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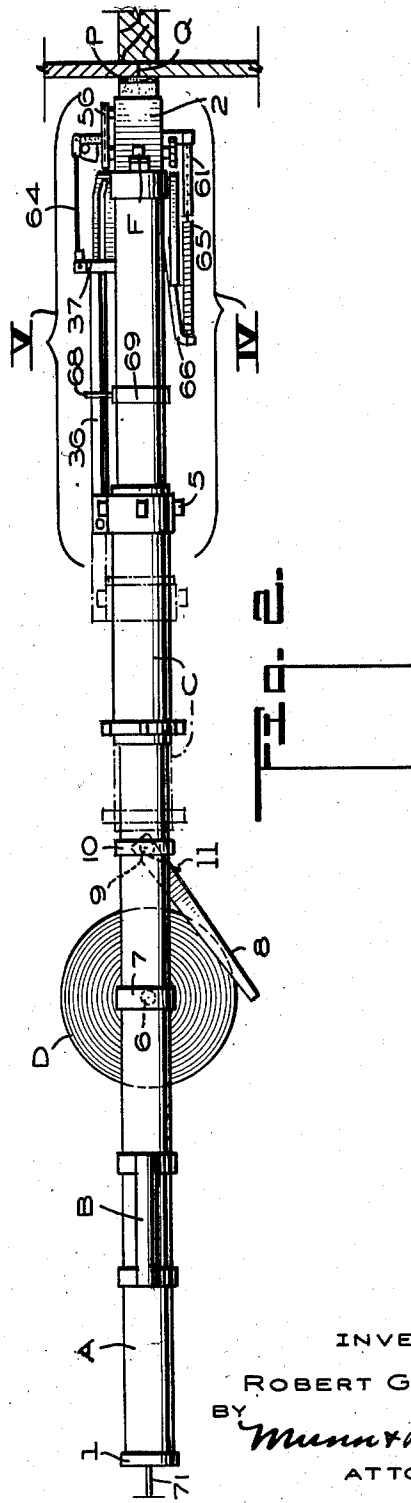
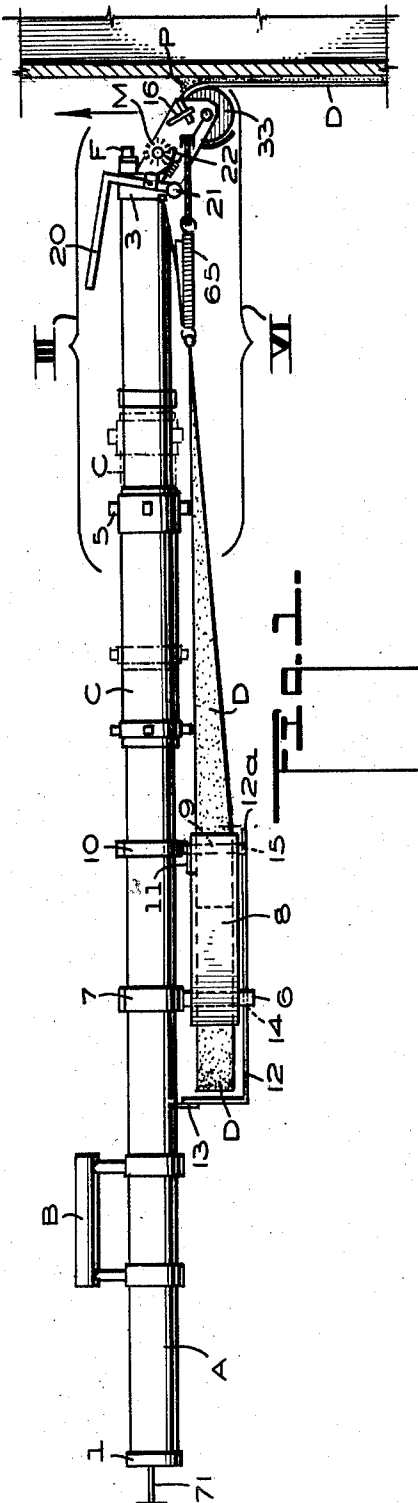
R. G. AMES

