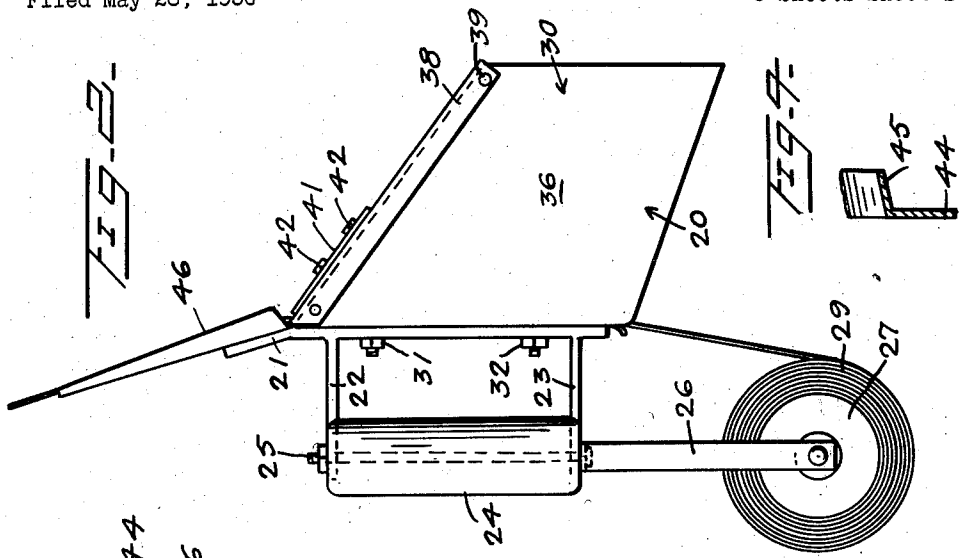


FIG. 4.

FIG. 1.

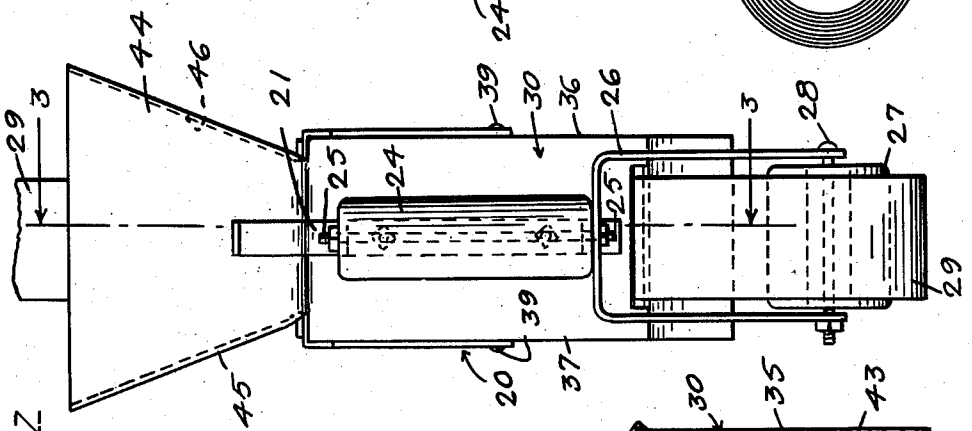
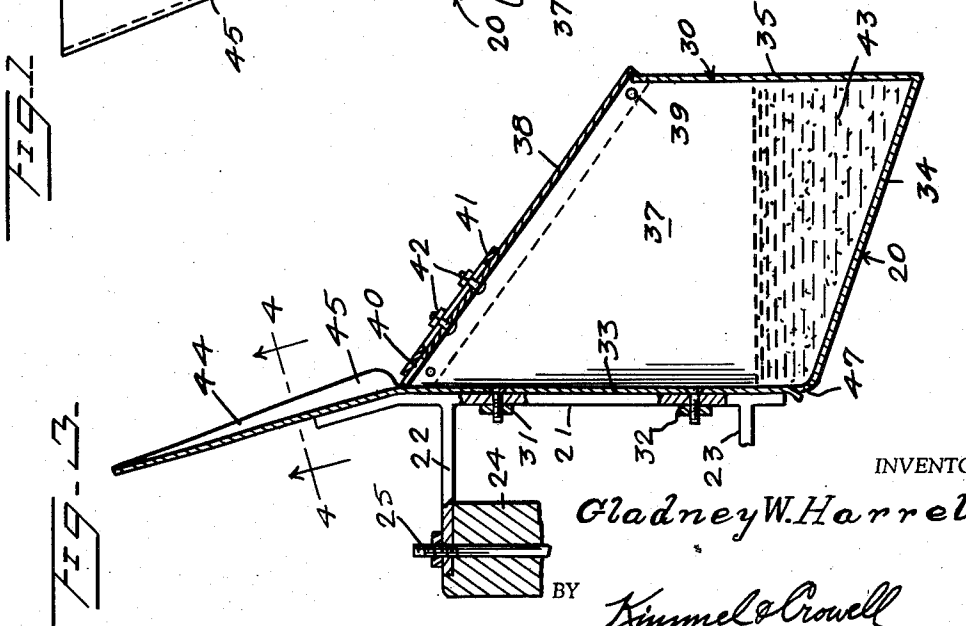


