

EXPLOSION WHILE BREAKING DOWN .22 MINIATURE
RIFLE CARTRIDGES AT DUDLEY PORT, STAFFORDSHIRE.

EXPLOSIVES ACT, 1875.

FINAL REPORT

To The Rt. Hon. EDWARD SHORTT, K.C., M.P.,
Secretary of State for the Home Department,

In the matter of a formal investigation held at
the Victoria Law Courts, Birmingham, on
22nd May and on 24th July, 1922, by
Lieut.-Colonel Samuel Fleming, Metropolitan
Police Magistrate, assisted by Major A.
Cooper-Key, C.B., H.M. Chief Inspector of
Explosives, as Assessor, into the circum-
stances of an explosion which occurred in a
Workshop in Groveland Road, Dudley Port,
Staffordshire, on the 6th March, 1922.

Presented to Parliament by Command of His Majesty.



LONDON:
PUBLISHED BY HIS MAJESTY'S STATIONERY OFFICE

To be purchased through any Bookseller or directly from
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IMPERIAL HOUSE, KINGSWAY, LONDON, W.C.2, and 28, ABINGDON STREET, LONDON, S.W.1,
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1922.

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WARRANT OF APPOINTMENT.

ORDER of the Secretary of State, dated the 11th day of April, 1922, under Section 66 of the Explosives Act, 1875, directing a formal investigation to be held into the causes and circumstances of an explosion at Dudley Port, Staffordshire.

In pursuance of Section 66 of the Explosives Act, 1875, I hereby direct that a formal investigation shall be held of the accident which occurred in a Workshop in Groveland Road, Dudley Port, Staffordshire, on the 6th March, 1922, and of the causes thereof and of the circumstances attending the same.

AND I HEREBY APPOINT

COLONEL SAMUEL FLEMING, Metropolitan Police Magistrate, to hold the same with the assistance of MAJOR COOPER-KEY, His Majesty's Chief Inspector of Explosives, as Assessor.

(Signed) EDWARD SHORTT.

11th April, 1922.

FINAL REPORT

TO THE RIGHT HON. EDWARD SHORTT, K.C., M.P.,
H.M. Principal Secretary of State for the Home Department.

SIR,

I have the honour to report that on July 24th the adjourned Court was re-opened at the Victoria Law Courts, Birmingham.

Mr. Beale, of 12, Newhall Street, Birmingham, represented the Treasury.

Mr. Lort Williams, K.C., M.P., and Mr. Donald Hurst appeared for the Premier Aluminium Casting Co., Ltd.

Mr. C. H. Darby appeared for Mr. J. W. Knowles.

Mr. J. H. Stockdale appeared for the Tipton Urban District Council.

Superintendent Dix appeared for the Police.

Mr. H. Andrews and Mr. R. V. Dawkins, directors of the Premier Aluminium Casting Co., Ltd., were re-called and thereafter the following gave evidence:—

Police Sergeant G. W. H. Flavell, stationed at Tipton Green.

Police Inspector A. Mycock, stationed at Tipton.

Mr. A. Wolfe, Inspector of Factories for the Wolverhampton District.

It appeared from the evidence that a short time before Knowles entered into the contract with the Premier Aluminium Casting Co., Ltd., for the .22 ammunition, he was taken round the works of the said company by the directors thereof (Mr. H. Andrews and Mr. R. V. Dawkins), and he there saw the precautions ordered to be taken by the Home Office before the said Company was allowed to break down ammunition. These included, *inter alia*, partitions separating each worker, rubber shoes and overalls, and arrangements by which the extracted powder fell immediately into water. Further, he was told by Mr. Dawkins that if he undertook the breaking down of ammunition he would have to take all those precautions and would have to have a licence.

In January, 1922, Knowles made the contract for the said ammunition. It is contained in the following letters:—

“ Groveland Road,
“ Tipton,
“ January 16th, 1922.

“ Messrs. Premier Aluminium Casting Co.,
“ Hay Mills,
“ Birmingham.

“ DEAR SIRS,

“ Further to your letter and invoice of January 12th, I hereby agree to purchase 160 tons of revolver ammunition to sample at £18 per ton delivered these Works or equal.

