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(54) **CAULK GUN APPLICATOR**

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(57) **ABSTRACT**

A nozzle extension group which allows a caulk gun additional reach for the application of caulk, adhesives, and silicone. The extensions are made at varying lengths and are adapted to be secured to the nozzle end of the tube of building materials. Further, the extensions are also adapted to be secured to each other, thereby providing a wide variety of lengths and allowing the user to reach heretofore unattainable locations.

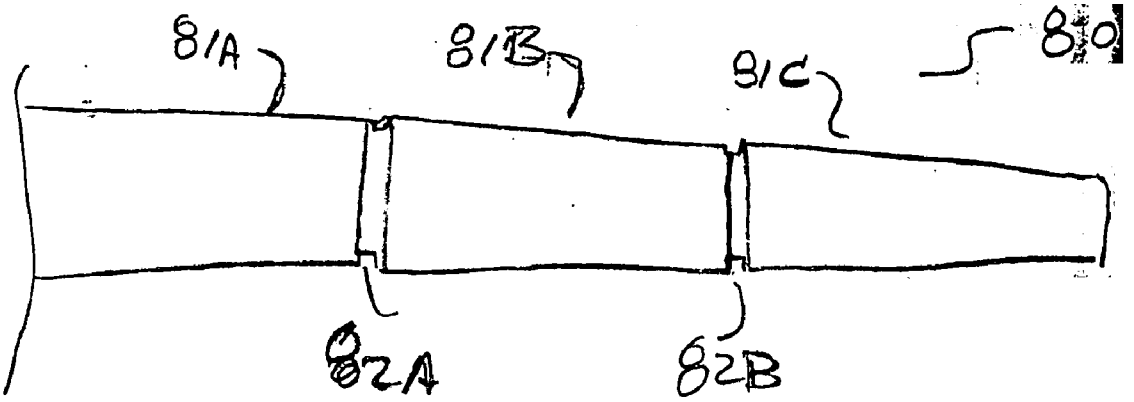
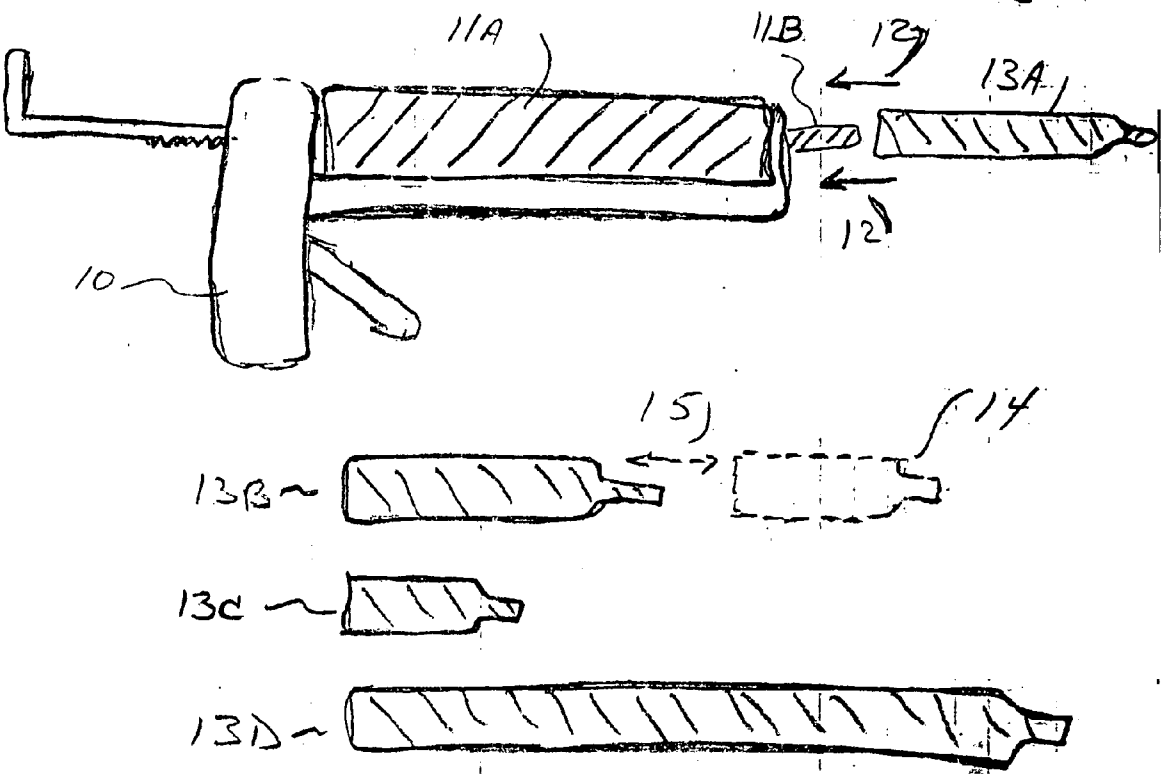