FIG. 3.



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Fig. 5.

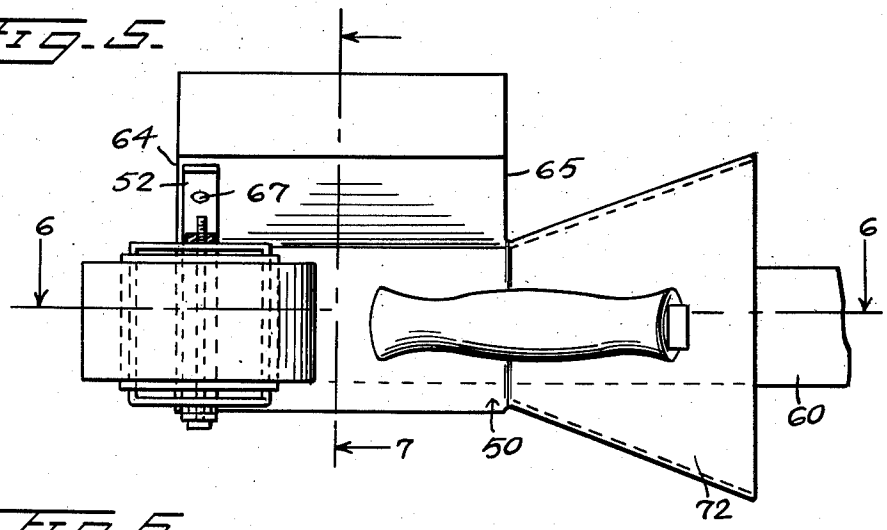


Fig. 6.

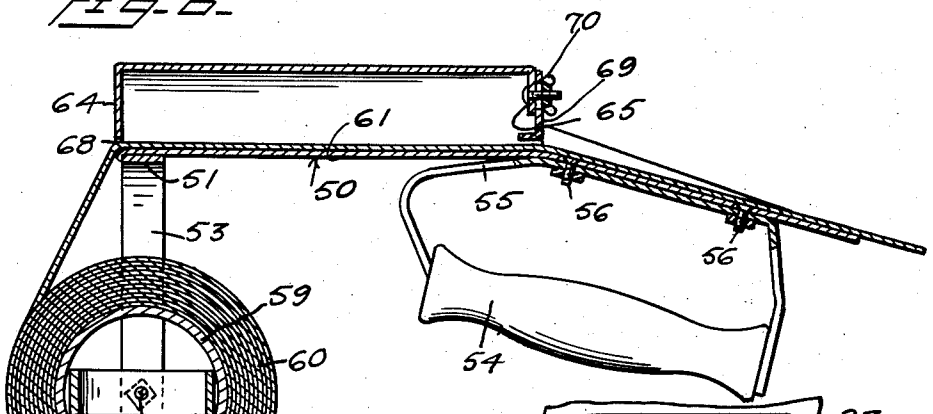


Fig. 10.