2,815,142

SELF-CONTAINED DRY WALL TAPER

Filed Sept. 7, 1954

5 Sheets-Sheet 1



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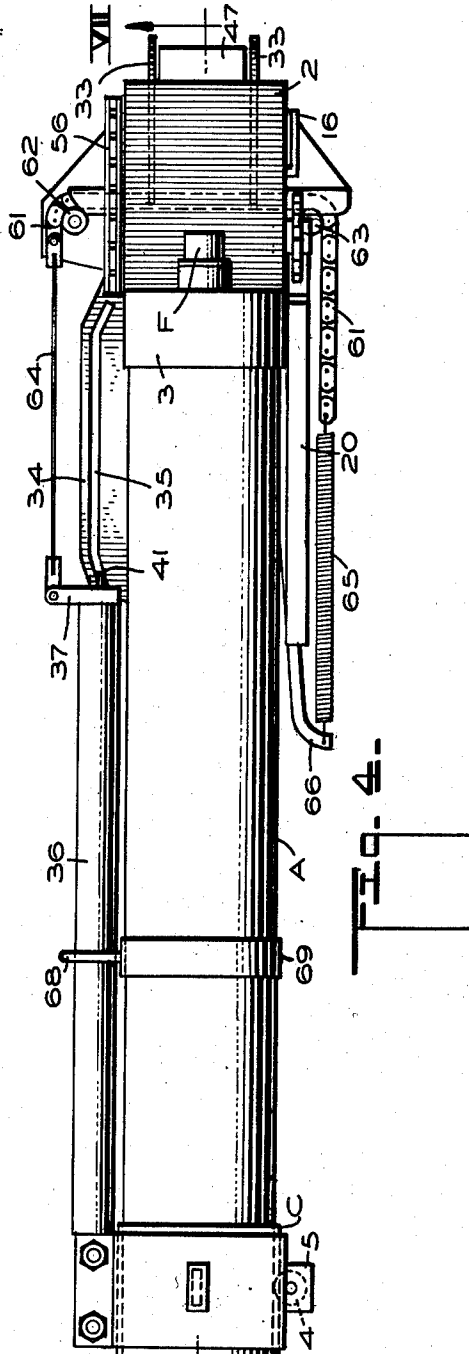
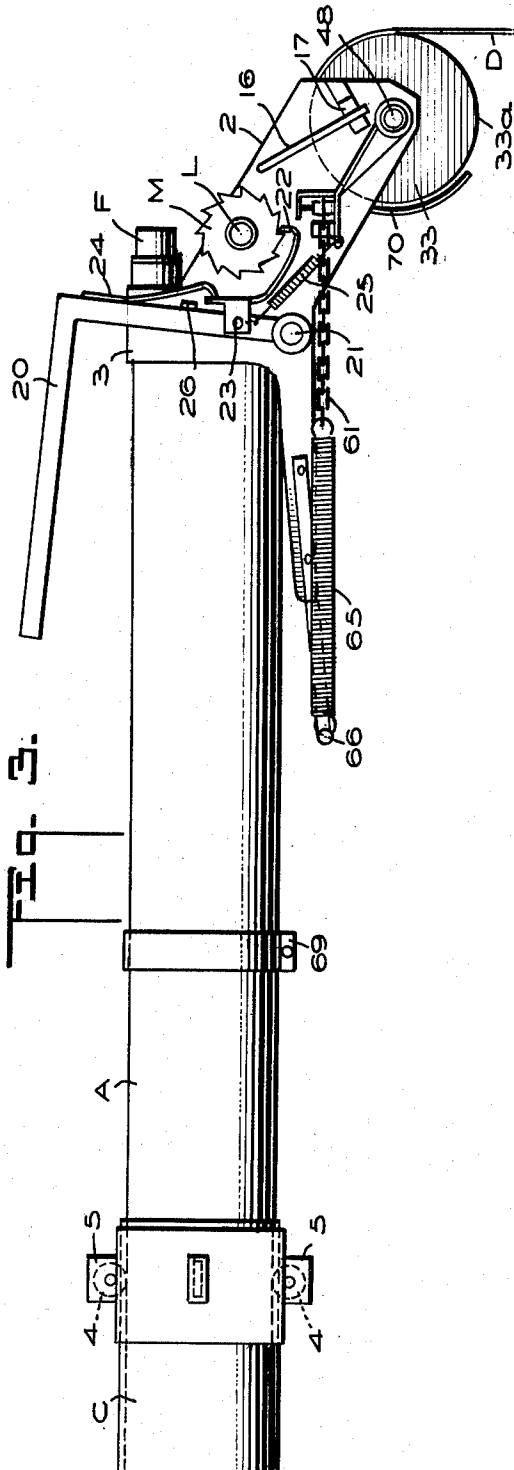
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5 Sheets-Sheet 2



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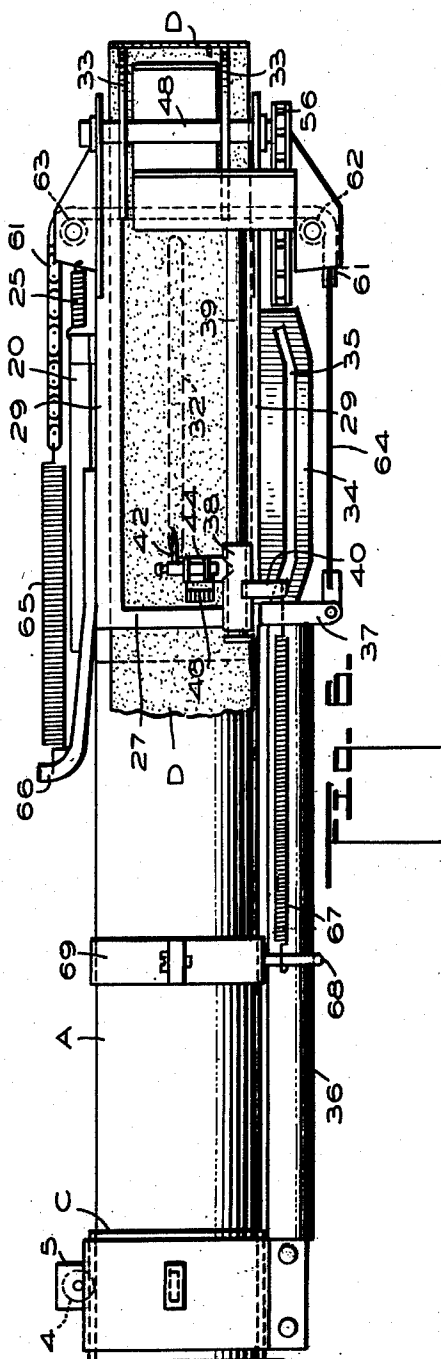
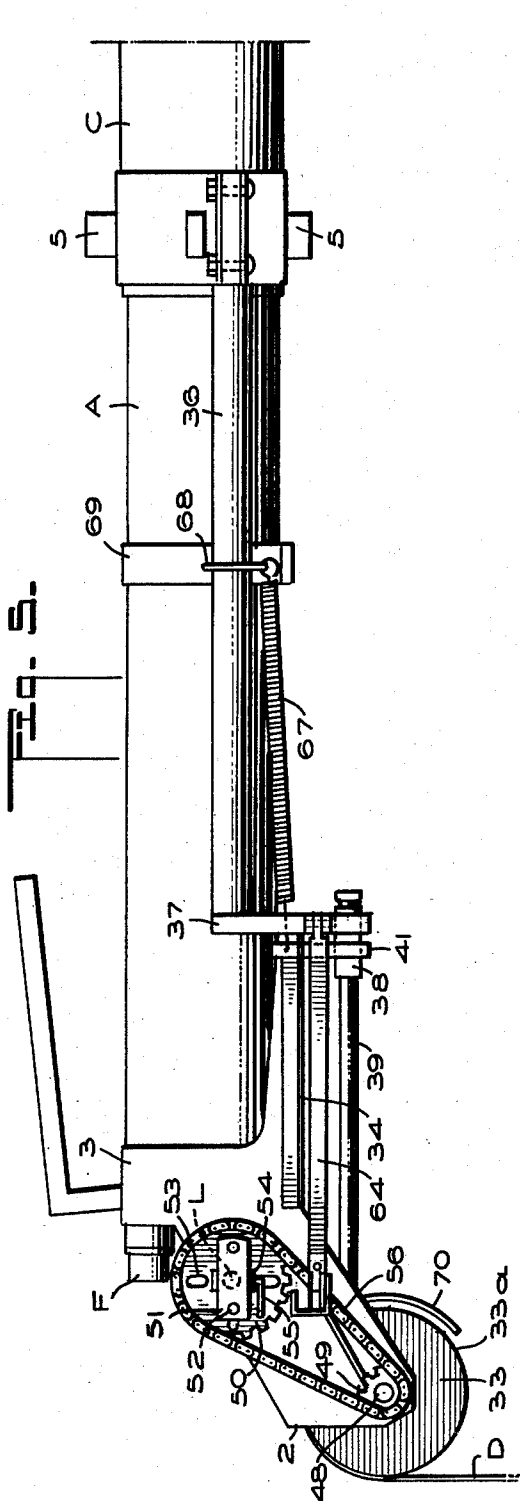
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5 Sheets-Sheet 3



