United States Patent

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[54] DISPENSING DEVICE FOR DRY WALL TAPE AND JOINT CEMENT

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[52] **U.S. Cl.**.....**118/102,** 118/123, 118/201, 118/419

[51] **Int. Cl.**.....**B05c 11/04**

[58] **Field of Search**.....118/102, 122, 201, 121, 423, 118/419, 404, 420, 405, 35, 36, 37, 40, 43; 68/22 A; 15/262, 257.05; 156/574–578

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[57] **ABSTRACT**

A portable tape dispenser for dispensing dry wall tape comprises a hopper for containing a supply of dry wall joint cement in fluid form and means serving to support the hopper from the waist of a workman in a manner freeing both of his hands. A roll of dry wall joint tape is carried and supported for rotation from the hopper whereby guide means lead the tape from its roll into and out of the supply of joint cement. A dispensing slot is formed between a stationary knife edge member and a movable knife edge member spaced therefrom to receive the tape therebetween. The two knife edge members serve to remove cement from opposite sides of the tape. However, the spacing between the edges serves to permit one of the two edges to leave a coating of cement of predetermined thickness when the tape is withdrawn across the other knife edge member. A comb element is disposed in conjunction with one of the knife edge members so that the coating of cement applied to the tape will extend in spaced longitudinal lines. A trowel cleaning chute extends along the outer edge of the hopper.

8 Claims, 7 Drawing Figures

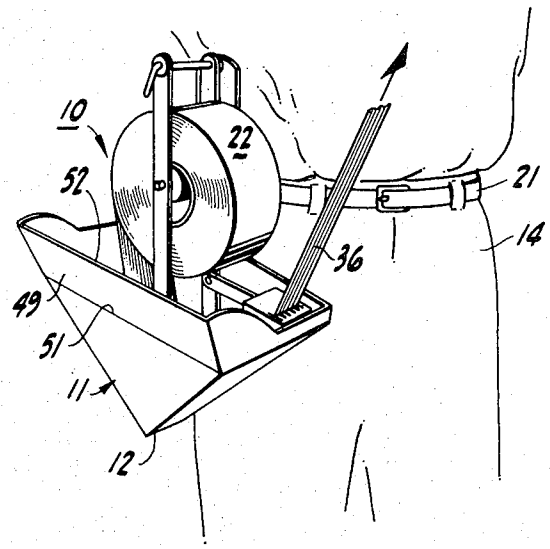
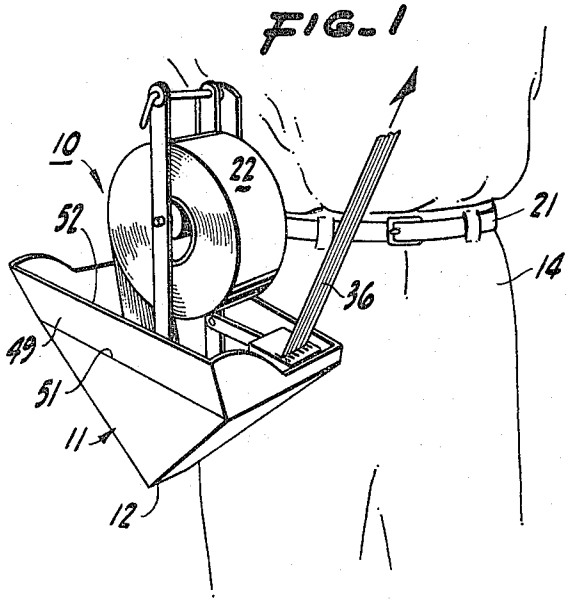