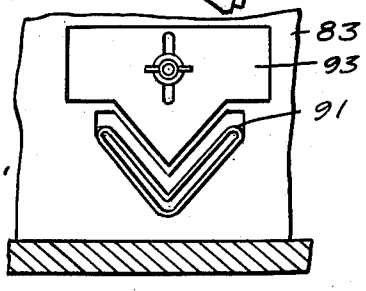
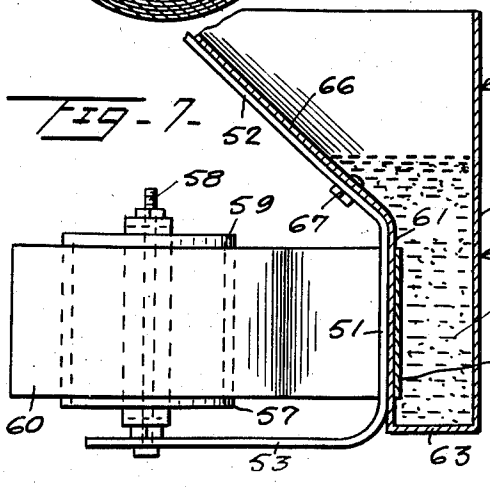


Fig. 7.



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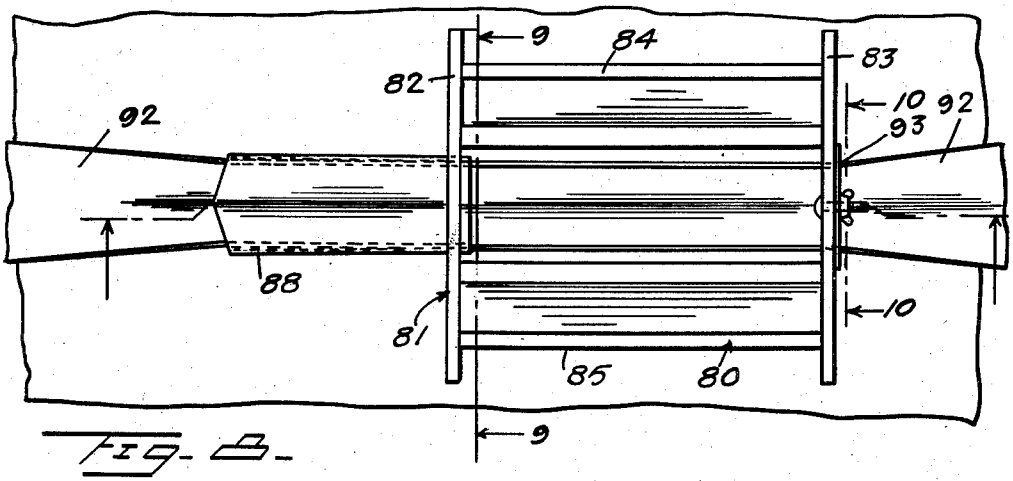
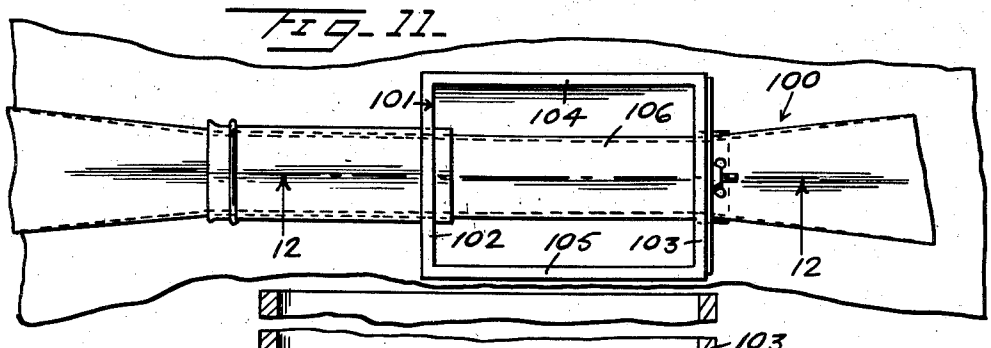


Fig. 8.

Fig. 11.



