



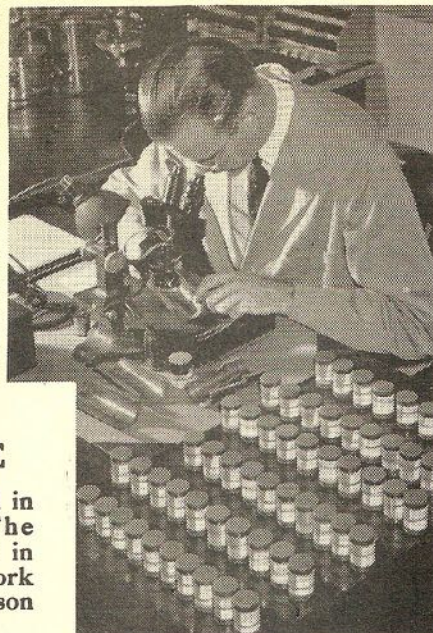
FBI

LABORATORY

FBI THIS WEEK

Home Edition

JULY 7, 1945

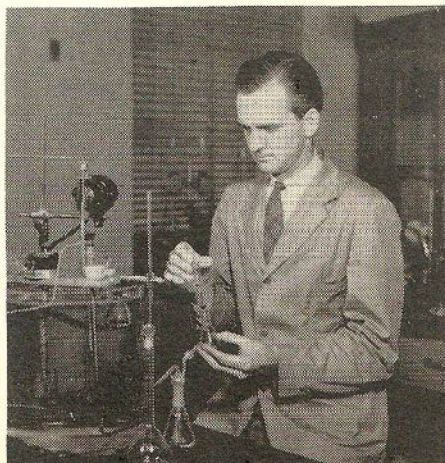
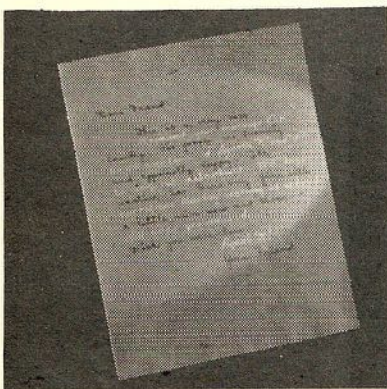
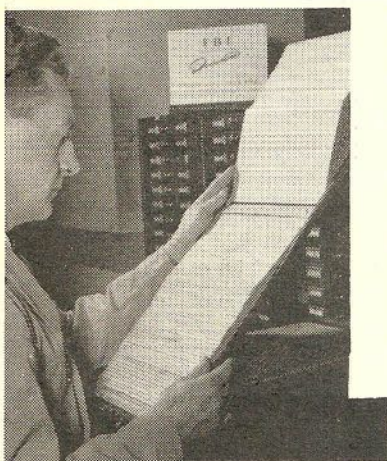


DIRECTOR'S MESSAGE

The Alchemists of old believed in mystery, magic and wizardry. The FBI Laboratory expert believes in highly specialized training, hard work and the theory that there is a reason for everything.

Today the man who picks up his paper and reads the exciting account of the arrest of a spy, the capture of a murderer or the apprehension of a bank robber by G-men, thinks of the drama of the moment. The story has a different climax to the Laboratory examiner who worked on the case. For him the spy was trapped under a microscope focused on a scrap of handwriting, the murderer was caught in a test tube and the bank bandit was convicted by a spectrum long before any one of them was taken into custody.

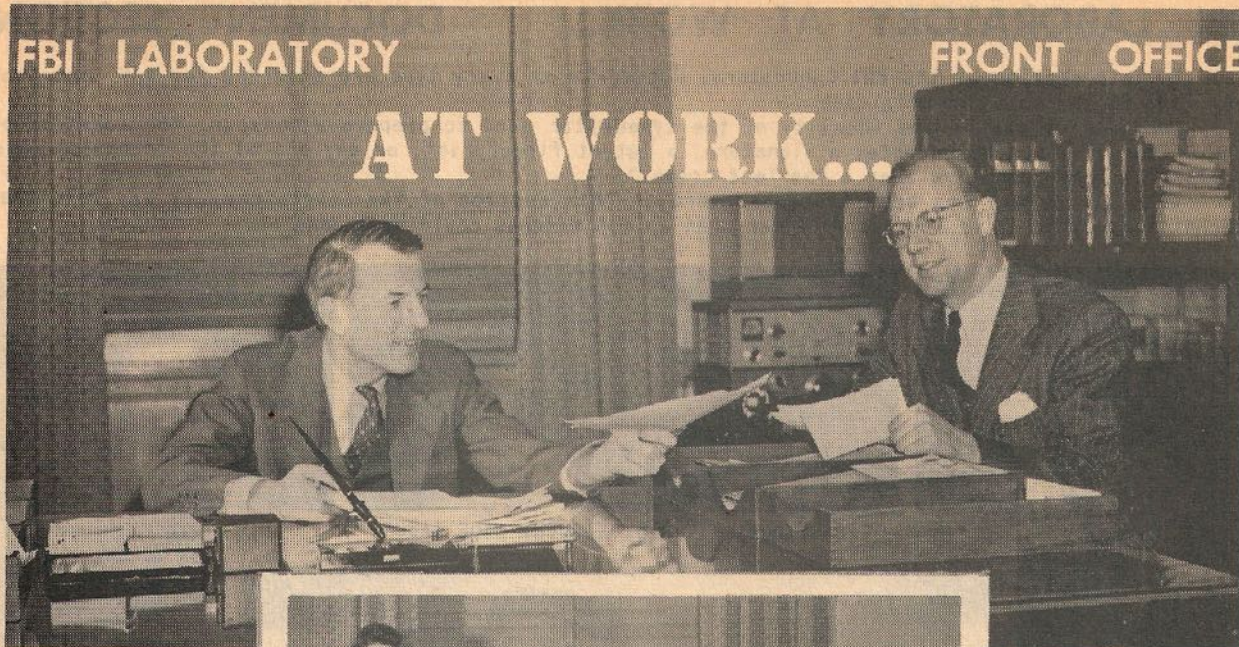
I believe you will enjoy meeting the men and women whose search for the truth has made them, in a special sense, guardians of the law. I am proud to introduce the personnel of the FBI Laboratory as featured in the pages of this third Home Edition of the FBI This Week.