Fig 1



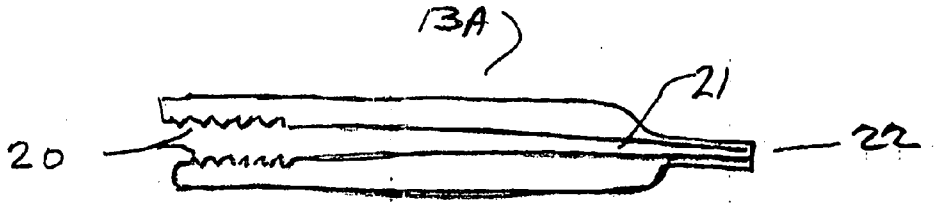


Fig 2

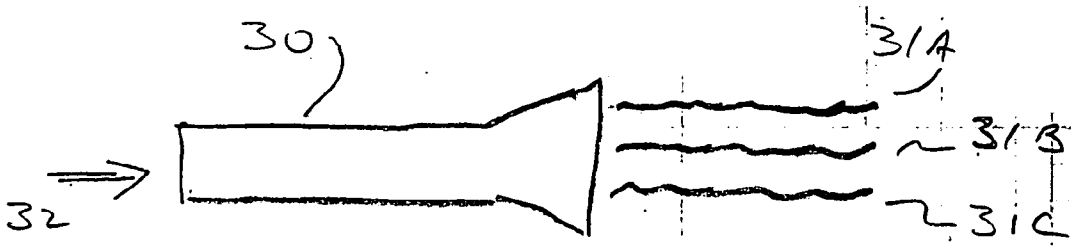


Fig 3A

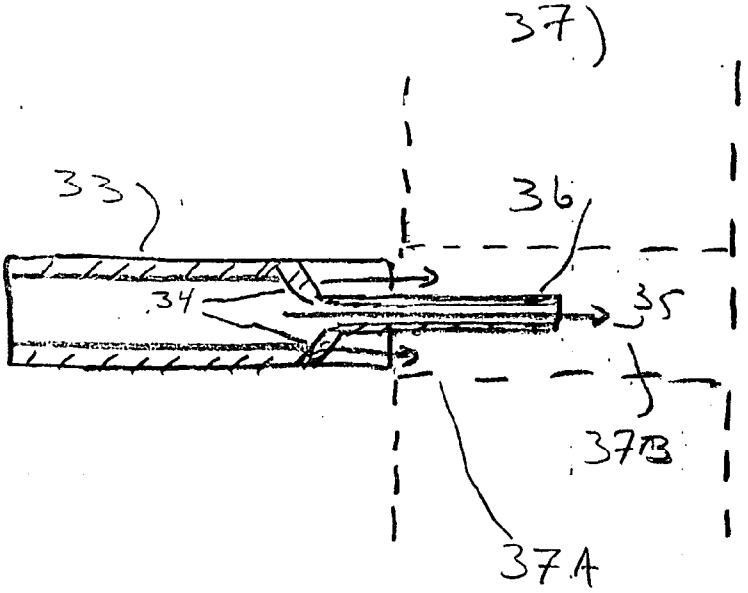


Fig 3B

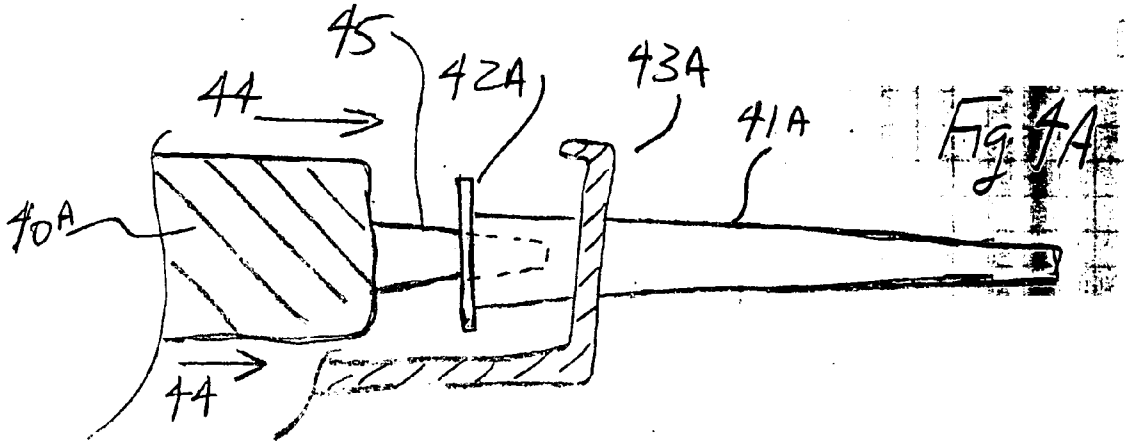