FIG-1



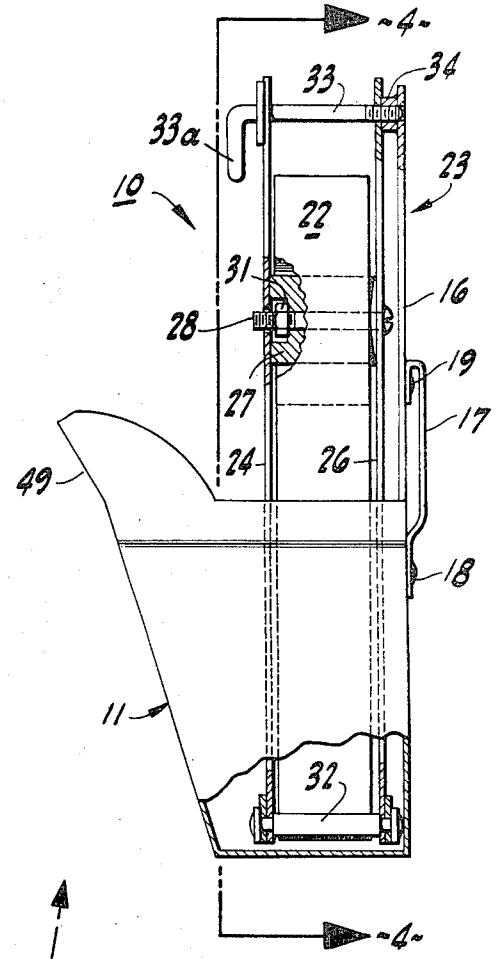


FIG-3

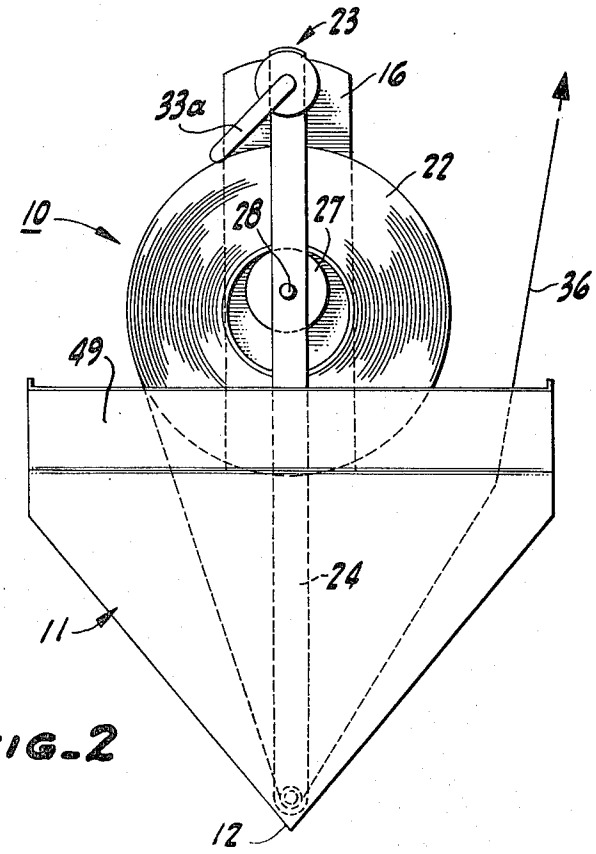


FIG-2

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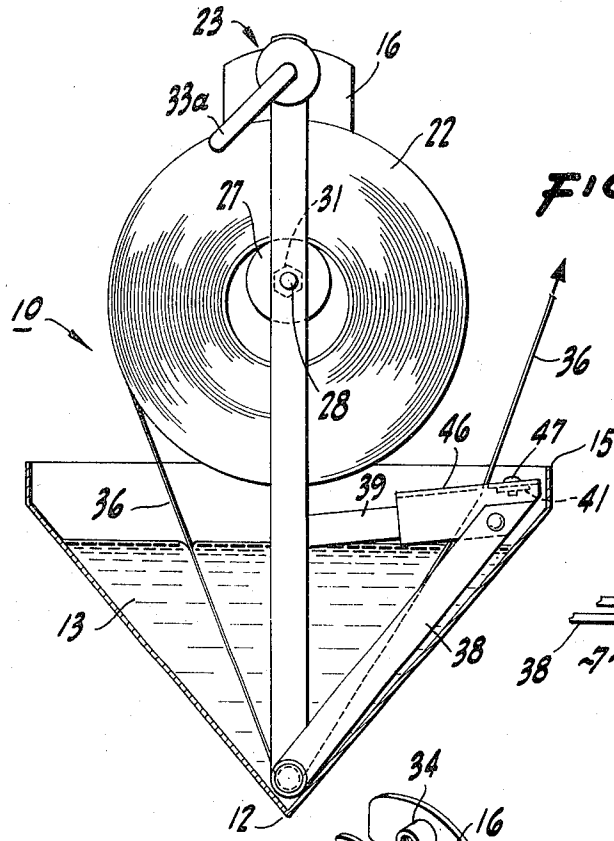


