miles. We can form but little conception of the circumstances under which such an enormous volume of gas can be confined at the depth of six hundred feet beneath the surface.

The escape of oil at the surface of a well is caused sometimes by mere hydrostatic pressure, as water rises in common Artesian wells. More frequently, perhaps, the oil is forced up by the elastic reaction of confined gases. An open cavity, or a porous portion of rock bounded on all sides by impervious walls—which constitutes a virtual cavity—may be partly filled with oil, while gases occupy the higher portions of the cavity. Such a cavity, whether actual or virtual, may possess any form or extent—or may consist of a number of cavities connected by narrow passages or mere fissures. In nearly all cases, more or less gas accompanies the oil, and subsists under a very high degree of pressure. The pressure in such cases is not the hydrostatic pressure of water, but a consequence of the continued generation of gas and oil long after the cavity had been filled. If a boring happens to penetrate the higher portion of such a cavity (Fig. 89), the gas at once rushes forth with greater or less violence and persistence. As soon, however, as the tension is relieved, the escape ceases. No oil will be obtained in such a case without applying suction, since there is no hydrostatic pressure exerted from behind, and the reaction of the gas tends rather to confine the oil in the lowest ramifications of the cavity.

Suppose, however, on boring a hole for oil, we happen to penetrate some of the lower portions of the cavity occupied by the oil (Fig. 89, b). The elastic pressure of the confined gas above will at once force the oil up, and produce a spouting or blowing well. The flow must necessarily subside by degrees as the confined gas, by the escape of the oil, acquires more space for its accommodation. It may con-