Fig 4A

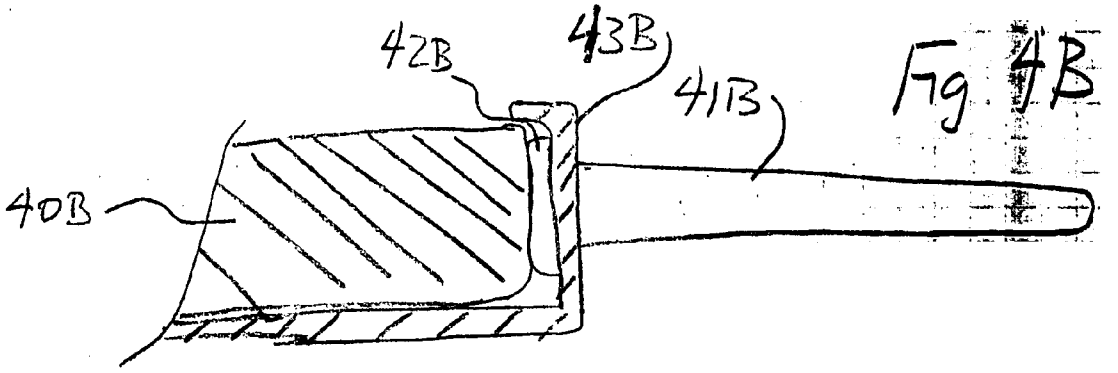


Fig 4B

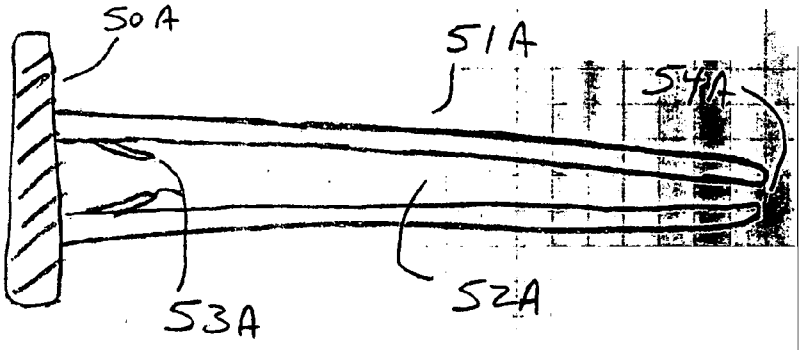


Fig 5A

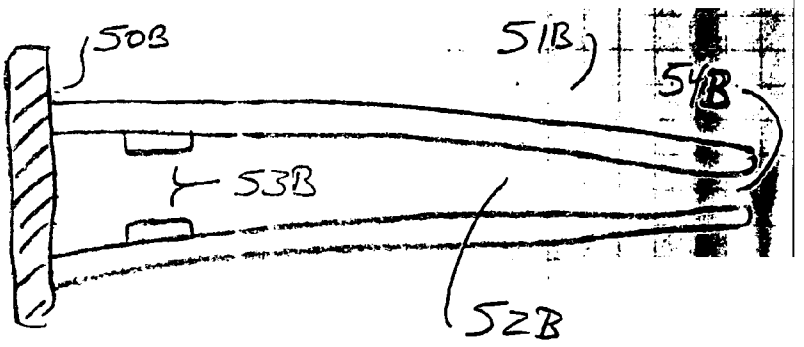


Fig 5B

