That this is not an altogether unwarranted assumption is evident from the fact that, according to reports from two hospitals in New York City—Mount Sinai and the Jewish Hospital of Brooklyn—cases of Brill's disease or typhus and of typhoid were treated in those hospitals as follows:

	Years	Typhus	Typhoid
Mount Sinai	1910	37	..
	1911	27	..
	1912	36	..
Jewish Hospital....	1910	22	45
	1911	10	46
	1912	19	44

From the foregoing tables it is seen that the ratio of typhus to typhoid in the Jewish Hospital of Brooklyn for the three years 1910, 1911 and 1912 was 1 to 2.6 instead of the ratio 1 to 47 as found by Lee in Boston.

The number of cases of typhoid reported to the city department of health of New York for the year 1910 was 3,735. Estimation of the probable number of cases of typhus in the city that year by Lee's figures gives seventy-seven as the result. Now, we find that for 1910 there actually occurred in two hospitals in New York City fifty-nine cases of typhus, leaving only twenty-one more cases to be accounted for in all the other hospitals and in private practice. In view of this, it is certainly reasonable to assume that there were fully as many cases unrecognized as were recognized and that the estimated number of seventy-seven by no means covers the number of cases of typhus that actually occurred in the city.

My only excuse for thus briefly bringing the subject to attention again is the hope that cases which may come under observation may be reported and more accurate data collected as to the prevalence of typhus in the United States. While the disease, as generally observed, has had a low case mortality and shows but little tendency to spread, it is nevertheless apparently always present in our larger cities and the possibility should ever be borne in mind that it may acquire virulence and epidemic prevalence. The fact that over 321 cases of the disease have come under the observation of one physician justifies the assumption that perhaps cases may have passed unrecognized by others and that the disease exists in localities other than those from which it has been reported.

Guinea-pigs are quite susceptible to typhus when inoculated intraperitoneally with blood from victims of the disease during the active febrile period, the only indication of infection in the animal being the temperature curve, which, in its rise, duration and fall, is quite typical and readily recognized. I suggest, as a procedure of value in arriving at a correct diagnosis, the inoculation of guinea-pigs with about 3 c.c. intraperitoneally of blood from cases of continued fever giving a negative Widal and blood-culture; especially in cases in which there has been a sudden onset, an atypical eruption, intense headache, apathy and prostration. I think that it will be found that typhus is more frequently encountered, at least in our larger cities, than has heretofore been the quite general belief.

I am under obligations to Dr. Nathan E. Brill of the Mount Sinai Hospital, and Dr. C. Eugene Strasser, superintendent of the Jewish Hospital of Brooklyn, for statistics on typhus and typhoid in those institutions.

The following references also may be found of interest:
Anderson, John F., and Goldberger, Joseph: The Relation of Rocky Mountain Spotted Fever to the Typhus of Mexico; a Preliminary Note, Pub. Health Rep., Dec. 10, 1909, p. 1861;

A Note on the Etiology of "Tabardillo," the Typhus Fever of Mexico, Pub. Health Rep., Dec. 24, 1909, p. 1941; The Etiology of Tabardillo or Mexican Typhus: an Experimental Investigation, Jour. Med. Research, June 1910, p. 469; Experimental Proof of the Identity of Brill's Disease and Typhus, New York Med. Jour., May 11, 1912.

Goldberger, Joseph, and Anderson, John F.: The Transmission of Typhus, with Especial Reference to Transmission by the Head Louse (*Pediculus Capitis*), Pub. Health Rep., March 1, 1912, p. 297; Some Recent Advances in Our Knowledge of Typhus; THE JOURNAL A. M. A., Aug. 17, 1912, lix, 514.

Twenty-Fifth and E Streets, N. W.