FBI LABORATORY

FRONT OFFICE

AT WORK...



MR. E. P. COFFEY,
ACTING ASSISTANT
DIRECTOR IN CHARGE.

MR. D. J. PARSONS,
CONSULTING ENGI-
NEER.

J. R. DUNLOP, IN
CHARGE OF SPECIAL
PHOTOGRAPHY.



M. V. COWAN, SPEC-
IAL PHOTOGRAPHY.

MR. H. B. LONG, NUMBER ONE MAN OF THE DIVISION,
WITH EUGENIA BECTON, TYPIST, AND (CENTER) EDNA
HOLMES, SECRETARY.



ROBERT MORAN
INDEX CLERK.



LOUISE MILLS,
CLERICAL SU-
PERVISOR.



LAB FILES: LEFT TO RIGHT, LESSIE REDMOND, MARY
ELLEN L'IPSCOMB, MARJORIE BENDER, NEVA CLAIBORNE,
SYLVIA HOPKINS (SEATED) AND EMILY TURNER.



LAB MESSENGERS: LEFT TO RIGHT, FRANCIS CHURCH,
LOUISE GARNER, IRENE WOODRUFF, CLEO HOWARD
AND ANITA KELLERMAN.

FBI LABORATORY AT WORK..

DOCUMENT SECTION

In this section of the FBI Laboratory, documents of every type are examined for any clue they may give to the solution of a case.

Such a clue may be the identity of the typewriter used to prepare a message, the identity of the writer of a scribbled note, a signature, a latent fingerprint, or any one of the countless ways a piece of paper can give away a "perfect crime."

When a document has been processed through this section of the Laboratory, it has told the technicians all that it knows and better than an eye witness could have done it.



FRONT TO BACK: MARY KEOUGH. WADE TABOR.

SEATED: ALICE Mc-
LEAISH. STANDING:
RUTH KENDRICK

FRANCES McCLUNG



MARGERY PIZER,
MILDRED DESORT.



DORIS BRIGGS

MR. J. P. HANRATTY, SECTION CHIEF.



ANN FERRI,
DOROTHY TIEDEMAN.



MR. G. W. DINGLE, NUMBER ONE MAN.



EDITH GUSACK



MILDRED ROBBINS



LENNIS SCHELLENBERG, ANN FERRI,



FERNETTE WHEELER, ANITA ST. PIERRE, ANN FERRI.



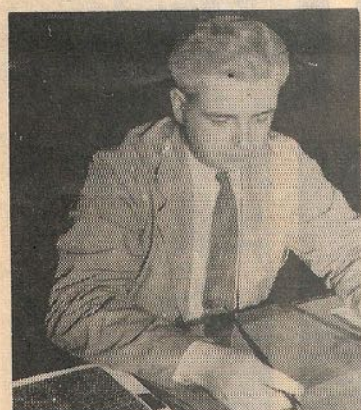
LEFT TO RIGHT: GERALDINE MORE- DOCK AND JANE PILLOW.



JOHN F. TOOMEY



EVELYN BENTLEY, ROSELLA SMITH, SHIRLEY MUNROE.



J. M. ENGLISH



EDNA HUNNICUTT



CHARLES A. APPEL



EDITH BROBECK, WOMEN'S PER- SONNEL COUNSELLOR.



JANE EVERLINE



JOY UPTON



HELEN M. McILREE



LEFT TO RIGHT: EDITH BROBECK, VESTA SLATER,
CAROLINE JONES, DOLLY SIEVERS.