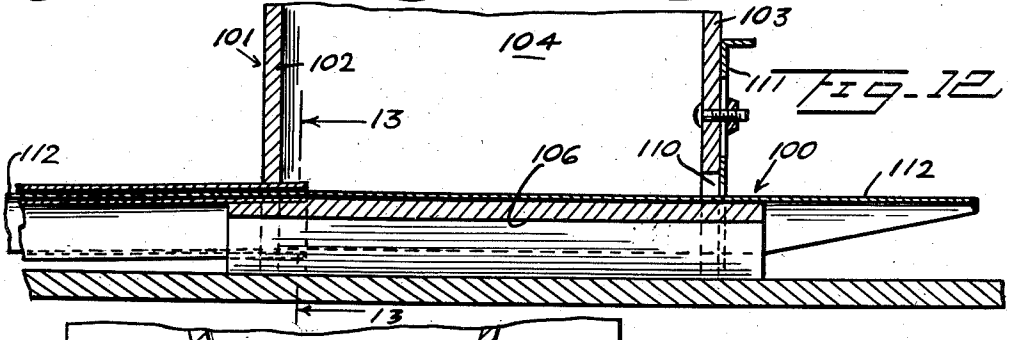


Fig. 12.

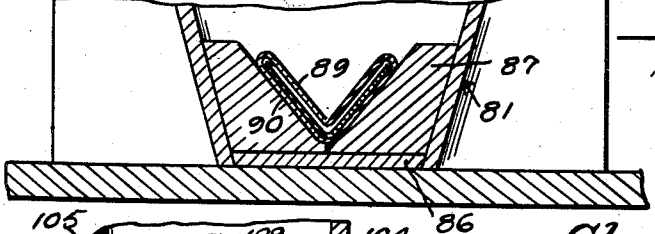


Fig. 9.

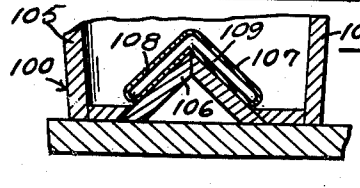


Fig. 13.

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DRY WALL JOINT TAPING APPARATUS

Gladney Warren Harrell, San Antonio, Tex.

Application May 28, 1956, Serial No. 587,849

1 Claim. (Cl. 216—20)

The present invention relates to dry wall joint taping apparatus, and more particularly to devices for applying cement to the dry wall tape and in some cases applying the tape to the dry wall.

The primary object of the invention is to provide apparatus for spreading cement upon dry wall tape and either forming the tape preparatory to its being applied by hand or applying the tape directly to the dry wall.

Another object of the invention is to provide cement applying devices for applying cement to dry wall tape in which the amount of cement applied to the tape can be controlled.

A further object of the invention is to provide an apparatus of the class described above which is readily portable and can be moved from job to job with ease, is inexpensive to manufacture, simple to use, and which will accommodate all normal construction problems found in dry wall applications.

Other objects and advantages will become apparent in the following specification when considered in the light of the attached drawings, in which:

Figure 1 is a front elevation of the invention.

Figure 2 is a side elevation thereof.

Figure 3 is a fragmentary transverse cross-section taken along the line 3—3 of Figure 1, looking in the direction of the arrows.

Figure 4 is an enlarged fragmentary lateral cross-section taken along the line 4—4 of Figure 3, looking in the direction of the arrows.

Figure 5 is a front elevation of a modified form of the invention.

Figure 6 is an enlarged longtudinal cross-section taken along the line 6—6 of Figure 5, looking in the direction of the arrows.

Figure 7 is an enlarged lateral cross-section taken along the line 7—7 of Figure 5, looking in the direction of the arrows.

Figure 8 is a top plan view of another modified form of the invention.

Figure 9 is an enlarged transverse cross-section taken along the line 9—9 of Figure 8, looking in the direction of the arrows.

Figure 10 is an enlarged fragmentary transverse cross-section taken along the line 10—10 of Figure 8, looking in the direction of the arrows.

Figure 11 is a top plan view of another modified form of the invention.

Figure 12 is an enlarged longitudinal cross-section taken along the line 12—12 of Figure 11, looking in the direction of the arrows.

Figure 13 is an enlarged fragmentary transverse cross-section taken along the line 13—13 of Figure 12, looking in the direction of the arrows.

