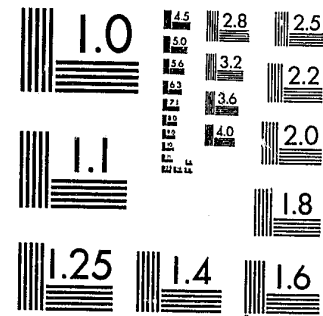


National Criminal Justice Reference Service

ncjrs

This microfiche was produced from documents received for inclusion in the NCJRS data base. Since NCJRS cannot exercise control over the physical condition of the documents submitted, the individual frame quality will vary. The resolution chart on this frame may be used to evaluate the document quality.



MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

Microfilming procedures used to create this fiche comply with the standards set forth in 41CFR 101-11.504.

Points of view or opinions stated in this document are those of the author(s) and do not represent the official position or policies of the U. S. Department of Justice.

National Institute of Justice
United States Department of Justice
Washington, D. C. 20531

12/9/82

Department of the Treasury
Bureau of Alcohol, Tobacco
and Firearms



83840

Overview of

Technical and Legal Considerations in utilizing the
1968 Gun Control Act and the 1970 Organized Crime
Control Act in the Federal Prosecution of Arson Crimes



OFFICE OF
THE DIRECTOR

DEPARTMENT OF THE TREASURY
BUREAU OF ALCOHOL, TOBACCO AND FIREARMS
WASHINGTON, D.C. 20226

A Message from the Director

Arson has been characterized as America's fastest growing crime. Because of the magnitude of the arson problem, officials who have been entrusted with protecting the lives and property of our citizens should use every available tool to address this national crime.

The Gun Control Act of 1968 and the Organized Crime Control Act of 1970, when properly applied, have proven to be effective in the Federal prosecution of those who would perpetrate certain types of arson-related crimes.

This booklet is designed to be a quick and ready reference for ATF special agents and Federal prosecutors who are responsible for the preparation and prosecution of explosives-related arson schemes. It is not intended as a substitute rule book on criminal law or on evidence. Rather, our intention is to present a readily available source of pertinent legal and technical information to be considered when applying these specific statutes.

The Bureau of Alcohol, Tobacco and Firearms (ATF) is committed to the fight against arson and other explosive incidents that fall within the purview of our statutory jurisdiction. In addition to our investigative efforts, we stand ready to provide the available technical and legal expertise required to fulfill this commitment.

G. R. DeLoach
Director

U.S. Department of Justice
National Institute of Justice

This document has been reproduced exactly as received from the person or organization originating it. Points of view or opinions stated in this document are those of the authors and do not necessarily represent the official position or policies of the National Institute of Justice.

Permission to reproduce this copyrighted material has been granted by

Public Domain
U.S. Dept. of the Treasury
to the National Criminal Justice Reference Service (NCJRS).

Further reproduction outside of the NCJRS system requires permission of the copyright owner.

NCJRS

JUN 9 1982

ACQUISITIONS

Table of Contents

Chapter	Page
A Message from the Director	i
I. Introduction	1
II. Application of Title II of the 1968 Gun Control Act.	3
III. Application of Title XI of the Organized Crime Control Act of 1970 ...	7
A. The Commerce Element.	7
1. Business Property	7
2. Non-Business Property.	8
B. "Explosives" as Defined by 18 U.S.C. § 844 (j)	8
1. Explosive Materials.	8
2. Explosive or Incendiary Devices	9
3. Chemical Compounds and Mechanical Mixtures	10
C. Malice	11
IV. Elements of Applicable Federal Crimes.	13
1. 18 U.S.C. § 844(d)	13
2. 18 U.S.C. § 844(f)	13
3. 18 U.S.C. § 844(h) (1)	13
4. 18 U.S.C. § 844 (i)	13
5. 18 U.S.C. §§ 844 (d), (f), and (i) (Attempt)	13
6. 18 U.S.C. § 1341	14
7. 18 U.S.C. § 1343	14
8. 18 U.S.C. § 1952 (I.T.A.R.)	14
9. 18 U.S.C. § 1961 (R.I.C.O.)	14
10. 26 U.S.C. § 5861	14
V. Fire Scene Searches; Administrative Warrants	15
VI. Technical—Forensic Laboratory Support	17
A. Forensic Laboratory Support.	17
1. Criteria for Substances to Generate Explosives	17
a. Flashpoint	17
b. Confinement	18
B. Explosive Technology Support	18
1. Definition of Destructive Devices [26 U.S.C. § 5845(f)]	18
2. Classifications of Destructive Devices.	19
a. Explosive Device	19
b. Incendiary Device	20
c. Poison Gas Device	20

Table of Contents—Continued

Chapter	Page
3. Definition of Explosive/Incendiary Devices [18 U.S.C. § 844(j)]	20
4. Design, Characteristics, Functions and Effects of Devices ...	20
5. Explosive and Incendiary Device Firing Systems	21
VII. Appendices	27
A. Recommended Indictment Count for Violation of 18 U.S.C. § 844(f)	27
B. Recommended Indictment Count for Violation of 18 U.S.C. § 844(h) (1)	27
C. Recommended Indictment Count for Violation of 18 U.S.C. § 844(i)	28
D. Recommended Indictment Count for Violation of 26 U.S.C. §§ 5861(d) and 5871	28
E. Government's Proposed Jury Instructions on the Mechanical Mixture Definition of Explosives	29
F. Government's Proposed Jury Instructions on Explosives or Incendiary Device Definition of Explosives	29
G. Government's Proposed Jury Instructions Relative to the Term "Malicious"	29
H. Title XI Statement Prepared by Laboratory	30
I. Publications Relative to the Explosive Potential of Accelerants	30
J. Sample of a Title II Determination Statement Issued by Chief, Explosives Technology Branch	31
K. Sample of a Title II/XI Determination Statement Issued by Chief, Explosives Technology Branch	34
L. Sample Stipulation that Gasoline is an Explosive as Defined in 18 U.S.C. § 844(j)	37
M. Overview of Unreported Cases	38

I. Introduction

The Bureau of Alcohol, Tobacco and Firearms (ATF), by virtue of its statutory authority under the Gun Control Act of 1968 and Title XI of the Organized Crime Control Act of 1970, occupies a unique position in Federal law enforcement to address certain types of arson-related crimes. Although arson is basically recognized as a non-Federal problem, State and local authorities often do not have the jurisdictional authority or sufficient investigative resources to deal effectively with a crime of this magnitude. Arson-for-profit schemes are frequently complex, multijurisdictional and geographically unconfined in nature. The presence of organized crime and white-collar criminals further compounds the investigative problem, thus requiring a concerted effort at all levels of government to impact upon this lucrative crime, which has been labeled as a "national epidemic."

Within the parameter of available resources and statutory jurisdiction, ATF is committed to providing Federal assistance to State and local authorities in the nationwide fight against arson. Although ATF cannot address the totality of arson crimes, investigative efforts are structured to address a segment of arson-related criminal activity that warrants Federal emphasis. This enforcement approach is directed toward:

- The investigation of "arson-for-profit" schemes when the *target* of the arson incident relates to industrial or commercial activities, and the perpetrators of this type of violation are suspected to be: (a) members of organized crime; (b) white-collar criminals; (c) members of organized "arson rings"; or (d) violent criminals.
- Assistance to State and local authorities who are experiencing a significant arson

problem, especially when the nature or magnitude of the problem extends beyond the investigative jurisdiction or resource capability of such authorities. This assistance includes joint investigative efforts, as well as laboratory support, technical determinations and training.

ATF's participation in an investigation of an arson incident is predicated on the fact that a violation of Title II of the Gun Control Act of 1968 or Title XI of the Organized Crime Control Act of 1970 has occurred or is suspected.

Briefly stated, Title II of the Gun Control Act amended the National Firearms Act of 1934 and requires that various "destructive devices" be registered with the Secretary of the Treasury in order to be legally possessed. Since such devices are frequently employed by arsonists to initiate the destruction of property by fire, ATF has a clear mandate to exercise jurisdiction if a need for Federal involvement is identified.

Similarly, Title XI of the Organized Crime Control Act provides criminal sanctions against those individuals charged with the destruction of certain types of property by the use of "explosives." Incorporated in this legislation is a statutory definition of "explosives" which includes various types of incendiary devices (e.g., Molotov cocktails; a hot plate connected to combustible material; etc.), and flammable liquids (e.g., gasoline; paint thinner; cleaning fluids; etc.) all of which are also "tools" commonly used by the arsonist. Accordingly, this type of crime clearly falls within the purview of ATF's explosives jurisdiction.

The following two sections of this booklet discuss the application of these statutes in the Federal prosecution of explosive-related arson crimes.

II. Application of Title II of the 1968 Gun Control Act

Destructive devices are firearms for purposes of the National Firearms Act (NFA)¹ and as such are subject to the tax, registration, and other requirements of that statute.² For example, under 26 U.S.C. § 5861(d) it is unlawful for any person to receive or possess any NFA firearm not registered to him/her in the National Firearms Registration and Transfer Record, while under section 5861(f) it is unlawful to make a firearm in violation of the provisions of the NFA, including the requirement to pay a \$200 tax.