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5 Sheets-Sheet 4



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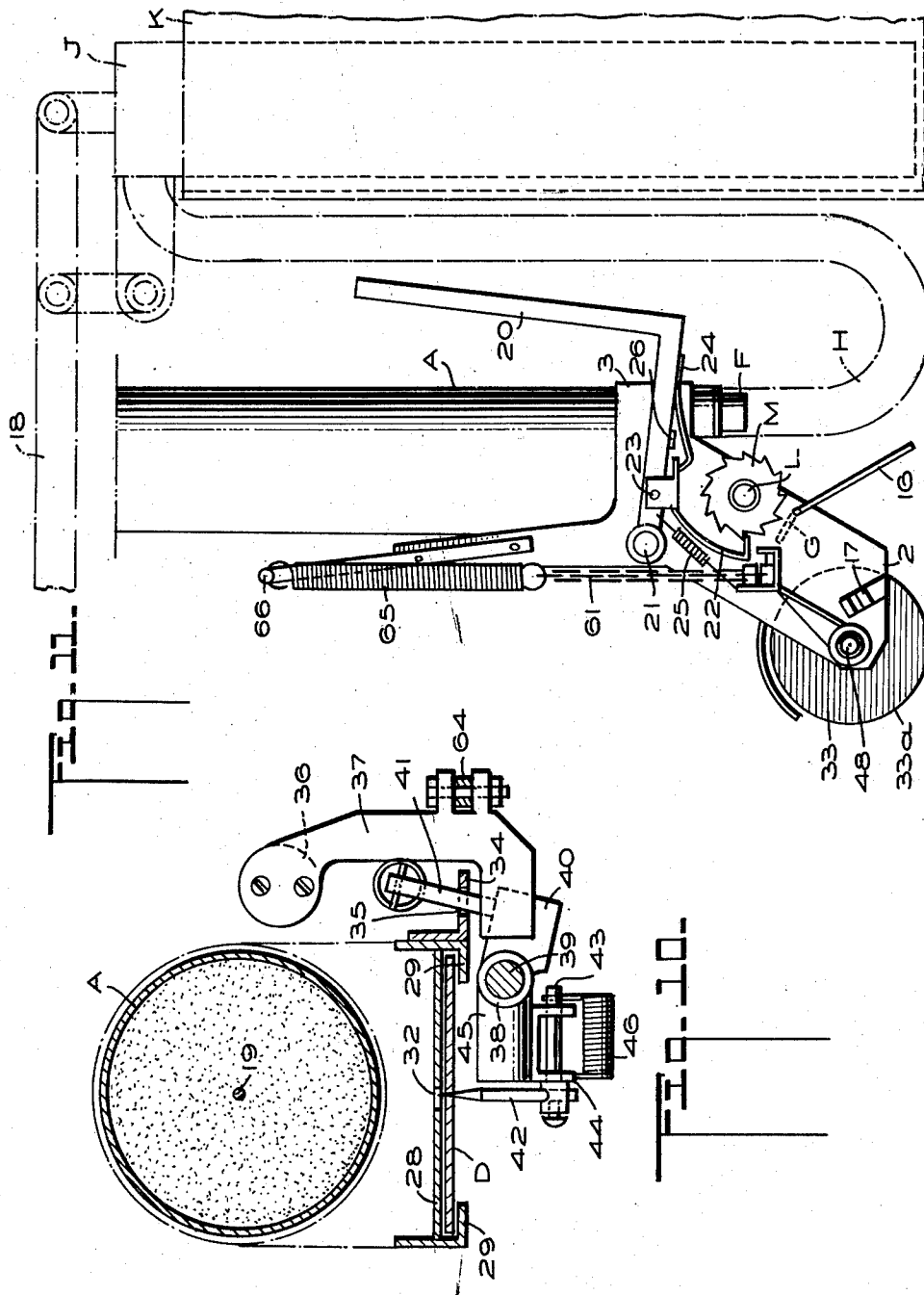
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SELF-CONTAINED DRY WALL TAPER

Filed Sept. 7, 1954

5 Sheets-Sheet 5



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2,815,142

SELF-CONTAINED DRY WALL TAPER

Robert G. Ames, San Mateo, Calif., assignor of one-half to George W. Williams and one-fourth to Stanley Ames, both of Burlingame, Calif.

Application September 7, 1954, Serial No. 454,563

13 Claims. (Cl. 216—25)

In my patent on a combined plastic and tape applicator, Patent No. 2,323,963, issued July 13, 1943; and in my patent on a combined tape and mastic applicator, Patent No. 2,502,499, issued April 4, 1950; I show manually operated tools that simultaneously apply a layer of mastic and tape on a wall board joint to cover it. The tools disclosed in both patents, have the mastic supplied to them by a portable pump unit that can be moved over the floor. A flexible hose connects the tool to the reservoir of mastic carried by the unit and a pump forces the mastic to the tool as required by the operator.

