### SALICYLIC ACID FOR BEE STINGS.

Although salicylic acid, from having been too highly extolled, has fallen somewhat into disfavor, there can be no doubt that it is useful in the case of bee stings. An Austrian paper recommends the following treatment: First, to remove the sting as quickly as possible with a forceps or by scratching with a finger, but never between the thumb and forefinger, because this squeezes more of the poison into the wound. Next squeeze the wound until a drop of blood comes out, and rub the place as large as a dollar with an aqueous or dilute alcoholic solution of salicylic acid. The effect is still better by injecting the salicylic acid into the wound with the hypodermic syringe. After this the spot is painted with collodion to keep out the air. A sting treated thus causes little or no pain, slight inflammation and swelling, and is not followed by nettle-fever or lameness in the most sensitive and nervous individuals.

## Sanitary and Plumbing.

### URINAL SETTING.—WORK IN "TRINITY BUILDING," NEW YORK.

Those of our readers who have followed the several descriptions of the plumbing work in "Trinity Building," will remember that we spoke of the urinals as being rather peculiar in their setting. On each floor there are two urinals, situated at the end of a range of three or four closets. Our sketch was taken after the pipes were all in, but before the flooring was down. One of the urinals only is shown in place. They are wasted by 2-inch lead pipes. Under each is an Adee trap, with an ordinary S-trap lower down. That each fixture should have its own trap is essential, and, for the sake of convenience, they are put on the same line of pipe, and waste into the soil pipe through the same hub. This waste pipe, consequently, has two air spaces between the traps. Now, if a discharge of water is made into the first trap, the air in the pipe between that and the next trap will be forced out, and either escape backward past the inflowing water, or be driven forward out of the next trap and fixture or down into the sewer. The latter rarely happens, but forcing of air out at the other fixture is common, unless some measures are taken to prevent it. In this case the waste pipe is branched between each of the Y-traps and below the lower one with 1½-inch branches, which are taken into one line and taken into a hub on the vertical air pipe which stands in the corner. It will be noticed that this pipe, which is 3-inch, tapers at the bend at the bottom, and is taken off in a horizontal direction toward the left. This line is the ventilating pipe from the water-closets, and, being on the ground floor, the pipe ends without going lower.

This branching of the ventilating pipes gives the freest vent to the air, and at the same time, by connecting with the pipe below the fixture, prevents any danger from pressure in the pipes below the traps.

Generally little or no pressure can be discovered in sewers and soil pipes in New York. In Trinity Building, however, during the past winter we observed on several occasions a considerable pressure. The inflow of air from a 4-inch pipe was like a blast; indeed, it was so strong as to extinguish a large gas flame when held fairly over it, and cause it to roar loudly when held at the edge of the pipe. We searched for our syphon gauge in order to measure this pressure, but found that in a recent moving it had been broken, and so were unable to give the exact figures in regard to it.

There is more necessity to provide for the perfect ventilation of the smaller fixtures and the pipes near basins, urinals and water-closets than is generally understood. Those portions of the pipe next the fixtures are the most foul The waste pipe of a urinal is usually so lined with filth for the first 18 inches that few men not accustomed to such things can stand by when it is opened. It becomes necessary, then, to allow as much ventilation as possible at these points.

At the front of the engraving there is a 2-inch iron waste pipe shown, which enters the main soil pipe on the right by means of a Y-branch. Several branches are taken from this pipe, one of which, in iron, bends around into the right-hand corner. This is the air or ventilating pipe, which leads to the 3-inch air pipe shown in the corner. This branch of the soil pipe is intended to waste the safes under the water-closets and the marble slab under the urinals. Its trap, it will be seen, is of cast iron and has a hand plate. The daily washing of the marble will always insure a supply of water in it. The lead branch toward the left is for the safes under the urinal.

The use of lead against the wall is permissible, because the pipes are so placed that they will be out of the reach of vermin. Beneath the floor, however, as little as possible was used.

All of the floors in this building are now completed, and the job is considered very satisfactory. Mr. W. S. Clarke, the plumber, labored under great disadvantages in having to complete one floor at a time, in order to reduce the inconvenience to the occupants as much as possible. He was obliged to begin at the upper floor and go downward. This method of working caused delay, and made it often necessary to dispose pipes in unusual positions.

### IMPROVED WATER METER.

*(See next page.)*

There is no question of more vital importance to a city than that of its water supply. What at first seemed like a plentiful supply in many of our large cities has proved inadequate when the increasing waste has remained unchecked, but when this waste is checked by registering the amount of water used by means of efficient meters, the original estimates were found ample. This proved to be the case in this city, for according to the report of the Commissioner of Public Works in 1880, the supply which ten years ago was required for a population of 842,000, by the introduction of water meters is made to suffice for a population of 1,280,000.

The city of Brooklyn, which, during the last season, almost suffered a water panic, would have been enabled to distribute a plentiful supply of water and to arrest waste if a good water meter had been adopted. In fact, the universal adoption of an efficient meter, to be used as a part of the water supply system, is the only means of insuring economy in the use of water.

We give herewith an engraving of a meter, which, according to the reports of the New York and Chicago Water Commissioners, has proved very satisfactory. The following tabulated statement of the test at Chicago indicates very accurate registration:

| Duration in Minutes. | No of C. feet by Meter Register. | Actual quantity delivered. | Pressure upon Main. | Remarks. |
|---|---|---|---|---|
| 2 29·60 | 10 | 10·3 | 29·5 | Discharging through 1 inch nozzle. |
| 2 37·60 | 10 | 10·4 | 30·5 | " " ⅞ " " |
| 2 52·60 | 10 | 10·5 | 29·5 | " " ⅝ " " |
| 3 18·60 | 10 | 10·3 | 30·5 | " " ½ " " |
| 9 18·60 | 10 | 10·3 | 29·5 | " " ¼ " " |

The meter is shown in Fig. 1 with one of its heads and the cover of the recording mechanism removed, showing the inside of the cylinder and valve chamber with the piston and valves in position. Fig. 2 is a detail view of the piston, and Figs. 3 and 4 are, respectively, auxiliary and main valves.

Water is admitted to the meter through the inlet, E, to the main valve chamber, C, passing between the two middle heads of the main valve, C′, through ports into the cylinder, A, forcing the piston to one end of the cylinder. When near the end of its stroke it strikes one of the pins, D, projecting from the valve, B, and moves the valve in the same direction, thereby directing the flow of water into the valve chamber, C, between one of the outside heads of the main valve, C′, and the head of the meter. The main valve is then forced to the opposite end of the valve chamber, when the flow of water into the cylinder, A, is reversed, and the piston is moved back into its original position, forcing the water on the eduction side of the piston, downward and out through the exit opening, which is exactly opposite the inlet opening.

The recording mechanism is operated by a double cam, F, projecting from the center of the piston, A′, as seen in Fig. 2. This cam engages a forked lever having two projecting lugs, G G, projecting into the cylinder. This forked lever is attached to the lower end of a vertical shaft which extends through a stuffing box, and carries a double lever at the top, having two pawls which engage a ratchet wheel actuating the recording mechanism on the top of the meter, the wheel being moved forward one tooth for each stroke of the piston.

This meter is inexpensive in its construction and registers accurately.