

T. A. DE VILBISS.
MODELING PENCIL.
APPLICATION FILED MAY 9, 1910.

977,282.

Patented Nov. 29, 1910.

Fig. 1.

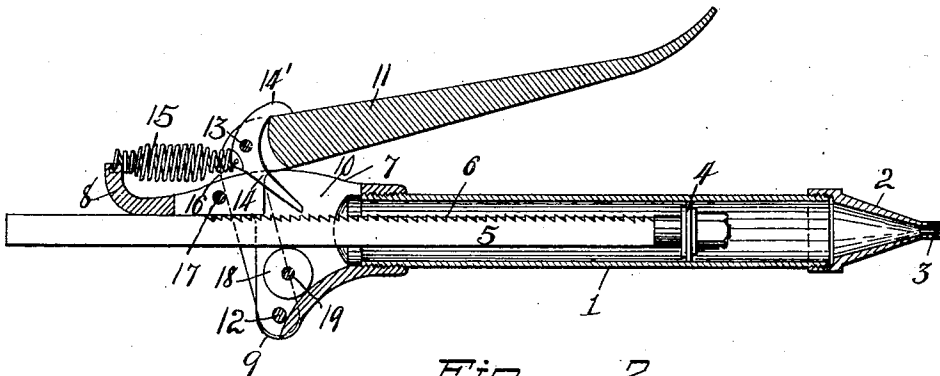


Fig. 2.

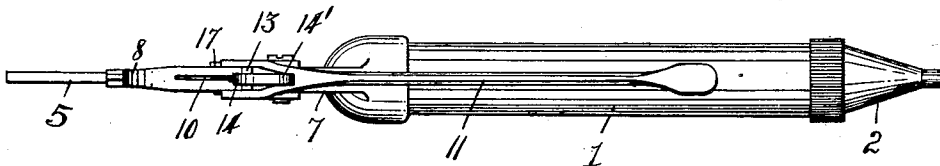
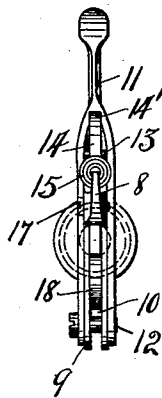


Fig. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

THOMAS A. DE VILBISS, OF TOLEDO, OHIO, ASSIGNOR TO THE DE VILBISS MANUFACTURING COMPANY, OF TOLEDO, OHIO, A CORPORATION OF OHIO.

MODELING-PENCIL.

977,282.

Specification of Letters Patent.

Patented Nov. 29, 1910.

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To all whom it may concern:

Be it known that I, THOMAS A. DE VILBISS, a citizen of the United States, and a resident of Toledo, in the county of Lucas and State of Ohio, have invented a certain new and useful Modeling-Pencil; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to instruments of the class commonly used by decorators or the like for carrying and ejecting a paste-like substance in stream form therefrom to facilitate the making of raised or relief work, but is not restricted to such use, as it may be used in any connection for which it may be adapted or appropriate.

The object of my invention is the provision of an improved device of this nature which is simple, strong and durable in its construction, easy and efficient in its operation, and adapted to overcome the objections incident to the use of the instruments commonly used for such purposes.

The invention is fully described in the following specification and a preferred embodiment of the same illustrated in the accompanying drawings, in which,—

Figure 1 is a central longitudinal section of an instrument embodying the invention. Fig. 2 is a side view of the same with the spring removed, and Fig. 3 is a rear end view thereof.

Referring to the drawings, 1 designates the barrel or cylinder of the instrument in which the material to be applied is carried. A nozzle 2 is screwed or otherwise suitably secured to one end of the barrel 1 to permit its removal therefrom to facilitate a filling of the barrel, and has its throat preferably of conical form and terminating at its outer end in a restricted discharge orifice 3, as shown.

A plunger 4 works within the barrel 1 and has a stem or rod 5 projecting therefrom and without the end of the barrel opposed to the nozzle 2. The stem 5 preferably, but not necessarily comprises a thin strip, such as shown, and has one edge notched to provide a series of ratchet-teeth

6 for the purpose hereinafter described. Secured to the end of the barrel 1 from which the stem 5 projects is a bracket member 7, which is shown as having a tail-piece 8 and a laterally offset portion 9 and as being longitudinally slotted, as at 10, in register with the interior of the barrel for the outer end of the stem 5 to work through.

11 designates an L-shaped operating finger, which has its inner end forked from adjacent its point of angle to adapt it to straddle the bracket member 7 and is pivoted to the offset portion 9 thereof, as at 12. The outer portion of the finger projects forwardly at one side of the barrel to adapt a person to depress the same toward the barrel with one finger of the hand grasping the barrel. Pivoted between the furcations of the inner end of the arm 11 adjacent the point of angle of the finger, as at 13, is a pawl 14, which has its nose projecting down within the slot 10 of the member 7 in position to engage the ratchet-teeth 6 on the plunger stem 5 in a manner to force the stem within the barrel when the finger 11 is depressed. The pawl 14 is shown as having a tail-piece 14', which engages over the crotch of the finger 11 when the finger is in normal position to hold the pawl out of engagement with the teeth 6 against the influence of the spring 15 to permit a free reciprocatory movement of the stem 5 and plunger when the finger is in such position. The coiled contraction spring 15 is attached at one end to the pawl 14 at a point slightly below its pivot, as at 16, and has its other end attached to the tail-piece 8 of the member 7, thus tending to normally hold the nose of the pawl in engagement with the ratchet-teeth 6 and also serving to retract the finger from depressed position. The movement of the finger 11 under the influence of the spring is limited by a stop-screw 17, which is threaded through the walls of the slot 10 of the member 7 and also serves to effect a contraction of such walls to frictionally grip the opposing sides of stem 5 to prevent too free movements thereof within the barrel 1.