The term "destructive device", which is one of the categories of "firearm" listed in 26 U.S.C. § 5845(a), is defined in 26 U.S.C. § 5845(f) as follows:

"(f) Destructive device.—The term 'destructive device' means (1) any explosive, incendiary, or poison gas (A) bomb, (B) grenade, (C) rocket having a propellant charge of more than four ounces, (D) missile having an explosive or incendiary charge of more than one-quarter ounce, (E) mine, or (F) similar device; (2) any type of weapon by whatever name known which will, or which may be readily converted to, expel a projectile by the action of an explosive or other propellant, the barrel or barrels of which have a bore of more than one-half inch in diameter, except a shotgun or shotgun shell which the Secretary finds is generally recognized as particularly suitable for sporting purposes; and (3) any combination of parts either designed or intended for use in converting any device into a destructive device as defined in subparagraphs (1) and (2) and from which a destructive device may be readily assembled. The term "destructive device" shall not include any device which is neither designed nor redesigned for use as a weapon; any device, although originally designed for use as a weapon, which is redesigned for use as a signal-

ing, pyrotechnic, line throwing, safety, or similar device; surplus ordnance sold, loaned, or given by the Secretary of the Army pursuant to the provisions of section 4684(2), 4685, or 4686 of title 10 of the United States Code; or any other device which the Secretary finds is not likely to be used as a weapon, or is an antique or is a rifle which the owner intends to use solely for sporting purposes."³

Certain devices are considered incendiary bombs, grenades, or similar devices within the first part of the above definition.⁴ Without exception, the courts have held Molotov cocktails (consisting of a bottle containing gasoline or similar liquid and a wick, usually an ignitable rag) to be destructive devices.⁵ Other incendiary devices are included within the definition of destructive device as well. For example, in *United States v. Peterson*, 475 F.2d 806 (9th Cir. 1973), *cert. denied*, 414 U.S. 846 (1973), it was held that a device consisting of a 3- to 4-inch long casing and fuel segment of a fusee flare, containing a mixture of gun powder and a portion of the fuel material which was initially in the casing, and a piece of cotton rope inserted into the casing, was an incendiary bomb or grenade and, as such, a destructive device. The expert testimony showed that this device produced an intensely hot flame and was highly effective in setting fires, in this case

³ The term "destructive device" is defined similarly in 18 U.S.C. § 921(a)(4) and is a "firearm" as defined in section 921(a)(3) for purposes of Title I of the Gun Control Act of 1968 (18 U.S.C. Chapter 44). Thus, the licensing, interstate sales, prohibited persons, and other provisions of this law apply to transactions involving destructive devices. Finally, the term "destructive device" is a "firearm" for purposes of the ban on the receipt, possession, or transportation of firearms in or affecting interstate or foreign commerce by convicted felons and other prohibited persons, as set forth in 18 U.S.C. App. § 1202. However, the definition of "destructive device" in subsection (c)(4) of this provision is not as complete as the NFA or Gun Control Act definitions.

⁴ For a detailed discussion of destructive devices, see, 25 A.L.R. Fed. 344.

⁵ *United States v. Cruz*, 492 F.2d 217 (2d Cir. 1974), *cert. denied*, 417 U.S. 935 (1974); *United States v. Tankersley*, 492 F.2d 962 (7th Cir. 1974); *United States v. Ross*, 458 F.2d 1144 (5th Cir. 1972), *cert. denied*, 409 U.S. 868 (1972); see also, *United States v. Yapple*, 450 F.2d 308 (9th Cir. 1971).

¹ 26 U.S.C., Chapter 53.

² *United States v. Freed*, 401 U.S. 601 (1971), held that the NFA as amended in 1968 presented no constitutional problem with respect to self-incrimination. It also held that unregistered weapons are contraband and that scienter is not a necessary element in a prosecution under the act.

intended for the purpose of burning haystacks. Finally, in *United States v. Bubar*, 567 F.2d 192 (2d Cir. 1977), *cert. denied*, 434 U.S. 872 (1977), the court held that a device consisting of dynamite, fuse, detonating caps, timers, and barrels of gasoline (placed over the dynamite) constituted a destructive device. The device was used to burn a factory.

Devices which are primarily explosive rather than incendiary in nature are also included within the destructive device definition. In *United States v. Oba*, 448 F.2d 892 (9th Cir. 1971), *cert. denied*, 405 U.S. 935 (1972), a device consisting of seven sticks of dynamite wrapped in copper wire and equipped with a fuse and blasting caps was held to be a destructive device. Noting the defendant's stated intention to dynamite the city of Eugene, Oregon, the court found that the device did not fall within the exclusion from the destructive device definition of "any device which is neither designed nor redesigned for use as a weapon."

A similar conclusion was reached in *United States v. Morningstar*, 456 F.2d 278 (4th Cir. 1972), *cert. denied*, 409 U.S. 896 (1972). This case involved a "combination of parts" under 26 U.S.C. § 5845(f)(3) "either designed or intended for use in converting any device into a destructive device as defined in subparagraphs (1) and (2) and from which a destructive device may be readily assembled." As can be seen from this definition, section 5845(f) prevents circumvention of the law by imposing the same NFA restrictions on unassembled destructive devices as assembled ones. In *Morningstar* the parts consisted of four sticks of black powder pellet explosive fastened together with electrical tape and unattached blasting caps. The court found that the "combination-of-parts" language of the destructive device definition included two categories of combinations from which a destructive device may be readily assembled: those "designed" for use in converting a device into a destructive device and those "intended" for such use. The court concluded that the definition was meant to include more than just gangster-type weapons and military ordnance.⁶

A case that has raised questions about commercial explosives as a component in destructive device cases is *United States v. Posnjak*, 457 F.2d 1110 (2d Cir. 1972). That case held that the destructive

device definition does not cover combinations of parts which include commercial explosives unless the components necessary to redesign such commercial explosives into a destructive device are present. Specifically, the court held that 4,100 sticks of dynamite, blasting caps and fuses did not constitute a destructive device, despite the purchaser's stated intent to resell them for an unlawful purpose; when fit together, these components were ordinary sticks of dynamite, of which unlawful intent alone could not render them as destructive devices. The court reasoned that the standard for destructive devices is an objective one in light of the exclusion for any device "neither designed nor redesigned for use as a weapon." According to the court, intent is only relevant when the components may be converted into either a destructive device or some other object not covered by the statute.

Posnjak has sometimes been interpreted to stand for the proposition that "Congress did not intend to require the registration [under the NFA] of a commercial explosive such as dynamite irrespective of the intent with which the material was possessed."⁷ However, the case more accurately stands for the proposition that sufficient components must be present to establish (in the Second Circuit) that a combination of parts including dynamite is a destructive device.⁸ Indeed, in *United States v. Bubar*, discussed earlier, the Court of Appeals for the Second Circuit held that a device which included dynamite was a destructive device. Of course, in *Bubar* the device was assembled and actually was used to destroy property. Moreover, the device was characterized as an incendiary device, and the courts are ever willing to find that incendiary devices are destructive devices even though they utilize components otherwise used for lawful purposes.

The Second Circuit's construction of 26 U.S.C. § 5845(f) as expressed in *Posnjak* should be regarded as an anomaly. While commercial explosives used or intended for industrial or other legitimate purposes are not subject to the NFA, other circuits consider unlawful intent relevant in determining whether a combination of parts containing such explosives is a destructive device.⁹ In *United States v. Wilson*, 546 F.2d 1175 (5th Cir. 1977), *cert. dismissed*, 431 U.S. 901 (1977), it was held that a homemade

bomb, apparently composed merely of a stick of dynamite with a 6-inch fuse, thrown by defendant into a van, was a destructive device. The court stated that it was "immaterial whether the explosive charge was composed of dynamite or some other explosive material." 546 F.2d at 1177.

Finally, in *United States v. Greer*, 588 F.2d 1151 (6th Cir. 1978), *cert. denied*, 440 U.S. 983 (1978), the court found that a combination of parts consisting of 104 primers (the equivalent of 67 pounds of dynamite) and 50 blasting caps constituted a destructive device. The device was never detonated and never destroyed property unlawfully, as in *Wilson*. The court, nevertheless, found that the components which, standing alone represent nothing more than commercial explosives, were a destructive device because of the jury's finding of an intent to use them unlawfully.

Of course, a combination of parts *designed* for use in assembling a military device such as a grenade and having no other purpose would fall within the destructive device definition by virtue of design alone.¹⁰ A case involving a combination of parts representing an unassembled military device does not present the problems entailed in a case involving a combination of parts consisting of household or commercial materials which can be used for purposes other than constructing a weapon.¹¹

¹⁰ See *United States v. Shafer*, 445 F.2d 579 (7th Cir. 1971), *cert. denied*, 404 U.S. 986 (1971); *Ballew v. United States*, 389 F. Supp. 47 (D. Md. 1975), *aff'd*, 539 F.2d 705 (4th Cir. 1976).

¹¹ See Appendix D, a form indictment charging unlawful possession of a combination of parts which constitute a destructive device.

⁶ See also *United States v. Markley*, 567 F.2d 523 (1st Cir. 1977), *cert. denied*, 435 U.S. 951 (1978), in which it was held that devices consisting of cardboard tubes, 3.5 to 4.5 ounces of black powder, toilet tissue as a filler, a wick, and paraffin wax sealing the ends of the tubes, were destructive devices, even though they may not have been "highly" destructive; see, *Burchfield v. United States*, 544 F.2d 922 (7th Cir. 1976), *cert. denied*, 430 U.S. 956 (1977), holding that three sticks of dynamite, three blasting caps, a battery, and a coil of plastic-covered power cord were a destructive device.

⁷ *Burchfield v. United States*, 544 F.2d at 923-924.

⁸ See *United States v. Malone*, 546 F.2d 1182 (5th Cir. 1977) on the importance of the presence of sufficient parts to establish that the combination of parts is a destructive device. In that case a combination of numerous parts, including a military fragmentation hand grenade hull, electric wire, microswitch, battery tape, and other parts, was deemed not to be a destructive device because of the complete absence of any explosive material.

⁹ See *Oba* and *Morningstar*, discussed above.