ALMA SHIPKEY



W. E. DAVIS



S. W. MARSHALL



FLORENCE CRAWFORD



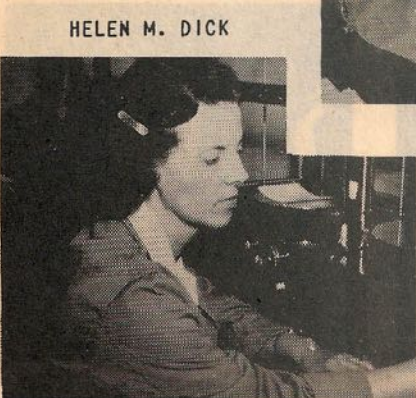
SEATED: H. L. DAHLGREN,
STANDING: EARL SLAYTON.



JAMES V. BLAINE



ELMER L. ROLLINS



LEFT TO RIGHT: DOROTHY GUNTER,
ELISE THOMAS.





EMILY SEITTER



LEFT TO RIGHT: LOIS BOYD, MARTHA BARTLETT, ANN CARTER.



ANN HINTON



LEFT TO RIGHT: HARRIET E. MARTIN, VIRGINIA ESKRIDGE.



JAMES C. CADIGAN



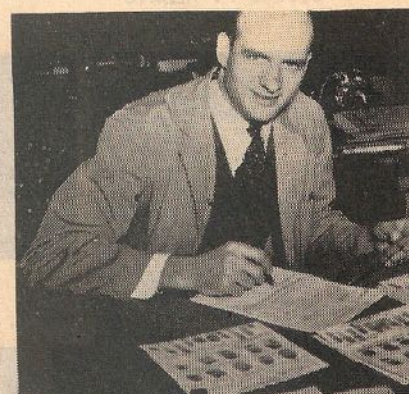
SEATED: PAGE BECKEMEIER.
STANDING: GARNET HINSHAW.



RUBY R. JONES



JOSEPH L. GORMLEY



GEORGE W. KYL



LEFT TO RIGHT:
JANE CHELLEVOLD,
CLARENCE E. BOHN



BACK TO FRONT:
DOROTHY FUNDERBURK,
FRANCES JUDD,
ELVIRA BISSELL.



LEFT TO RIGHT: MARY SPENCER, EDNA HAYNES.



J. N. WILLIAMS



MRS. GEORGIE SPARKS



GEORGE F. MESNIG



LEFT TO RIGHT: ROY L. ERICKSON, S. T. HOLLAND



SEATED: MARIAN ROBERTS.
STANDING: BERNICE KOCH.



FRONT: D. N. GRAY.
REAR: S. H. KINLAW



RAMOS C. FEEHAN



MARY APPEL



LEFT TO RIGHT: RUTH HINKSON
ELEANOR JACKSON.



FREDERICK E. WEBB



L. E. PAYNE



JOSEPH L. PENNINGTON

FBI LABORATORY AT WORK... CRYPTANALYSIS SECTION

The technicians of this section examine code and ciphers, systems of secret communication which their originators believe to be fool-proof. The cryptanalyst's job is to transform apparently meaningless jumbles of letters into coherent text and to detect secret messages conveyed in the guise of apparently innocent communications.

In the Middle Ages one successful cryptanalyst was condemned as a wizard and conjurer in league with the devil; the modern opinion, however, has decreed that success in this field is achieved not through black magic but by a thorough knowledge of the principles of the science and by infinite patience.

Since the systems are many and varied, formal classes are held both in languages and methods of encipherment, and technicians are kept advised of current trends and innovations by means of weekly forum discussions.



RAYMOND. L. BECK



SECTION CHIEF CHURCHILL F. DOWNING



W. GEORGE GOOLD



ROY H. McDANIEL



NUMBER ONE MAN PAUL A. NAPIER



I. WOODROW NEWPHER



EVANGELYN AND GWENDOLYN
DUNCAN.



CRYPT SECTION TYPISTS.



EILEEN DIAMONDSON AND
DOROTHY SOUDER.



RICHARD B. SMITH



LEFT TO RIGHT: RUTH HUNTER, ROBERTA ANDERSON, ANN BROWN, ROWENA MITCHELL



PAUL NOEL



DORIS FRY AND VANETTA VAN GEEM.



R. A. PECKHAM OPERATING THE POLYGRAPH OR LIE DETECTOR.



RITA SCHNEIDER AND JULIA GUTOWSKI



MARTHA JANE CLAYPOOL, BARBARA BASKIN, MARY BURLEY.



LEMUEL W. KERR



BETTY JOHNSON, ALINE MONTCALM, JULIA LEE.



