

**AN APPALLING DISASTER.**

**THE COLLAPSE OF THE SOUTH FORK DAM AND THE DESTRUCTION OF JOHNSTOWN, PA. — SEVERAL THOUSAND LIVES LOST.**

The appalling disaster of the bursting of the dam holding back the waters of South Fork Lake in Pennsylvania, by which Johnstown and the villages and country near it on the main line of the Pennsylvania railroad were swept into ruin, will rank among the great catastrophes of the world. The English-speaking race has never before been afflicted by a catastrophe of equal moment. The flood, with the added horrors of conflagration, was due to the sudden escape of the waters of one of the largest artificial lakes in America.

To give a general idea of the nature of the country in which the disaster occurred, a map, not however drawn to scale, is herewith given. The South Fork Lake was an artificial body of water formed by a dam that for many years had held back the waters of the South Fork of the Conemaugh. It was built about thirty-five years ago by the State of Pennsylvania to impound water for use in feeding the western division of the Pennsylvania canal. The chief engineer of the State furnished the plans and specifications. In 1859 the Pennsylvania railroad came into possession of the dam and reservoir by their purchase of the canal. About five years ago the lake was leased to a fishing club, who stocked it with fish, built a club house, and supplied the other appurtenances necessary for their sport, and who were entitled the South Fork Lake Association. The dam was seventy feet high and extended across a narrow gap in the mountains. At its top it was several hundred feet long and about twenty feet wide, and a wagon road ran across it. A number of wasteways or tunnels went through its base, which were provided with gates. It is said that these had been permanently closed. At its center it was some feet lower than at the sides, so that the old lateral overflow or sluiceway was inoperative to prevent the disaster.

The South Fork is a little stream, at its entrance to the lake about ten feet wide, and only carried enough water to fill the lake in the course of a year. The water thus held formed an irregular lake about one and a half miles wide and running back several miles before dwindling down to the ten foot stream supplying it. Its maximum depth was about one hundred feet.

The lake and dam had never of late years been thought particularly secure. The heavy rains that prevailed over the State of Pennsylvania for many days had swollen the waters of the Conemaugh and its tributary streams, and Johnstown and the region adjoining it were to a certain extent flooded. On Friday, May 31, apprehensions began to be felt for the dam, and warnings were sent to Conemaugh, Johnstown and the other villages. But similar warnings had been sent out so often before that these ones were generally disregarded, and people continued their occupations in the partly flooded city of Johnstown and Kernville. At Conemaugh more heed was given to the danger and work was generally suspended in the factories at noon-time, and the people took to the higher ground.

At the lake there was a party of some forty laborers engaged on some drainage works. The water rose so rapidly that the superintendents became alarmed and set them to work to provide a sluiceway to give a chance for the water to escape. From time to time messengers went down with warnings of danger to the country below. The laborers could not work fast enough to cope with the rise, and at about half-past two o'clock in the afternoon the water began to pour over the top of the dam, surmounting it by about a foot. All day long it had been rising at the rate of a foot an hour. The water rushing over the top now began to carry off the upper part of the earth dam, making a gully which rapidly deepened and soon cut away the whole central part of the dam nearly down to its rocky foundation. It was about this time that Mineral Point, South Forks, and the adjoining villages received their last warning. It was given by a boy on horseback, who came galloping down from the dam, reaching the settlements, a mile and a half away, in six minutes. Two minutes later the first wave struck them. The water was now flowing out of the lake,

and at once a gap was formed which, before the lake was emptied, grew to a width of three hundred feet at the top and extended clear down to the bed rock. Through this gap the waters poured in a cataract, and by four o'clock the lake was empty, and thousands of people on the line of the South Fork and Conemaugh had perished.

