before it is used; 7. No sponge or felt is required; 8. Ether left in the inhaler can be saved for another time.

The face-piece is edged with an air-cushion. The ether-vessel and water-chamber rotate upon the mount of the face-piece. When the instrument is first applied, the stopper should be towards the patient's forehead, and now he breathes in and out of the bag directly. As the ether-vessel is turned round, the air is obliged to enter the ether-chamber and pass through it before it reaches the bag; and, when the vessel is turned half-round, so that the stopper is opposite the patient's chin, all the air going in and out of the bag must pass through the ether-vessel. Two ounces of ether (specific gravity 735) are enough for a long operation. Usually, an ounce and a half is the proper charge. The opening for supplying the ether is arranged to prevent an excessive quantity being supplied; but, to guard against the possibility of a few drops escaping through the inner openings, there are two recesses made to catch them, and prevent the liquid ether from reaching the patient's lips.

The ether-vessel is spherical in shape, and one-half is surrounded by a closed water-compartment, to prevent the ether from becoming too cold. The bag need not be so much distended when in use as is shown in the woodcut, and can be kept on one side so as not to obstruct the light in operations on the eye. The instrument is intended for giving ether without gas; but, by connecting the bag with a supply of nitrous oxide, it forms a tolerably efficient substitute for the gas- and ether-inhaler above mentioned.

SEPTICÆMIA AFTER THE PROLONGED USE OF AN URETHRAL BOUGIE.

By THOMAS DRAPES, M.B., Enniscorthy.

As isolated instances of septic disease, occurring under apparently the most favourable external conditions (as regards health), are of more than passing interest, I venture to ask insertion for the following case, in the hope of eliciting from other readers of the JOURNAL any experience they may have had in similar or kindred cases.

Mr. A., aged 40, living in the country, a tall, well-built man, of good general health, had suffered from stricture for some years. It never occasioned him much annoyance, as he was always able to pass a fair stream of urine and the stricture readily admitted a No. 5 or 6 bougie. During the week preceding the illness about to be described, he had been practising gradual dilatation by gum-elastic bougies, under the direction of his medical attendant, Dr. Wood (with whose permission I publish the case). On more than one occasion, he passed a considerable quantity of blood *per urethram*, after the use of the bougie, and occasionally suffered from slight rigor.

On the night of December 1st, without the knowledge of Dr. Wood, he left a No. 8 bougie in all night; and, while at stool next day, he passed some blood, and at the same time was seized with excruciating pain in the urethra, so that he could not refrain from screaming out. This lasted for some little time, and then subsided; and he was apparently as well as usual during the rest of the day until 5 P.M., when he was attacked with a violent rigor, after which he felt extremely ill, and was obliged to retire to bed. His temperature rose rapidly to 103.5 deg., the point at which it stood when I arrived to see him in consultation, at 11 P.M., when his condition was as follows. The skin was frequently hot; the face flushed; the pupils rather contracted. He had very much the appearance of a patient in the commencement of typhus. The pulse was 120, extremely weak, sometimes could hardly be felt. The heart's impulse was *nil*, and its first sound very distant and feeble. The respirations were 36 in the minute, short, shallow, and noisy; and his chief complaint was a feeling of intense oppression in the chest. No lung-trouble was discoverable on clinical examination. The urine up to this was abundant and clear. The bowels were regular. Vomiting was frequent. We remained during the night, frequently noting the temperature, which sank steadily and rapidly to 99 deg., where it stood at 5 A.M.; the fall taking place without the occurrence of sweating. At 6 A.M. (December 3rd), it commenced again to rise, when he got ten grains of quinine in one dose. His only sustenance was brandy and soda-water, as he vomited everything else—beef-tea, milk, egg-flip, etc.