III. Application of Title XI of the Organized Crime Control Act of 1970

Section 844(i), Title 18, U.S.C., provides:

"Whoever maliciously damages or destroys, or attempts to damage or destroy, by means of an explosive, any building, vehicle, or other real or personal property used in interstate or foreign commerce, or in any activity affecting interstate or foreign commerce shall be imprisoned for not more than 10 years or fined not more than \$10,000, or both . . ."

To establish a violation of this section, the Government must prove the following four elements: (1) that the defendant damaged or destroyed or attempted to damage or destroy a building, vehicle, or other real or personal property; (2) that the building, vehicle, real or personal property involved was used in interstate commerce or in an activity affecting interstate commerce; (3) that it was done by means or use of an explosive as defined in 18 U.S.C. § 844(j); and (4) that it was done maliciously.¹² Section 844(i) also makes it unlawful to attempt to commit the prescribed offense.^{12a}

A. THE COMMERCE ELEMENT

The commerce element provides jurisdiction in two situations: when the property is actually used in interstate commerce (e.g., an interstate carrier); or when the property is used in an activity which affects interstate commerce. Legislative history indicates that the commerce requirement was intended to provide the fullest jurisdictional breadth, proscribing:

"[T]he malicious damaging or destroying, by means of an explosive, any building, vehicle, or other real or personal property used in interstate or foreign commerce or in any activity affecting interstate or foreign commerce. Attempts would also be covered. Since the term affecting [interstate or foreign] 'commerce' represents 'the fullest jurisdictional breadth

constitutionally permissible under the Commerce Clause,' *N.L.R.B. v. Reliance Fuel Corp.*, 83 S.Ct. 312, 371 U.S. 224, 226, 9 L.Ed.2d 279 (1963), this is a very broad provision covering substantially all business properties. While this provision is broad, the committee believes that there is no question that there is a permissible exercise of Congress' authority to regulate and to protect interstate or foreign commerce. Numerous other Federal statutes use similar language and have been constitutionally sustained in the courts." [Emphasis added—citations omitted.]¹³

1. Business Property

With respect to property used in "any activity affecting interstate or foreign commerce," the courts have found the requisite interstate commerce connection. Thus, this requirement is met when it is shown that a business buys or sells products interstate. In *United States v. Keen*,¹⁴ the defendant was convicted of attempting to destroy, by means of an explosive, a commercial fishing boat, in violation of 18 U.S.C. § 844(i). The court found that the boat had not moved interstate, but that there was ample evidence that it was property used in a commercial fishing enterprise and that the catch was shipped interstate commercially. Similarly, the commerce element has been found in situations involving businesses whose materials were purchased interstate. Examples of such cases are *United States v. Schwanke*,¹⁵ where one of the tenants of a building operated a cafe and in the course of this business purchased candy, gum, and vegetables from a neighboring State, and *United States v. Sweet*,¹⁶ where a tavern was considered to have the requisite commerce connection in maintaining a stock of li-

¹³ H.R. Rep. No. 91-1549, 91st Cong., 2d Sess. reprinted in [1970] U.S. Code Cong. & Ad. News 4007, 4046-47. (Contra: *United States v. Mennuti*, 639 F.2d 107 (2d Cir. 1981).

¹⁴ *United States v. Keen*, 508 F.2d 986 (9th Cir. 1974), cert. denied, 421 U.S. 929 (1975).

¹⁵ *United States v. Schwanke*, 598 F.2d 573 (10th Cir. 1979).

¹⁶ *United States v. Sweet*, 548 F.2d 178 (7th Cir. 1977). Other cases include *United States v. Corbo*, 555 F.2d 12, 79 (5th Cir. 1977), cert. denied, 434 U.S. 928 (1977), and *United States v. Nashawaty*, 571 F.2d 71 (1st Cir. 1978).

¹² See Appendix C, a form indictment charging a violation of 18 U.S.C. § 844(i).

^{12a} See Section IV 5 for the essential elements of proof for an attempt.

quor and beer which originated out of State.

One case which appears to have taken a different approach is *United States v. Grossman*,¹⁷ in which the court found the requisite commerce connection even though the property was not at the time of the arson being used in any business activity. The requisite commerce nexus was established by evidence that the backhoe had been manufactured in Iowa, sold and shipped to Virginia and then to North Carolina where it was offered for sale to "anybody, anywhere," and advertised in two issues of *Rock and Dirt*, a Tennessee trade newspaper.¹⁸ It should also be noted that the property could only be used for business purposes.

2. Non-Business Property

While the *Grossman* case seemingly expands the jurisdiction of section 844(i), the other courts have not been willing to hold that the interstate commerce requirement is limitless. Thus, in *United States v. Monholland*,¹⁹ the court declined to extend the *Grossman* approach to non-business property. In *Monholland*, the vehicle to be destroyed was a pickup truck used by a State judge who handled cases involving out-of-State litigants, possession of property stolen in other States, fugitives and flight warrants. However, the vehicle was used by the judge only to commute intrastate to and from work. Focusing on the property itself rather than the activities of the owner, the court held that the property was not used in an activity affecting interstate commerce as required by the statute.

In *United States v. Mennuti*,²⁰ the district court dismissed the indictment and held that a residence whose interstate connections were insurance policies, a mortgage held by a national institution, interstate telephone and utility lines, and building materials and components which had traveled interstate, did not establish the commerce element. Among other things, the Government on appeal argued that the residential properties were used in an illicit business, namely an arson-for-hire ring, designed to fraudulently obtain insurance proceeds from national insurance companies.²¹ The court held, on appeal, that section 844(i) did not apply to residential property, but rather applied only to business property. The court expressly rejected the Government's "arson-for-hire" argument.²² While the *Mennuti* case would exclude private, single family dwellings from the jurisdiction of section 844(i),

apartment buildings containing rented dwelling units or units for rent may be distinguishable. It may be argued that apartment complexes are commercial property used in the rental business.

B. "EXPLOSIVES" AS DEFINED BY 18 U.S.C. § 844(j)

18 U.S.C. § 844(j) states:

"For the purposes of subsections (d), (e), (f), (g), (h), and (i) of this section, the term 'explosive' means gunpowders, powders used for blasting, all forms of high explosives, blasting materials, fuzes (other than electric circuit breakers), detonators, and other detonating agents, smokeless powders, other explosive or incendiary devices within the meaning of paragraph (5) of section 232 of this title, and any chemical compounds, mechanical mixture, or device that contains any oxidizing and combustible units, or other ingredients, in such proportions, quantities, or packing that ignition by fire, by friction, by concussion, by percussion, or by detonation of the compound, mixture, or device or any part thereof may cause an explosion."

The legislative history of section 844(j) states that: "section 844(j) sets forth the definition of 'explosive' for the purposes of section 844(d) through (i). The use of the separate definition is for the purpose of including incendiary devices within the coverage of section 844(d) through (i), and to make the exceptions applicable to the regulatory provisions of this chapter inapplicable to these sections."²³

Basically, section 844(j) in defining the term "explosive" sets forth three separate categories which may be characterized as follows: (1) certain generic explosives, (2) explosive or incendiary devices, and (3) chemical compounds and mechanical mixtures.

1. Explosive Materials

The first category of explosive materials includes gunpowders, powders used for blasting, all forms of high explosives, blasting materials, fuzes (other than electric circuit breakers), detonators, and other detonating agents, and smokeless powders. Generally, the explosives in this category are included within the term "explosive materials" as defined in 18 U.S.C. §§ 841(c), (d), (e) and (f) and are found in the explosives list published annually in the Federal Register.

2. Explosive or Incendiary Devices

The second category in section 844(j) defines an "explosive" as being an explosive or incendiary device within the meaning of 18 U.S.C. § 232(5). Section 232(5) defines the term "explosive or incendiary device" to mean:

"(A) Dynamite and all other forms of high explosives, (B) any explosive bomb, grenade, missile, or similar device, and (C) any incendiary bomb or, similar device, including any device which (i) consists of or includes a breakable container including a flammable liquid or compound, and a wick composed of any material which, when ignited, is capable of igniting such flammable liquid or compound, and (ii) can be carried or thrown by one individual acting alone."

The legislative history of section 844(j) clearly shows that this definition of "explosive" includes incendiary devices such as Molotov cocktails.²⁴ This clear intent is illustrated by Representative MacGregor's statement that: "This bill would have the effect of strengthening the penalties for violation of the law and include a prohibition of additional explosives, specially incendiary devices."²⁵ Congressional interest in incendiary devices as a separate and distinct form of explosives is evident in the concerns voiced by Congressman McClory in response to proposals to limit coverage of explosives laws by a representative of the explosive industry in the explosive control hearings:

"MCCLORY:

"You are not speaking to a subject about which we are very concerned—the problem of incendiary bombs. Is that because the explosives industry essentially has nothing to do with that?"

"MR. BOTH:

"That is correct.

"MR. MCCLORY:

"Do you feel that your proposals [limiting coverage of the Explosive Acts] adequately cover the subject [incendiary bombs] so that we can protect the American public from the illegitimate use of fuels and other ingredients that go into the manufacture of incendiary bombs?"

"MR. BOTH:

"No..."²⁶

The courts have undertaken to define the term "incendiary device." *United States v. Davis*, (unreported) No. 79-1508, (9th Cir. 1981), was a prosecution under section 844(i) for malicious damage to a movie theater by use of an explosive. The explosive consisted of a rag soaked in a substance similar to paint thinner, which was ignited and placed on a table supporting a movie projector. The district court instructed the jury as follows: "An incendiary device is any article, substance or combination of articles or substances capable of generating fire in a combustible material."²⁷ This jury instruction defining an incendiary device was an assignment of error on appeal. However, the appellate court stated this assignment among others, was "without merit and deserve[s] no discussion" and affirmed the conviction under section 844(i) without review.²⁸

Another court has undertaken to define the parameters of the phrase "incendiary device" as that term is defined in section 844(j). In *United States v. Birchfield*, 486 F. Supp. 137 (M.D. Tenn. 1980) the court rejected the argument that the term "incendiary device" might be so broadly construed as to include a building doused with gasoline and thereafter ignited. The court held that the building could not be both the "device" and the "combustible material" ignited by the device. It is noteworthy that the *Birchfield* court did not consider whether under the circumstances of the case the gasoline alone was an "explosive" within the meaning of section 844(j); i.e., a mechanical mixture.

