

# THE OBSERVATION POST

VOL. 1, No. 32.

PALMERSTON NORTH, THURSDAY, DECEMBER 24, 1942.

PRICE 1d.

## Invisible Ink

(By W.O. II. L. V. Winks.)

Invisible ink is not purchasable in a stationer's shop; for that matter it is not necessary to purchase it at all—you can make your own. A spot of lemon juice will make an admirable invisible ink. Take a perfectly clean nib, dip it into the lemon and write your message on a piece of paper; allow the juice to dry—and there will be nothing to be seen. Then run a hot iron over the paper, and the writing will return—faint and light brown in shade, but readily legible.

There are, however, chemical inks of greater complexity, but not so readily revealed. There are many in use which defy the hot iron; but there are, of course, reagents to all chemicals. There is another way of detecting writing with invisible ink. Take a clean nib, dip it in water, and begin to write; or dip it in nothing at all—merely write with the dry nib on the paper. Your nib will make minute scratches on the paper—invisible to the naked eye, but easily seen under the microscope. Nor is microscopic examination necessary. An iodine vapour bath is an essential appliance in every censorship office; this is a simple apparatus—a tin oven in which iodine is maintained at the lowest temperature at which it will remain vapourised. The suspected letter is introduced into the bath; iodine tends to settle on the rough surfaces, and in a few minutes, when the letter is withdrawn, it will be found that minute crystals of iodine have settled along the tiny rough edges formed by the scratch of the nib. The writing clumsily outlined and with many blurs, comes to light by this ingenious device.

### SPIES' USE OF INK

Yet even this can be countered. The Germans frequently supply their agents with ball-pointed pens—nibs with a tiny ball instead of a point. This makes no scratches as it passes over the page—it is necessary to write large in order to make the necessary loops. The resultant letter could pass even the detecting interior of the vapour bath without arousing suspicion. But, on the other hand, if a man were caught with a ball-pointed pen in his possession, then he was on the face of it a spy; there was no other reason for possessing such a thing. Invisible ink, naturally, is not carried about in bottles so labelled. One German spy arrested in England carried his supply in a tin originally manufactured to house home-made talcum powder! Others carried their ink in their clothing; before leaving their base they would dip handkerchiefs, collars, and even socks in a solution of the chemical. The articles, carefully dried, were carried to their destination; then it was only necessary to dip the handkerchief or other article of clothing in a very small quantity of warm water, and to squeeze it out to turn the water into an ink of adequate strength. Until its use was discovered and the necessary reagent supplied to counter-espionage officers, the Germans during the World War made great use of a fluid comprised of naphthol, collodion and acetone in the proportion of one, twenty, sixty. This mixture was smuggled to their agents as medical tablets, which were always packed in paper bearing the trade mark of a genuine manufacturer of chemists' supplies. They were also supplied with point protectors in metal, which fitted over their pencils, and which served as a measure for the quantity of powder necessary for the production of the ink!

### DEVELOPING REAGENT

The following is the reagent used to develop the writing: Five grains of sulphuric acid were mixed with fifty cubic centimetres of nitric acid in a litre of water, and added cold to one gramme of sodium nitrate. Fifty grammes of sodium acetate were then dissolved in two hundred cubic centimetres of water. Working with a mixture of twenty cubic centimetres of this second solution with a hundred

cubic centimetres of the first solution, the complete paper was then dipped in the mixture until all the letters appeared, and was afterwards washed in distilled water and dried between sheets of blotting paper.