The first course of the water was down the South Fork, and at its junction with the Conemaugh a portion of the water backed up and inundated the village of South Fork, while the main body went down the Conemaugh. At the junction of the South Fork and Conemaugh the water met the Portage viaduct, a State work which carried the old post road and parallel with which the Pennsylvania railroad runs for many miles. Upon these tracks near Conemaugh the day express train was standing in two sections. Track and viaduct were swept away, the trains with most of their passengers being engulfed. The ruins of the cars were found six days later near the stone bridge below Johnstown. The water continued to rush down the Conemaugh nearly at right angles to its previous course. The portion which had backed up through South Fork returned and swept the villages of South Fork and Mineral Point away, and joined the main body on its way toward Johnstown. It spread to right and left, sweeping away houses, trees, and everything in its course, and destroying and carrying off with it a part of all the villages on its track. At East Conemaugh it wrecked the railroad yard buildings and the round house, throwing the locomotives in every direction. Its worst work was now to be done, for the great destruction of life had not begun. It cut a second channel for the Conemaugh, and in five minutes had carried away

years an operator in the service of the Western Union Telegraph Co., with her daughter, were caught by the flood at Johnstown in the telegraph office. They continued telegraphing warnings to the villages below until they too were drowned in the building whence they had dispatched their messages.

The region has been placed under martial law. Militia troops are quartered there, and a great body of laborers, nearly ten thousand in number, have worked long and hard, clearing away the ruins and disposing of the known and unknown dead. Great fears are entertained of a pestilence, due to the bodies of human beings and animals that have not been disposed of, which may, if once started, spread far and wide. The water supply of Pittsburg, drawn from the Allegheny River, is menaced, and the citizens have been instructed to filter and boil the water before using it.

The same rains that broke down the dam caused havoc and ruin elsewhere. A very large area of Pennsylvania suffered from floods. Log booms were broken away, and hundreds of thousands of dollars' worth of timber were carried down into the Chesapeake Bay. Williamsport and the regions near it were great sufferers, farms being inundated and live stock and buildings being destroyed. But the great loss of life at Johnstown has drawn public attention away from what, in comparison only with it, can be called minor events.

Johnstown was famous as being the site of the Cambria Iron and Steel Works, one of the great industrial establishments of the world. Their loss is very heavy, but it is believed that very soon operations in some form will begin again. The works included the most perfect appliances for the manufacture of Bessemer steel products, and a very complete industrial settlement

had grown up around them. The city was largely the outgrowth of the great works. It was the county seat of Cambria County, Pa., and with other smaller settlements constituted a borough containing about 20,000 inhabitants. It was 79 miles east of Pittsburg by railroad distance.

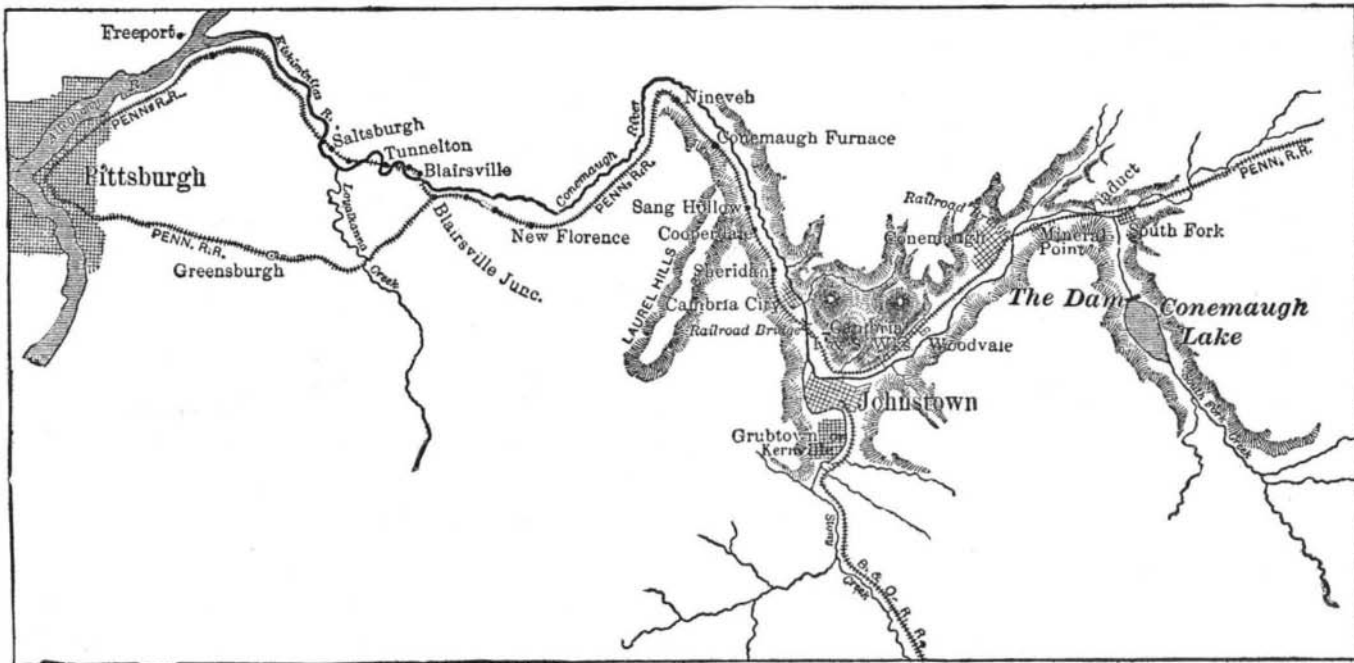
Transmission in Geese.