Further, the courts have held that the section 844(j) definition of "explosive or incendiary device" includes Molotov cocktails.²⁹ Molotov cocktails and other "destructive devices" as defined by 26 U.S.C. § 5845 are also subject to the registration and other requirements of the National Firearms Act. Indeed, the explosives definition in section 844(j) is broad enough to cover all NFA destructive devices.

3. Chemical Compounds and Mechanical Mixtures

The third category of explosives within section 844(j) defines "explosive" as being "any chemical compound, mechanical mixture, or device that contains any oxidizing and combustible units, or other ingredients, in such proportions, quantities or packing that ignition by fire, by friction, by concussion, by percussion, or by detonation of the compound,

²⁷ See, Appendix F, a jury instruction on explosive or incendiary device definition of explosives.

²⁸ *Id.* at 7.

²⁹ *United States v. Chaney*, 559 F.2d 1094 (7th Cir. 1977), and *United States v. Haynes*, 466 F.2d 1260 (5th Cir. 1972).

¹⁷ *United States v. Grossman*, 608 F.2d 534 (4th Cir. 1979).

¹⁸ *Id.* at 535.

¹⁹ *United States v. Monholland*, 607 F.2d 1311 (10th Cir. 1979).

²⁰ *United States v. Mennuti*, 639 F.2d 107 (2d Cir. 1981).

²¹ *United States v. Mennuti*, *Id.* at 112-13.

²² *United States v. Mennuti*, *Id.* at 113.

²³ H.R. Rep. No. 91-1549, 91st Cong., 2d Sess. 2, 13 reprinted in [1970] *U.S. Code Cong. & News* 4011, 4047.

²⁴ H.R. Rep. No. 91-1549, 91st Cong. 2d Sess. 2, 13 reprinted in [1970] *U.S. Code Cong. & Ad. News* 4011, 4047.

²⁵ 116 Cong. Rec. 9479 (1970).

²⁶ *Explosives Controls Hearings* before Subcommittee No. 5, House Committee on the Judiciary, 91st Cong., 2d Sess., at 245.

mixture, or device or any part thereof may cause an explosion."

To prove the use of an "explosive" under the third category, it is necessary to establish that the chemical compound used was a volatile substance such as gasoline, mineral spirits or natural gas, that if mixed with an oxidizing unit such as air, an explosion could have occurred. For example, gasoline when confined in a closed container is a mixture of chemical compounds containing combustible units but not oxidizing units. Gasoline without such oxidizing units will not explode. However, when gasoline mixes with oxygen (i.e., an aerating process), oxidizing units are present and with the correct gas-oxygen ratio, ignition may cause an explosion. Thus, when gasoline contains sufficient oxidizing units it is an "explosive" within the definition of section 844(j).

In determining the scope of this third category of "explosive" in section 844(j), the statutory scheme and legislative history of Federal explosives controls must be examined. These controls were enacted as Title XI of the Organized Crime Control Act of 1970.³⁰ Title XI is structured so as to combine a regulatory scheme for the distribution, transportation, and storage of explosives³¹ with strengthened and expanded criminal prohibitions that apply to the criminal misuse of explosives³². It is important to keep in mind that there are two distinct definitions of explosives in Title XI: section 841(d) defines the term "explosive materials" for purposes of the regulatory controls of Title XI in 18 U.S.C. §§ 842 and 843; and section 844(j) defines "explosives" as that term is used in 18 U.S.C. §§ 844(d) through (i), proscribing the criminal misuse of explosives.

All of the explosives bills proposed for hearing in the House Judiciary Committee in the late spring of 1970 contained a definition of explosives. In two of the three major bills introduced, H.R. 17154, sponsored by Chairman Emmanuel Celler and H.R. 16699, explosives were broadly defined to include those materials commonly included in lists of explosives, blasting agents, and:

"any chemical compound . . . that contains ingredients in such proportions, quantities or packing that ignition by fire . . . or by detonation . . . may cause an explosion . . ." (Emphasis added.)³³

In the third major bill, proposed by President Nixon,

on, the pertinent part of the proposed definition of explosive read as follows:

"'Explosive' means any chemical compound mixture or device, *the primary or common purpose of which is to function by explosion*; the term includes but is not limited to dynamite and other high explosives, black powder, pellet powder, initiating explosives, detonations, safety fuzes, squibs, detonating cord, igniter cord, and igniters." (Emphasis added.)³⁴

After hearing testimony on the problem of regulating sales of gasoline and ammonium nitrate which might be maliciously employed for explosive and incendiary devices, as well as testimony that these materials were in fact major instruments in such illicit use, Congressman Celler and others summed up the problem: the term "explosives," he commented, was a "pervasive term." While Congress should not impose criminal penalties or excessive regulation on those legitimate businessmen who do not anticipate that materials they dealt in—gasoline, ammonium nitrate, fertilizer, cleaning fluids, etc.,—would be used as incendiaries and explosives, the law should not leave loopholes for those with malicious intent.³⁵ Assistant Secretary of the Interior, Hollis M. Dole, was asked by the Judiciary Committee to address the question of the distinctions between the legislation proposed by President Nixon (H.R. 18573) and the proposal by Chairman Celler (H.R. 17154). In response, with respect to the definition of explosives he stated:

"H.R. 17154 includes 'any chemical compound . . . that contains . . . ingredients in such proportions, quantities or packing that ignition by fire . . . or by detonation . . . may cause an explosion.' This would include any highly flammable substance such as gasoline, cleaning fluids and many other commercial solvents. It also includes ammonium nitrate which is a widely-used commercial fertilizer.

"H.R. 18573 does not cover ammonium nitrate or gasoline in a separate state since the common purpose of these two substances by themselves is not to function by explosion. . . ."³⁶

Therefore, when Congress incorporated the definition of explosives from both Congressman Celler's

and the Administration's bill into the final legislation, it acted with full knowledge of the implications of that action. With respect to those portions of the statute regulating manufacture of, dealing in, transportation or storage of explosives, it confined the definition to specifically enumerated explosives, a list to be published annually by the Secretary of the Treasury, and those chemical components, mixtures or devices "the primary or common purpose of which is to function by explosion."^{36a} This definition excluded gasoline and like substances. Similarly, when Congress in the final version of the bill employed the vastly broader definition of explosives contained in the Celler bill to those statutes proscribing criminal misuse of explosives,³⁷ it deemed incendiary devices, gasoline and other highly volatile petroleum distillates, which "may cause an explosion," to be explosives. Accordingly, the term "explosive" in section 844(j) was designed to cover "every conceivable explosive material . . ."³⁸

This interpretation is buttressed by a recent decision in *United States v. Hepp*, 497 F. Supp. 348 (M.D. Iowa 1980), wherein the defendant was charged with maliciously damaging and destroying by means of an explosive an activity affecting interstate com-

merce in violation of section 844(i). Specifically, the "explosive" alleged was a mixture of natural gas (methane) and air. The court concluded that a mixture of natural gas and air is an explosive within the meaning of section 844(j).³⁹

C. MALICE

The element of malice in the crimes proscribed by 18 U.S.C. §§ 844(f) and (i) has not been the subject of much discussion by the courts. However, this term was discussed in the legislative history of Title XI. In the analysis of section 844(e), dealing in part with the malicious conveyance of false information concerning bombings, Congress stated that the element of malice was intended to avoid coverage of a number of innocent situations.⁴⁰ In its discussion of section 844(f), the legislative history equates the term "malicious" with willfulness and states that "the requirement of willfulness excludes accidental damage."⁴¹ It may be argued, therefore, that "maliciously" refers to any intentional act of damage or destruction as opposed to accidental and does not require proof that the defendant knew the law. Further, it follows that the discussion of the term with respect to sections 844(e) and (f) applies with like effect to section 844(i).⁴²

^{36a} 18 U.S.C. § 841 (d).

³⁷ Sections 844 (d) through (i).

³⁸ See *Hearings, supra*, at 296.

³⁹ See Appendix E, a jury instruction on the mechanical mixture definition of explosives.

⁴⁰ H.R. Rep. No. 1549, 91st Cong., 2d Sess. reprinted in [1970] *U.S. Code Cong. & Ad. News* 4046.

⁴¹ *Id.*

⁴² See Appendix G, form jury instructions on proof of the element of malice.

³⁰ 18 U.S.C., Chapter 40.

³¹ 18 U.S.C. §§ 842 and 843.

³² 18 U.S.C. §§ 844 (d)-(j).

³³ *Hearings, supra*, H.R. 17154, at 6; and *Hearings, supra*, H.R. 16699, at 29.

³⁴ *Hearings, supra*, H.R. 18573, at 166.

³⁵ *Hearings, supra*, at 161, 274, 285; remarks of Representative Celler, *id.* at 306-307, 315-316.

³⁶ *Hearings, supra*, letter of Hollis M. Dole, August 19, 1970, at 157.

IV. ELEMENTS OF APPLICABLE FEDERAL CRIMES

The following cited sections represent some of the more common Federal statutes that can be applied to arson-related crimes. Further, the elements of proof necessary to support a conviction are also enumerated below the respective citation.

