Sept. 1, 1964 J. F. SINGLETON 3,147,008

TAPING TOOL

Filed Nov. 17, 1960

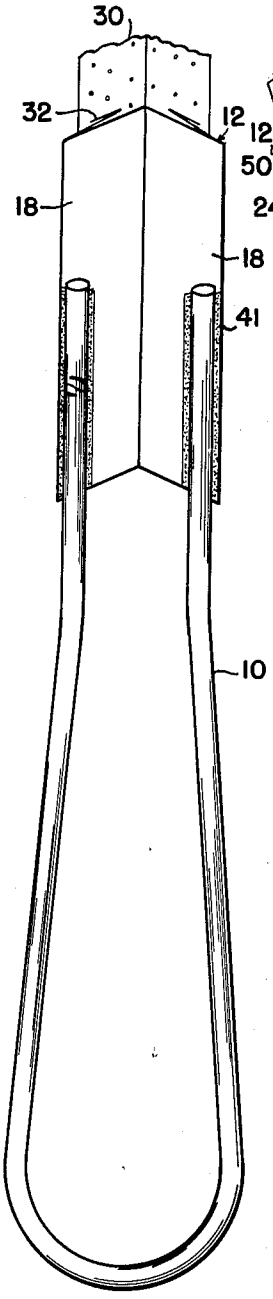


Fig. 1

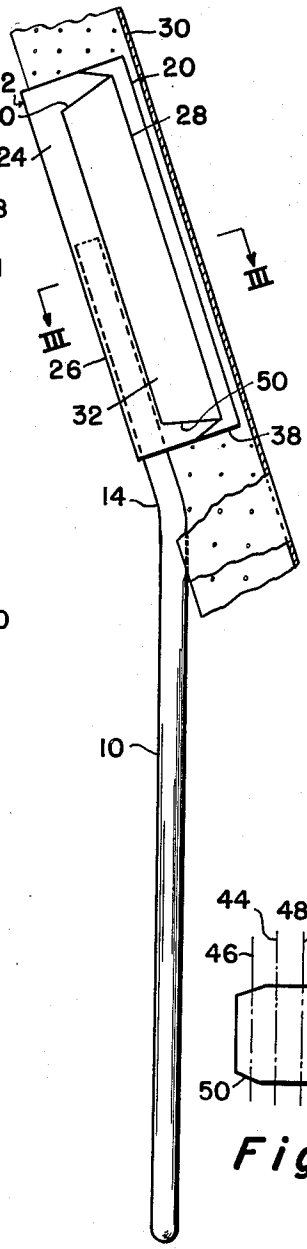


Fig. 2

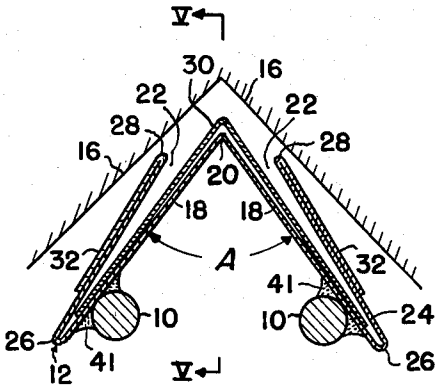


Fig. 3

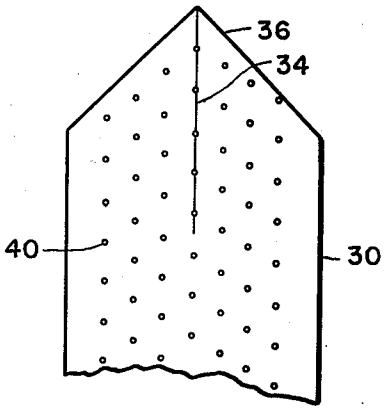


Fig. 4

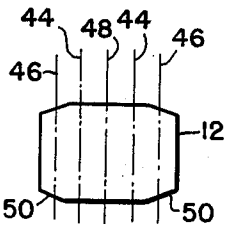


Fig. 6

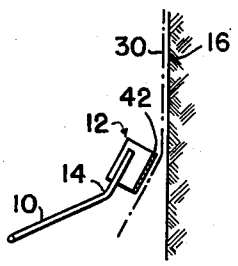


Fig. 5

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TAPING TOOL

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4 Claims. (Cl. 270—86)

This application relates to a taping tool for creasing, guiding, and applying sealing tape to the meeting walls of the wall-board in a room so as to form a smooth masked joint where the edges of the wall meet. It is particularly adapted for applying the tape to inside corners.