RICHARD E. WOOD



FRANCIS W. RALSTON



EARL L. FUOSS



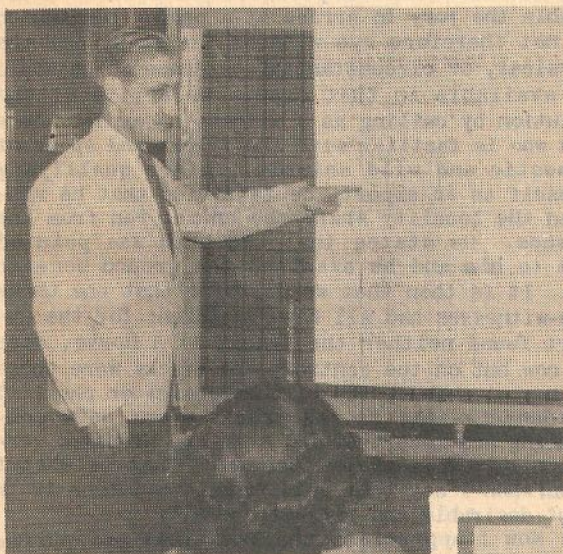
HENRY B. COX



LOUISE LIGHTNER AND HELEN ALLEN.



SUSIE MURDOCK, LECTURING



ALVIN PETERSON, LECTURING



BLAIR LYLE AND EVELYN CONNELL

LEFT TO RIGHT: MABEL OWEN, HELEN SULLIVAN AND MARJORIE WRIGHT.



PAULINE PILSON, LECTURING

Scientific Evidence

Excerpt from address to the jury by District Attorney Burton R. Laub in Commonwealth V. Lee. No. 58 Sept. Term, 1944, Erie County (Pennsylvania) Court of Quarter Sessions.

What I have just discussed was that evidence which you frequently hear called "direct evidence." With your permission I will now direct your attention to the other evidence in this case which has been referred to in this courtroom as "scientific evidence" and, by defense counsel, as "circumstantial evidence."

I think that, before I discuss this evidence it might be well to examine the source of it. Ordinarily we get our evidence from the lips of individuals who are residents of our community. As such they reflect, in a small measure, local sentiment with regard to important cases. Thus, a witness called for the prosecution not only, in most instances, has some bias toward the prosecution but he reflects in his attitude that which he has heard others say about the case. The same holds true of the defense witnesses in most instances. Sometimes they are close friends of the accused and therefore unconsciously lean in his direction. Sometimes this bias is voluntary, at others, it is involuntary. In other words, we are all human and cannot separate our personal feelings from that which we deem to be fact.

In a court trial - which is, after all, a search for truth - it is always important to secure as many witnesses as possible who are entirely free of personal feelings of hatred or sympathy and who are not sensitive to public opinion. We have been fortunate in that regard because we have had the benefit of the unbiased testimony of three expert witnesses sent here by the Federal Bureau of Investigation. These witnesses are not paid by the Commonwealth, they do not reside here, they have no connection with any of the counsel on either side nor do they know the defendant or his family personally. You have observed them on the witness stand and have seen how readily they answered every question regardless of how it affected the case of either side. These men have nothing to gain or lose by your verdict. I believe it safe to assume that, regardless of whether or not this man is found guilty, they will still draw their salaries as Special Agents of the Bureau and I think it equally proper to state that your verdict will not, in any way, result in any pecuniary gain or profit to them. The source, therefore, of this "scientific" or "circumstantial" evidence is clean and healthy and credible in every respect.

I think also that I should make some comment upon the term "circumstantial" evidence. For some reason or other this term has taken a sinister character in the hearts of jurors. The term has come to bear an unfavorable connotation and I am sure that all of you, at one time or another, have heard jurors say, "I would never convict a man on circumstantial evidence." Now this is curious for, to the average practitioner of the law, circumstantial- or physical evidence,

as we prefer to call it- is more convincing than direct or so-called eye-witness testimony. Perhaps an illustration will bear me out upon this. Let us assume that three men are walking through a wood. An animal starts up in the brush and runs away. The first man exclaims, "There goes a deer," the second man says, "It's a horse" and the third man says, "You are both wrong, it was a cow." Now in this instance, if there were a trial to determine the character of the animal which all three had seen, the jury would have the benefit of the testimony of three eye-witnesses. Under the facts as I have given them, no jury in the world could arrive at the proper answer without venturing a pure guess as to which of the three men had the best visual powers.

The absolute and positive proof which would enable the jury to arrive at a proper conclusion is not therefore eye-witness testimony but the physical, or circumstantial evidence which would be available in that case. We arrive at the solution by calling as a witness an expert woodsman who is familiar with the tracks and spoor of domestic and wild animals. After qualifying himself as an expert, he testifies that he visited the locality where the animal ran from the bushes. He states that the bush was pointed out to him and he examined the ground beneath it. It is then that we discover that the three eye-witnesses had all been mistaken; for the expert found neither the tracks of a horse, deer or cow but on the contrary, the tracks were those of a goat. Thus, the circumstantial or physical evidence - that is the tracks - was more convincing and more truthful than the mistaken versions of three eye-witnesses. That is what I mean when I say that this type of evidence is the most desirable and reliable of all.

Now I appreciate the fact that scientific evidence accompanied by descriptions of such technical instruments as spectrographs and microscopes, and co-mingled with the mystery and magic of test-tubes, melting points, boiling points and other confusing names, means little or nothing to the average layman. I confess that they meant little to me until I started looking into the matter for the purposes of this case. Because of this, I should like, with your permission, to reduce the testimony of these scientists to a simple form so that we can all understand what they mean.