“ Terms of payment £250 down on receipt of contract. £750 when the goods are known to be on the way. Balance in equal bills at 1, 2 and 3 months, dated from day of delivery at Tipton Station of the lot or reasonable part thereof.

“ Yours faithfully,

“ (Signed) JOHN W. KNOWLES,

“ *Manager.*”

“ Groveland Road,

“ Tipton,

“ *January 16th, 1922.*

“ Messrs. H. Andrews and R. Dawkins,

“ Hay Mills,

“ Birmingham.

“ DEAR SIRs,

“ I hereby agree to divide all profits arising from the purchase of 160 tons of revolver ammunition as to one-half between your good selves, the other half to be retained by me, and I agree that Mr. Martin, Accountant, of Dudley, shall have a fee of £5 5s. to audit the account in connection thereon, and, further, that his figures shall be binding.

“ Yours faithfully,

“ (Signed) JOHN W. KNOWLES,

“ *Manager.*”

“ *January 18th, 1922.*

“ Mr. L. K. Knowles,

“ Messrs. G. H. Yates, Ltd.,

“ Groveland Road,

“ Tipton.

“ DEAR SIRs,

“ We are in receipt of your letter of the 16th inst., regarding the small Ammunition, and agree to your proposition as regards the division of the profit on this deal.

“ It is understood that this material shall be delivered to your works, and you will break this down, and obtain the best possible prices for the resultant material, and you will keep Mr. Martin informed of the whole transaction.

“ We are also prepared to take from you 20 tons of the lead in ingot form at £22 (Twenty-two pounds) per ton, delivered our works.

“ Yours faithfully.”

In pursuance of this contract the said ammunition, as stated in the Interim Report hereon, was ordered to be delivered to Knowles at the factory in Groveland Road aforesaid.

This factory, of which the workshop in question forms part, consists of several one-storey buildings surrounding an open yard. The roof of the said workshop consists of corrugated iron sheets, its floor is made of concrete and in the centre is a stove.

On January 28th, 1922, Mr. A. Wolfe inspected the Factory aforesaid, and he stated that there was nothing there which he had not seen on previous occasions. He produced a "Notice of Occupation of a Factory or Workshop," signed by Knowles, which he received on February 4th, 1922—the material parts thereof read as follows:—

"I hereby give notice that I have begun to occupy a Factory as below:—

Name of the Firm under which the Business is carried on.	L. K. Knowles, Successor to G. H. Yates (Dudley Port), Ltd.
Name of Factory or Workshop.	Brass Casting.
Place where the Factory or Workshop is situate.	Groveland Road, Tipton.
State whether municipal, borough, urban district, or rural district.	(Urban District.)
Address to which letters are to be addressed.	Groveland Road, Tipton.
Nature of the work carried on	Brass Casting and non-ferrous metals.
Nature and amount of moving power.	Three Electro-motors, comprising one 10-h.p. and one 8-h.p. and one 7-h.p.; Total, 25-h.p.
Whether Women or Persons under 18 years of age are to be employed.	About 8 to 10 persons under 18 years of age.
Address of other premises, if any, previously occupied as a factory or workshop.	No.

"Signature of Occupier, JOHN W. KNOWLES,

"*Manager.*"

"Date, *February 3rd, 1922.*"

It is noteworthy that on the day when Knowles sent this Notice not only had he contracted to break down the said ammunition at the said factory, but the first delivery under the said contract had taken place.

The evidence of Sergeant Flavell shows that about the beginning of February someone telephoned to the Police Station at Tipton

Green, and asked him if a licence were required for "breaking up ammunition." There was some conversation, and eventually the person making enquiry said he would ring up the Inspector later. The Sergeant says he did not ascertain the name of the person telephoning, that he did not enter the conversation in the book provided for that purpose, or report the matter to his Inspector. He said it was an oversight on his part, but he relied on the person telephoning to the Inspector as aforesaid.