The present tool guides a strip of tape and, at the same time, applies a positive pressure in working it into a corner. Prior tools have in general been limited to multi-purpose devices equally suitable for inside-outside corners whereas, as above indicated, the present tool is primarily intended for inside corners. It comprises a bent handle and a working head carried thereby, the working head defining an incomplete V-shaped tunnel which extends longitudinally for receiving the tape therein. The head has a body formed of two angle plate portions intersecting to form an acute dihedral angle extending longitudinally along and defining the inner side of the V-shaped tunnel. Resilient wing portions integral at the edges with the angle plate portions are in confronting relation thereto along the opposite side of the V-shaped tunnel and the closely spaced apart free ends of the wings define a longitudinally extending, medial thumb slot.

The user of the tool, after having inserted a precut length of tape in the V-shaped tunnel of the working head, grasps the handle in a way that the working head forces the tape into an upper starting point in the corner of a room. The resilient wing portions and the exposed apex of the dihedrally angled plate portions which project partially through the thumb slot are thus forced to cooperate in, and with, the inside corner line of the meeting walls in substantially completing a V-shaped discharge orifice for the tape. The tape being dispensed through the orifice is thus compressed directly between the exposed adjacent corner of the angle plate portions and the inside corner of the meeting wall and can be run continuously from the starting point in the upper end of the room corner to the lower end of that corner.

The inside corners referred to, to which the masking operation of the present tool is best suited, occur where the meeting walls expose a 90° included angle. However, in the broader sense, the instant tool is adapted for the 270° exposed angles which are also required to be masked; i.e., the outside corner (or technically, the re-entrant angled corner) in a room.

Features, objects and advantages will either be specifically pointed out or become apparent when, for a better understanding of the invention, reference is made to the following written description taken in conjunction with the accompanying drawing in which:

FIGURES 1 and 2 are longitudinal rear and side views, respectively, of a taping tool embodying the present invention;

FIGURE 3 is a transverse sectional view taken along the lines III—III of FIGURE 2;

FIGURE 4 is a showing of the sealing tape after being creased and torn for starting;

FIGURE 5 is a showing somewhat schematically taken along the lines V—V of FIGURE 3 to illustrate the tool in operation; and

FIGURE 6 is the developed view of the working head in one physically constructed embodiment of the tool.

More particularly in FIGURES 1, 2 and 3 of the drawing, the tool shown has a looped handle **10**, the free ends of which are joined to a working head **12**. A bend **14** in the handle adjacent its joint with the head **12** provides

the proper angularity for working the head **12** into a corner between meeting walls **16** so as to keep the user's hand clear of the walls.

The working head **12** has a body comprised by symmetrical angle plate portions **18** which intersect along an apex **20** of intersection to form an acute dihedral angle A extending longitudinally along and defining the inner side of an incomplete V-shaped tunnel **22** (FIGURE 3).

Resilient, symmetrical wing portions **24** integral at the side edges **26** with the respective angle plate portions **18** are in confronting relation thereto along the opposite side of the V-shaped tunnel **22**, the free end edges **28** of said wing portions being uniformly closely spaced apart to define a longitudinally extending thumb slot to expose a length of paper tape **30** received in said tunnel **22**. Flat symmetrical facing portions **32** integral at the thumb slot edges with the respective resilient wing portions **24** lie flat against the latter portions and make the edges **28** smooth.

In FIGURE 4, the sealing tape **30** is prepared for insertion in the working head **12** of the taping tool as follows. The end portion of a length of the tape **30** is folded for a short distance along a longitudinal crease line **34** and, at a bevel angle of approximately 45°, the tape **30** is torn off by hand so as to intersect the crease line **34**; when the tape is unfolded, the pointed end resulting is indicated at **36** and facilitates insertion of the tape **30** through the innermost end **38** (FIGURE 2) of the V-shaped tunnel.

The tape **30** has a series of minute perforations **40** into which the customary thin coat of plaster will soak and form the ultimate bond after the tape is pressed against the wallboard. The pointed end **36** provides the starting point for the tape at the upper corner of meeting walls and, once the tape has been fed into the tool by exerting thumb pressure in the thumb slot, the pointed end can be retained or removed by tearing it off flush if desired. In either case, the length of the remaining strip of tape **30** is preferably precut to length so that when the tool reaches the lower corner of the meeting walls it will have used up the full length of tape.

The present tool is preferably a unitary device made of plastic or metal, in the latter case of which the working head and handle can be molded in a way joining them as one piece.