I have found that a portable pump unit for the mastic is advantageous where an operator is covering the joints of wall boards in a large number of houses and especially where the houses are only one story high. However, a substantial part of house construction is being built by contractors who may only erect one or two houses at a time. Where single houses are built one or two at a time, there is hardly enough dry wall taping required to warrant the use of a portable pump unit for feeding mastic to the tool because such a unit not only has a hopper for holding the mastic, but it also includes a storage battery for operating an electric motor which in turn drives the pump that feeds the mastic. Many houses are two stories high. The portable pump unit is heavy and where a two-story house is being dry wall taped, such a unit must be moved to the second floor when using the tool there. The pumping unit is heavy to move from the first to the second floor.

To overcome this disadvantage of having to move a mastic pumping unit, I have designed a self-contained dry wall taper that has a hollow handle for receiving and holding about a gallon of mastic, although I do not wish to be confined to any particular quantity that the tool can hold. Novel means is employed for feeding tape from a roll of tape carried by the handle, and this means will also feed a layer of mastic to the tape of the right thickness and width so that the operator can simultaneously apply the mastic layer and the covering tape to the wall board joint as the tool is moved along the length of the joint. The handle is long enough to permit the operator to seal and cover the wall board joints that are on the walls or ceiling and to accomplish this while standing on the floor.

A single operating sleeve is slidably mounted on the handle and when moved in one direction by the operator, it will feed a predetermined portion of the tape into a position to receive a layer of mastic preparatory to both the tape and mastic being applied to the wall board joint. The operator moves the sleeve in this direction at the start of a taping operation so that the end of the tape can be advanced to be engaged by the tape feeding means. The same sleeve can be moved in the opposite direction for cutting the tape and this operator does when he completes the taping of a joint.

A further object of my invention is to provide a tool of the type described in which a novel inlet valve is provided for filling the hollow handle with mastic by

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applying a hose to the valve and forcing mastic there-through. The outlet nozzle for the tool is closed during the filling operation. A piston is used for forcing mastic through the outlet nozzle and a piston moving mechanism is operatively connected to the tape feeding mechanism so that the piston will force the required amount of mastic through the nozzle and this mastic will be applied to the tape just prior to applying both to the wall board joint. During the filling operation, should any air space develop between the piston and the mastic, it is possible to advance the piston against the mastic to do away with the air space without at the same time feeding any tape from the tool.

A roll of tape is carried by the tool and this tape is fed to the joint as the tool is moved therealong. The mastic is applied to the tape joint before the latter is applied to the joint to cover it.

Other objects and advantages will appear in the following specification, and the novel features of the device will be particularly pointed out in the appended claim.

My invention is illustrated in the accompanying drawings forming a part of this application, in which

Figure 1 is a side elevation of the device and shows it applying tape and mastic to a wall board joint;

Figure 2 is a top plan view of the device and shows it applying tape and mastic to a wall board joint;

Figure 3 is an enlarged side elevational view of the right hand end of the tool shown in Figure 1, and indicated at III, and illustrates a portion of the manually controlled mechanism for moving the piston;

Figure 4 is an enlarged top plan view of the right hand end of the tool shown in Figure 2, and indicated at IV, and illustrates portions of the tape feeding and tape cutting mechanisms;

Figure 5 is an enlarged side elevation of the opposite side of the tool to that shown in Figure 3, and the particular portion of the side which is illustrated, is indicated at V in Figure 2, and illustrates a part of the mechanism that moves the piston as the tape is fed;

Figure 6 is an enlarged bottom plan view of the same portion of the tool illustrated in Figure 4 and as indicated at VI in Figure 1; and illustrates parts of the tape feeding and tape cutting mechanisms;

Figure 7 is a longitudinal section through a portion of the tool and is taken along the line VII—VII of Figure 4, and illustrates the inlet valve for mastic, the piston and part of the tape feeding mechanism;

Figure 8 is a transverse section taken along the line VIII—VIII of Figure 7, and illustrates the tape cutting mechanism;

Figure 9 is a longitudinal section through a portion of the tool to indicate the tape cutting blade, and is taken along the line IX—IX of Figure 8;

Figure 10 is a transverse section taken along the line X—X of Figure 7, and illustrates a part of the manually-controlled, tape feeding mechanism; and

Figure 11 is a side elevation of an end of the tool and illustrates how mastic is fed into the hollow tool handle.

While I have shown only the preferred form of my invention, it should be understood that various changes or modifications may be made within the scope of the appended claims without departing from the spirit and scope of the invention.

In carrying out my invention, I will describe in sequence: the general construction of the tool; the mechanism for filling the hollow handle with mastic; the manually controlled mechanism for moving the piston within the handle to eliminate any air spaces in the mastic; the manually-controlled mechanism for initially feeding tape from the tool; the automatic means for applying the tape to a wall board groove as the tool is moved

therealong, this means moving the piston at the right speed for causing it to force mastic from the outlet nozzle and apply the mastic to one side of the tape as needed, just prior to the mastic and tape being applied to the wall; and the manually controlled means for severing the tape. The means for initially feeding the tape and for severing the tape are controlled by a single control sleeve that is slidably mounted on the hollow handle. A description of the operation of the tool will follow the description of its various parts.

General construction of tool

The tool is shown in its entirety in Figures 1 and 2 and it comprises an elongated hollow cylindrical body indicated generally at A. The body is used as a handle and it is closed at its rear end by a cap 1. The opposite or forward end of the hollow body A, is provided with an outlet nozzle 2 and this is shown in enlarged section in Figure 7. The nozzle 2 is formed as a part of a cap 3 and this cap closes the forward end of the hollow body.

A hand grip indicated generally at B is secured to the hollow body A and is disposed near the rear cap 1 as indicated in Figures 1 and 2. This hand grip is designed to be held by the left hand of the operator. A slidable sleeve C is mounted on the hollow body A nearer the front end of the tool and is designed to be gripped by the right hand of the same operator. Reference to Figure 7 shows the sleeve C as carrying a plurality of wheels 4 and these ride on the exterior cylindrical surface of the body A and space the inner surface of the sleeve a slight distance from the body. The wheels 4 are protected by housings 5 that are carried by the sleeve. The wheels 4 are also placed at both ends of the sleeve so that the sleeve will be free to ride along the hollow body. The housings 5 enclose all of the wheels.