The first method employed by Knowles to break up the said ammunition was by firing the cartridges in a muffle furnace. This, however, proved to be a wasteful process, and, therefore, he telephoned to the Premier Aluminium Casting Co., Ltd., and later he wrote to the said Company as follows:—

" Groveland Road,
" Tipton,
" February 20th, 1922.

" Messrs. Premier Aluminium Casting Co.,
" Hay Mills,
" Birmingham.

" DEAR SIRS,

" I beg to confirm my conversation over the 'phone that it is quite useless going on with these Cartridges under the present style, and I shall be pleased to see your Mr. Andrews and Mr. Dawkins over here with a view to what steps we are going to take.

" The process in force now is nothing but a most wasteful one and mixes the lead and copper altogether, and instead of a profit we shall have a very heavy loss.

" Yours faithfully,

" (Signed) p.p. J. W. KNOWLES,
" Manager."

In consequence of the last-mentioned letter, Mr. Andrews went to the said factory and saw Knowles. He was shown how the muffle furnace was wasting the metal, and then he was shown a new method of breaking the cartridges apart. Knowles said it had been "found out" by one of his men, and it consisted in placing a strip of metal with holes drilled in it across an empty box and fixing it to the sides. The cartridges were placed in the holes and the bullets prised out of the copper cases by hand. The bullets then fell into the box and the copper cases were put into another box.

Mr. Andrews thought it was "a good idea," but although he knew that this new method was in progress, and saw through the open door

of one of the workshops six girls at work, yet he did not take the trouble to enter and see the conditions under which the work was being carried out, or remind Knowles of the precautions which were required by the Home Office, and which he and Mr. Dawkins had shown him in December, 1921, at the works of the Premier Aluminium Casting Co., Ltd.

It was in evidence that the correspondence of the Premier Aluminium Casting Co., Ltd., was conducted by Mr. Dawkins and in reply to Knowles' letter of February 20th, 1922, he sent the following:—

February 21st, 1922.

“ Mr. L. K. Knowles,
 “ Messrs. G. H. Yates, Ltd.,
 “ Groveland Road,
 “ Tipton.

“ DEAR SIR,

“ We are in receipt of your letter of the 20th inst., regarding the small cartridges which you are dealing with, and would remind you that in your contract you undertook to do this breaking down, and while we shall be quite pleased to give you any assistance we can, we wish it to be distinctly understood that this is not our part of the business, and must ask you to carry it through successfully in accordance with the terms of the arrangement.

“ Yours faithfully,

“ P.S.—With reference to Mr. Andrews' call about this matter, he informs us that you are now extracting the bullet, and leaving the lead and copper clean, at 1s. 6d. per cwt., instead of muffling it as you originally proposed.”

It is clear that Mr. Andrews told Mr. Dawkins about the new method adopted by Knowles, and yet, in writing the last-mentioned letter, he also failed to remind Knowles of the precautions which he must take in order to comply with the Home Office requirements, and which had already been shown to him as aforesaid.

On March 6th, 1922, twenty-four girls were in the said workshop engaged in breaking down the said ammunition by the said new method. This of necessity caused some of the gunpowder to fall into the boxes in which the bullets fell and the rest of it was scattered over the table, the clothing of the girls and the floor. The stove in the centre of the said workshop was lighted and from time to time a man opened its door to put in or take out tools employed in soldering operations.

Suddenly, the explosion occurred.

The Court finds :—

1. That the cause of the said explosion was the culpable negligence of J. W. Knowles.
2. That, having regard to the terms of the said contract and to the circumstances aforesaid, it became and was the duty of Mr. H. Andrews and Mr. R. V. Dawkins to see that the said ammunition was broken down under proper precautions and that their negligence in that behalf was a contributing cause of the said explosion.

I am, Sir,

Your obedient Servant,

S. FLEMING,

Lieut.-Colonel.

11th September, 1922.

Printed under the Authority of HIS MAJESTY'S STATIONERY OFFICE
By HARRISON AND SONS, LTD., St. Martin's Lane, London, W.C. 2.
Printers in Ordinary to His Majesty.

(B 3-342) Wt. 18476—C 184 625 11/22 H & S, Ltd. G 3.