Let us take, for example, the testimony concerning paint. Mr. Driscoll told us that he found evidence of five different kinds of paint in the debris which came from the victim's bed clothes and in the debris which came from the defendant's clothing. He told us that these paints existed in the same combination on her bedclothes and his clothing and that, in his opinion, they originated from the same source. In other words, in his opinion, either all of the

paint was first on the defendant's clothes and then transferred to the bed or it was on the bed and transferred to his clothes. As another alternative, some of it might have been in both places and then, by contact, became mingled into one mixture of the same elements in both places.

Now we still haven't gotten very far unless we know why he gives us this opinion. You will recall that, on cross-examination, he readily admitted that the types of paint with which we are dealing might exist anywhere and are quite common—although he did say that the black paint in both specimens was of exactly the same chemical composition and that this was a peculiar circumstance since samples of paint from the same bucket are apt to have different chemical compositions. What Mr. Driscoll did say, however, was that though individually these paints might exist anywhere, the probability of their existence in this particular combination was very remote. Now let us see what he means by this. He told us that there was a hard surface red paint, a waxy red paint which he chose to call by another name, there was green paint with an adjacent white layer, blue paint and black paint. For the moment let us forget the word "paint" and talk about something with which we are all familiar.

Suppose that I said to you, "I saw a woman today and she was wearing a red hat," and you answered, "I too saw a woman today and she also was wearing a red hat." Now red hats are extremely common; they may be purchased in any millinery store in the country. Therefore, neither you nor I would jump to the conclusion that we had seen the same woman merely because of the color of her hat. But suppose that I said, "My woman was wearing a bunch of waxy-red cherries on her hat," and you responded, "So was my woman." Now, waxy-red cherries are quite common. A few years back they were an accepted decoration for ladies' hats and it would be fair to assume that every attic in the city would disclose, amid the odds and ends of women's discarded material, at least one bunch of waxy-red cherries. Because of this well-known fact neither you nor I would be willing to venture an opinion that we had seen the same woman. However, we now have developed two points of similarity and are interested in determining whether or not we did see the same person. I describe my woman as having a green cape with a white lining. Garments of this description, while not numerous, may still be found quite commonly; nevertheless, when you reply that your woman was also wearing a green cape with white lining, neither of us have any doubt but that we both saw the same woman. However, we are cautious people and we want more evidence. So, you say to me, "My woman was carrying a shiny black pocketbook." To this I respond that my woman was also carrying a shiny black pocketbook. Under these circumstances no person of intelligence would conclude that, in a small community such as this, you and I had seen different women. But wait! We have not concluded our comparisons. Suppose

that I say, "But my woman was wearing a blue skirt." Now, when you respond that your woman

was wearing a blue skirt, both of us will argue to the ends of the earth that we had seen the same woman. To clinch matters, however, let us carry our little story a bit farther. Suppose that my woman had dropped her purse on the street and a small chip had fallen off. Because it was so shiny and black, I picked it up. In your case, the woman had bumped her purse against a counter in a near-by department store and you had, for the same reason, picked up a small chip of the black, shiny material which had dropped to the floor. If we take our bits of broken purse to a chemist and he tells us that they are of identical chemical compositions, both you and I will take the witness stand and swear that we saw the same woman. Couple all of these facts with the information that we had seen our woman in the same part of town and at approximately the same time and you will find that we have reduced our probabilities to a certainty.

Now, if we re-translate our colors from clothing back to paint, we have the exact picture as presented here in court. Our red hat is a hard-surface red paint; our cherries are the waxy-red pigment which Mr. Driscoll described. The green cape with the white lining becomes a green paint with an adjacent white layer; the black purse is a shiny black paint and the blue dress becomes, instead, blue paint. That is why Mr. Driscoll had no hesitation in saying that, in his opinion, the two types of debris originated in the same source.

The same type of argument applies with equal force and effect to the expert testimony of Mr. Duggins and Mr. Flach. You will remember how they described the coincidence of brass or bronze particles, cinder and slag material, miscellaneous hair and fibre material, tobacco particles, wood particles, sand grains and salt grains upon the various exhibits. You will recall the colors and textures of the fibres which were found and how they compared. You will remember how, of twenty-four different colors and combinations of fibres, fourteen were present on the defendant's clothes as well as on the bed clothes of the victim.

It would be too obvious and painstaking to translate these combinations of materials in articles of clothing and draw a similar analogy to the one of the woman with the black pocketbook and red cherries. However, anyone can readily see how this evidence has pyramided beyond the point of speculation to the point where we can say with positive conviction that this is the man who made this vicious attack upon Hilda Miller.

A learned jurist once said, "All knowledge purveys to the law, and from the domains of every art and science it draws the weapons by which it discovers truth and confounds error."* We have followed this pattern. From the realm of mysterious science we have discovered truths which inevitably point the way to the proper discharge of your sworn duty.