In Figure 1, I show the sleeve C in neutral position and I also show it advanced to the right into the dot dash line position for the purpose of initially feeding tape to the tape applying means which will be described hereinafter. In Figure 2 the sleeve C is again shown in neutral position and also it is shown moved to the left into the dot dash line position for actuating the tape cutting means which will be described hereinafter. It will therefore be seen that I have provided a single control sleeve for initially feeding the tape at the start of the taping operation when the sleeve is moved in one direction and then at the end of the taping operation, the sleeve is moved in the opposite direction from neutral position for severing the tape. The same sleeve helps to support the forward end of the tool because the operator holds this sleeve during the entire operation of the tool.

In Figures 1 and 2, I further show means for supporting a roll of tape indicated generally at D. The roll of tape is rotatably mounted on a shaft 6 that in turn is carried by a collar 7 and this collar is supported by the hollow body A and is rigidly connected thereto. A swingable channel-shaped arm 8 is pivotally mounted on a pin 9 that in turn is carried by a second collar 10. The collar is mounted on the hollow body A. A torsional spring 11 yieldingly urges the arm 8 into contact with the periphery of the roll of tape. Figures 1 and 2 show the arm 8 to be channel-shaped in cross section so as to contact with the periphery of the tape roll and to straddle the sides of the roll for a short distance to guide the tape from the roll. The torsional spring 11 causes the arm 8 to exert sufficient frictional force to prevent the tape roll from rotating freely about its shaft 6 and unwinding too much tape. The tape D will therefore be fed from the roll as it is needed.

An L-shaped wire 12 has a crescent shaped base member 13 that bears against the outer surface of the cylindrical body A, see Figure 1. After the roll of tape D is placed on the shaft 6, the long arm of the L-shaped wire 12 is passed through a diametrically extending opening 14 in the free end of the shaft 6 and then the free end 12a

of the wire is yieldingly received in a groove 15 that extends across the top of the pin 9. The crescent shaped base will contact the body A. In this way the roll of tape is removably held in place. To provide the tool with a new roll of tape, it is a simple matter to remove the L-shaped wire 12 from the opening 14 and place the new roll on the shaft 6. The L-shaped wire is then placed back in position by threading the end 12a of the arm through the opening 14 and moving it until the free end of the arm overlies the pin 9 and is received in the groove 15. The arm or wire 12 has sufficient spring quality to hold the free end of the arm in the slot 15 and to yieldingly hold the crescent member 13 in contact with the body A. The tape D is fed forwardly from the wire as shown in Figure 1 and it will extend to the forward end of the body A and be received in the tape feeding mechanism which will be described hereinafter. It is best at this time to set forth how the hollow handle is filled with a mastic.

Mechanism for filling the hollow handle with mastic

It is best to refer to Figure 7 where I show a piston E slidably mounted within the hollow cylindrical body A. The cap 3 that closes the forward end of the tool body is provided with an inlet check valve indicated generally at F in Figure 7. The nozzle 2 has a blade valve G and this valve may be swung from open position shown in Figure 7 into closed position as indicated by the dot dash line when the valve handle 16 is swung into the dot dash line position shown in the same figure. Reference is made to Figure 3 where the valve handle 16 is shown in a position where the blade valve G is held in open position. A retaining catch 17 is mounted on the side of the nozzle 2 and holds the handle 16 against accidental movement.

In Figure 11, I show the tool body A in a vertical position and illustrate how the inlet valve F receives an end of a goose neck pipe H. The pipe is connected to a pumping unit indicated generally at J and this unit is placed in a receptacle K that has mastic therein. When the handle 18 of the pumping unit is actuated, mastic P will be forced from the receptacle K into the interior of the hollow body A. Since the valve G is closed by swinging the handle 16 into the position shown in Figure 11, the mastic on entering the interior of the housing will move the piston E to the left in Figure 7. This movement will continue until the entire interior of the hollow handle is filled with mastic and the piston is moved adjacent to the cap 1, or a desired quantity of mastic has been forced into the hollow handle. At the completion of the filling of the tool with mastic to the desired extent, the pipe H is disconnected from the inlet valve F and the handle 16 for the valve G is swung back into a position to be received by the catch 17 shown in Figure 11.

Means for eliminating voids in the mastic

Before the tool is used, it may be necessary to relieve the mastic within the hollow body from any voids that may occur during the filling operation. This is advisable so that when the tool is used, a continuous layer of mastic P will be applied to the tape during the taping operation, and at no time will there be any cessation of the mastic flow onto the tape. Again referring to Figure 7, it will be seen that I provide a drum shaft indicated generally at L and this drum shaft extends across the width of the nozzle 2 and is rotatably mounted within the nozzle. A wire 19 has one end wrapped around the drum shaft L and has its free end connected to the piston E. In Figure 3, I show the drum shaft L as having one end projecting beyond the side of the nozzle 2 and this end is provided with a ratchet M. A lever 20 is pivoted to the side of the cap 3 at 21 and this lever carries a pawl 22 that is pivoted on the lever at 23. A leaf spring 24 is secured to the lever 20 and bears against the free end of

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the pawl 22 so as to cause the other end to yieldingly engage with the teeth on the ratchet M. A spring 25 yieldingly urges the lever 20 in a clockwise direction about the pivot pin 21 and holds it in contact with a stop 26.

The operator in removing any voids or air spaces from the mastic P within the hollow body A, presses downwardly on the lever 20 to move it in a counter-clockwise direction about its pivot 21 and causes the pawl 22 to engage with the teeth to rotate the ratchet M in a clockwise direction. A rotation of the pawl M clockwise will likewise rotate the drum shaft L and will wind the wire 19 thereon for pulling the piston E toward the right in Figure 7. This will cause the piston to move against the mastic and to compress the mastic for freeing it of any air spaces. When this is accomplished the tool is ready for use so far as continuously feeding mastic is concerned.