1. 18 U.S.C. § 844(d)

Whoever,

- (1) transports or receives, or attempts to transport or receive, in interstate commerce,
- (2) an explosive as defined by 18 U.S.C. § 844(j); *e.g.*, a Molotov cocktail,
- (3) with knowledge or intent,
- (4) that the explosive will be used to damage or destroy property or kill or injure an individual,
- (5) shall be fined/imprisoned not more than \$10,000/10 years; \$20,000/20 years in event of injury; or life imprisonment or death penalty in event of death.

2. 18 U.S.C. § 844(f)

Whoever,

- (1) maliciously,
- (2) damages or destroys, or attempts to damage or destroy,
- (3) by means of an explosive as defined by 18 U.S.C. § 844(j),
- (4) any real or personal property
 - (1) owned, possessed, used, or leased to, the United States; or
 - (2) of any organization receiving Federal financial assistance,
- (5) shall be fined/imprisoned not more than \$10,000/10 years; \$20,000/20 years in event of injury; life imprisonment or death penalty in event of death.

3. 18 U.S.C. § 844(h)(1)

Whoever,

- (1) uses an explosive as defined by 18 U.S.C. § 844(j).
- (2) to commit a Federal felony as defined by 18 U.S.C. § 1; *e.g.*, to use the mails to submit false insurance claims in violation of 18 U.S.C. § 1341,

- (3) shall be imprisoned not more than 10 years; or in case of a second or subsequent conviction, a mandatory sentence of not less than 5 or more than 25 years.

4. 18 U.S.C. § 844(i)

Whoever,

- (1) maliciously,
- (2) damages or destroys, or attempts to damage or destroy,
- (3) real or personal property,
- (4) used in interstate commerce or in an activity affecting interstate commerce; *i.e.*, any business property,
- (5) by means of an explosive as defined by 18 U.S.C. § 844(j); *i.e.*,
 - (a) an explosive specifically mentioned in section 844(j),
 - (b) an explosive or incendiary device; *e.g.*, a Molotov cocktail, as defined by 18 U.S.C. § 232(5) or,
 - (c) chemical compounds or mechanical mixtures; *e.g.*, gasoline or natural gas (combustible units), containing sufficient oxidizing units (usually air) which may cause an explosion,
- (6) shall be fined/imprisoned not more than \$10,000/10 years; \$20,000/20 years in event of injury; or life imprisonment or death penalty in event of death.

5. Crimes of Attempt Under 18 U.S.C. §§ 844(d), (f), and (i)

Whoever,

- (1) specifically intends to commit the crime prescribed in 18 U.S.C. §§ 844(d), (f) or (i),
- (2) makes a direct overt act which constitutes a substantial step towards commission of the crime. Preparation for a criminal act is not itself a crime, there must be an act done which displays not only a preparation for an attempt, but a commencement of execution, a step in the commission of the actual crime itself. ^{42a}

^{42a} *United States v. Brown*, 604 F.2d 347 (5th Cir. 1979) involves a conviction under 18 U.S.C. § 844 (i) for attempting to destroy a building by making a firm agreement with another for acquisition of explosives and dispatching two persons to reconnoiter and inspect the building in preparation for its destruction.

6. 18 U.S.C. § 1341

Whoever,

- (1) intending to obtain money/property,
- (2) places in or takes out of the mail,
- (3) false representations; e.g., false insurance claims
- (4) shall be fined/imprisoned not more than \$1,000/5 years.

7. 18 U.S.C. § 1343

Whoever,

- (1) intending to obtain money/property,
- (2) transmits by wire, radio or T.V.,
- (3) false representations,
- (4) in interstate commerce,
- (5) shall be fined/imprisoned not more than \$1,000/5 years.

8. 18 U.S.C. § 1952 (I.T.A.R.)

Whoever,

- (1) travels interstate or uses an interstate facility, including the mail,
- (2) with intent to promote, manage, establish, carry on or facilitate, or distribute the proceeds of,
- (3) any unlawful activity; e.g., a State arson offense,
- (4) shall be fined/imprisoned not more than \$10,000/5 years.

9. 18 U.S.C. § 1961 (R.I.C.O.)

Whoever,

- (1) receives money,

- (2) from a pattern (at least two acts, one occurring after enactment of this law and the last which occurred within 10 years of prior act),
- (3) of racketeering activity which is defined to include specific State felonies (e.g., arson), and Federal crimes (e.g., mail fraud, wire fraud, interstate travel in aid of racketeering),
- (4) or receives money from the collection of an unlawful debt,
- (5) and invests any part of this money,
- (6) in an enterprise affecting interstate commerce,
- (7) shall be fined/imprisoned not more than \$25,000/20 years, and shall forfeit to the United States any interest acquired.

10. The National Firearms Act;
26 U.S.C. § 5861

Whoever,

- (1) possesses, makes, transfers, or receives,
- (2) a destructive device as defined by 26 U.S.C. § 5845(f); e.g., Molotov cocktail,
- (3) or any combination of parts designed or intended for use in an explosive or incendiary device as defined by 26 U.S.C. § 5845(f)(3); e.g., components of a Molotov cocktail, that is, an empty bottle, cloth strips, and gasoline,
- (4) which is not registered,
- (5) shall be fined/imprisoned not more than \$10,000/10 years.

V. FIRE SCENE SEARCHES; ADMINISTRATIVE WARRANTS

Section 846, Title 18, U.S.C., provides, in part:

"The Secretary is authorized to inspect the site of any accident, or fire, in which there is reason to believe that explosive materials were involved, in order that if any such incident has been brought about by accidental means, precautions may be taken to prevent similar accidents from occurring. In order to carry out the purpose of this subsection, the Secretary is authorized to enter into or upon any property where explosive materials have been used, are suspected of having been used, or have been found in an otherwise unauthorized location.***"

Section 846 uses the term "explosive materials" which is defined in section 841(c) to mean explosives, blasting agents and detonators. This definition differs from the definition of explosives contained in section 844(j). The primary difference between the two definitions for purposes of arson investigations is that the definition in section 844(j) includes, under certain circumstances, gasoline and other chemical compounds and incendiary devices under 18 U.S.C. § 232.

In conducting arson investigations, ATF agents may enter the premises of a burning or burnt building when they have reasonable cause to believe that explosive materials, as defined in section 841(c), were involved in causing the blaze. The Fourth Amendment protections apply to fire damaged premises since the owner retains a protected privacy interest.⁴³ Such entries may be made without a warrant provided they are (1) either during the course of the blaze or within a reasonable time immediately following the extinguishing of the fire and (2) are part of the overall investigation into the cause of the fire conducted by the firefighters. A reentry of the premises is proper if it is a continuation of the previous entry and a delay was caused by natural circumstances, such as darkness⁴⁴ or the need to contact an expert investigator.⁴⁵ All other entries under the section 846 inspection authority

require a warrant in the absence of consent. For example, if the subsequent entry is undertaken in accordance with section 846 to investigate the cause of the fire, or accident, then it must be made pursuant to an administrative inspection warrant.

It should be noted, however, that when a scene examination is to be undertaken pursuant to a belief that evidence of explosives *not* included under section 846 (i.e., incendiary devices, mechanical mixtures, etc.) is on the premises, the access to gather such evidence for a criminal prosecution must be made pursuant to a traditional criminal search warrant or to an exception to the search warrant requirement; e.g., consent, investigation immediately following the extinguishing of the fire, etc.⁴⁶

The application of the rules relative to administrative inspection warrants is not changed because ATF is conducting the investigation, rather than fire department investigators, so long as the purpose for ATF's presence on the premises is under section 846 to investigate the cause of the fire and not an unrelated Federal crime.⁴⁷ ATF agents' expertise in the explosives area provides reason for ATF agents to participate in an investigation of the cause of the fire.⁴⁸ Additionally, the fact that ATF's presence on the premises is related to an investigation under Title 18, U.S.C., does not lessen the availability of an administrative inspection warrant.⁴⁹ However, as noted above, a criminal search warrant is still required where the agent has reason to believe evidence of arson is on the premises.

The administrative warrant must be obtained from a judge or magistrate authorized to issue war-

⁴⁶ *Michigan v. Tyler*, 436 U.S. 499, 510-12 (1978).

⁴⁷ *United States v. Hoffman*, 607 F.2d 280 (9th Cir. 1979). However, separate from the section 846 inspection authority, law enforcement officers investigating a crime unrelated to the fire may make a warrantless entry of the premises immediately after extinguishment of the fire due to exigent circumstances in protecting against the destruction of evidence. *United States v. Berryman*, 468 F. Supp. 793, 798 (E.D. Va. 1979), upheld the warrantless entry by a police detective to seize evidence of a bank robbery after police shot tear gas cannisters into the apartment which started the fire.

⁴⁸ *Cf.*, *United States v. Callabress*, 607 F.2d 559 (2d Cir. 1979), (local narcotics investigator could enter building at request of firefighters who discovered dangerous chemicals on the premises).

⁴⁹ *United States v. Goldfine*, 538 F.2d 815, 819 (9th Cir. 1976); *United States v. Prendergast*, 585 F.2d 69, 71 (9th Cir. 1978).

⁴³ *Michigan v. Tyler*, 436 U.S. 499, 504-09, 511 (1978).

⁴⁴ *Michigan v. Tyler*, 436 U.S. 499 (1978).

⁴⁵ *United States v. Callabress*, 607 F.2d 559, 564 (2d Cir. 1979).

rants and the affidavit should state that the inspection is pursuant to 18 U.S.C. § 846. Also, the affidavit should state the grounds establishing the reasonable belief of the agent that explosive

materials were involved, identify the premises to be inspected, and state the scope and time of such inspection.