Referring now to the drawings in detail wherein like reference characters indicate like parts throughout the several figures, the reference numeral 20 indicates generally a tape cementer and applier constructed in accordance with the invention.

The dry wall tape cementer and applier 20 includes a frame member 21 having integrally extending therefrom handle supports 22, 23 in spaced apart parallel relation between which a handle 24 is secured by means of a bolt 25 extending axially therethrough. A U-shaped bracket 26 is secured to the handle bracket 23 by means of the bolt 25 and is positioned so as to extend outwardly therefrom. A spool 27 is journalled in the U-shaped bracket 26 by means of a journal bolt 28. The spool 27 supports a supply of dry wall tape 29, as best illustrated in Figures 1 and 2.

A hopper, generally indicated at 30, is secured to the frame 21 by mean of bolts 31 and 32. The hopper 30 includes a front wall 33, a bottom wall 34 extending outwardly and downwardly therefrom, a back wall 35 extending upwardly from the outer end of the bottom wall 34 in parallel relation to the front wall 33, and a pair of opposite side walls 36 and 37 which are arranged in spaced parallel confronting relation integrally joined to the front and rear walls 33, 35 and the bottom wall 34. The upper edges of the side walls 36 and 37 are arranged to diverge downwardly and outwardly at an angle greater than the angle formed by the bottom wall 34.

A cover 38 is hingedly secured at 39 to the side walls 36 and 37 and is arranged to extend therebetween from the front wall 33 to the rear wall 35. The center portion of the front edge of the cover 38 is provided with a tape slot 40 which terminates short of the front wall 33, as best illustrated in Figure 3. A plate 41 is adjustably secured to the cover 38 by bolts 42 and is adapted to slidably close the slot 40 in the cover 38 to any desired degree to control the quantity of cement 43 exiting from the hopper 30.

An applying trowel 44 is formed of a continuation of the front wall 33 and is arranged with wedge shaped side flanges 45 and 46, for reasons to be assigned. A slot 47 is formed in the corner between the front wall 33 and the bottom wall 34 to permit the tape 29 to extend therethrough.

In the use and operation of the invention illustrated in Figures 1 through 4, dry wall tape 29 is passed through a hopper 30 having cement 43 stored therein. The dry wall tape 29 is applied to the wall of a building by means of the applicator 44, and the device 20 is moved downwardly on the wall with the dry wall tape 29 receiving a coating of cement 43 as it passes through the hopper 30. The plate 41 scrapes the excess cement 43 off of the tape 29 so that the tape 29 engages the wall with the correct amount of cement 43 thereon.

The device illustrated in Figures 1 through 4 is intended for use with dry wall joints extending across a ceiling and extending vertically in a side wall construction.

Referring now to the modification illustrated in Figures 5 through 7, the reference numeral 50 indicates generally a dry wall tape cementer and applier. The device 50 includes a frame member 51 having a brace 52 extending upwardly and forwardly therefrom at an angle, and an arm 53 extending perpendicularly forward therefrom, as best illustrated in Figures 6 and 7.

A handle 54 is secured by a handle frame 55 and bolts 56 to the frame member 51 in spaced relation to the brace 52 and the arm 53. A spool support yoke 57 is journalled by means of bolt 58 to the outer end of the arm 53 and is adapted to have a spool 59 positioned thereon for rotation. Dry wall tape supply 60 is wound on the spool 59 and is adapted to be dispensed in a manner to be described.

A hopper, generally indicated at 60', includes a front wall 61, a rear wall 62 extending parallel thereto in

spaced relation, a bottom wall **63** connecting integrally the front and rear walls **61** and **62**, a pair of end walls **64** and **65** close the opposite ends of the hopper **60'**, and an upwardly and rearwardly diverging hopper wall **66** extends from the upper edge of the front wall **61**, for reasons to be assigned.

Bolts **67** secure the hopper **60'** to the extension **52**, as best seen in Figures 5 and 7. A slot **68** is formed in the end wall **64** to permit the tape supply **60** to pass therethrough. An adjustable plate **69** is secured to the end wall **65** by means of wing bolts **70** to permit the supply of cement **71** to be retained in the hopper **60'** and dispensed therefrom in economical amounts.