The lateral thrust of the pawl 14 upon the stem 5 is opposed by an antifriction roll 18, which is mounted within the slot 10 of the member 7 upon a spindle 19, thus preventing a binding of the stem upon the bearing parts when being forced by the action of the pawl.

In the use of my improved apparatus the operator customarily holds the same as he would a pencil or pen in writing and has his first finger engaging over the operating finger 11 to compress the same to effect a movement of the plunger 4 to eject matter from the nozzle end of the barrel as the work or decorating being done may require. Upon a compression of the finger 11 against the influence of the spring 15 the pawl is moved into engagement with the ratchet-teeth 6 on the plunger stem 5 and forces such stem and its plunger forward. When the finger has been moved a full stroke it is released and returns to its normal position under the influence of the spring, which also retracts the pawl, and is then ready for another stroke, as is apparent, such strokes being repeated until the plunger has been moved the full length of its forward stroke. The spring 15 acts both to retract the finger 11 from depressed position and to yieldingly hold the pawl 14 in engagement with the ratchet-teeth 6, but when the finger 11 is in normal position, its coaction with the tail-piece 14' of the pawl counteracts the action of the spring thereon and holds the pawl out of engagement with the teeth 6 to permit a free reciprocatory movement of the plunger and its stem.

I wish it understood that my invention is not limited to any specific construction or arrangement of the parts except in so far as such limitations are specified in the claims.

Having thus described my invention what I claim as new, and desire to secure by Letters Patent, is,—

1. In an instrument of the class described, a barrel having a discharge nozzle at one end, a plunger working in said barrel and having a toothed stem projecting therefrom through the end of the barrel opposed to its nozzle, a bracket member rigidly carried by the barrel end through which the stem projects, a finger fulcrumed to such bracket, a pawl carried by such finger and operative to engage the toothed portion of the stem and move it and the plunger in one direction when the finger is moved from normal position, means serving to yieldingly hold the finger in one position of its movement, and means coöperating with said bracket to cause it to frictionally grip said stem to prevent free longitudinal movements thereof relative to the bracket.

2. In an instrument of the class described, a barrel having a nozzle at one end, a plunger working in such barrel and having a toothed stem projecting through the end of the barrel opposed to its nozzle, a bracket rigidly carried by the barrel and having a slotted portion through which the stem works, an angled finger fulcrumed to such bracket, a pawl carried by such finger and adapted on a movement of the finger from

normal position to engage and move the stem in one direction, means serving to yieldingly hold the finger in one position of its movement, and adjustable means coöperating with the bracket to cause it to frictionally grip the stem and prevent free longitudinal movements thereof relative to the bracket.

3. In an instrument of the class described a barrel having a nozzle at one end, a plunger working in such barrel, a stem projecting from such plunger through the end of the barrel opposite to its nozzle and having a series of ratchet teeth thereon, an angled finger pivoted to the barrel adjacent its rear end and having a portion extending along the barrel at one side thereof, a pawl carried by such finger and adapted to engage the teeth on the stem and impart movements to the stem in one direction when the finger is oscillated from normal position, and means attached to the pawl and yieldingly acting thereon to retain it in engagement with said teeth and on the finger to normally hold it in one position of its movement.

4. In an instrument of the class described, a barrel having a discharge nozzle at one end thereof, a plunger working in said barrel and having a stem projecting therefrom, said stem having ratchet teeth formed on one side thereof, a finger pivoted to said barrel adjacent the end thereof opposed to the nozzle, means acting on the finger to normally retain it in one position of its movements, and a pawl carried by such finger and adapted to engage the toothed portion of the stem to impart movements thereto in one direction when the finger is moved from normal position, said pawl having a part coacting with the finger to positively retain the pawl out of tooth engaging position when the finger is in normal position.

5. In an instrument of the class described, a barrel having a discharge nozzle at one end, a plunger working in the barrel, a stem projecting from the plunger through one end of the barrel and having ratchet teeth on one side thereof, an angled finger pivoted to the barrel adjacent one end thereof and having a portion projecting along one side of the barrel, a pawl carried by the finger and adapted to move into engagement with said teeth and impart movements in one direction to the stem when the finger is depressed toward the barrel, and means acting on the finger to normally retain it in one position relative to the barrel and on the pawl to influence its engagement with the stem teeth, said pawl having a tail piece which coacts with a portion of the finger when in normal position to counteract the influence of said means on the pawl and positively retain the pawl out of engagement with the stem teeth.

6. In an instrument of the class described,

a barrel having a discharge nozzle at one end, a longitudinally slotted bracket member at the other end of the barrel having a tail piece projecting therefrom and a laterally offset portion, a plunger working in the barrel, a toothed stem projecting from said plunger through the slotted portion of said bracket, an angled finger having an end forked and straddling the bracket with the terminals of its furcations pivoted to the offset portion of the bracket, said finger having its other end projecting longitudinally of the barrel in the direction of its nozzle, a pawl pivoted within the forked end of said finger and projecting within the slotted portion of the bracket member in position to engage the stem teeth to impart movements in one direction to the stem when the finger

is oscillated toward the barrel, means attached to said tail piece and acting on the finger to normally retain it at one position of its movements and on the pawl to influence its engagement with the stem teeth, and means serving as a stop for limiting the movements of the finger under the influence of said means and also serving to contract the walls of the bracket member to cause the same to frictionally grip said stem.

In testimony whereof, I have hereunto signed my name to this specification in the presence of two subscribing witnesses.

THOMAS A. DE VILBISS.

Witnesses:

C. W. OWEN,
E. E. THOMAS.