VI. TECHNICAL—FORENSIC LABORATORY SUPPORT

The application of Title II of the Gun Control Act and Title XI of the Organized Crime Control Act in the Federal prosecution of arson-related crimes frequently requires the expert testimony of chemists and/or explosive specialists. This testimony is vital to the successful prosecution of arson violations arising from the use of "explosives" or destructive, explosive and incendiary devices. ATF has the expertise to identify and classify "explosives" and devices from debris and other evidence found at the scene of an arson.

A. FORENSIC LABORATORY SUPPORT

ATF maintains a headquarters laboratory in Rockville, Maryland, and field laboratories in Atlanta, Georgia; Cincinnati, Ohio; and San Francisco, California. Among the responsibilities of the laboratories is the examination of evidence from the scenes of suspicious fires. The primary purpose of these examinations is the detection/identification of accelerants. Although other kinds of accelerants are occasionally encountered, the bulk of all arson fires, whether by fire bomb or simple arson, involves the use of petroleum distillates. A second function of the laboratory is the identification of incendiary device components.

A third responsibility of the laboratory is to review investigative reports and other documents to determine if site conditions and other case information support a conclusion that a "fuel-air" explosive was present.⁵⁰ Based upon this evaluation, the chemist may issue a statement in conjunction with an examination, stating that contact between the flammable liquid(s) detected at the arson scene and the atmosphere may produce an "explosive"; that is, a mechanical mixture containing oxidizing and combustible units in such proportions that ignition may cause an explosion.⁵¹

1. Criteria for Substances to Generate Explosives

Although an accelerant is broadly defined as any material used to propagate or spread a fire, the

⁵⁰ In order for an accelerant to have explosive capabilities under 18 U.S.C. § 844(j), it must be a mechanical mixture (i.e., gasoline when mixed with air).

⁵¹ See Appendix H, Title XI statement issued by the laboratory.

examination of arson debris is generally concerned with liquid accelerants such as gasoline, lacquer thinner, and paint thinner. In order for these substances to have explosive potential, there are two primary requirements:

a. Flashpoint

The flashpoint of a liquid is defined as the lowest temperature at which the liquid vaporizes sufficiently to form an explosive mixture with air. Flashpoints vary from liquid to liquid, and will also be affected by variations in atmospheric pressures. In order for the second criteria to be satisfied, the flashpoint of the identified substance must generally be lower than or equal to the surrounding temperature.

Below is a list of the more common accelerants and their flashpoints. All of these are liquids at ordinary temperatures and pressures. A more complete listing can be found in most standard reference material dealing with accelerants or related topics.⁵²

Accelerant	Flashpoint (def. F) (Tag closed cup method)
Gasoline	-35 or less
Coleman Fuel	-35 or less
Petroleum Ether	-35 or less
Rubber Solvent	-35 or less
Rubber Cement	
Solvent	-35 or less
Lacquer Thinners	-30 to +35
Acetone	-4
Benzene (Benzol)	12
Methyl Ethyl	16
Ketone (MEK)	
Naphthas	30—100
(Various "Grades")	
Toluene	40
(Toluol)	
Methyl Alcohol	52
(Methanol)	
Denatured	63
(Ethyl) Alcohol, 95%	
Mineral Spirits	85—105
Turpentine	95

⁵² See Appendix I, Publications dealing with accelerants.

<i>Accelerant</i>	<i>Flashpoint (def. F) (Tag closed cup method)</i>
Fuel Oil No. 1 (Kerosene)	110—165
Fuel Oil No. 2 (Diesel Fuel)	110—190
Cooking Oils, Machine (Lubri- cating) Oils, Linseed Oil	300+

The above list can be broken into three categories. The first group of five accelerants (gasoline through rubber cement solvent) will readily form an explosive mixture with air under almost every arson situation (atmospheric temperature greater than minus 35°F). The second group of 10 accelerants (lacquer thinner through turpentine) have flashpoints which fall within our normal ambient temperature range (-30° to +100°F). The third group of accelerants are oils which have flashpoints above commonly encountered temperatures, but will form fuel-air explosives under certain conditions.

In addition to liquid accelerants, some fuels are normally gases, such as pipeline gas (primarily methane) and hydrogen. The molecules of fuels that are normally gaseous function no differently from molecules of fuels that are normally liquids. Therefore, consistent interpretation of the technical framework in section 844(j) demands that such gases be included within the meaning of "explosives."

b. Confinement

The second requirement for an accelerant to become explosive is that there must be some degree of confinement. Each incident is unique and must be analyzed on its own merits. However, in most cases, sufficient confinement is provided by natural constraints such as the floor, walls or ceiling of the room or building wherein the explosives were initiated.

The ability of the chemist to make a determination that accelerants qualify as an "explosive" is dependent upon information that is provided by the special agent from the area of the crime scene. Therefore, information reported to the laboratory usually contains such facts as: location and size of doors, windows and stairways; wall construction; size of target; air temperature; or other data necessary to establish the overall picture of the conditions at the time the arson was initiated.

ATF chemists are available to assist the special agent and/or prosecutor in areas beyond the actual

identification of evidence in the laboratory. The chemist's role includes: evaluating crime scene information to determine if the conditions necessary to form a fuel-air explosive are present; issuing Title XI determinations when applicable; providing expert court testimony as to laboratory examinations including the explosive potential of a fuel-air mixture; and assisting the prosecuting attorney in preparing technical material on fuel-air explosives for court presentation.

B. EXPLOSIVE TECHNOLOGY SUPPORT

In addition to laboratory examination, ATF also conducts other types of technical examination in arson investigations. These examinations involve intact or functioned explosive or incendiary devices, including any components which might readily be assembled into a device. This determination is necessary to establish that the device(s) and/or specific component(s) are, in fact, a destructive device as defined in 26 U.S.C. § 5845(f), or an incendiary and/or explosive device as defined in 18 U.S.C. § 844(j).

These types of examinations are made by the explosive specialists assigned to the Explosives Technology Branch in Washington, DC. ATF explosive specialists are experts in the field of explosives, and who assist ATF special agents and other law enforcement officers in the examination of evidence from the scene of incidents, involving the use of explosives or explosive materials. These specialists are also familiar with the various devices described under Title II of the Gun Control Act and Title XI of the Organized Crime Control Act and can provide expert testimony as to the design, characteristics, function and effects of such devices.

1. Definition of Destructive Devices [26 U.S.C. § 5845(F)]

- a. The term "destructive devices" as defined in section 5845(f), Chapter 53 of the Internal Revenue Code, as amended includes: any explosive, incendiary or poison gas—

- (1) Bomb
- (2) Grenade
- (3) Rocket—having an explosive charge or more than four (4) ounces
- (4) Missile—having an explosive charge or more than one-quarter (¼) ounce
- (5) Mine
- (6) Similar device

- b. Any type of weapon which will, or which may be readily converted to expel a projec-

tile, the barrel of which has a bore exceeding one-half (½) inch in diameter, except a shotgun which is recognized as suitable for sporting purposes.

- c. Any combination of parts either designed or intended for use in converting any devices into a destructive device as described in paragraphs (a) and (b) of this definition, or from which a destructive device may readily be assembled.

Confusion or misunderstandings concerning the destructive device definition sometimes arise because the statute lists general categories of devices which are not specifically defined. Congress intended to include within the definition various military-type weapons, gangster-type or improvised weapons and other devices or components which are redesigned or from which a destructive device may be readily assembled.⁵³

The first five items in paragraph (a) pertain primarily to military-type weapons which were specifically designed to produce property damage and/or injury or death to enemy personnel. Although item six identifies similar devices as within the "destructive device" definition, the term more specifically refers to manufactured or improvised devices having the same general design characteristics and functional effects as the military-type weapons.

Paragraph (b) includes manufactured or improvised weapons such as mortars, cannon or rocket launchers.

Paragraph (c) pertains to components designed or intended for use in converting a device into a destructive device. For example, courts have held that hand grenade simulators are not destructive devices. If, however, nails or tacks are affixed to the outside shell of a hand grenade simulator, then it would have been redesigned into a destructive device similar to a hand grenade as included under item two of paragraph (a). Also, included in paragraph (c) are components that might readily be assembled into a destructive device (i.e., pipe, pipe caps, fuse, and smokeless powders).

The following are accepted definitions of devices as itemized in numbers one through five in paragraph (a):

Bomb: An explosive or incendiary material designed to be dropped, projected, thrown or placed and initiated in a particular manner.

Grenade: A small bomb initiated by a fuse or fusing mechanism and thrown by hand or launched from a rifle.

⁵³ See Chapter II, Legal discussion relative to destruction devices.

Rocket: A device containing a combustible substance which when ignited produces gases that escape through a rear vent, driving the container forward by the principle of reaction.

Missile: A projectile containing an explosive charge designed to be launched, thrown, or fired toward a target.

Mine: An explosive charge designed for use on the surface or underground to destroy enemy troops or vehicles, or placed in the sea for destroying enemy ships.

The devices as described in paragraph (a) of this definition must be specifically designed as weapons and be capable of causing property damage and/or injury or death. In violations regarding this type of device, specific intent to use is not a necessary element; it is necessary only to prove that a defendant knew he/she possessed a dangerous device.

Violations relative to paragraph (b) may or may not require that intent be shown. This will depend on the type of device in question and the circumstances surrounding the case.

To establish a violation under paragraph (c), it must be shown that the defendant intended to use certain components either to convert a device into a destructive device or assemble the components into a destructive device. Without intent, possession of unassembled pipe, pipe caps, fuse, and smokeless powder would not constitute a violation of either Title II or Title IX, and possession of dynamite, cap and fuse might only be a storage violation under section 842 of Title XI.