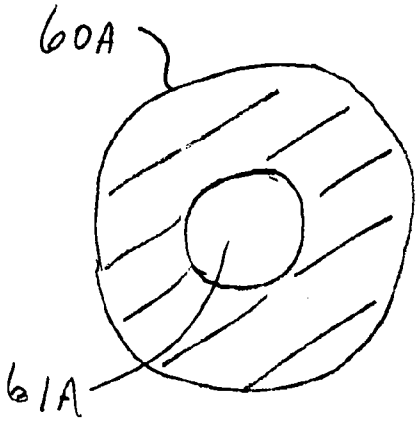


Fig 6A

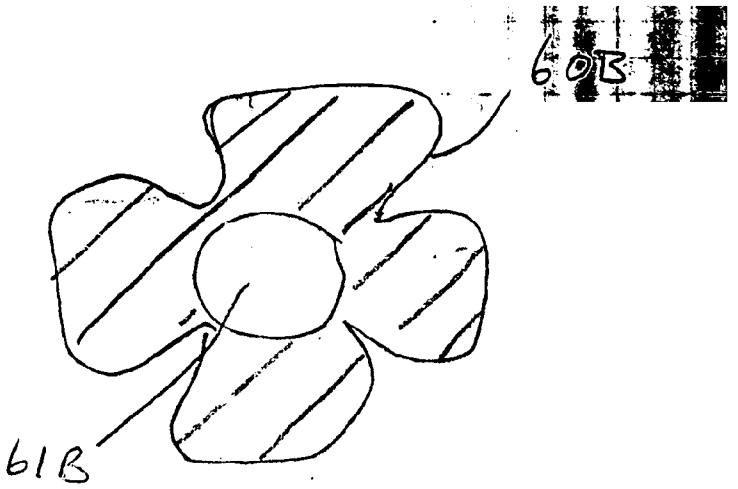


Fig 6B

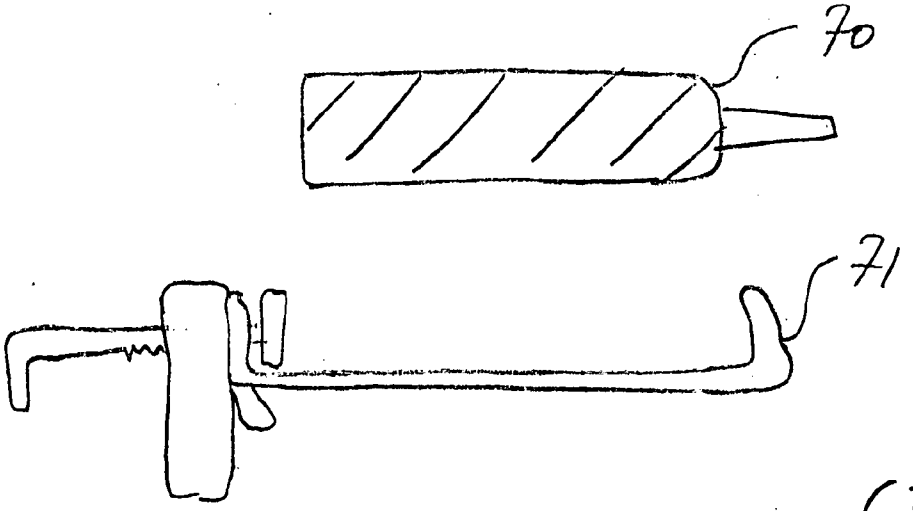
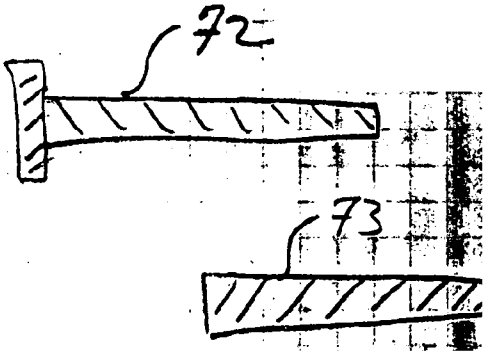


