

incessant shaking for a period of many months in a region remote from the seat of any volcanic action."

Featherstonehaugh describes the region about New Madrid as a "flat alluvial area without a vestige of rocky strata, many parts generally well wooded, but containing two or three prairies of about five miles square where cotton and Indian corn are cultivated." Such a region does not suggest seismic or volcanic disturbances, nevertheless the pioneers witnessed some terrific events. Their ears were deafened by loud crashing reports that resembled heavy cannonading. Sulphurous vapors rolled over the land. Besides the horrible earth waves that must have almost shattered the nervous systems of man and beast alike—immense chasms opened in the earth whence issued dense vapors and torrents of water. The beds of lakes and swamps were upheaved and fertile fields of large area sunk and became lakes, varying in depth from four to 100 feet. In the Mississippi, islands sank out of sight, and the upheaval and subsidence of the waters of the river produced a fearful surge that was like the fateful return of the ruthless ocean tides that follow earthquakes along the seaboard.

Governor Reynolds tells us that shocks continued to be experienced for years after throughout southern Illinois; he records one in 1855 at the time he was writing. Writing in response to our inquiry, Mr. H. C. Rizer, of the National Geological Survey informs the writer that "slight shocks originating in the New Madrid region occur several times annually, and could be detected by instruments in Illinois and probably even in Iowa. You may possibly recall that quite a severe shock occurred last summer in this region." Our sympathy with the sufferers in San Francisco may well be tinged with prudent considerations for contingencies in our own habitat.

H.

RIFLE AND TELEPHONE.

A most interesting object lesson may be seen in the hospitable home of Mr. George C. Duffield, a pioneer farmer and octogenarian who comes down from the days of Black Hawk and Keokuk, and who resides on the right bank of the Des

Moines river, a couple of miles above the town of Keosauqua. Suspended from the wall hangs his old muzzle-loading rifle, which was made by an Iowa gunsmith some time in the thirties or forties. In those days the hunter had never heard of breech-loaders or metallic cartridges. Mr. Duffield was an expert hunter, killing elk, deer and bear, and his gun was an important adjunct in the early days in securing meat for the table. The gunsmiths made several rifles for him which he promptly discarded as unfit for his purposes. At last the one we have under consideration met his requirements and was in frequent use until game disappeared. While these old rifles were crude in most respects as compared with those of the present day, many of them were fired with great precision and carried long distances. When used in battle they became very effective weapons. This was especially shown at the battle of New Orleans, Jan. 8, 1814, when the British under Gen. Sir E. M. Pakenham were so unfortunately and unmercifully slaughtered. Each owner of one of these old muzzle-loading rifles provided himself with a pair of iron bullet-moulds in which he cast his round bullets, sometimes from a wooden ladle and sometimes from an iron spoon. Each one had a powder-horn from which he poured his powder into a "charger," which was used to measure the quantity required. In the lower end of the breech was a small box in which the hunter carried his "patches," which were bits of greased cotton cloth in which the bullets were wrapped to separate them from the powder. This old gun is always kept in good repair, and hangs in the leather slings which were provided for it long ago. Altogether, it has a primitive look when compared with modern arms. Immediately under it has been placed one of the latest improved telephones, which enables Mr. Duffield freely to communicate not only with the people of his own county, but it reaches throughout the State and beyond. These two objects bring the present and the past into close contrast, and they show probably as distinctly as anything else the wonderful progress which has been made during the past sixty years.

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