IMPROVED DEVICE FOR ILLUMINATING THE OPERATING-ROOM

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ST. LOUIS

Recently I suggested a focused system of operating-room lighting.¹ The use of six automobile head-

Fig. 1.—A diagram of the individual reflector, socket and lamp.

lights focused on the operation field, for the past six months, has proved so eminently satisfactory that it has seemed worth while to make the principle more generally useful by applying it to the ordinary street lighting current of 110 volts. This might seem at first thought a most simple matter until one considers that the 6-volt automobile lamp has a vastly shorter filament than the common 110-volt incandescent bulb of like candle-power and offers, for all practical purposes, the "point of light" demanded by a parabolic reflector such as automobile makers employ. The relatively long filament of a standard 110-volt lamp, though coiled as tightly as is consistent with good practice, represents a luminous object about 1 inch in diameter enclosed in a glass bulb 2 5/16 inches in diameter. This gives a 25-watt burner which is, as Mr. Fergusson, the expert lamp-maker of this city, assures me, the most compact of the durable and thoroughly useful Tungsten globes. (In order that the

1. Bartlett, Willard: A Method of Focusing Several Electric Lights on the Field of Operation, Ann Surg., January, 1913, p. 124

light may be completely diffused I make use of frosted glass only.)

The selection of a lamp by no means completed the solution of the problem, since no reflector on the market would focus its rays as desired. Experience had shown an illuminated field of 18-inch diameter, 7 feet from the source of light, to be highly useful. With these data in mind, Professor Waldo, head of mathematics at Washington University, was good enough to plat the curve of an ellipsoidal reflector which permits one to use in the desired manner about five-sixths (some 300 degrees) of the rays emanating from this lamp. Mr. Edwin F. Guth's enthusiasm led him to "spin" these reflectors for me, purely as an experiment; and thus

Fig. 2.—Eight lights grouped at a distance of 7 feet from the operating-table.

the cooperation of several workers resulted in a solution of the problem.

These ellipsoidal mirrors are 12 inches in diameter by 9 inches deep, dimensions which render them unwieldy, when taking the number used into consideration; hence a depth of but 6 inches is now advised. The slight loss in illumination is of no consequence since the supply that remains is more than abundant.

The accompanying illustrations will give a better idea than can any verbal description of the way in which light from eight sources, in a 6-foot circle, may be made to meet at an angle of 45 degrees on the field of operation. A group of eight other 40-watt lamps set in

the ceiling plate takes care of the general room illumination.

The apparatus made up in white enameled steel tubing harmonizes perfectly with other operating-room furniture. Two sets, somewhat modified to surround rectangular mirrors, may be seen at the Mayo clinic, Rochester, Minn., at the present time.

I cannot better state the demonstrated advantages of the contrivance than by quoting from the article mentioned in my opening sentence, naming some of the desirable features which it seemed to possess when installed as an experiment:

When six automobile head-lights, situated at different points, are focused on a given field, it stands to reason that the illumination is intense and that in this manner shadows are practically done away with. The source of the light is so near the ceiling that no heat from it is noticeable at the level of the operator's head. The globes are frosted and a soft, diffuse glow results. The satisfaction of having a known quality and constant quantity of light at all times is one which will not be fully appreciated by the operator who has not been in possession of it. The fact that beams of light from six sources meet at an angle of more than 45 degrees naturally cuts out all the shadows which obscure the depths of certain wounds. This will be especially appreciated in certain common-duct operations, pelvic procedures, attempts to reach the root of the gasserian ganglion, and others of like nature.

400 Metropolitan Building.

OPERATING DEPARTMENTS FOR MODERN HOSPITALS

WHICH PROVIDE FOR SPECTATORS WITHOUT DISTURBING THE HOSPITAL SERVICE AND PERSONNEL

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Clinical surgeons owe to their results as well as to their students, visitors and guests, facilities for observing their work that do not conflict or interfere with the operating-room technic. These advantages, when provision for them is attempted at all, are usually annulled by a mixing of all parties, to the discomfort of most of those concerned and the detriment of the patient. Since the custom of visiting the work of other surgeons has become so well established, this glaring defect is strange in these days of striving for perfection in operating arrangements when it can be so easily remedied.

The new operating departments which are being added to old hospitals, and all of the new institutions, should provide the best possible facilities for visitors, so arranged that they may come and go in the clinics without friction of any sort, and without being gowned.

This can be accomplished by a separate and preferably outside entrance and exit for all not connected with the hospital. This entrance and exit should lead into a room provided with water cooler, telephone, closet, and lavatory conveniences, which serves as a cloak-room and lounging-room; here the visitor should find a bulletin of the operations scheduled for the day, and each case should show the hospital number, so that one can write afterward and ascertain the result in cases in which one is specially interested. This room should connect with the space reserved for spectators,