

No. 886,932.

PATENTED MAY 5, 1908.

J. A. BOYAJEAN & E. S. CRADDOCK.
INSTRUMENT FOR APPLYING LIQUID.

APPLICATION FILED MAR. 18, 1907.

2 SHEETS—SHEET 1.

Fig. 1.

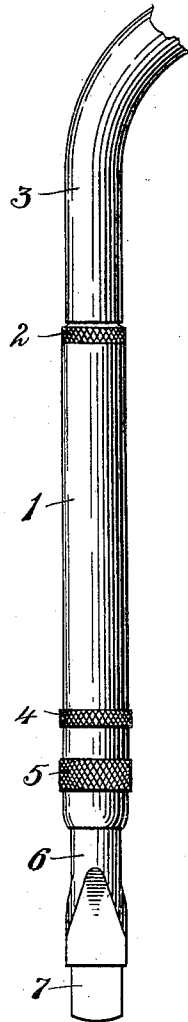
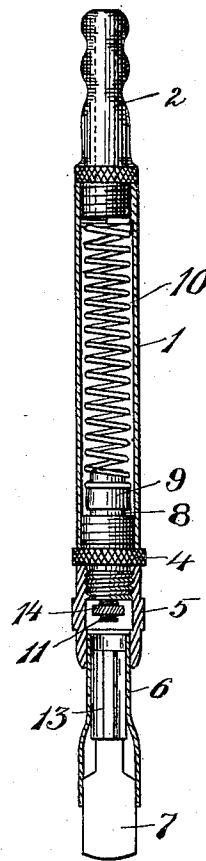


Fig. 2.



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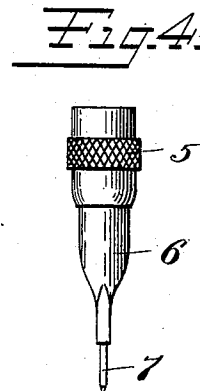
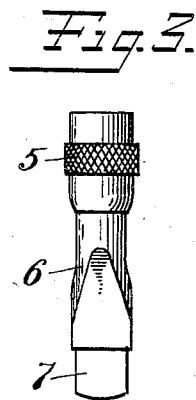
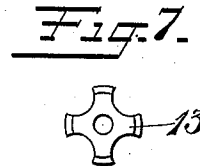
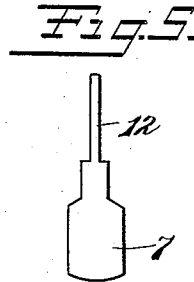
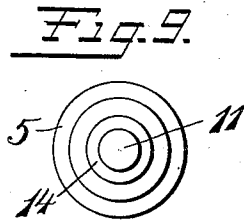
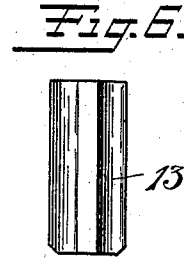
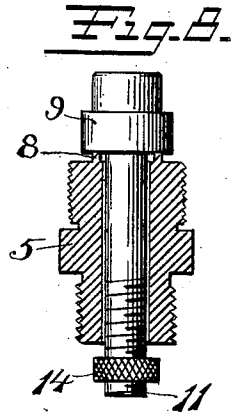
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

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INSTRUMENT FOR APPLYING LIQUID.

No. 886,932.

Specification of Letters Patent.

Patented May 5, 1908.

Application filed March 18, 1907. Serial No. 362,853.

To all whom it may concern:

Be it known that we, JOHN A. BOYAJEAN and EDWARD S. CRADDOCK, citizens of the United States, residing at New York, county of New York, State of New York, have invented certain new and useful Improvements in Instruments for Applying Liquid, of which the following is a full, clear, and exact description.

Our invention relates to instruments for applying liquids.

The object is to provide a simple and reliable instrument particularly for applying coloring matter or dye stuffs to fabrics such as rugs.

The invention in its preferred form is illustrated in the accompanying two sheets of drawings.