### THE CONCEALMENT OF THE INK

Lead acetone is a frequent component of invisible ink, but a more popular mixture is one of brandy and milk, these components being more readily obtainable. Italian spies in wartime were supplied with an invisible ink made of potato pulp and disguised as toothache cure. Eggs figure more than once in the spy records of Europe. There was one case of a lady who lived in France, but only a mile or two away from the Swiss frontier; legitimately enough, she used to have her eggs sent from a Swiss farm—in times of peace, movement over friendly frontiers is easy enough, and, a frontier being an artificial line, it is quite natural that local people should move freely from one side to the other. Unfortunately for the lady, the French counter-espionage service grew suspicious. She had done nothing to excite their curiosity, but a French agent had discovered that the Swiss farmer was a German whose activities had been known in another connection some years before. For weeks, however, they were unable to discover any illicit intercourse—except for the consignment of eggs and payment for them, there seemed to be no communication. The cartons in which the eggs were delivered were examined by the French agents. At last in despair, it was decided to examine the eggs themselves. Within a few hours laboratory tests had revealed their secret for when they were dipped in a certain solution of gallnut, writing was disclosed on their shells; the ink was identified as a preparation of lithymal.

### EGGS AS THE MESSAGE CARRIER

Yet this method was punitive compared to another which was worked on more than one occasion. A counter-espionage officer was amazed when, peeling the shell from a hard boiled egg, he noticed hieroglyphics in black on the white of the egg, which eventually deciphered themselves into letters. Yet the device is simple enough—and for that matter by no means modern. After the egg is hard boiled and has been allowed to cool, the spy gets a small portion alum and vinegar—both, it will be noted, homily articles arousing no suspicion. The alum is the more unusual but anyone can legitimately carry an antiseptic block with which to rub the chin when he cuts himself when shaving. The alum and vinegar are mixed together to the consistency of ink; then the message is written on the outside of the shell. As this unique invisible ink dries, there is nothing to be seen; but a few hours later the message, which must be written in large characters, will appear on the white of the egg. What happens is this. There is, of course, iron in allum—ferrous ammonium sulphate. Commercial vinegar (acetic acid) is just strong enough to perforate the egg shell (calcium carbonate) carrying with it a little iron in solution. After the acid has eaten through the shell, it reaches the white of the egg. This contains sulphur—as you will have noticed when smelling a bad egg. The sulphur combines with the iron in solution to form iron sulphide, which is black.

### STITCH IN TIME.

"Dinkum" was knocked down by a taxi and taken to a Military Hospital. The nurse who attended him shook her head gravely. "You've got a nasty wound there," she told him. "We'll have to put a few stitches in it." "O.K.," muttered the digger, "and nurse, while you've got the needle threaded you might sew a button on my tunic."

## Thursday's Concert

AN EXCELLENT SHOW.

Last Thursday the Regiment was treated to a variety show of an excellent standard. The guests of honour were the Misses N. and A. Honore. Individual reports from members of the unit label it as an unqualified success. It is performances such as this that become the general topic of conversation throughout the whole Regiment. We enjoy these concerts of which last Thursday's success wildly exceeded our expectations.

### The Evening's Favourite.

The comedian of the party, Mr. Joe Houlihan, continually lifted the roof with his superb acting, let alone his quips and cracks. A special vote of the thanks from the unit is expressed through this paper when we say that we sincerely hope Mrs. Powell will bring out her party again in the very near future, not forgetting the inimitable Joe. Mr. Houlihan is a true artist in his profession and his performance leaves nothing to be desired. His appearances were thoroughly appreciated and we hope he will accept our congratulations and sincere thanks.

Since the whole programme requires many more adjectives than the dictionary provides we will have to content ourselves by simply listing the various turns, songs, dances and sketches as they were presented.

Rumba Scene—Dance, song and band.  
Tap dance—Miss Zoe Bailey.  
Piano Accordion Solo—Mr. Ray Parker.  
Sketch: "The Park Bench"—Nona, Doug and Colin.  
Sketch: "The Blue Room"—By four players.  
Song: "The Rose of No Man's Land"—Miss Margaret Alderson.  
Sketch: "Maternity"—Sylvia, Nona and Doug.  
Elocutionary Recitation—Nona.  
Comedy Sketch—Joe, Doug, Colin and Sylvia.

