and the material discharged against them into the coffer-dam.

Several minor casualties occurred from the discharge of stones, such as a boatman on the river having his finger shot off and a laborer being shot through the arm by a large fragment.

Some inconvenience was experienced from the wearing out of the ends of the pipes below in the air chamber. The cocks also wore out rapidly, owing to careless attendance in not opening them all the way. The pipes in the timber did not wear. When a four-inch pipe had become cut, a three and a half-inch pipe was driven inside of it, then a three-inch, and at last a two-inch. But they lasted so well on an average, that one-third of the pipes were never used.

**QUICKSAND.**

When the quicksand was fairly entered upon, it was found that the dredge buckets no longer operated to any advantage. This sand, in combination with small stones and boulders, will compact to a mass as hard as rock, which cannot be penetrated by the teeth of a bucket, and even the point of a crowbar can scarcely be driven into it.

Some slight relief was experienced by the use of a hose under the shaft to stir up the material, but even then the sand was so fine as to escape through the crevice in the buckets.

The sand pipes became henceforth the sole reliance, and answered admirably, until the coarse gravel and stones became so plentiful as to choke the ends of the pipes, making it necessary to stop for a moment to remove the stone.

The work of the last ten feet, from sixty-eight to seventy-eight, was, on this account, very tedious and slow. Previous to this the progress had, at times, averaged a foot per day of sixteen hours, implying the removal of six hundred and fifty yards per day, but toward the end this rate decreased to one or two feet per week.