The temperature during the day oscillated between 102 deg. (maximum) and 100.5 deg. (minimum). He had a good deal of troubled sleep. His intellect was always clear, but there was a disposition to lethargy. Nutritive enemata of beef-tea, egg, and brandy were given during the day, and four ten-grain doses of quinine, each of which he retained about two hours and a half. There was almost total suppression of urine, hardly

a wineglassful in twenty-four hours. In the evening, great restlessness and jactitation came on, which became extreme about 8 P.M., when he hardly remained quiet for one instant, tossing his limbs about in all directions. The breathing was very short and shallow, 43 in the minute, with frequent loud gasps, as if unable to fill his lungs satisfactorily. At the rare occasions when he would drop off asleep for five minutes or so, it assumed as well marked an "ascending and descending" character as I have ever seen in advanced cases of fatty heart. The pulse was writhed, 132. At this time, we had very great fears for his life, the prostration was so extreme. Ten minims of Battley's solution producing no effect, one-fifth of a grain of morphia was given subcutaneously. This had a very salutary effect in quieting him, and he soon fell asleep for a considerable interval, there being no return of the great restlessness.

December 4th. All his symptoms were improved. The temperature was normal from 8 A.M. Pulse 100. Respirations 28, quiet and calm. The renal secretion was re-established and abundant. The vomiting was the most distressing symptom. It occurred every two hours, and consisted chiefly of a quantity of glairy grass-green fluid. The bowels were constipated. He was taking iced soda-water and brandy, milk and lime-water, and beef-juice. The nutritive enemata were continued. Five grains of calomel were given. A sinapism was applied to the epigastrium, followed by laudanum stupes.

December 5th. He was better. The temperature continued normal. Pulse 96.88; respirations 28.24. The stomach was quieter. The green vomiting continued at intervals. He had three scanty stools after the calomel. The same dose was ordered to be repeated.

December 6th. He was much better. The vomiting had ceased. A profuse herpetic eruption had appeared on both ears, with considerable oedema (to this he was occasionally subject). The eruption was also at the occipital region of the scalp, and at the side of the nose. The mouth, throat, and gums were very sore, which was apparently due to a similar condition. There was no salivation; on the contrary, there was extreme dryness of the entire buccal mucous membrane, so that he could hardly speak without first taking a sup of water to moisten it. The tongue was red and fissured. This state of things continued for two or three days; but from this point his convalescence was uninterrupted.

REMARKS.—This case at first was somewhat puzzling. At the commencement, we were uncertain as to whether his condition did not depend on some transient but profound disturbance of his nervous system, consequent on the pain produced by the bougie. But, after a little consideration, we came to the conclusion that the continuous pressure of the bougie during the night before his illness, on a highly congested urethra (as shown by the free discharge of blood), produced some slight abrasion or ulceration of the mucous membrane, allowing the absorption of a small quantity of septic matter. That the wound (if such existed) was of a transient nature, was shown by there being not the least return of pain during micturition, after the severe seizure at stool; and this fact had probably not a little to say to his recovery, as on it no doubt depended the smallness of the dose. The stress of the poison appeared to fall at once, and chiefly on the heart (more correctly speaking, perhaps, in the first instance, on the nervous system and through it on the heart), as shown by the rapid and extreme prostration, and the respiratory embarrassment, without any concomitant lung symptoms. His intellect was perfectly clear all through, and there was absence of delirium from beginning to end; the higher nerve-centres not appearing to be involved in the least. Another interesting point is the total absence of sweating, with a rapid defervescence, and, after the severe initial rigor, there was no return of that symptom. The vomiting (which became more copious and persistent as the severe symptoms declined), and the herpetic eruption, look as if the stomach and skin were specially selected by the poison as routes for its elimination. The only remarks bearing on this case, which I can discover in any publication at my disposal, are to be found in the *Practitioner* of November, in a paragraph giving Dr. H. C. Wood's views "On the Nature and Mechanism of Fever".

... "Although such fevers as pyæmia may be hæmic in origin, there is no certain proof that they are not due to the action of a poison on the nervous system; while such fevers as urethral fever must be due to changes of the nervous system, and not to the blood. In one case, which he quotes, the introduction of a catheter four days after the rupture of a stricture, was followed by rigor, high temperature, and death in less than thirty hours..... The initiative fever which follows a local irritation is probably due to reflex weakening of the inhibitory heat-centre; but probably this is not the only method in which fever is caused. In pyæmia, the inhibitory heat-centre is only weakened, and not paralysed; for if it were, the temperature would rise much higher than it does."