### Interval.

Cowboy Scene—"Mohawk Bridle," Skipping Dance, Miss Gloria Lavin; Piano Accordion Solo, Mr. Ray Parker; Song, "Texas."  
Tap Dance—Miss Zoe Bailey.  
Song: "It's a Lovely Day Tomorrow"—Miss Margaret Alderson.  
Piano Accordion Solo—Mr. Ray Parker.  
Sketch: "Economising"—Starring Joe.

Song, a return by popular request: "Little Nellie Kelly"—Miss Margaret Alderson.  
Song: "Dolores"—Doug and Colin.  
Song, another popular return: "One Day When We Were Young"—Miss Margaret Alderson.

Wedding Scene—The Company, solo singer, Miss Nona Kingsbeer, solo dancer, Miss Gloria Lavin.

Finale—"Now is the Hour." Mr. J. Keys was at the piano.

At the conclusion of the performance Major G. Nelson, on behalf of the audience, thanked Mrs. Powell and her talented company for their very welcome visit.

Placing his box-camera on the counter the meek looking man asked the shop assistant to put a new film in it.

"Certainly, sir," replied the assistant. "Shall I give you the shilling or the one-and-twopenny film? The one-and-twopenny is the faster film."

"Give him a shilling one," snapped the man's large wife, "he's got plenty of time."

The very stout woman tackled a bus inspector at a busy stopping-place.

"I want to report the conductor of the bus that's just gone!" she shrieked. "He's been rude."

"How?" asked the bored official.

"Why," went on the woman, "he was tellin' people the bus was full up, and when I got off he said: 'Room for three inside!'"

## The Tommy Gun

### USES

Never has Chicago's gangland been so excited as it was when one cold February morning in 1930 when "Scratch" Phipps, bosom pal of Al Capone, was put on the spot.

It was not Phipps' death which excited the underworld—there was nothing particularly unexpected about that—but the method of the killing. He had been riddled with cartridges from a new and deadly type of machine gun.

Within forty-eight hours nearly every trigger man in town was breaking his neck to get hold of a similar weapon.

When news of this reached a normally quiet, law-abiding retired army officer named John Taliaferro Thompson he snorted with rage. "I spent the best years of my life perfecting this gun so that the U.S. Army could better defend law and order, and now it becomes a gangsters' 'gat,'" he complained.

For the weapon which the gangsters had "discovered" was the Thompson sub-machine gun, perfected some years earlier and which is now being issued at the rate of 3000 a month to the British Army.

Gangsters soon found that Brigadier General Thompson had not wasted the 32 years he had spent in experimenting with guns and rifles. At ranges from 50 to 75 yards his gun—called a sub-machine gun because it is smaller than the regulation military machine guns—was terribly lethal.

Gangland used the Tommy gun with discretion. It was found to be a shade too clumsy for ordinary "stick-ups" but ideal for street bumping-off jobs. You might plug a man with a revolver and he might still live. But no one could survive thirty rounds in four seconds from a Tommy gun.

In 1919 the United States Government awarded Thompson the Distinguished Medal for his work in the small arms division. But when the gangland killings soared to new heights the public was not so sure that Thompson could be called a benefactor.

However, the gangsters could not always get hold of the guns in quantity. The police could, and what is more their models were brand new.

Military use was made of the gun early in the present struggle, when both sides adopted it for patrol work. It was found to be particularly effective in clashes in No-Man's Land.

Because the gun is so light—it weighs just over 11 pounds—and measures only 33 inches overall, Goering adopted it for his parachute troops.

Now Britain is receiving large quantities of the gun from the John Thompson Corporation in New York to assist in dealing with enemy parachutists. The normal output of 5000 a month is being greatly speeded-up.

CHRISTMAS HOLIDAYS  
Rosco will be closed December 25th and 26th and January 1st and 2nd ONLY.



ROSCO  
extends to you

## A Friendly Invitation

to visit Palmerston's leading Gift Store. We offer a fine choice of Rosco Gifts for Christmas and New, Year which every member of your family and your friends will receive with appreciation.

The Store for Value & Friendly Service

C. M. ROSS Co. Ltd.

The Square Palmerston North