* This quotation was taken from Commonwealth v. Roller, 100 Pa. Super. Ct., 125, and is the language of Judge Gordon of the lower court (Philadelphia).

FBI LABORATORY AT WORK... PHYSICS AND CHEMISTRY

In this section the physical and chemical laws of nature are enlisted in the fight on crime. Here everything from the composition of metal particles, even those microscopic in size, and to chemical constituents of all substances yields valuable information in the investigation of crimes.

In addition to the regular case examinations, the technicians of this section, by utilizing the tools of the Laboratory machine shop, produce equipment for solving technical problems. Much of the equipment is not available in any other crime detection laboratory in the world.



RICHARD FLACH AT THE
TORTION BALANCE.



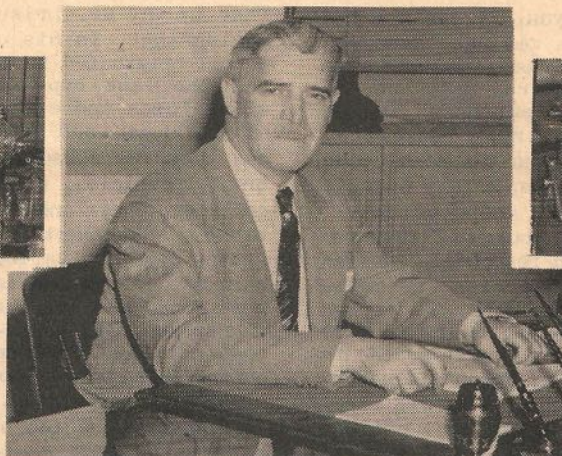
INHABITANTS OF THE "BLOOD ROOM": "PETE" DUNCAN,
MARION PECK, "TED" BEACH, FRANCES GRIFFIN AND
BRIGGS WHITE.



BLOOD SPECIALIST "MAC"
McCORMACK



A SPECIMEN OF GASOLINE
IS ANALYSED BY CLEMENTS
MAIZE.



FBI VETERAN CAPTAIN FRANK BAUGH-
MAN, HEAD OF THE PHYSICS AND
CHEMISTRY SECTION.



WILLIAM HEILMAN DEMON-
STRATES THE NEW TENSILE
STRENGTH TESTER.



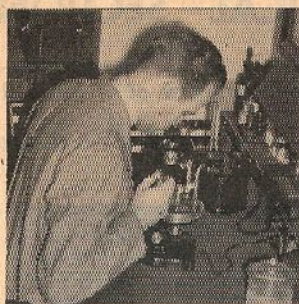
HOWARD SPIETH "SPARKS" A
PAINT SAMPLE.



READING CLOCKWISE: DICK FLACH AND ROY JE-
VONS, PETROGRAPHERS; "PETE" PROBST, LEON
LAROCK AND BILL HEILMAN, METALLURGISTS.



HAIR AND FIBER EXAMINER
"OLLIE" DUGGINS.



ROY JEVONS EXAMINING A MINERAL SPECIMAN UNDER A PETROGRAPHIC MICROSCOPE.



CHEMISTS BILL MAGEE, MARIE BAILIE, EVELYN GERARD, BOB CHAMBERS, ETHEL OITTO AND BOB DUCKETT.



"WALT" DRISCOLL TESTS THE CONTROLS OF THE NEW GRATING SPECTROGRAPH.



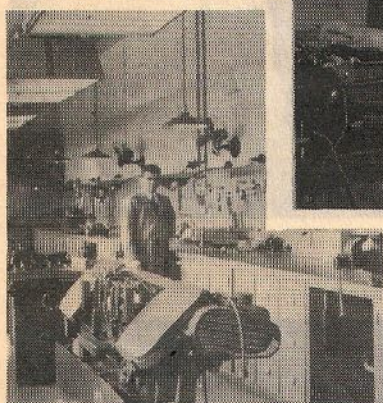
FIREARMS SPECIALIST
M. E. WILLIAMS



FRONT OFFICE GIRLS- MILDRED RISK, SEATED. STANDING; KITTY KIDD, CHRIS LAYCOCK, EDNA GRAVES AND ALYEENE CORNETT.



LABORATORY ASSISTANT
HOWARD STENGER



EARL HARTER IN THE NEW LABORATORY MACHINE SHOP.



THE NEW METALLOGRAPH "TALKS" FOR LEON LAROCK, METALLURGIST.



EXPLOSIVES SPECIALIST
BOB ZIMMERS



SPECIALISTS IN FIREARMS, TOOLMARKS, LOCKS, GLASS AND WOOD: GEORGE BERLEY, BOB FRAZIER AND EARL HARTER



MARIAN PATTERSON, ASSOCIATE HAIR AND FIBER EXAMINER.

FBI LABORATORY AT WORK...

ELECTRICAL SECTION

The Electrical Section is assigned duties involving electrical case examinations, instructional work covering technical equipment other than radio and the handling of all matters of a general nature pertaining to electrical work.

A considerable amount of design and constructional work is generally in progress through the section to handle special problems confronting the field.



