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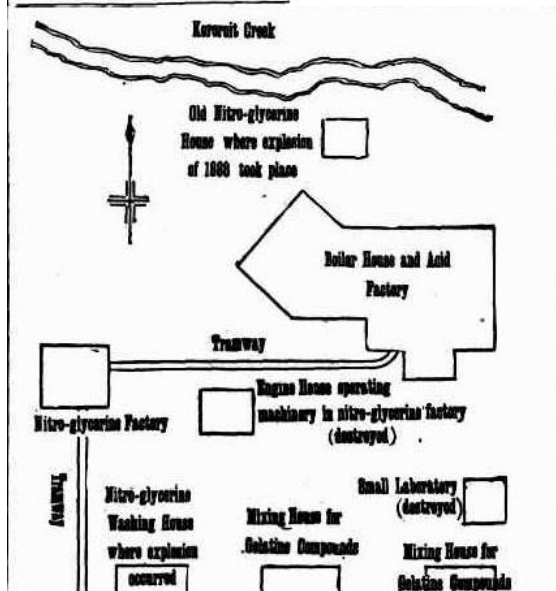
**TERRIBLE EXPLOSION
AT BRAYBROOK.**

**A NITRO-GLYCERINE FACTORY
WRECKED.**

ONE MAN KILLED.

MIRACULOUS ESCAPES.

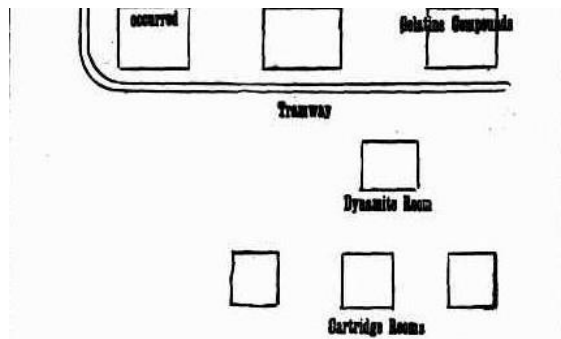
Following closely upon the recent disastrous explosion at the Victoria Military Barracks, and while the terribly fatal explosion at the Colonial Ammunition Company's works is still fresh in the public mind, comes the third of the series. Yesterday afternoon an explosion occurred at the works of the Australian Explosives and Chemicals Company, situated at Deer-park, in the shire of Braybrook, about seven miles from Footscray. The catastrophe occurred in a small isolated wooden building, in which one man, John O'Shannassy, was occupied in the operation of washing the manufactured nitro-glycerine in order to



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PLAN OF THE WORKS AREA.

clear it from acid. O'Shannassy had taken a sample of the compound to the laboratory for analysis earlier in the day, and had returned to the washing-house after the mid-day spell for lunch. He was alone in the structure, when, from some unexplained cause, the tanks, containing 1,500lb. weight of nitro-glycerine which he was treating, exploded, the building was scattered to the winds, and the unfortunate occupant was absolutely blown to pieces. Several other buildings where operations were being carried on were wrecked, and one of them took fire, but the flames were quickly extinguished. A man named Frank Linnell was injured in the arm through a beam falling on him, and others received a few scratches, but with these few exceptions the hands working at the factory escaped most miraculously. Mr. Hughes, who acts as deputy for Mr. C. N. Hake, the inspector of explosives, visited the scene during the afternoon, in the temporary absence of Mr. Hake from the colony, and Detectives Macmanamy and Whitney were also despatched to make inquiries, but nothing was discovered which could throw the slightest light upon the cause of the explosion. The deceased, O'Shannassy, had the reputation of being a most careful man, and he had been in the employ of the company for the past 20 years.

THE OPERATION THAT WAS IN PROGRESS.