2. Classifications of Destructive Devices⁵⁴

The various items outlined in the destructive device definition fall within one or more of three general categories, these being explosive, incendiary, or poison gas devices. The definitions pertaining to these categories are:

a. Explosive Device

A device containing or made up of a substance which, when subjected to heat, impact, friction, or other suitable impulse, undergoes a rapid chemical transformation, forming other more stable products entirely or largely gaseous, whose combined volume is much greater than that of the original substance. This reaction results in a violent explosion producing shock, blast, thermal, and fragmentation effects.

⁵⁴ See Appendix J, sample of a Title II determination statement issued by Chief, Explosives Technology Branch.

b. Incendiary Device

A device composed of or containing a combustible material or a combination of materials capable of producing sufficient heat to destroy property and having components designed to ignite those combustible materials, provided the intended use of the device is to ignite and destroy property.

c. Poison Gas Device

A device containing any toxic chemical agent, in the form of a gas or vapor-forming liquid or solid, capable of killing or harassing through inhalation or contact.

3. Definition of Explosive/Incendiary Devices 18 U.S.C. § 844(j)

Section 844(j) of 18 U.S.C., Chapter 40, contains a definition of explosive for the purpose of subsections (d), (e), (f), (g), (h), and (i) of section 844.

The term "explosives" as presented in section 844(j), means "gunpowders, powders used for blasting, all forms of high explosives, blasting fuzes, detonators, and other detonating agents, smokeless powders, other explosive or incendiary devices within the meaning of paragraph five (5) of section 232 of this title, and any chemical compound, mechanical mixture, or device that contains any oxidizing and combustible units, or other ingredients, in such proportions, quantities or packaging that ignition by fire, by friction, by concussion or by detonation of the compound, mixture, or device or any part thereof may cause any explosion."

Further, section 232, paragraph five (5) defines the term "explosive or incendiary device" as: (a) dynamite and all other forms of high explosives; (b) any explosive bomb, missile, grenade, or similar device; and (c) an incendiary bomb or grenade, fire bomb or similar device, including any device which consists of or includes a breakable container, and a wick composed of any material which when ignited, is capable of igniting such flammable liquid or compound, and can be carried or thrown by one individual acting alone.

The term "explosive" as used in 18 U.S.C., Chapter 40, section 844(j), is generally descriptive, but is not limited to those materials or items that are inherently explosives. Congress intended to include within the definition both manufactured and improvised explosive devices, and those chemical compounds and/or mechanical mixtures which under certain conditions may explode. In addition, included within the definition are incendiary devices which were neither designed, intended, or capable of functioning by explosion.

4. Design, Characteristics, Functions and Effects of Devices

The written determinations prepared by ATF specialists concerning devices used in incidents are based upon standards. A discussion of determinations and the standards upon which they are based are outlined in the following paragraphs.

To ascertain the minimum standards necessary to identify an explosive or incendiary device as being either a destructive and/or explosive device as those terms are defined by law, it first becomes necessary to define both types of devices.

An **explosive device** (explosive bomb) or **incendiary device** (fire bomb) is defined as an explosive or incendiary designed to be dropped, projected, thrown, or placed and initiated in a particular manner.

The design criteria for an **explosive device** require that the assemblage of components be capable of functioning by explosion, producing shock, blast, thermal, and fragmentation effects. For the purposes of Title II (destructive device), an explosive device (grenade, mine, missile, rocket, or similar device) must be designed or redesigned for use as a weapon and must be capable of causing property damage and/or injury or death. For the purpose of Title XI, section 844(i), it is only necessary that the explosive be capable of causing property damage.

An **incendiary device** (fire bomb) consists of any article composed of a combustible material capable of producing sufficient heat to destroy property and having components designed to ignite that combustible material, provided the function of the device is to ignite and destroy property.

To meet the minimum design criteria, an explosive or incendiary device must include an explosive or combustible material and components to initiate or ignite these materials. The fusing (initiating or ignition) mechanisms could range from the most sophisticated to the simplest of systems (i.e., electronic circuitry as opposed to a pyrotechnic fuse, string, rag or paper wick).

Both the design criteria and the intended use of either type of device are important factors to be considered. In either case, it is essential to establish that the device is designed for use as a weapon, and is capable of causing property damage or injury. The design function of a manufactured explosive or incendiary device can be easily documented and attested to. In the case of common materials assembled for use as explosive or incendiary devices, the design characteristics, function, and effects of these types of devices can be attested to through testing, testimony, and other supportive evidence.

Based upon the foregoing information, it would appear that in most instances where explosives or

combustible materials are maliciously used, an explosive or incendiary device was in fact utilized. Although in reality this might be so, proof that a device consisting of an explosive or incendiary material and components capable of initiating or igniting the material must be shown.

Gasoline and other flammable liquids are common tools of the arsonist. Gasoline could, depending on its use, fall within the device or mechanical mixture segment of the explosives definition. As previously discussed, gasoline becomes an explosive only under certain conditions.⁵⁵ Gasoline, however, when utilized as a component of an incendiary device requires only a method of ignition and the capability of destroying property.

Therefore, as an example, a container of gasoline placed within a structure, in proximity to combustible material and utilizing a trailer (fuse, rag or paper wick, etc.) for ignition would be an incendiary device. The same gasoline, if poured about the structure and ignited in the same manner could also fall within the incendiary device definition. However, the pouring of the gasoline from the container, under proper conditions, would be an incident best supported by the "mechanical mixture which may explode" segment of the definition. In similar situations where the flammable liquid or the prevailing conditions do not meet the explodable requirements, an incendiary device statement could be issued.

It is recommended that in situations where: (a) a flammable liquid is used; (b) conditions exist for a fuel/air explosion and (c) the method of ignition is unknown or is suspected of being perpetrated by use of a trailer only, the explosives certification be issued by the ATF Forensic Laboratories. However, if a different method of ignition exists (i.e., clock delay, candle, cigarette/match delay, etc.), the case is best supported with a Title XI incendiary device statement. It should be noted that this type of case will in many instances require a Title II—Destructive Device Determination which is also issued by the Explosives Technology Branch.⁵⁶

5. Explosive and Incendiary Device Firing Systems

This section contains definitions and illustrations relative to various techniques utilized to initiate explosive and incendiary devices. This information is

necessary in order to understand the language contained in the device determination statement. However, before specific definitions can be understood, the general definitions relating to firing systems and fuses may be helpful.

A **firing system** consists of those items or materials associated with an explosive or incendiary device which provide for delay or initial ignition, deflagration and/or detonation of an explosive or incendiary device.

The principal component of a firing system is a fuse (firing device). A **fuse** is a device which activates or provides the spark, heat or impulse necessary to initiate an explosive or incendiary device.

Fuses function by mechanical, chemical or electrical means, or a combination of all three means. Fusing systems generally take their names from the actions that control their performance; i.e., electric, non-electric or chemical. (See diagrams, page 23.)

1. An **electrical firing system** is one in which the initiating medium for ignition, deflagration or detonation is spark, flame or heat produced by electric energy.
2. A **non-electric firing system** is one in which the explosive or incendiary material is initiated or ignited by flame or heat produced by non-electric means.
3. A **chemical firing system** is one in which a chemical (including hypergolic) reaction is utilized to initiate or ignite an explosive or incendiary material.
4. **Explosive firing train**—The steps in which certain items, materials and explosives are aligned to initiate an explosive device; such as fuse, detonator, booster and main charge.
5. **Incendiary firing train**—A group of articles and/or substances that are assembled to start fires. The system consists of an initiator, delay mechanism (if needed), ignitor and incendiary material or substance. This is also known as an incendiary system.
6. **Initiator**—That part of an explosive or incendiary firing train which starts or initiates the designed function of an explosive or incendiary device (i.e., a match or electrical energy).
7. **Ignitor**—An intermediate flammable material utilized when needed in an incendiary system between the initiator and incendiary material. It is set aflame by the initiator and produces sufficient heat to ignite the incendiary material.

⁵⁵ See Appendix L, sample stipulation that gasoline is an explosive as defined in 18 U.S.C. § 844(j).

⁵⁶ See Appendix K, sample of Title II/XI determination statement issued by Chief, Explosives Technology Branch. It should be noted that explosive and/or incendiary devices classified as destructive devices (Title II) could also be classified as destructive explosive (Title XI). However, Title XI explosives will not always qualify as a destructive device.

8. **Incendiary Material**—A substance which when ignited is intended to provide a sustained fire, to accelerate and spread the fire, and to propagate and generate the fire to other combustible materials.
9. **Accelerant**—A substance or material, usually a liquid, which is flammable and sometimes explosive; used to increase the burning rate and to hasten and spread the fire and accelerate the burning. Gasoline, kerosene and other petroleum derivatives are examples.
10. **Arming Delay**—The electrical, mechanical or chemical action which provides a time delay between the initiating and complete alignment of all firing components.
11. **Delay Mechanism**—The electrical, mechanical or chemical elements that provide a predetermined, limited time delay before initiation. Elements may be used singularly or in combination.
12. **Improvised**—Anything made up or devised; not of standard use or manufacture.

13. **Spontaneous Combustion**—The outbreak of fire in combustible materials that occurs without an application of direct spark or flame. The fire is the result of heat produced by chemical action.