Fig 7



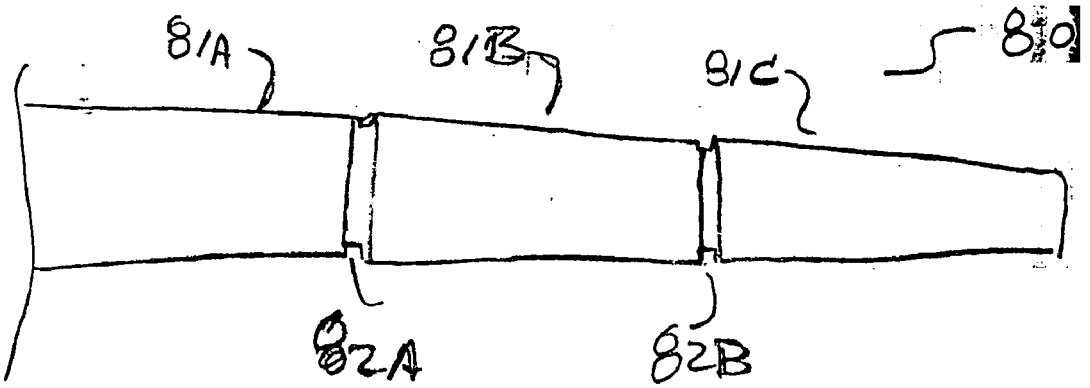


Fig 8

CAULK GUN APPLICATOR

BACKGROUND OF THE INVENTION

[0001] This invention relates generally to caulk guns and more particularly to the nozzle therefore.

[0002] In this context, the term "caulk gun" relates to a variety of manually activated and pneumatically activated mechanisms used to apply a building product from a tube. These building products includes such items as glues/adhesives, caulk, and silicone sealants. One example of a caulk gun is shown in U.S. Pat. No. 6,769,578, issued on Aug. 3, 2004, to Ciofalo et al. and entitled "Caulking Tube Nozzle Applicator", incorporated hereinto by reference.

[0003] In general terms, a caulk gun includes a receptacle for a tube of building material together with a plunger which is manually or pneumatically powered to force the building material from the tube. The building material is directed from the tube through a small attached nozzle and is hence applied to the surface or opening where the building material is most useful.

[0004] In some situations, because of the bulk associated with the caulk gun itself and the length of the nozzle, gaining access to a particular location is difficult. In such situations, the user either applies the sealant/glue in a less than optimal manner or resorts to using a putty knife or a piece of scrap wood to apply the sealant/glue.

[0005] In either case, the sealant/glue is typically not applied in an acceptable manner.

[0006] It is clear from the foregoing that there is a need for an efficient mechanism which will permit the application of caulk/glue from a caulk gun.

SUMMARY OF THE INVENTION

[0007] The invention creates a nozzle extension group which allows a caulk gun additional reach for the application of caulk, adhesives, and silicone. As used within this context, a typical tube of building materials is provided for the caulk gun. This building material is contained within a tube which uses a nozzle for application of the building materials (e.g. caulk, adhesives, and silicone).

[0008] The extensions of the present invention are made at varying lengths and are adapted to be secured to the nozzle of the tube of building materials. The mechanism used to secure an extension to the nozzle is well known to those of ordinary skill in the art and includes such mechanisms as ribbing/saw tooth ridges within the extension configured to engage an exterior portion of the nozzle.

[0009] Further, the extensions are also adapted to be secured to each other, thereby providing a wide variety of lengths and allowing the user to reach heretofore unattainable locations for the application of caulk or adhesives. In this manner, a six inch extension is combinable with a three inch extension to create a nine inch extension to meet the demands of the particular project.

[0010] In some embodiments of the invention, end extension are also supplied and allow the user to create an extrusion which meets the particular situation. As example, when adhesive is being placed on a flat surface, one such end extension provides a multi-outlet so that parallel streams of adhesive are applied simultaneously.