FIG. 4

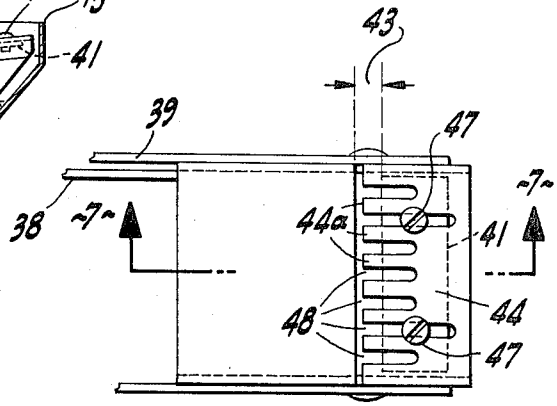


FIG. 6

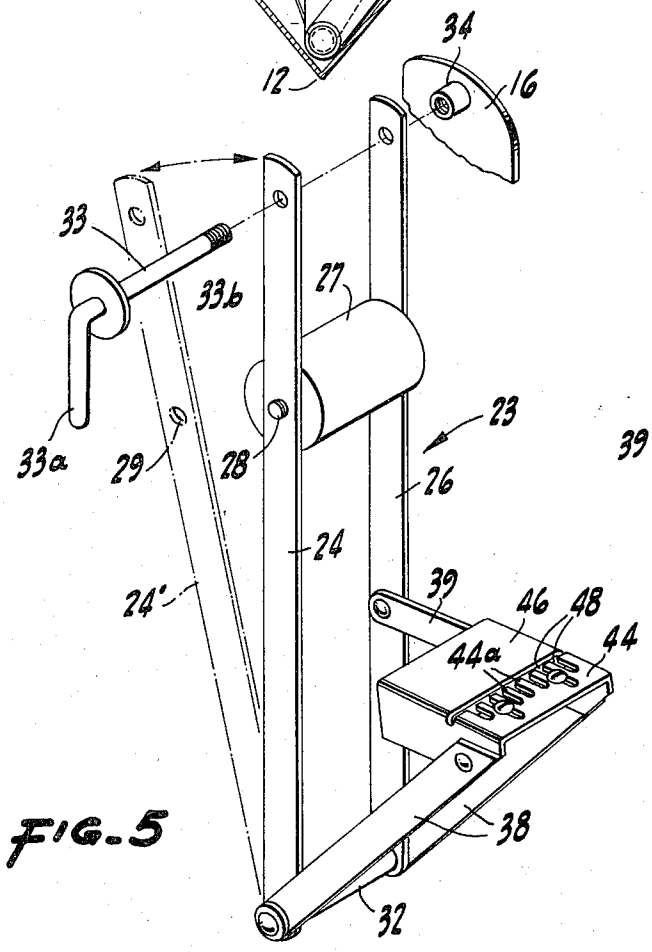


FIG. 5

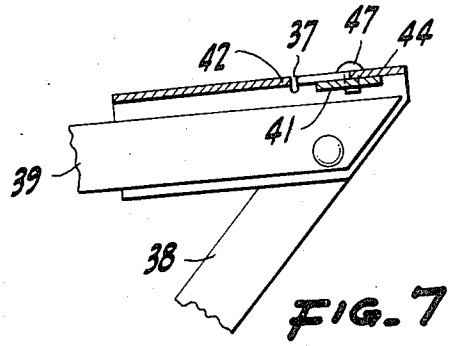


FIG. 7

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DISPENSING DEVICE FOR DRY WALL TAPE AND JOINT CEMENT

BACKGROUND OF THE INVENTION

This invention pertains to devices and apparatus for dispensing flexible tape of the type utilized in forming a joint between adjacent dry wall sections in the construction industry.