Tape feeding means

As already stated, the tape D is fed from the tape roll to the forward end of the tool and there the tape passes through a tape guide which is indicated at N in Figures 6 and 7. A bottom plan view of the tape guide is shown in Figure 6 and the guide N comprises a frame 27 that is carried by the cap 3 and leads the tape to a point adjacent to the nozzle 2, see Figure 7. The guide N in reality takes the form of a plate 28 which constitutes the base for the frame 27 and this plate has channel-shaped sides 29 that slidably receive the edges of the tape D. At each end of the plate 28, I provide transversely-extending strips 30 and 31, see Figure 7. The plate 28 has a longitudinally-extending slot 32 therein and this is clearly shown in Figures 6 and 7. The transversely-extending strip 31 cooperates with the channels 29 and with the plate 28 to feed the tape onto a pair of wheels 33 and these wheels are placed close to the nozzle 2 so that as the tape is carried past the nozzle by the periphery of the wheels 33, one side of the tape will receive a layer of mastic P just prior to the tape being applied to a wall board joint.

It is necessary, however, that the tape be advanced from the tape guide N onto the peripheries 33a of the wheels 33 before the mastic is forced from the nozzle 2. To accomplish this, I provide a laterally extending member 34 that is provided with a cam slot 35 of the shape shown in Figure 6. A rod 36 is shown in Figure 5, projecting forwardly from the front end of the sleeve C and Figure 10 illustrates the forward end of the rod 36 as carrying an arm 37. Referring again to Figure 6, it will be seen that a sleeve 38 is slidably mounted on a guide rod 39. This guide rod parallels the length of the tape guide N that has its ends secured thereto. The sleeve 38 is not only free to slide along the guide rod 39, but it is also free to rock about the rod as an axis. The sleeve carries a projection 40 and this projection in turn carries a pin 41. Figure 10 illustrates how this pin is slidably received in the cam slot 35. From the construction thus far described, it will be noted that a forward movement of the sleeve C will advance the rod 36 and cause its arm 37 to strike the projection 40 and move it forwardly with the sleeve 38. The sleeve 38 will not only be advanced on its guide rod 39, but it will also be rocked as the pin 41 rides in the cam slot 35.

The purpose for the sliding and rocking movement of the sleeve 38 is to advance a tape-feeding needle 42 along the slot 32 in the plate 28. Figure 10 shows the pin 42 as being adjustably mounted in a stub shaft 43 so as to extend from the shaft a desired distance. The shaft is rotatably carried by a frame 44 which in turn is supported by a projection 45 that is integral with the sleeve 38, and projects laterally therefrom in a direction almost diametrically opposite to the projection 40. A torsional spring 46 urges the tape-feeding needle 42 downwardly into the slot 32. The tape D overlies the plate 28 and the slot 32. Therefore, when the sleeve C is moved for advancing the needle carrying sleeve 38 along its rod 39, the pin 41 will

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ride in the cam slot 35 and this cam slot is shaped for rocking the pin 41 and the sleeve 38 in a clockwise direction when looking at Figure 10 and this will force the needle 42 into the tape D and the needle will advance the tape along the tape guide N as the sleeve C is moved. The tape guide will feed the free end of the tape onto the peripheries 33a of the wheels 33 and this movement will take place without any movement of the piston E.

If insufficient tape is fed by the first forward movement of the sleeve C on the hollow body A, it is possible to return the sleeve to neutral position and repeat the operation. It will be noted from Figure 6 that the forward end of the cam slot 35 will cause the cam following pin 41 to swing and rock the sleeve 38 and free the tape-engaging needle 42 from the tape. On the return movement of the sleeve 38 to its starting position, the spring 46 will permit the needle 42 to ride over the top of the tape and this will permit the needle to return and be ready for the next advancement of the tape, when this be necessary. It should also be noted that the needle 42 will not interfere with the advancement of the tape D as it is moved by the wheels 33 in a manner hereinafter described.

Automatic means for applying tape and mastic to wall board grooves

I have described how the wheels 33 are used for guiding the tape past the outlet nozzle 2 for receiving the mastic and this is clearly shown in Figure 7. A curved partition 47 extends between the wheels 33 and is positioned slightly below their peripheries. The curved partition acts as a support for the portion of the tape that lies between the peripheries of the wheels and this partition cooperates with the outlet rim of the nozzle 2 for determining the depth of the layer of mastic P applied to the tape D. Figure 2 shows a wall board joint Q lying between two adjacent sections of wall board and the same figure indicates the wheels 33 that press the tape D and the layer of mastic P against the wall board joint to cover it.

It is necessary that the mastic be fed from the hollow body A at a steady rate which will apply a layer of mastic of the required depth and width to one side of the tape just before the latter is applied to the wall board joint. This arrangement of parts includes the drum shaft L, the wire 19 and the piston E. In Figure 5, I show the mechanism for interconnecting the wheels 33 with the drum shaft L. The wheels 33 are mounted on a shaft 48 and a sprocket 49 is mounted on the same shaft and is keyed thereto. A larger sprocket 50 is freely mounted on the drum shaft L so as to rotate thereon without rotating the shaft. A clutch plate 51 is keyed to the drum shaft L. This plate carries a pin 52 that is removably received in any one of a plurality of slots 53. A cam 54 may be swung by a handle 55 for flexing the clutch plate 51 for moving the pin 52 out of engagement with the slots 53. When the handle 55 is in the position shown in Figure 5, the flexible clutch plate will move the pin 52 into registration with an opening 53 as soon as the rotating sprocket 49, sprocket chain 56 and large sprocket 50 are rotated to bring one of the slots 53 into registration with the pin 52. In this way the drum shaft L is rigidly connected to the large sprocket 50 and the drum shaft will be rotated in direct ratio with the rotation of the tape applying wheels 33.

The length of the circumference of the wheels 33 has been determined so that the drum shaft L will advance the piston E at the proper speed for feeding the required amount of mastic P onto the tape. All that the operator needs to do is to move the tool along the length of the joint Q and the wheels 33 will be rotated by coming into contact with the tape when pressing it against the portions of wall board disposed adjacent to the groove. As the wheels are rotated they will feed the tape to the wall board joint and the rotation of the wheels will feed a layer of mastic P to the tape D just before the latter is applied to the joint. It will therefore be seen that the

layer of mastic and the tape will be automatically applied to the joint as the device is moved therealong.