RUTH SUNRAM



MR. R. F. PFAFMAN
CHIEF OF THE ELECTRICAL SECTION



MARY CATHERINE KNIGHT



HOYT WESTCOTT



MR. JOHN MATTER,
NUMBER ONE MAN.



WILLIAM BRENNAN



CLARK BALLARD



BROOKS BENTLEY



STEVE GUTTING



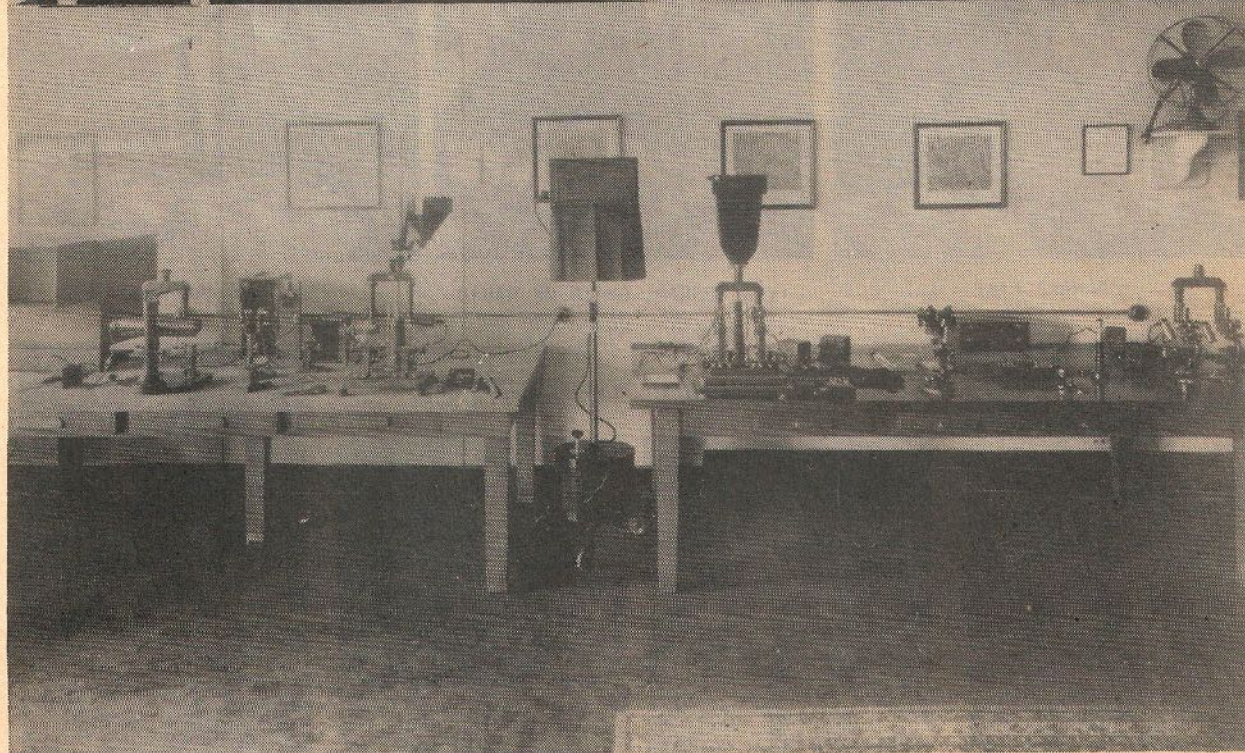
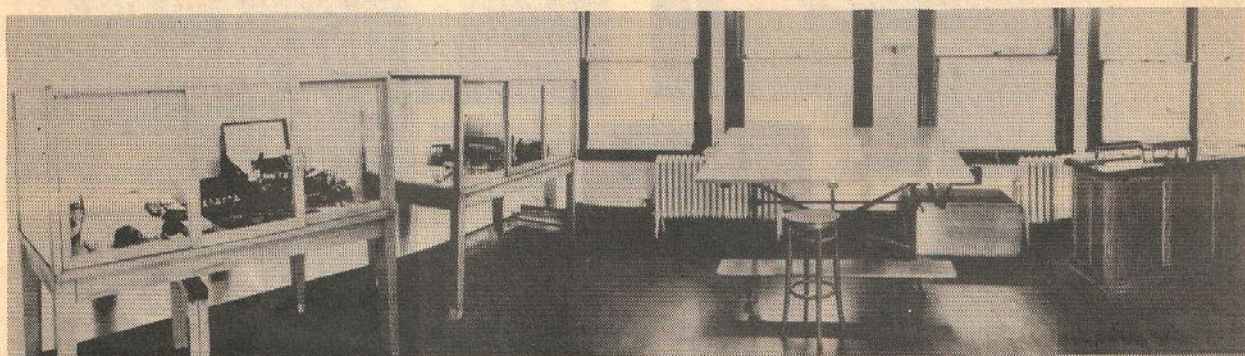
GEORGIAN HARRINGTON



JOSEPH LEE



MARGUERITE CLARKE



COMPARISON MICROSCOPES AND OTHER SCIENTIFIC INSTRUMENTS USED IN THE EXAMINATION OF CRIMINAL EVIDENCE IN THE FIRST TECHNICAL LABORATORY OF THE FEDERAL BUREAU OF INVESTIGATION, U. S. DEPARTMENT OF JUSTICE.