As is known where a so-called dry wall is to be formed, sections of sheet rock material or other types of material are usually disposed in abutting relation so as to leave only a relatively small crack therebetween. In finishing the wall, it is necessary to cover this crack and dry wall joint tape is typically applied by means of applying a coating of dry wall joint cement or "mud" to one side of the tape. The tape is then overlaid along the crack and by means of a trowel the tape is smoothed flush with the adjoining panels.

There has been a continuing need for the provision of simplified means for assisting a workman in carrying out the above procedures. In addition, there has been a continuing need to provide a simple portable device of the above type for metering a predetermined selected thickness of dry wall cement on one side of the tape while the other side remains substantially free of such a coating.

SUMMARY OF THE INVENTION AND OBJECTS

In general, there has been provided a portable tape dispenser for dry wall joint tape incorporating a hopper for containing a supply of dry wall joint cement in fluid form. Means have also been provided serving to support the hopper from the waist of a workman while a roll of tape is supported adjacent the hopper. Further, means for guiding the tape to be withdrawn via the supply of cement in the hopper and for metering the thickness of a coat of cement carried on one surface of the tape while wiping the other surface substantially free of cement have been provided.

In general, it is an object of the present invention to provide an improved portable tape dispenser for dry wall joint tape.

It is another object of the present invention to provide a tape dispenser for dry wall joint tape whereby the dispenser can be carried on the left or right side of a workman using the apparatus.

It is a further object of the invention to provide an improved metering slot through which coated dry wall tape is fed so as to provide a predetermined thickness of joint cement along one surface of the tape.

The foregoing and other objects of the invention will become more readily apparent from the following detailed description of the preferred embodiment.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of a portable tape dispenser according to the invention as worn by a workman;

FIG. 2 is a side elevation view of the tape dispenser apparatus of FIG. 1;

FIG. 3 is a front elevation view, partially broken away for clarity, of the dispensing apparatus shown in FIG. 2;

FIG. 4 is a side elevation section view taken along the line 4—4 of FIG. 3;

FIG. 5 is a perspective view, in enlarged detail, of an interior portion of the apparatus removed for clarity;

FIG. 6 is a plan view, in enlarged detail, of a portion of FIG. 5; and

FIG. 7 is a side elevation section view taken along the line 7—7 of FIG. 6.

DETAILED DESCRIPTION OF A PREFERRED EMBODIMENT

A portable dry wall tape dispenser **10** includes a hopper **11** having a generally V-shaped bottom **12**. Hopper **11** is adapted to receive a supply of dry wall joint cement or mud **13** in fluid form.

Means are provided for supporting hopper **11** from the waist of a workman **14** in a manner freeing both of the workman's hands for manipulation of the tape and applying it to the wall. Thus, as shown best in FIG. **3**, hopper **11** carries an upstanding, thin, rigid support mast **16** extending upwardly from the upper edge of hopper **11**. A belt loop **17** of metal or other rigid material is riveted to the upper margin of hopper **11** by rivet **18** and at its upper end to mast **16** by rivet **19**.

As thus arranged, the workman's belt **21** can readily be passed through belt loop **17** for carrying hopper **11** either on the right or the left side of the workman.

Means for carrying a length of dry wall joint tape wrapped to form a roll **22** thereof and supported for rotation have been provided as now to be described.

A roll support carriage **23** (FIG. **5**) serves to loosely support roll **22** for rotation and further serves to provide a guide means for leading the tape from its roll into and out of the supply **13** of joint cement while the tape is withdrawn via a dispensing slot. Thus, carriage **23** includes a pair of laterally spaced uprights **24, 26**. A mounting spool **27** is supported for rotation upon an axle **28** which is journalled for rotation in the holes **29** formed respectively in the two uprights **24, 26**. Spool **27** is retained by means of a nut **31** upon axle **28** (FIG. **3**) whereby upright **24** can be withdrawn from the end of axle **28** and moved to one side for loading a spool of dry wall tape **22**.