[0011] Another end extension is used in the caulking of wide cracks. In this application, the end extension has two openings, a wide one and a smaller opening which extends past the wide opening. In use, the smaller opening is inserted into the crack and as the caulk is extruded from both openings, a dual barrier is created, one from the small opening within the crack, and one from the wide opening along an exterior portion of the crack.

[0012] In another embodiment of the invention, the three components of the assembly are the tube of construction material, the handle mechanism, and the extension.

[0013] The tube of construction material has a first end with a nozzle. This nozzle communicates with the interior portion of said tube, thereby allowing the construction material to pass therethrough when the opposing end of the tube is pressed. This is done by the handle mechanism which holds the tube. The extension is configured to be secured to the nozzle by an operator immediately prior to activation of the handle mechanism. The extension uses its interior channel for communicating the construction material from said nozzle an extended distance. In this embodiment, the extension is secured using a wing portion which fits between the tube and the handle's stop mechanism.

[0014] In this way, the extension is easily affixed over the nozzle and secured thereby by the mechanical pressure provided by the tube against the stop on the handle.

[0015] In yet another embodiment, a kit is created for the operator to use. The kit consists of the following components:

[0016] a) a tube of construction material;

[0017] b) a handle mechanism configured to accept the tube of construction material and, when the tube is placed in the handle mechanism, to selectively excrete the construction material from the tube;

[0018] c) a first extension configured to be secured to said nozzle of the tube by an operator immediately prior to activation of said handle mechanism; and,

[0019] d) a second extension configured to be secured to the first extension, thereby providing even more extension for the application of the construction material.

[0020] The invention, together with various embodiments thereof, will be more fully explained by the accompanying drawings and the following descriptions thereof.

DRAWINGS IN BRIEF

[0021] FIG. **1** is a side view of the preferred embodiment of the invention illustrating the application of a kit of extensions onto a manually operated caulk gun.

[0022] FIG. **2** is a cut-away view of an extension showing one method used to secure the extension to other extensions or the tube extending from the building material tube.

[0023] FIGS. **3**A and **3**B illustrate some of the end extensions which are used for specific applications.

[0024] FIGS. **4**A and **4**B illustrate the operation of an alternative embodiment of the invention.

[0025] FIGS. 5A and 5B illustrate differing seals for the extension and used in the alternative embodiment of the invention.

[0026] FIGS. 6A and 6B illustrate some of the shapes used for securing the alternative embodiment to the caulk gun and nozzle.

[0027] FIG. 7 illustrates the preferred kit of the invention.

[0028] FIG. 8 illustrates the invention's use serrations to permit the operator to adjust the length of the extension.

DRAWINGS IN DETAIL

[0029] FIG. 1 is a side view of the preferred embodiment of the invention illustrating the application of a kit of extensions onto a manually operated caulk gun.

[0030] Manually operated caulk gun 10 is adapted to receive tube 11A containing the building material. Attached to the end of tube 11A is nozzle 11B through which the building material is emitted from tube 11A. Extension 13A is configured to attach to nozzle 11B as shown by arrows 12.

[0031] Ideally, a variety of extensions are provided the user as indicated by nozzles 13B, 13C, and 13D. These nozzles are of varying lengths allowing the user to select the length of extension to best meet the demands of the particular application.

[0032] Each of the nozzles are also connectable to other nozzles as is illustrated by nozzle 13B being joined to nozzle 14 as indicated by arrow 15.

[0033] FIG. 2 is a cut-away view of an extension showing one method used to secure the extension to other extensions or the tube extending from the building material tube.

[0034] Extension 13A, as shown in this cut-away view, has a series of teeth 20 which are used to connect extension 13A with either another extension or the nozzle from the tube of building materials. Channel 21 through extension 13A permits the building material to flow and finally exit through opening 22.

[0035] FIGS. 3A and 3B illustrate some of the end extensions which are used for specific applications.

[0036] Referencing FIG. 3A, end extension 30 is adapted to be secured to either the nozzle of the tube of building material or another extension as outlined above. As building material 32 (such as an adhesive) enters end extension 30, the material flows through end extension 30 and is emitted, in this illustration, as three trails 31A, 41B, and 31C of the building material.

