

## THE GREAT FLOOD.

It is now known that the Cambria Iron Works are not damaged as badly as was feared. Half a million dollars will cover the loss.

A young lad named Eddie Firshir, whose mother and five brothers and sisters had lost their lives, committed suicide June 7 while in a fit of despondency by hurling himself from the top of a building.

### THE DAM WAS DEFECTIVE.

A. M. Wellington and F. P. Burt, associate editors of the *Engineering News* of New York, have completed an examination of the dam which caused the great disaster.

Wellington states that the dam was in every respect of very inferior construction and of the kind wholly unwarranted by the good engineering practices of thirty years ago. Both the original and reconstructed dams were of earth only, with no heart wall, and but only rip-rapped on the slopes. The original dam, however, was made in rammed and watered layers, which still show distinctly in the wrecked places. The new end merely added to its stability; but it was to all appearance simply dumped in like ordinary railroad fill, or, if rammed, shows no evidence or good effect from it. Much of the old is standing intact, while adjacent parts of the new works are wholly carried off. There was no central wall of puddle or masonry either in the old or new dam. It had been an invariable practice of engineers thirty or forty years ago to use one or the other in building high dams of earth. The reconstructed dam also bears the marks of great carelessness in having been made two feet lower in the middle than at the ends. It should rather have been downed in the middle, which would have concentrated the overflow, if it should occur, at the ends instead of in the centre. Had the break begun at the ends, the cut of the water would have been so gradual that little or no harm might have resulted. Had the dam been at once cut at the ends when the water began running over the centre, the sudden breaking of the dam would at least have been greatly diminished, possibly prolonged, so that little harm might have resulted. The crest of the old dam had not been raised in the reconstruction of 1881. The old overflow channel through the rock still remains at the end, but owing to the sag of the crest in the middle of the dam having only 5½ feet of water in it instead of 7 feet, it was necessary to run the waterway over the crest, and the rock spill-way, narrow at best, had been further contracted by close grating to prevent the escape of fish. Capped by good-sized lumber and in some slight degree also by the trestle at the foot of the bridge, the original discharge pipes at the foot of the dam had been permanently closed when reconstructed, and this, while a minor matter compared to others mentioned, further reduced the possible

rate of maximum discharge. The net effect of all these differences of the condition was that the dam as it stood was not more safe against successive floods, from its inferior construction, than the original dam would have been with a crest only three and a half to four feet high above the bottom of the rock spill-way, instead of seven feet. A large amount of the old riprapping and sloped wall still remains intact, and is of excellent quality. It does not appear that there was any great amount of leakage through the dam before it broke. The destruction came from water flowing over the top. Wellington said that no engineer of known and good standing for such work could possibly have been engaged on it, since, in the particulars mentioned, it violated the most elementary and universally understood requirements of good practice.

Estimates of the original dam indicate that it was to be made about half of earth and half of rock, but if so, there was little evidence of it in the broken dam. The riprapping was merely a skin on each face, with more or less loose spauls mixed with the earth. The dam was twelve feet above the water, twenty-one feet inside the slope and twenty feet wide on top. The rock throughout was about one foot below the surface. The earth was pretty good material for such a dam, if it was to be built of it at all, being of a clay nature. To this fact its standing intact since 1881 must be ascribed, as no engineer of standing would have ever tried to so construct it. The fact that the dam was a reconstructed one after over twenty years of abandonment made it especially hard on the older part of the dam to withstand the pressure of the water.

Eight thousand men were at work June 7 clearing out the debris, but truth compels the statement that the undertaking had not yet been fairly started. Fires were burning up and down the valley as far as the eye could reach, and the air was thick with smoke, and yet people familiar with the situation, and aware of the efforts of this army of earnest workmen, estimated that it would take 20,000 men for weeks to clear out the heaps of ruin piled up for miles between the hills and up and down the course of the river.

A correspondent, writing at Johnstown June 7, says:

"An hour ago the writer completed a tour of the mighty wreck in this vicinity. Dozens of human beings and animals were to be seen on the surface, charred and blackened by fire, and in such decomposition that the stoutest men could not more than glance at them. Eighty-six men from Altoona, under orders of the sanitary officials, are scattering disinfectants over acres of the wreckage that the railroad bridge stopped. Mr. Kirk declares thousands of bodies will yet be found in this territory alone. The great trouble thus far experienced at the bridge has been caused by the mass of telegraph wire that reaches across

the various spans through which the water had passed. Line repair men are badly needed to help in removing the wires, and Kirk says as soon as they are gone he will hustle the debris through by the acre.

"The problem of the hour is the disposal of the debris about the Pennsylvania railroad bridge. Unless it is soon got rid of the stench will be so overpowering that no human being can withstand it.

"The pneumonia scourge grows alarmingly, notwithstanding the statements of Dr. Groff, of the State Health Board. Dr. Sweet, a member of Dr. Groff's staff, came down from Cambria tonight with a startling report. To an Associated Press correspondent Dr. Sweet said: 'Prospect Hill is full of pneumonia with some diphtheria and measles. The hospital is full to overflowing, and there are forty-two cases outside. They were almost all severe pneumonia. There is every condition needed for the spread of the disease, and I fear an epidemic.'

"Dr. Carrington also reported several cases of pneumonia, he having found them on the hill near Moveville.

"A pair of human feet was noticed sticking out of the sand on the river bank near Kernville today. A gang of men soon unearthed the bodies of two men and one girl, all in a good state of preservation.

"The community is in the wildest excitement as a result of the recent flood. The blame for the entire affair has been placed on the South Fork Fishing Club, and so angry are some people in this city that peril is feared for W. S. Boyer, superintendent at the cottages on the lake. One of the pretty villas has been broken into and the furniture broken. One of the boats owned by the club was stolen in daylight, and reduced to kindling wood by an infuriated crowd. A liquor-crazed fellow, who broke into the cottages, was not discovered. It was evident that robbery was not his intent. Affairs at present are assuming an aspect that is dangerous. The coroner's jury, that has been in session all day at Nineveh, terminated its labors today. Their verdict is fully prepared, and only lacks the signatures of the jury before it is given publicity. It is understood that after reviewing at length the careless breaks of the past years, it declares the executive committee of the South Fork Fishing Club guilty of gross if not criminal neglect."

A trap was laid for the undertaker who was robbing bodies in the Fourth Ward morgue. A female was brought, and before it was dressed for burial a diamond ring was placed on one of her fingers and the undertaker was assigned to take care of the body. He was detected in the act of stealing jewelry and promptly arrested by the police, who immediately took him to Pittsburg.

A dispatch dated Johnstown June 9 says:

"The health of the valley is unusually good, notwithstanding re-