The lower ends of uprights **24, 26** are disposed in the V-shaped bottom **12** of hopper **11** and are laterally spaced apart by means of a sleeve spacer **32** whereby a connecting pivot pin can extend between the bottom ends of both uprights **24, 26**.

The upper ends of uprights **24, 26** are secured by means of a threaded fastener **33** having an elongated shank **33***b* dimensioned to extend between openings in the upper ends of uprights **24, 26** and threadedly engage a boss **34** carried at the top of mast **16**. Fastener **33** includes a lever-shaped handle portion **33***a* for readily unscrewing and screwing the shank **33***b* into and out of engagement with boss **34**.

As thus arranged, a web **36** of tape **22** is trained downwardly from the periphery of roll **22** to pass around sleeve **32** and then extend upwardly through a dispensing slot **37** carried from uprights **24, 26** by means of the struts **38, 39**.

Dispensing slot **37** is formed between front and rear knife edge members **41, 42** respectively spaced to receive the web **36** of tape **22** therebetween and disposed transversely of web **36** as the tape is drawn from roll **22**. The front and rear knife edge members **41, 42** serve to remove cement from the opposite "front" and "back" sides of web **36** inasmuch as web **36** is trained to travel into and out of cement **13**. The spacing **43** between knife edge members **41, 42** serves to permit edge **41** to remove all but a coating of predetermined thickness upon its related surface of web **36** when web **36** is withdrawn via slot **37** while passing in contact over the leading edge of member **42**.

Slot **37** is disposed below and adjacent to the edge **15** of hopper **11** to catch any dripping of the coated underside of tape **22** when withdrawn via slot **37**.

It is to be observed that the generally U-shaped slot member **46** (FIG. **5**) is formed to include a comb portion or element **44** (FIG. **6**) overhanging (i.e., extending beyond) edge member **41** in fixed relation to edge member **42**. The comb element or portion **44** comprises a series of laterally spaced fingers **44a** and edge member **41** is variously movable simply by releasing screws **47** disposed downwardly through slots **48** formed through the upper surface of slot member **46**. Screws **47** are, of course, threadedly engaged into member **41** whereby upon tightening screws **47**, member **41** will be tightly drawn into engagement with the undersurface thereof.

Thus, by variously moving member **41** between advanced and retracted positions relative to edge member **42**, the spacing **43** will diminish or increase the exposed openings defined between adjacent fingers **44a** of comb element **44**.

In this way, spaced lines of cement of selected thickness are applied along one surface of web **36** while the other surface is being drawn upwardly across the knife edge of member **42** so

as to remove substantially all cement therefrom. The provision of spaced lines of mud on the tape tends to provide neater work and effect an economy in consumption of mud.

In using a dispensing apparatus of the kind described and as shown in FIGS. 1 and 4, it will be readily evident that web 36 will be drawn sharply upwardly so as to ride in contact engagement with the knife edge 42. In this way, the coated reverse surface of web 36 will be facing the dry wall construction sought to be joined. In addition, it will be readily evident that for left handed workmen, support carriage 23 can be quickly removed from hopper 11 and reversed so that the dispensing slot 37 within hopper 11 is readily reversible with respect to the front and rear portions of hopper 11.

Thus, it is evident that in either event, the slot is defined between knife edge members spaced forwardly and rearwardly, the rear edge member being stationary to permit the tape to be drawn upwardly thereacross to remove substantially all cement from that surface.

In addition to the above, hopper 11 is formed with an elongated chute 49 (FIG. 1) extending upwardly from a side edge 51 of hopper 11 and adapted to permit a trowel to be scraped across the upper edge 52 so as to remove and return excess cement to hopper 11 from the trowel (not shown).