In accordance with the latest ideas in magazine construction, the works of the company are carried on in different small, isolated buildings, each of which is surrounded by a high and solid embankment of earth, the object being to localise the damage from accidents as much as possible. Over 200 acres of ground are occupied by the works altogether, and the washing-house which was destroyed yesterday stood at the rear of the engine-house, about equi-distant from that structure and the mixing-house. In the mixing-house the nitro-glycerine was prepared, and was then taken to the washing-house to be freed from the acid which, having performed its function, was no longer necessary. The washing-house was a

having performed its function, was no longer necessary. The washing-house was a weatherboard structure, about 24ft. by 20ft., roofed with iron. The walls inside were covered with a sheathing of wood, and the inside of the iron roof was shut off by a wooden ceiling. All the nails used in the construction of the building were of copper, and the floor consisted of sheets of lead, covered with coir matting. The house contained three large lead tanks, about 4ft. long by 3ft. wide, and 3ft. deep. These were supplied with water by pipes, and in the bottom of each tank was a circular space, furnished with perforations, through which compressed air was driven from an engine in the adjacent engine-house. The method adopted was to fill the tanks half-full of water, and then pour in the nitro-glycerine. The action of the compressed air agitated the liquid in such a way that the acid became detached from the nitro-glycerine without any necessity for stirring the mixture with an implement. Instead of a tap a small piece of rubber tubing was inserted through the side of the tank, and was compressed at the end by a brass clip. When it was desired to draw off some of the nitro-glycerine the operator removed the brass clip, and allowed the liquid to pour out into a rubber bucket. Small samples were obtained by drawing off the stuff into glass phials, a supply of which were kept in the house. O'Shannassy had been engaged for 12 years in the washing-house, and was regarded as a thoroughly competent, careful man. It is stated that he had been through the searching-room, as usual, in the morning, and that he wore the boots prescribed for use while working among dangerous explosives. Just before 12 o'clock he had drawn off a sample of nitro-glycerine in a glass phial, and had taken it to the laboratory to be tested by the assistant chemist, Mr. H. W. Goff, who was only appointed to that position a few days ago. Mr. Goff was not satisfied with the test, and walked across to the washing-house and asked O'Shannassy to bring him another sample. O'Shannassy re-entered the house after the usual midday spell for dinner, and was never seen alive again.

THE EXPLOSION.

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At about 10 minutes past 1, when the 70 men who were employed in the various departments of the factory had just resumed work, a terrific report rent the air, and a concussion occurred simultaneously, which wrecked the adjacent engine-house and mixing-house, and destroyed the fittings in buildings many hundred yards away. A column of smoke rose into the air, which was black with fragments of flying timber, with huge clods of earth, and the debris of the wrecked washing-house, a small wooden structure used as a laboratory by Mr. G. Howells, the chief chemist, was set on fire, but a hose was run out, men with buckets lent ready help, and before the Footscray Fire Brigade could cover the seven miles that separate Footscray from the factory all danger of a conflagration was over. But the roar of the explosion had been heard in Footscray, and anxious women whose husbands were employed at the factory started to trudge out along the desolate track, getting a lift out in some of the cabs that began to appear by magic along the road. At the factory the bell was rung, the men were quickly mustered, and it was discovered that the only man who failed to answer to his name was the hapless O'Shannassy. Then a search party went out, and the mangled remains were collected and placed reverently in a deal box. When that mournful work was accomplished the men had time to look round and fully take in the nature of the damage. Mr. T. Tolley Jones, the general manager of the company, was on the