[0037] This particular embodiment is especially useful for the application of multiple streams of adhesives.

[0038] Referencing FIG. 3B, end extension 33 permits the application of building material at two locations simultaneously. The flow of building material (such as caulk or silicone sealant) is applied as directed by arrows 34 along a section 37A of the building site 37; simultaneously, the building material is applied as shown by arrow 35 at section 37B of building site 37.

[0039] In this manner, in the case of sealant, twin points are applied simultaneously. This creates additional sealing capability and is extremely useful when a wide gap within the building must be sealed.

[0040] FIGS. 4A and 4B illustrate the operation of an alternative embodiment of the invention.

[0041] Referring to FIG. 4A, showing the placement of the different components for application, tube 40A contains the construction material therein. Nozzle 45 is used to extract the construction material from tube 40A.

[0042] Nozzle 45 is inserted into extension 41A. Wing portion 42A of extension 41A is placed between tube 40A and stop 43A.

[0043] Tube 40A is then pressed forward as illustrated by arrows 44, which results in the positioning illustrated in FIG. 4B. As illustrated, wing portion 42B of extension 41B is sandwiched between stop 43B and tube 40B, thereby permitting the emitted construction material to be effectively communicated through extension 41B.

[0044] FIGS. 5A and 5B illustrate differing seals for the extension and used in the alternative embodiment of the invention.

[0045] FIG. 5A is a cutaway view of extension 51A showing interior channel 52A permitting the construction material to flow therethrough and exit via opening 54A. Wing portion 50A is used to secure the extension to the nozzle (not shown).

[0046] Seal 53A, flaps in this embodiment, encircle interior channel 52A. When the nozzle of the tube is inserted, seal 53A contacts the exterior wall of the nozzle and forms a seal therebetween to keep the construction material from escaping backwards towards wing portion 50A.

[0047] In a similar manner, FIG. 5B is a cutaway view showing an alternative embodiment in which extension 51B has an interior channel 52B. Interior channel 52B permits the construction material to flow therethrough and exit via opening 54B.

[0048] Wing portion 50B is used to secure the extension to the nozzle (not shown).

[0049] Seal 53B, soft flexible material in this embodiment, encircle interior channel 52B so that when the nozzle of the tube is inserted, seal 53B contacts the exterior wall of the nozzle and forms a seal therebetween to prevent the construction material from escaping backwards towards wing portion 50B.

[0050] FIGS. 6A and 6B illustrate some of the shapes used for securing the alternative embodiment to the caulk gun and nozzle.

[0051] FIG. 6A, and end view of this embodiment, shows wing portion 60A encircling interior channel 61A as a solid circle.

[0052] An alternative is shown in FIG. 6B, also an end view, which illustrates that wing portion 60B is "clover leaf" shaped around internal channel 61B.

[0053] Those of ordinary skill in the art readily recognize a variety of other shapes which will serve the purpose outlined herein.

[0054] FIG. 7 illustrates the preferred kit of the invention.

[0055] This kit includes tube 70, handle 71, extension 72, and second extension 73. This kit provides the operator with all of the components necessary to apply the construction material in a variety of situations.

[0056] FIG. 8 illustrates the invention's use serrations to permit the operator to adjust the length of the extension.

[0057] In this illustration, extension **80** has serrations/break points **82**A, and **82**B, thereby allowing portions **81**C or **82**B to be broken away from the extension **80**, thereby allowing the operator to choose the overall length of extension **80**.

[0058] As example, should extension **80** be broken at serration **82**A, then the overall length of extension **80** become section **81**A.

[0059] It is clear that the present invention creates a highly useful addition for a caulk gun.

What is claimed is:

1. An assembly comprising:

a) a tube of construction material, said tube containing construction material in an interior portion of said tube, said tube having,

1) a first end having a nozzle therein, said nozzle communicating with the interior portion of said tube, and,

2) a second end configured to be pressed against construction material within the interior portion and thereby forcing said construction material through said nozzle;

b) a handle mechanism configured to accept said tube of construction material and to selectively apply pressure against the second end of said tube; and,

c) a first extension configured to be secured to said nozzle by an operator of said handle mechanism immediately prior to activation of said handle mechanism, said first extension having an interior channel for communicating said construction material from said nozzle through a first end of said first extension.