I claim:

1. A portable tape dispenser comprising a hopper for containing a supply of dry wall joint cement in fluid form, means serving to support said hopper from the waist of a workman, means in said hopper loosely carrying a roll of pliable tape of a type to be cemented along a joint between dry wall sections, means disposed in said hopper and including means forming a tape dispensing slot for passing the tape therethrough, means between said slot and said roll for immersing a portion of the length of tape therebetween into the cement in said hopper to coat both sides of the tape with cement, said slot having first and second edges in opposed relation to respectively confront the "front" and "back" surfaces of the tape, as disposed along a dry wall joint, said first edge being disposed to wipe substantially all cement from said "front" surface as said tape is drawn across said first edge, the spacing between said edges being sufficient to cause said second edge to remove all but a predetermined thickness of cement from said "back" surface as the tape is drawn between said edges while riding in contact across said first edge thereby metering the thickness of the coating applied to said "back" surface and said slot forming means being mounted on a pivotable frame whereby said slot means is reversible with respect to the front and rear portions of said hopper.

2. A portable tape dispenser according to claim 1 further comprising a chute leading to said hopper and having an elongated upper edge disposed at the side of the workman and adapted to permit a trowel to be scraped thereacross to remove and return excess cement to said hopper from the trowel.

3. In a portable tape dispenser for dry wall joint tape according to claim 1 wherein said dispensing slot is disposed below and adjacent to an edge of said hopper to catch dripping of the coated side of said tape when withdrawn via said slot.

4. A portable tape dispenser comprising a hopper for containing a supply of dry wall joint cement in fluid form, means serving to support said hopper from the waist of a workman in a manner freeing both of his hands, means for carrying a length of dry wall joint tape wrapped to form a roll thereof and supported for rotation, guide means for leading the tape from its roll into and out of the supply of joint cement, a dispensing slot formed between first and second knife edge members spaced to receive the tape therebetween and disposed transversely of said tape as the tape is drawn from said supply, said first and second edges serving to remove cement from opposite sides of the tape, the spacing between said edges serving to permit said second edge to leave a coating of cement of predetermined thickness when said tape is withdrawn via said slot while passing in contact over said first edge, and said knife edge members being mounted on a pivotable frame whereby said slot means is reversible with respect to the front and rear portions of said hopper.

5. In a tape dispenser according to claim 4 further including a comb element overhanging said second edge member and comprising a series of laterally spaced fingers, said second edge member being variously movable between advanced and retracted positions relative to said first edge member to diminish or increase the exposed openings defined between adjacent fingers of said comb element so as to apply spaced lines of cement of selected thickness along one surface of said tape while the other surface is drawn across said first edge member to remove substantially all cement from said other tape surface.

6. A portable tape dispenser for dry wall joint tape comprising a hopper for containing a supply of dry wall joint cement in fluid form, means serving to support said hopper from the waist of a workman, means carried by said hopper for supporting a roll of dry wall tape, means for guiding the tape to be withdrawn via the supply of cement and for metering the thickness of a coat of cement carried on one surface of the tape while wiping the other surface substantially free of cement, and said means for metering comprising a pair of blade elements mounted on a pivotable frame whereby said metering means is reversible with regard to the front and rear portions of said hopper.

7. In a portable tape dispenser for dry wall joint tape comprising a hopper for containing a supply of dry wall joint cement in fluid form, means serving to support said hopper from the side of the waist of a workman, means carried by said hopper supporting a roll of dry wall tape, means forming a dispensing slot at the front of said hopper, and means for guiding said tape from said roll into and out of said supply for dispensing via said slot, said slot including a pair of knife edge members spaced forwardly and rearwardly, said rear edge member being stationary to permit the tape to be drawn upwardly thereacross to remove substantially all said cement from one surface of the tape, the spacing between said edge members serving to define the thickness of a coating of said cement thereon, and said slot forming means being mounted on a pivotable frame whereby said slot means is reversible with respect to the front and rear portions of said hopper.

8. In a portable tape dispenser for dry wall joint tape, a hopper for containing a supply of dry wall joint cement, means in said hopper for supporting a roll of tape for rotation, means for guiding said tape via said supply said tape to a dispensing slot, means forming a dispensing slot within said hopper, said slot means being mounted on a pivotable frame whereby said slot means is reversible with respect to the front and rear portions of said hopper, and means for carrying said hopper from either side of the waist of a workman.

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