spot, and by his directions everything was left intact and in charge of the police, nothing being done except to stay some beams which had been loosened by the concussion, and were threatening to fall. A walk round the ground enabled one to form a good idea of the violence of the explosion. The walls of the engine-house, in which the machinery was still slowly moving, had felt the full force of the air-displacement that followed upon the explosion, and had been fairly demolished, leaving the machinery exposed to view. In the mixing-house the damage was equally apparent, and it is extraordinary that a concussion which shook down heavy beams in all directions did not also explode the nitro-glycerine, which was stocked there ready for washing. But the chief effects were visible where the washing-house had been standing just before. The force of the explosion exerting itself equally in all directions, but making itself most manifest, as might be expected, along the line of least resistance, had excavated a huge circular pit in the earth, and had littered the ground for hundreds of yards all round with fragments of splintered wood and with twisted and half-molten sheets of lead. The iron roof had vanished, and was represented only by a few fragments of blackened metal, while bits of lead half-buried amid piles of debris and clods of earth were all that remained of the tanks in which the deadly compound had been washed. Beyond the fence that skirted the mixing-house the searchers found the remains of the man who had met such an appallingly sudden death, and close by they picked up the soles—to which a portion of the uppers still clung—of the boots, which, by a cruel irony, he had worn to secure his safety.

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Every building within the occupied area showed evidences of the force of the explosion. Not a window remained in the long, low red brick building, in which the acids were manufactured, and in the manager's office, more than a hundred yards away, a heavy iron safe had been lifted from its place and dashed upon the floor.

IN THE LABORATORY.

In Mr. Geff's laboratory, separated from the scene of the explosion by a wide interval, and sheltered by the substantial barrier of the acid-house, from the initial force of the air displacement, the ruin was no less obvious. Test tubes and glass phials had fallen from the shelves in all directions, and the floor was littered with the broken glass. Valuable instruments were destroyed, and a beautiful pair of scales in a large glass case were ruined, drenched with the contents of a jar of sulphuric acid. On the table was an interesting exhibit. It was the sample brought by the unfortunate O'Shannassy to be tested, just before he met his death. It consisted of about a wineglassful of a yellow liquid, hardly distinguishable in appearance from salad oil, and as Mr. Geff lifted the phial which contained the stuff and looked at it critically, he remarked that there was enough to blow the laboratory to match-wood. In searching about for some clue to the mystery of the explosion, one learnt from Mr. Geff that the ordinary test for exploding nitro-glycerine is a pressure of half a foot-pound. In untechnical language this means that if nitro-glycerine is placed upon a sheet of iron, and a piece of iron weighing half a pound is dropped upon it from a distance of 1ft., it will explode. Or if a piece of iron weighing 1lb. is dropped upon the compound under similar conditions from a height of 6in., the effect will be the same. Mr. Geff also observed that less pressure would be required if the nitro-glycerine were warm, and said that it was the usual practice to wash the compound with warm water, in order to more effectually detach the acid. He added that O'Shannassy was in the habit of using warm water, and that as a matter of fact he believed that warm water was used that morning. The difficulty of understanding how a concussion could take place at all was, however, not removed, and Mr. Geff declined to commit himself to any theory accounting for the accident.

STATEMENT BY THE GENERAL MANAGER.

Mr. T. Toller Pease, the general manager

of the Australian Explosives and Chemical Company Limited, said that every known precaution was adopted in dealing with the explosives manufactured by the company. O'Shannassy had performed, for the past 12 years, the same duties as those upon which he was engaged when he met his death. He was a splendidly powerful man—the biggest man employed on the works—and he was known to be a sober, steady, thoroughly trustworthy workman. He had been through the searching-room that morning, and he also wore the boots prescribed by the regulations. It was not possible that a piece of the iron roof could

prescribed by the regulations. It was not possible that a piece of the iron roof could have dropped into one of the tanks, and so exploded the compound, because the roof was sheathed with wood, and no other metal, except copper or lead, was used in the construction of the house. A pressure of half a foot-pound might be the standard test for exploding nitro-glycerine; but, as a matter of fact, it was very "chancey" stuff. He would not say positively that if some of it were dropped from a considerable height upon the lead floor it would not explode. It might be possible that such a result would happen, if, for instance, the operator, when holding a phial full of the compound in his hand, were to slip and fall violently upon the lead floor. But the floor was covered with coir-matting in order to prevent the possibility of slipping. It would be impossible, in his opinion, for the stuff to explode by being poured either into a glass phial or a rubber bucket.

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