

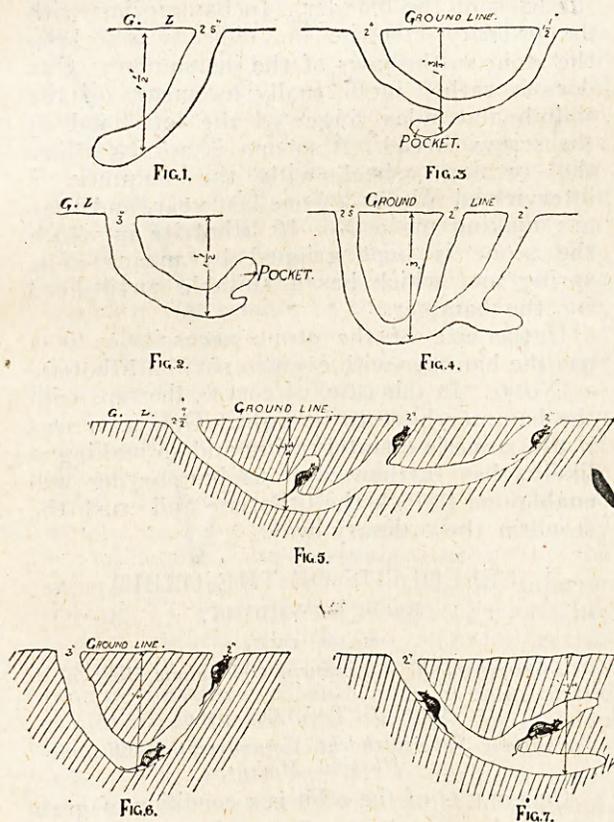
the wick leaving exposed about an inch of one end. The wick is then encased in cloth and a piece of thick paper wrapped over it. To use a *neem-batti* all openings except one opening of the burrow are closed, a *neem-batti* is then ignited and introduced into the open hole which is then similarly closed.

Under instructions from the Director of Public Health, Punjab, we conducted a series of experiments to study the efficacy of *neem-battis* in destroying rats and rat-fleas.

The experiments were carried out in natural rat-holes in the open fields which were found to be more convenient than the burrows in houses.

In order to determine the nature of the burrows thirteen rat-holes in alluvial soil were dug up and carefully examined. It was found that

VARIOUS TYPES OF RAT BURROWS.



they were variable in dimensions and designs and could be classified under the following groups:—

1. A simple oblique blind hole (Fig. 1).
2. A blind hole with a side pocket (Fig. 2).
3. A burrow with two or three openings with or without pockets (Fig. 3).
4. A complicated burrow formed by the intercommunication of two or three burrows (Fig. 4).

The diameter of the openings was between 1 1/2 inches to 3 inches and the maximum depth below the ground was 3 feet. The distance

between two openings varied from 2 to 8 feet.

General plan of experiments.

A rat-hole was selected in the field and all the holes near-by, except one, were closed with iron sheets and clay. Two rats with living fleas on their bodies were let in through this opening. A *neem-batti* was then lighted and introduced into the hole which was then similarly closed. The *batti* was allowed to smoulder in the closed burrow for varying periods of 5 to 10 minutes. The burrow was then dug up and search was made for the rats and the fleas and their condition was noted.

In a series of eight experiments conducted in burrows of all types, in four of which the *batti* was allowed to smoulder for 5 minutes and in one each for 6, 8 and 10 minutes, the rats and the fleas on the rats in all cases were found dead. Figs. 5, 6 and 7 show the situations in which the dead rats were found. It was also noted that every nook and corner of the burrow was blackened with smoke showing thereby that the smoke had penetrated all parts of the burrow.

Standard *neem-battis* and black rats (*Rattus rattus*) were used in all these experiments.

CONCLUSION.

Fumigation with *neem-battis* in the way described above kills the rats and the fleas on the rats in the burrows in the fields in 5 minutes.

CERTAIN ASPECTS OF LITHOLAPAXY.

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MY attention was directed some months ago to the article on litholapaxy by Lieutenant-Colonel A. J. V. Betts, I.M.S., in the *Indian Medical Gazette* for April, 1924. He gives a very lucid description of the operation, and I only write in the hope that my experience may help those not very familiar with the operation in one or two directions not dealt with fully by Lieutenant-Colonel Betts.

First as to my credentials: I have done over 2,500 litholapaxies mostly at Hyderabad-Sind which has attracted patients for this operation for some decades now. It has been the custom there to treat cases of vesical calculus as out-patients. The stone is crushed and the patient allowed to go home when he has recovered from his anæsthetic. I feel sure they would resent having to stay as in-patients now in any uncomplicated case.