In use, according to FIGURE 5, the bent handle **10** is grasped by the user so as to hold the head **12** at an appropriate working angle with respect to a corner and the tape **30** is started at the upper end of that corner by being adhered to the thin strip of wet plaster previously applied in customary way to the wall board. The exposed outermost corner of the apex **20** of intersection of the angle plate portions and the confronting edges **28** of the thumb slot in the wings are adapted to cooperate in, and with, the confronting meeting walls **16** (FIGURE 3) to define a tape discharge orifice, schematically indicated at **42** in FIGURE 5, of substantially completed V-shape. The tape **30**, along its longitudinal crease line **34** (FIGURE 4) is physically trapped under compression between the exposed outermost end of the apex and the confronting corner line of the meeting walls and thus is physically forced to conform to the angle of the latter. The tape **30** automatically creases throughout its length as it is fed through the V-shaped tunnel in the tool.

A developed view of the working head **12** is shown in FIGURE 6. In one physically constructed embodiment of the invention, this working head consisted of light gage tinned steel having springy characteristics. It was creased along the reverse bend lines indicated at **44** and along the respective rebend lines **46** so as to give smooth shape to the corresponding smooth edges **26** and **28** of FIGURE 3 previously discussed. A final bend made

along the main crease line indicated at 48 produced the dihedral angle having the apex 20 of FIGURE 3.

It is noted that there are diagonal relieved portions 50 at each of the four corners shown in FIGURE 6 which are intersected by the rebend lines 46. The result is best appreciated in FIGURE 2 from which it becomes apparent first that the longitudinal smooth edges 28 of the facing portions 32 at their outer end are intersected by transverse edges 50 which extend in a diagonal direction outwardly away from the adjacent outer end of the apex crease line 20. The same longitudinal smooth edges 28 at their outer end are also intersected by transverse edges of the wing portions 24, at least a portion of which transverse wing edges is foreshortened along a diagonal with respect to the adjacent outer end of the apex line 20 aforesaid.

The same foreshortened arrangement exists likewise at the innermost end of the apex line 20 thus exposing it for ready insertion of the tape at that end. The accentuated exposure at both ends, coupled with the fact that the uniform width thumb slot is continuous besides being open at both ends so that the apex can project through the plane of the thumb slot, greatly facilitates the ease of threading the tape through the tunnel by the simple expedient of light thumb motion.

The selection of the included dihedral angle A is made on basis of conforming to the included angle of the meeting walls and is preferably less by a few degrees than the latter angle in all cases. In that way, the tape 30 is insured being pressed into position solidly. As herein disclosed, the included dihedral angle A is slightly less than 90° being about 75° as embodied in the present tool so as to accommodate the customary 90° inside wall corner. It is evident that proportionally larger meeting wall corner angles will require a like change in the included dihedral angle A of the present tool; equally self-evident is the fact that a smaller included meeting wall angle will require a tool design with a corresponding change in the included dihedral angle A. In any case, the edges 28 of the side wings 24 offer no material impediment to working the tool into conforming with a meeting wall corner inasmuch as the side wings are resilient as hereinabove noted. That is to say, they become squeezed together by the confronting wallboard surfaces to satisfactorily complete a confining V-shaped discharge orifice through which the tape issues from the present tool.

Variations within the spirit and scope of the invention described are equally comprehended by the foregoing description.

I claim:

1. In a taping tool having a handle, the invention comprising a body adapted to be joined to said handle and having angle plate members disposed to form a dihedral angle extending longitudinally of said body to provide a longitudinally running apex and defining an inner side of a substantially V-shaped tunnel, side wings connected to said plate members substantially adjacent longitudinal side edges thereof, extending substantially from said connection to said plate members towards the apex of said dihedral angle in a spaced apart relationship to said angle plate members, terminating at a point spaced apart from said apex and from one another and defining the outer side of said V-shaped tunnel, said side wings being narrower than said angle plate members, said connections of said side wings to said angle plate members forming a resilient point such that said wings are pressed against said angle plate members when the tool is pressed into a corner.

2. The invention of claim 1 characterized by said point at which said wings terminate being so located that said apex is exposed at least at the outermost end of said body and is there above the terminals of said wings.

3. The invention of claim 1 characterized by said dihedral angle being a few degrees less than that angle formed by intersecting walls whose intersection is to have tape applied thereto by said tool.

4. The invention of claim 1 characterized by said wings being relieved adjacent the outermost longitudinal end of the apex of said dihedral angle.

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UNITED STATES PATENT OFFICE

CERTIFICATE OF CORRECTION

Patent No. 3,147,008 September 1, 1964

James F. Singleton

It is hereby certified that error appears in the above numbered patent requiring correction and that the said Letters Patent should read as corrected below.

Column 4, line 22, for "point" read -- joint --.

Signed and sealed this 24th day of August 1965.

(SEAL)
Attest:

ERNEST W. SWIDER
Attesting Officer

EDWARD J. BRENNER
Commissioner of Patents