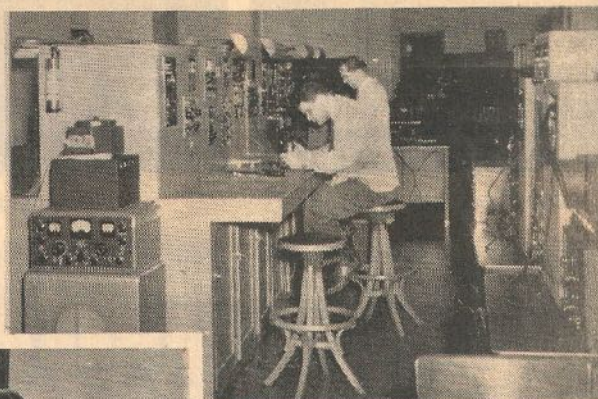
FBI LABORATORY AT WORK...

RADIO SECTION

The Radio Section consists of radio engineers and monitors, as well as a capable staff of clerical employees. This section builds and maintains the network of radio stations which serves the FBI as an emergency system of communication.

The Engineering Unit of the Radio Section engages in constant experimentation and makes new applications of radio apparatus to the various investigative problems.

With the knowledge that enemy espionage agents were attempting to enter this country, the radio monitors were called in to assist in the investigation of the many complaints of spy radio stations.



HOWARD EARP



IVAN CONRAD, CHIEF OF RADIO

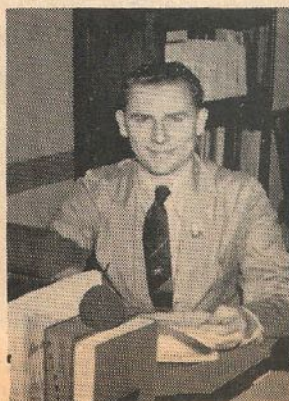


C. H. ARNOLD



GORDON DAVY

WOODROW W. WENTWORTH



JOSEPH ROARK



PAUL BROWER



SHIRLEY HUNTER



NUMBER ONE MAN RICHARD MILLEN



ARTHUR BAKER



HAROLD E. SAYLOR



HEAD OF THE MONITORING UNIT, DAN BARDIN.



VIVIAN SCHUMPP



DOROTHY CLEMENT



RUTH DALE



ROGER SWARTZ



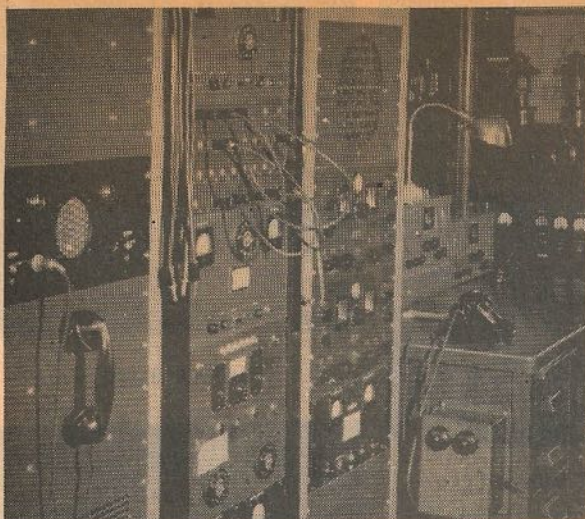
MARIE MAMMEN



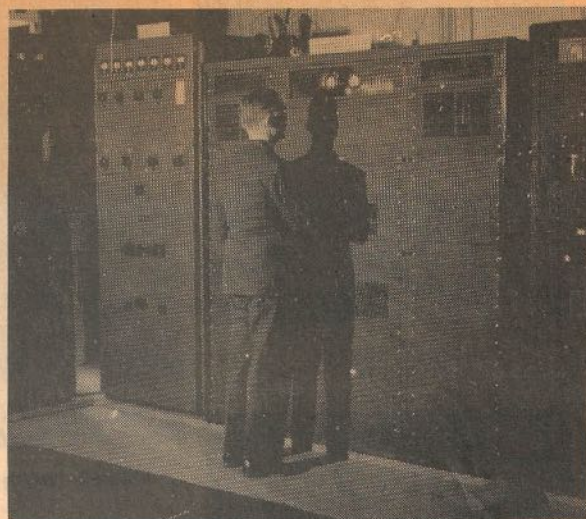
MIRIAM WASSINK



ROBERTA PHILLIPS



ANOTHER VIEW OF THE SECTION



JAMES CORBETT



HELEN KULLHEM



CHIEF OPERATOR CHARLES H. WINTER.



CLARE JANOWIAK



STANLEY G. COOPER



RALPH SANDERS.