Figure 1 is a side view of the instrument showing the end of a pipe for supplying the liquid. Fig. 2 is a side elevation and partial section, the supply pipe being omitted. Fig. 3 is a detailed side view of the lower end of the instrument. Fig. 4 is a similar view taken at right angles to the position of Fig. 3. Fig. 5 is a detailed side view of the tip member. Fig. 6 is a detailed side view on an enlarged scale of a block grooved longitudinally. Fig. 7 is an end view of the same. Fig. 8 is a side view and section of the valve mechanism. Fig. 9 is an end view of the same.

The body of the instrument is a tube 1, having an inlet member 2, screwed into the upper end to which is attached the end of the supply pipe 3. A gland 4, carrying the valve mechanism, is screwed into the lower end of the body. To it is screwed the operating part of the instrument which consists of the tubular member 5, the outlet member 6, and the tip member 7. This latter is convexed laterally and rounded transversely on the lower end so that it may be readily operated, for instance, between the pile-threads of a rug.

The gland 5, has a longitudinal passage for the liquid which at its upper end is surrounded by the seat 8, and surmounted by a valve 9. A spring 10, housed in the body 1, engages against the inlet member 2, and the valve 9, so as to normally tend to seat the valve and prevent the outlet of liquid. When the valve is closed the pressure of the liquid assists in holding the valve on its seat. The valve stem 11, is of slightly smaller diameter

than the passage through the gland 5, and has its lower end extended in proximity to the upper end of the shank 12, of the tip member. A longitudinally grooved block 13, is secured to the shank of the tip member and being of greater diameter than the thickness of the lower end of outlet 6 serves to limit the outward movement of the tip member relative to the outlet member 6. The nut 14, fits rather snugly on the screw threaded end of the valve stem 11, but may be adjusted up and down on the stem so as to limit the upward movement of the valve to the extent desired.

Normally the parts are in the position shown in Fig. 2. The spring and liquid pressure coöperates to hold the valve snugly on its seat so that no leakage is possible even under considerable pressure of the liquid, say, from fifteen to twenty pounds to the square inch. When it is desired to use the instrument the tip is pressed into contact at the point where the application of the liquid is desired so that the valve stem and valve are raised to permit the passage of liquid to the lower end of the tip. The liquid then flows out along the surface of the tip member to its edge where it is distributed as the instrument is moved. The tip being broad makes it possible to apply a considerable quantity of liquid at one time without undue concentration. When the instrument is not in use the spring automatically closes the valve so that leakage is impossible. The shape of the outlet member 6, which may be conveniently formed from metal tubing flattened at one end serves to uniformly distribute the liquid.

What we claim is:

1. An instrument for applying liquid, comprising a tubular body, a valve therein having a valve stem, an adjustable nut for limiting the opening movement of said valve and a separately movable tip member for coöperating with said valve stem.

2. An instrument for applying liquid, comprising a body having a passage, a valve therein, an outlet member, a flat tip member longitudinally movable therein and a longitudinally grooved block secured to said tip member.

3. An instrument for applying liquid comprising a tubular body, a gland removably secured thereto, and having an annular valve seat, a valve having a stem extending through

said gland, a removable outlet member and a tip member removable with said outlet member.

4. An instrument for applying liquids comprising a tubular portion having a liquid passage and having an inlet at one end and an outlet at the other, a spring pressed valve in said passage means for adjusting the movement of said valve and a separately movable tip member in said passage adapted to cooperate with said valve.

5. An instrument for applying liquid comprising, a tubular body, a gland having a passage and a valve seat at its upper end, a valve cooperating with said seat, a valve stem extending through said passage, an adjustable member cooperating with said valve stem, a removable outlet member and a projecting tip member adapted to cooperate with said valve stem.

6. An instrument for applying liquid under pressure comprising, a tubular body, having an inlet at one end and an outlet at the other, and a restricted passage of considerable length between the inlet and outlet, a spring pressed valve above said passage, a valve shank extending from the valve through said passage, and nearly but not quite filling the same and leaving a thin annular passage for liquid, and a tip member adapted to engage said valve shank to lift said valve and projecting through said outlet, the length of said tip member being such that it always protrudes beyond the outlet and serves as a bearing member.

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