2. The assembly according to claim 1,

a) wherein said handle includes a stop mechanism configured to secure the first end of said tube; and,

b) wherein said first extension includes a wing portion secured to a second end of said first extension, said wing portion configured to be interposed between the first end of said tube and the stop mechanism of said handle.

3. The assembly according to claim 2, wherein said wing portion is a substantially flat plate.

4. The assembly according to claim 3, wherein said wing portion of said first extension is positioned at an angle of at least thirty degrees from the interior channel of said first extension.

5. The assembly according to claim 3, wherein said wing portion said first extension is positioned substantially perpendicular to the interior channel of said first extension.

6. The assembly according to claim 5, wherein said first extension further includes a pliable seal within said interior channel and configured to engage with said nozzle.

7. The assembly according to claim 5, wherein said first extension includes at least one set of serrations, each serration permitting said first extension to be broken by an operator of said handle to create differing lengths of said first extension.

8. The assembly according to claim 2, further including a second extension having,

a) an interior channel for communicating said construction material therethrough; and

b) tooth serrations located in the interior channel, said tooth serrations configured to engage an exterior surface of said first extension when said second extension is pressed thereonto.

9. The assembly according to claim 1, wherein said first extension includes tooth serrations located in the interior channel, said tooth serrations configured to engage and exterior surface of said nozzle when said first extension is pressed thereonto.

10. The assembly according to claim 9, further including a second extension having,

a) an interior channel for communicating said construction material therethrough; and

b) tooth serrations located in the interior channel, said tooth serrations configured to engage an exterior surface of the first extension when said second extension is pressed thereonto.

11. An extension for a tube containing construction material being applied through a nozzle on a first end of said tube when said tube is placed in a handle mechanism which selectively applies pressure against the second end of said tube, said extension comprising:

a substantially linear tube having,

a) an interior channel for communicating said construction material from said nozzle through a first end of said first extension; and,

b) a mechanism to secure said extension to said nozzle immediately prior to activation of said handle mechanism.

12. The extension according to claim 11, wherein said extension includes a wing portion secured to a second end of said extension, said wing portion configured to be interposed between the first end of said tube and a stop mechanism of said handle configured to hold the first end of said tube.

13. The extension according to claim 12, wherein said wing portion is a substantially flat plate.

14. The extension according to claim 13, further including a pliable seal within said interior channel and configured to engage with said nozzle.

15. The extension according to claim 14, wherein said extension includes at least one set of serrations, each serration permitting said extension to be broken by an operator of said handle to create differing lengths of said extension.

16. The extension according to claim 11, further including tooth serrations located in the interior channel, said tooth serrations configured to engage and exterior surface of said nozzle when said extension is pressed thereonto.

17. A kit comprising:

a) a tube of construction material, said tube containing construction material in an interior portion of said tube, said tube having,

1) a first end having a nozzle therein, said nozzle communicating with the interior portion of said tube, and,

2) a second end configured to be pressed against construction material within the interior portion and thereby forcing said construction material through said nozzle;

b) a handle mechanism configured to accept said tube of construction material and to selectively apply pressure against the second end of said tube;

c) a first extension configured to be secured to said nozzle by an operator of said handle mechanism immediately prior to activation of said handle mechanism, said first extension having an interior channel for communicating said construction material from said nozzle through a first end of said first extension; and,

d) a second extension configured to be secured to a second end of said first extension, said second extension having an interior channel for communicating said construction material from the second end of said first extension to an open second end of said second extension.

18. The kit according to claim 17,

a) wherein said handle includes a stop mechanism configured to secure the first end of said tube; and,

b) wherein said first extension includes a wing portion secured to a second end of said first extension, said wing portion configured to be interposed between the first end of said tube and the stop mechanism of said handle.

19. The kit according to claim 18, wherein said second extension includes at least one set of serrations, each serration permitting said extension to be broken by an operator of said handle to create differing lengths of said extension.

20. The kit according to claim 19, wherein said second extension includes tooth serrations located in the interior channel, said tooth serrations configured to engage an exterior surface of the first extension when said second extension is pressed thereonto.

* * * * *