half an ounce to half a drachm in weight, were by far the most common, though some larger specimens, up to four ounces, occasionally presented.

These points are referred to incidentally for the purpose of showing that my practice has not been limited to one method of treatment, but has been varied to meet the different conditions under which stone in the bladder has come under my notice.

It may possibly be urged by some, considering the progress lithotrity has made during the present half century, that, save in instances where the stone is of such dimensions as to be beyond the capacity of any lithotrite, no other operation for its removal is now advisable. Such a view might be accepted if lithotrity, pure and simple, were always the entire success immediately and permanently we could desire. Mr. Cadge has pointed out in his Hunterian Lectures before the Royal College of Surgeons (1886) that the number of recurrences after the crushing operation, even in the hands of some of its warmest and most competent advocates, is such as to considerably detract from its completeness.

As in the case of other surgeons engaged in work of this kind I may state in general terms that my mortality has been a gradually decreasing one. Taking my last one hundred cases of stone operated upon by the various methods referred to, and excluding children and males under puberty, my number of deaths following crushing and nine cutting operations did not exceed five per cent. These cases, no doubt, at the present moment represent the best period of my work, and may be regarded as an outcome of the great advances that have been made in the operative treatment of stone in its various directions by Bigelow, Thompson, Cadge, Guyon, Keegan and Freyer, to each of whom we are indebted for something distinctive, in either the method or the application of treatment.

Fully recognizing the work of these distinguished surgeons, I am at the same time disposed to give some prominence to three circumstances which have contributed in no small measure to the results I have arrived at: (1) To the earlier diagnosis of stone which now prevails, and the application of treatment before the calculus has attained any considerable dimensions; (2) To the detection of a stone in the bladder with the sound, being concurrent with its removal; and (3) To a more extended experience in selecting the most appropriate, and therefore safest operation.

The object of this paper, however, is to briefly describe a method of operating which has been found particularly applicable to some exceptional cases, and where the results obtained from it contributed materially to the small mortality of a series of operations which embraces both lithotomy as well as lithotrity.

It is not necessary for me to enter upon the history of perineal lithotrity, and to trace the various modifications which have from time to time been described. The proceeding has been referred to by Dr. Gouley, of New York, in the following words: "The name of perineal lithotrity was given in 1862, by Professor Dolbeau, of Paris, to an operation completed in one sitting by which the membranous portion of the urethra is opened, the prostate and neck of the bladder dilated, instead of being cut, and a large stone crushed, and the fragments immediately evacuated."

It was with this definition before me that I entered upon the study and practical application of the principles of this operation. I published my first communication on perineal lithotrity some years ago, and I have practiced it in fourteen instances in male adults. In every example the operation was successful, recovery being rapid and complete, and I am not aware that recurrence of stone has in any one of these cases followed.

The chief features in connection with the operation I am about to describe are: (1) The mode of obtaining access to the interior of the bladder from the perineum; and (2) The mechanism connected with crushing and evacuating the stone.

From a number of experiments I made on the dead subject as well as from the performance of median cystotomy on the living for various purposes, it seemed unnecessary to do more than to make an opening from the perineum into the membranous urethra at the apex of the prostate, on a grooved staff passed along the urethra, sufficient to admit the introduction of Wheelhouse's small tapering gorget, and subsequently the index finger into the bladder, as for digital exploration, or, as is done in the boutonniere or Cock's operation—more than this is not necessary. In Dolbeau's operation direct access to the bladder was obtained by this route, aided by the use of an expanding instrument by means of which the prostatic urethra and neck of the bladder were dilated. It seemed to me, from some experiments made on the cadaver, that the latter means of dilatation was not only unnecessary, but was open to the objection that, unless used with the greatest care, it was possible to inflict serious damage.

Further, I succeeded in demonstrating that by means of crushing forceps shaped somewhat like the blades of a lithotrite, and not exceeding by actual measurement in circumference that of an ordinary index finger, sufficient power might be provided to crush and assist in evacuating any stone that could be fairly seized in this way. These forceps are provided with a cutting rib within the blades, and the more powerful instruments, as you will see, from the specimens I am showing you, are fitted with a movable screw on the handle. The fragments may subsequently be