Tape cutting means

When the operator completes the applying of a tape and its layer of mastic to the wall board joint, he severs the tape D by a tape cutting means illustrated in Figures 6, 7, 8 and 9. In Figure 7 a transverse runway 57 for guiding a cutting knife 58 is shown as being positioned near the nozzle 2. The transverse runway 57 is illustrated on a larger scale in Figure 9 and the cutting knife 58 is shown as being removably carried by a slidable carriage 59. Figure 8 illustrates the transverse runway or guide 57 as having a slot 60 and the knife 58 rides in this slot. Figure 9 illustrates how the knife 58 rides along an edge 28a of the plate 28 and therefore when the knife is moved from one side of the tape guide to the opposite side, the tape D will be severed.

In Figure 8, I show a chain 61 connected to the carriage 59 and extending along the runway 57. In Figure 6 I show the chain being passed around idlers 62 and 63. One end of the chain 61 that passes around the idler 62 is connected by a flexible member 64, see Figure 6, with the arm 37 that in turn is connected to the sleeve C by the rod 36. The opposite end of the chain 61 is connected to a coil spring 65 and the spring in turn is attached to a bracket 66 that is supported by the guide frame for the tape. The flexible member 64 permits the sleeve C to be moved for advancing the tape and the tape cutting means will not be actuated during this movement.

It will be seen from this construction that when the sleeve C is moved to the left in Figure 6, it will pull on the flexible member 64 and move the chain for causing the carriage 51 to move the blade 58 along the runway 57 and sever the tape. The spring 65 is tensioned during this movement. As soon as the operator frees the control sleeve C, the spring 65 will tend to return to normal position and will pull on the chain 61 for moving the knife 58 back to its starting position and for returning the sleeve C to neutral position. This completes the cutting operation of the tape.

Operation

From the foregoing description of the various parts of the device, the operation thereof may be readily understood.

The hollow body A is filled with mastic in the manner already described and then the lever 20 is actuated for stepwise rotating the ratchet M for causing the drum shaft L to advance the piston E to squeeze out any air pockets in the mastic P. The blade valve G closes the nozzle 2 during the filling operation and the squeezing out of the air voids. The clutch plate 51 is also held in released position during the actuation of the lever 20.

A roll of tape D is applied to the shaft 6 in the manner already described and this tape is fed through the tape guide N. When using the device, the operator grasps the handle B with one hand and the control sleeve C with the other. He then initially feeds tape through the guide by moving the sleeve C forwardly for forcing it to the right in Figure 1 as indicated by the dot dash line position in this figure and causing the tape feeding needle 42, to engage with the tape and feed the free end toward the nozzle 2 and over a portion of the wheels 33. The operator now swings the clutch handle 55 for permitting the spring clutch blade 57 to move the pin 52 into one of the slots 53 in the large sprocket 50. Should a slot not be in registration with the pin, a rotation of the wheels 33 while contacting the wall board, will rotate the large sprocket 50 and cause the registration of one of the slots with the clutch pin. In Figure 5, I show a spring 67 attached to the pin 41 at one end and attached to a ring 68 at its other end, the ring being carried by the band 69 that is secured to the body A. The spring 67 will yield-

ingly pull on the pin 41 as it is moved along the cam slot 35 and it will return the pin and the sleeve 38 to their starting positions as soon as the operator moves the sleeve C back to neutral position.

The operator moves the tool along the wall joint in applying the tape and mastic and in a direction which will cause the wheels 33 to straddle the joint and to move parallel therewith. The peripheries 33a of the wheels will apply the tape and the layer of mastic to the wall board to cause it to cover the joint. The wheels 33 will be rotated during this movement. The piston E will be operatively connected to the wheels 33 and will be advanced for feeding the mastic through the nozzle 2 and depositing the mastic in layer form on the tape just prior to the tape being applied to the wall board, see Figure 7. A guard or shield 70 is provided at the portions of the wheel peripheries 33a that are disposed diametrically opposite to the peripheral portions that apply the tape to the wall board. The shield is carried by the tape guide.

When the operator completes the taping of a joint, he moves the sleeve C rearwardly from the neutral position shown in Figure 2 into the position shown by the dot dash lines in the same figure. The rearward movement of the control sleeve C will cause the flexible member 64, see Figure 4, to pull rearwardly on the chain 61. The cutting blade 58 will be moved in the manner already described and will sever the tape. As soon as the sleeve C is returned to its neutral position, the spring 65 will pull on the other end of the chain 61, and will return the cutting blade to its starting position. The tool has now completed its taping operation and can be used again at the will of the operator.

In Figure 7, I show the opposite end of the piston E connected to a wire 71. This wire extends out through a central opening in the end cap 1 and may be secured to the body A. The wire 71 is for the purpose of pulling the piston E through the hollow body when the cap 1 is removed. The clutch plate 51 is preferably disconnected from the large sprocket wheel 50 during this movement. The piston E may be entirely removed from the hollow body A by the wire 71 when it is desired to clean out the interior of the hollow body. After this is done, the piston E is reinserted and the cap 1 is reattached to the body. The tool is now ready for a refilling with mastic in the manner already described.

The tape guide N, shown in Figure 7, is constructed so that the channel-shaped sides 29, see Figure 6, and the transversely extending strips 30 and 31, expose the greater portion of the tape D as it passes through the guide. In case the tape should become jammed in the guide N for any reason, it is easy to gain access to the tape because only the edges of the tape are concealed by the guides 29, and the transversely extending strips 30 and 31 are relatively narrow, see Figure 7, so as to conceal only a negligible portion of the tape. In fact the side channels and transverse strips provide an open face at the head end of the tool through which practically the entire tape D may be viewed while passing through the tape guide.

Before the hollow cylindrical body A is filled with mastic P, the clutch handle 55 is swung for causing the clutch plate 51 to free the large sprocket 50. The drum shaft L will be rotated by the wire 19 feeding therefrom as the piston E is moved by the incoming mastic during the filling of the hollow body A. The rotating drum shaft L will merely rotate the clutch plate 51, and will not rotate the large sprocket 50 nor the small sprocket 49 and the wheels 33. The filling operation is made easier especially when it is considered that the gear ratio between the two sprockets 49 and 50 is such as to cause the wheels 33 to spin rapidly as the piston E is moved, should the clutch plate 51 connect the large sprocket to the drum shaft L. After the body A has been filled with mastic to the desired extent and any voids in the mastic are removed, the clutch plate 51 is again moved to connect the large sprocket 50 to the drum shaft L.