A correspondent of the *Revue Scientifique* vouches for the following story: For about twenty years he was in the habit of visit-

ing two or three times each year a farm where was kept a flock of geese, numbering from thirty to thirty-five in the early part of the winter, and in the spring four or five, left for breeding purposes; these also generally being killed a few months later, after the new broods had attained their growth.

In the month of July, 1862, on a feast day, the farmer and his men being absent, the geese were forgotten, and were attacked by dogs, which killed the most of them. The next evening at twilight the farmer thought they must have been attacked a second time. He found them flying about in their pen, much frightened, but the dogs were nowhere to be seen. The next day this terror reappeared at the same hour as it did on the following day, and from that time on. The correspondent of the *Revue* had forgotten this fact, when, ten years later, he chanced to be on the farm one evening, and heard the cackling of the apparently frightened geese. When he asked for an explanation, he was told that this had been kept up from the time they had been attacked by the dogs, that there had been no repetition of the attack, and that the flock had been renewed in the meantime at least three times. If this story is well authenticated, we have a case of the transmission of terror to the third generation in a family of geese.

The following is suggested by Professor Samuel Sheldon, of Harvard University, for an electric blow-pipe. The pole of a powerful magnet strongly attracts or repels the electric arc, which may by this means be driven out sideways into a point very similar to the point of flame projected from an ordinary blow-pipe. At the end of this point the heat is intense, being sufficient to melt large copper wire constantly and to fuse any of the metals. It would serve admirably for welding, and a slight alteration would fit any lamp to perform the double function of lighting and welding.



MAP OF THE JOHNSTOWN FLOODED REGION.

nearly the whole of Woodvale, a settlement of about three thousand inhabitants. The valley was now filled with water bearing the great mass of wreckage with it. The right and main portion that followed the old bed of the river swept down through Johnstown, carrying away perhaps a quarter of the town. It had already destroyed one substantial iron bridge, but below Johnstown it met the stone railroad bridge and was checked, the debris piling up against the arches. The left portion now came surging down Stony Creek, already swollen into a torrent. The outlet of this creek was also choked, and the main flood backing up from the stone bridge met the Stony Creek current. The combined floods meeting formed a whirlpool that covered the flats on which the greater portion of the houses stood, and whirled round and round, destroying nearly all that was left of Johnstown and Kernville, and carrying away thousands of the inhabitants to drown and burn, before it worked its way beneath the ruins held back by the stone bridge. Masses of wreckage composed of houses and contents covering an area of several acres were accumulated here. Under and among them were thousands of human beings, many yet living. Fire now added its horrors to the scene, and soon the wreck was in flames. Down the Conemaugh toward Pittsburg numberless bodies were carried, while others less fortunate were burned in the ruins. Wreckage was seen three hundred miles down stream on the waters of the Ohio River.

At present the whole country is engaged in the relief of the suffering. The amount so far subscribed is nearly two millions of dollars. The number of lives lost is not far short of ten thousand, but will never be accurately known. The loss of property is probably nearly equal to ten millions of dollars.

Scenes of heroism are reported. The famous ride of Paul Revere found a second parallel in the action of a mounted messenger who rode down the valley shouting out a warning to the inhabitants. The waters overtook him and he perished. Mrs. H. M. Ogle for many