In the use and operation of the invention illustrated in Figures 5 through 7, tape **60** is threaded through the hopper **60'** and is applied to the seams in a dry wall construction by means of the applicator blade **72** which is formed of a continuation of the front wall **61** of the hopper **60'**. As the tape **60** passes through the hopper **60'**, cement **71** will cling thereto in an amount governed by the sliding gate **69**. The device illustrated in Figures 5 through 7 is intended for use on seams extending horizontally in a dry wall construction.

Referring now to the modification illustrated in Figures 8 through 10, the reference numeral **80** indicates generally a tape cement coating and forming device including hopper generally indicated at **81** consisting of opposite spaced apart parallel end walls **82** and **83**, inwardly converging side walls **84** and **85**, and a bottom wall **86**. A V-shaped block **87** is positioned on the bottom wall **86** and runs from one end wall **82** to the opposite end wall **83** of the hopper **81**.

A V-shaped guide **88** is provided with spaced upper and lower V-shaped walls **89** and **90**, respectively, which are integrally joined as best illustrated in Figure 9.

The V-shaped guide **88** extends through the end wall **82** terminating just inwardly thereof in contact with the V-shaped plate **87**. The opposite end wall **83** is provided with a V-shaped outlet opening **91** in alignment with the V-shaped guide **88**. Dry wall tape **92** is threaded through the guide **88** so as to be formed into a V-shape as it passes through the hopper **81** and through the outlet opening **91** in the wall **83**.

Cement contained within the hopper **81** coats the tape **92** and the excess cement is removed by means of an adjustable gate **93** covering the outlet opening **91**. When a sufficient amount of tape **92** has been coated with cement the end is torn off or cut loose from the hopper **81** and the tape is applied to an outside corner using the normal hand tools.

Referring now to the modification illustrated in Figures 11 through 13, a tape forming and coating apparatus, generally indicated at **100**, includes a hopper, generally indicated at **101**, having opposite parallel spaced end walls **102** and **103** connected by converging side walls **104** and **105**. An inverted V-shaped bottom wall **106** extends lonigtudinally of the hopper **101** between the end walls **102** and **103** and the side walls **104** and **105**.

An inverted V-shaped guide **107** extends through one end wall **102** terminating immediately inside of the end wall **102** adjacent the inverted V-shaped bottom wall **106**, as best illustrated in Figure 13. The inverted V-shaped guide **107** includes spaced upper and lower V-shaped walls **108** and **109** which are integrally joined along their lower outer edges, as best illustrated in Figure 13.

The end wall **103** is provided with an inverted V-shaped outlet opening **110** in alignment with the V-shaped guide **107** and is provided with an adjustable V-shaped gate **111** which is adapted to adjust the opening **110** to regulate the amount of cement flowing therethrough from the hopper **101**.

A tape **112** is fed through the inverted V-shaped guide **107**, through the hopper **101**, and out the outlet opening **110**, where it is coated with cement in sufficient quantity to cause the tape to adhere to the dry wall when applied to an inside corner thereof. When a sufficient amount of tape has been coated with cement from the hopper **101**, the tape **112** is simmered from the hopper **101** and applied to an inside corner of a dry wall with any suitable tools.

Having thus described the preferred embodiments of the invention, it should be understood that numerous other structural modifications and adaptations may be resorted to without departing from the scope of the appended claim.

What is claimed is:

A dry wall tape cementing and applying device comprising: a hopper having spaced parallel side walls connected by a front wall, a back wall arranged in spaced parallel relation to said front wall, and a bottom wall sloping downwardly from said front wall to said back wall; a cover for said hopper hingedly secured to said side walls opposite said bottom wall, said cover terminating in spaced relation to said front wall; a plate secured to said cover for sliding movement thereon toward said front wall; a trowel integrally formed with said front wall and extending at a forwardly sloping angle thereto; upwardly tapering flanges integrally formed on opposite side edges of said trowel; a frame member secured to said front wall; means on said frame member supporting said trowel; spaced parallel handle supports extending integrally forwardly of said frame member; a handle secured between said handle supports in spaced parallel relation to said frame member; said front wall having a transverse slot formed therein adjacent said bottom wall; a yoke mounted on one end of said handle supports; and a tape reel journalled in said yoke.

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