In Sind, as elsewhere, stone is very common in children. I think the operation is easiest in them as one practically never has to deal with a bladder which has become loculated and out of shape. Unless they are deeply anæsthetised, however, they are very apt to strain and void the water which has been put into the bladder as a preliminary to crushing the stone. For this reason I have made it a practice to tie a bit of fine rubber drainage tubing round

the base of the penis. Thicker tubing is used for adults.

The small size of the urethra is a difficulty. For some years past I have been in the habit of dilating the urethra with Liston's graduated metal bougies. In a boy of 2 years of age a 4-7 passes as a rule with ease and the urethra can nearly always be persuaded to take a 5-8. If it does one can work very comfortably with a No. 6 lithotrite. If it can only be dilated up to No. 7 one has to use a lithotrite smaller than No. 6 and even then it fits too tightly for comfortable working. Of course no force must be used in the dilatation. Personally I have never ruptured a urethra.

In catching and crushing the stone and its fragments I think it unwise and unnecessary to rotate the beak of the instrument to one or other side. If the fragment is not exactly where you expect it to be, i.e., at the most dependent spot, it must be close to it to one or other side or in front or behind, and one can easily investigate these areas by slight movements of the handle to one or other side or by elevation or depression, the female blade being kept always on the floor of the bladder. Indeed, particularly in children, I have found this the most sensitive method of dealing with the last crushworthy fragment. I sometimes find a fragment thus after I have imagined the bladder to be clear with a sound.

The first litholapaxy operation I saw done was by the late Colonel Henderson, I.M.S. I wondered why when he had obviously caught a fragment he yet withdrew the male blade a little way once or twice and brought it down sharply again on the fragment. He explained that it was to make sure that no mucous membrane had been caught. When there is nothing but a fragment of hard stone in the jaws of the instrument there is, of course, no sensation as of a piece of interposed soft tissue. Doubts on this point are settled by the manoeuvre I have mentioned. Especially in a fasciculated or pouched bladder the danger of catching mucous membrane is by no means negligible. I have not seen this point touched on in any of the literature on the subject which I have read.

In children I have derived no advantage from the use of an evacuator. I can clear the bladder quicker by repeated filling and pressure over the bladder with the hand, the largest cannula passable being used. In bigger children, and if I have several stones to crush, I press out the fluid from the bladder with my left elbow applied over the pubis. It is a great saving in muscular effort. In adolescents and adults if I can pass a No. 12 or larger cannula I find the evacuator saves time and effort. As one acquires experience the scope of litholapaxy widens. I do suprapubic litholapaxy in about 1 per cent. and perineal litholapaxy in about

2 per cent. of cases now. Large size and hardness can nearly always be overcome. If the lithotrite will not lock I use a hammer. A few sharp taps will tell you if you are making any impressions on the stone. If you are using the largest lithotrite that will pass and the hammer does not help you, you must, of course, do the perineal or suprapubic operation. Phosphatic stones are easily dealt with by hammering. Uric ones often disintegrate and become less in diameter with patience and perseverance, but the expedient is of little use in the case of a large mulberry calculus. Such may be dealt with a No. 18 lithotrite and a hammer by the perineal route.

In hammering one keeps the caught stone pulled well forward, of course, and gives sharp taps on the top of the handle with the hammer. A heavy blow would drive the instrument and stone so far back as to injure the back of the bladder. In hammering with the ordinary lithotrite the difficulty is to keep the stone in the jaws of the instrument. One does it rather ineffectually by means of the thumb and index finger of the left hand on the screw thread. Also one is apt to injure the turning wheel with the hammer. I interviewed Weiss & Sons last year, and they are making me a No. 16 lithotrite in which the stone is kept gripped by means of a spring and which has a suitable anvil head for the hammer.

If the size of the stone necessitates it I use the hammer with even so small a lithotrite as No. 6. In this case, of course, the taps with the hammer have to be light. One soon sees if the stone is disintegrating and so making it likely that further cautious hammering will enable one to lock the lithotrite and crush the stone in the ordinary way.

CELLULITIS OF THE ORBIT.

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CELLULITIS of the orbit is a condition of great practical importance not only to the eye specialist, but also to the general practitioner. In a large number of cases if the condition is not diagnosed correctly and treated promptly, the vision, if not the eye itself, is lost. This is a serious matter although insignificant as compared with the loss of a life which must also be kept in mind as a possibility not too remote. It does not require very extensive surgical preparation to explore an acute orbit and there is no reason why it should not be undertaken successfully by the practitioner with the apparatus ordinarily at his disposal provided he knows how to go about