I claim:

1. A device of the type described comprising: a hollow elongated handle having a mastic-feeding nozzle at one end thereof; a piston slidably mounted within the hollow handle; an inlet check valve placed near the nozzle for permitting mastic under pressure to be forced into the hollow handle and move the piston away from the nozzle; and a valve for closing the nozzle while filling the hollow handle with mastic; said check valve preventing any reverse flow of mastic therethrough.

2. The device as set forth in claim 1: and in which means is provided for advancing the piston toward the nozzle for overcoming any voids or air spaces in the mastic.

3. A device of the type described comprising: a hollow elongated handle adapted to receive mastic and having a mastic-feeding nozzle at one end thereof; a piston slidably mounted within the hollow handle and adapted to force mastic from the interior of the handle, out through the nozzle; and means for moving the piston for forcing out any air spaces in the mastic and including a drum mounted near the nozzle; a wire wrapped around the drum and having its free end connected to the piston and manually controlled means for rotating the drum for winding the wire thereon for moving the piston toward the mastic for expelling any air spaces therein.

4. A device of the type described comprising: a hollow handle adapted to hold mastic; a tape feeding and applying means including spaced apart tape-engaging wheels rotatably mounted on a common axis at one end of the handle; said handle having a mastic ejecting nozzle disposed adjacent to the wheel peripheries for applying a layer of mastic to the tape as the latter moves around a portion of the peripheries; a piston for forcing mastic through the nozzle and onto the tape; and means for feeding the required quantity of mastic to the tape just prior to the latter being applied to a wall board joint by the wheel peripheries pressing the tape thereagainst; said mastic feeding means including a drum placed near the nozzle and operatively connected to the wheels so as to be rotated thereby when the wheels are rotated as they apply the tape to the wall board; and a wire wrapped around the drum and having its free end attached to the piston; whereby a rotation of the wheels caused by the tape being applied to the wall board, will rotate the drum at a speed to wind the wire thereon and advance the piston for forcing the required amount of mastic through the nozzle and onto the tape.

5. The device as set forth in claim 4: and in which manually controlled means is employed for initially advancing the tape between the nozzle and the wheel peripheries prior to rotating the wheels and advancing the piston.

6. The device as set forth in claim 4: and in which a clutch is interposed between the operative connection between the wheels and the drum and disconnects them when moving the piston toward the nozzle for eliminating air spaces in the mastic; and manually controlled means for rotating the drum independently of the wheels for winding the wire thereon and advancing the piston to the desired extent.

7. A device of the type described comprising: a hollow handle adapted to hold mastic; a nozzle disposed at one end of the handle for feeding a layer of mastic therethrough; and a tape feeding and applying means and including a tape guide disposed adjacent to the nozzle for guiding the tape so it will receive the layer of mastic issuing from the nozzle; said tape guide having an open front so that the tape can be inspected as it moves through the guide.

8. A device of the type described comprising: a handle; a roll of tape carried thereby; means for applying the tape to a surface; tape-feeding means disposed adjacent to the tape-applying means; manually controlled means including a sleeve slidably mounted on the handle and

being operatively connected to the tape-feeding means for initially feeding tape to the tape-applying means when the sleeve is moved in one direction from normal position; and manually controlled tape-cutting means operatively connected to the same sleeve for severing the tape at a point adjacent to the tape-applying means when the sleeve is moved in the opposite direction from normal position.

9. A device of the type set forth in claim 8; and in which the sleeve slidably encloses a portion of the handle and constitutes one of the hand grips for the device.

10. A device of the type described comprising: a hollow handle adapted to carry mastic; a roll of tape carried by the handle; means for applying the tape to a surface; tape feeding means disposed adjacent to the tape applying means; manually controlled means including a sleeve slidably mounted on the handle and being operatively connected to the tape feeding means for initially feeding tape to the tape applying means when the sleeve is moved in one direction from normal position; said handle having a nozzle for delivering mastic to the tape as the latter is acted upon by the tape-applying means; and a piston slidably mounted within the hollow handle and adapted to force mastic from the interior of the handle and out through the nozzle; said tape-applying means being operatively connected to the piston for moving the latter as said means applies the tape to the surface; whereby a layer of mastic is applied to the tape just prior to the latter being applied to the surface.

11. A device of the type described in claim 10; and in which manually controlled tape-cutting means is operatively connected to the same sleeve for severing the tape at a point adjacent to the tape-applying means when the sleeve is moved in the opposite direction from normal position.

12. A device of the type described comprising: a handle; means on the handle for supporting a roll of tape; means for applying the tape to a surface; tape-feeding means disposed adjacent to the tape-applying means; a sleeve slidably mounted on the handle and constituting one of the hand grips for the device; said tape-feeding means having an actuating member adapted to be first abutted by the sleeve and then moved by the sleeve when the sleeve is moved in one direction from normal position; and manually-controlled tape-cutting means operatively connected to the same sleeve by a flexible member that merely forms into a loop when the sleeve is moved for actuating the tape-feeding means; said tape-cutting means being actuated by said flexible member when the sleeve is moved in the opposite direction from normal position, for severing the tape; the sleeve when thus moved, moving away from the actuating member of the tape-feeding means so as not to operate the tape-feeding means.

13. A device of the type described comprising: a hollow handle adapted to hold mastic; a nozzle disposed at one end of the handle for feeding a layer of mastic therethrough; a tape-feeding and applying means and including a tape guide disposed adjacent to the nozzle for guiding the tape so it will receive the layer of mastic issuing from the nozzle; said tape guide having an open front so that the tape can be inspected as it moves through the guide; said tape-feeding means also including manually-controlled means for initially feeding the tape from the guide; said manually-controlled means when actuated, engaging that portion of the tape lying in the open front of the tape guide, for advancing the tape through the guide.

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