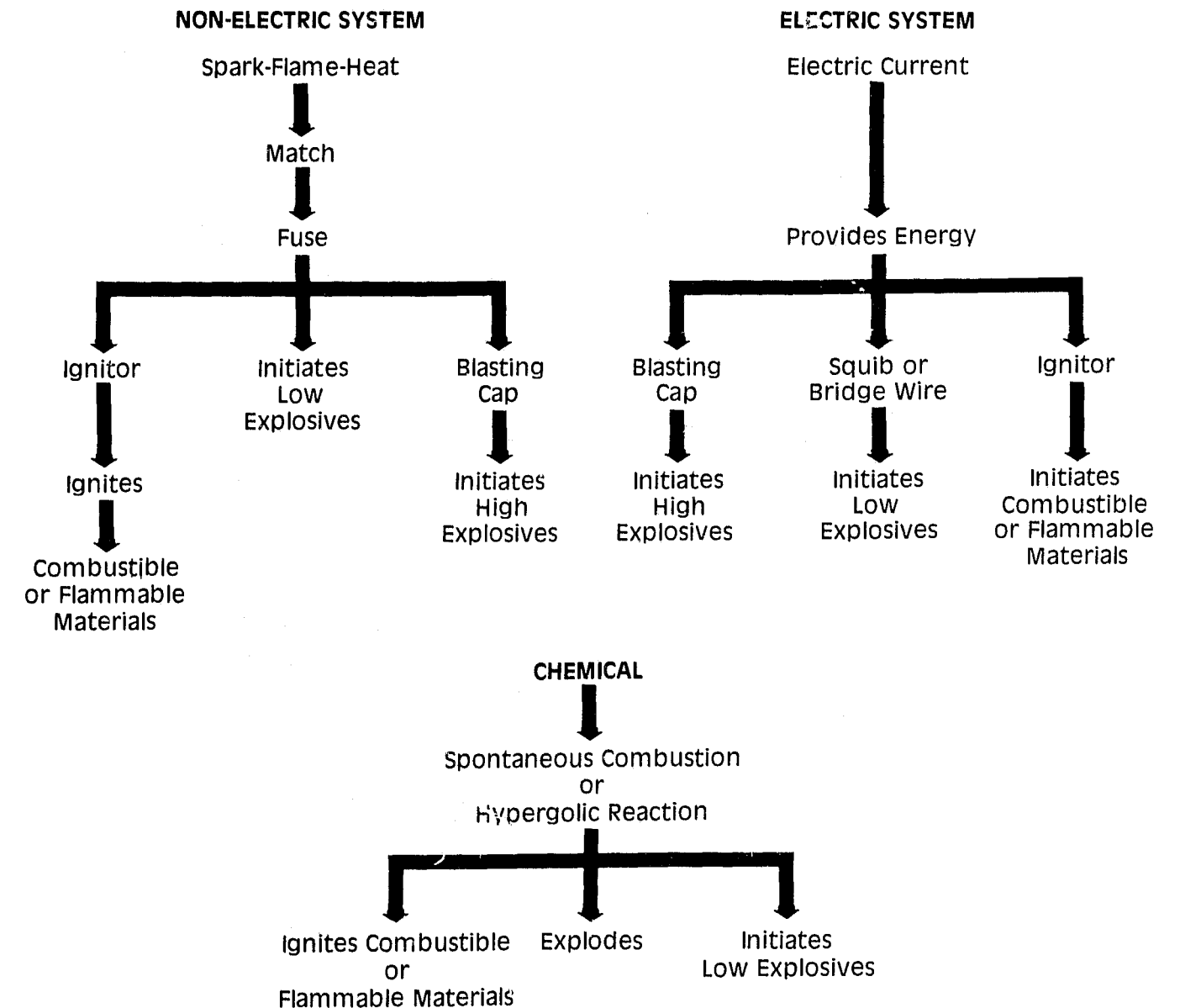
14. **Hypergolic**—The spontaneous ignition of fuel and oxidizer combinations.

ATF explosive specialists have extensive knowledge, skill and training in all aspects of the design, characteristics, functions and effects of commercial, military and improvised explosives and incendiary devices. They are capable of reconstructing live and exemplar devices from collected evidence and are experienced in testing reconstructed live devices to illustrate their effects. Each specialist has been qualified as an expert witness on numerous occasions in both Federal and State courts. As with the ATF forensic chemists, these specialists can provide valuable technical assistance to the prosecuting attorney in conjunction with the preparation for trial or related judicial proceedings.

FIRING TRAIN DIAGRAMS

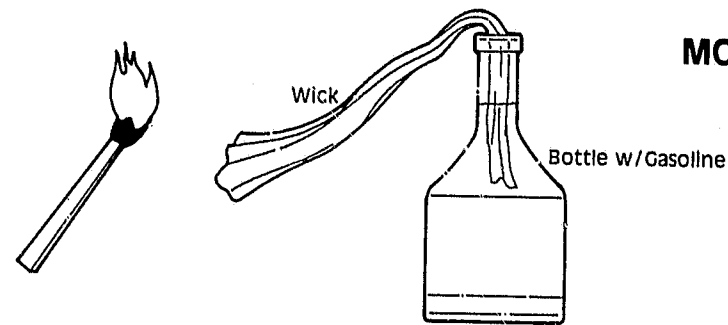
The firing trains depicted illustrate the types of action(s) required to cause an explosion or fire. Any combination of these actions may be employed within the firing train. Also, many types of delay mechanisms may be used which can dictate the

desired time of the explosion or fire. Command initiation such as radio-controlled devices or remote wire systems can also be used as a means of initiating explosive or incendiary devices. Examples of these systems appear on pages 24 and 25.

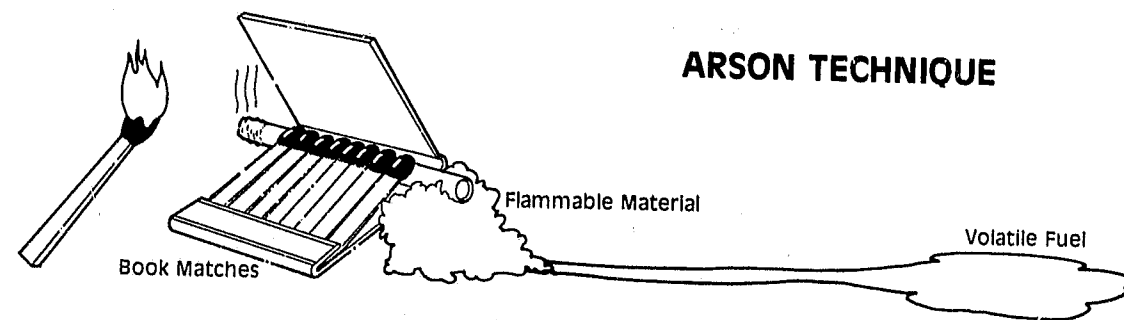


FIRING TRAIN ILLUSTRATIONS

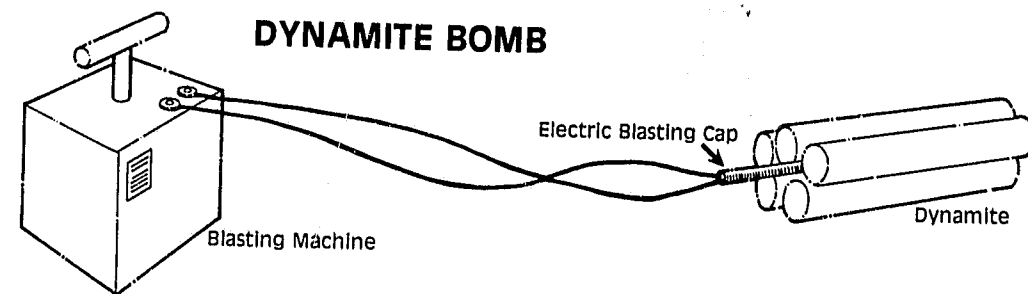
MOLOTOV COCKTAIL



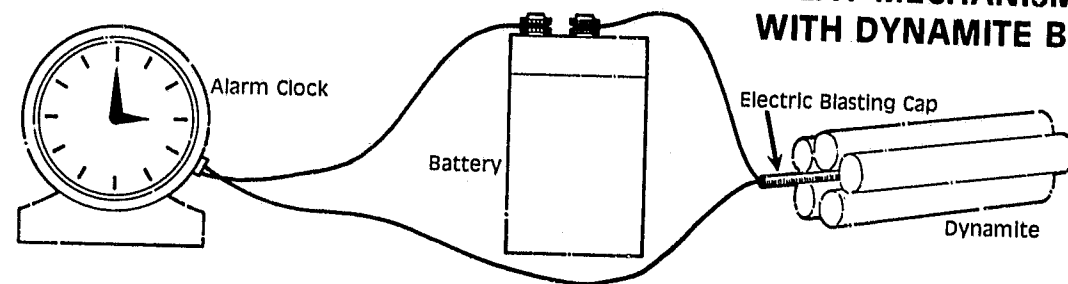
ARSON TECHNIQUE



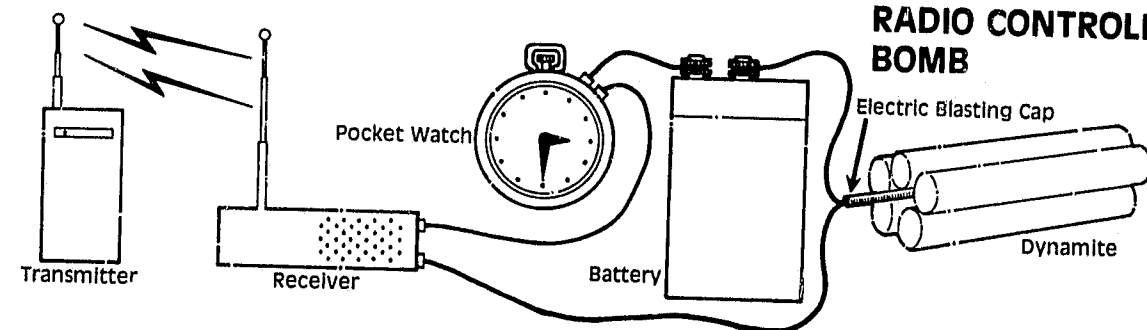
DYNAMITE BOMB



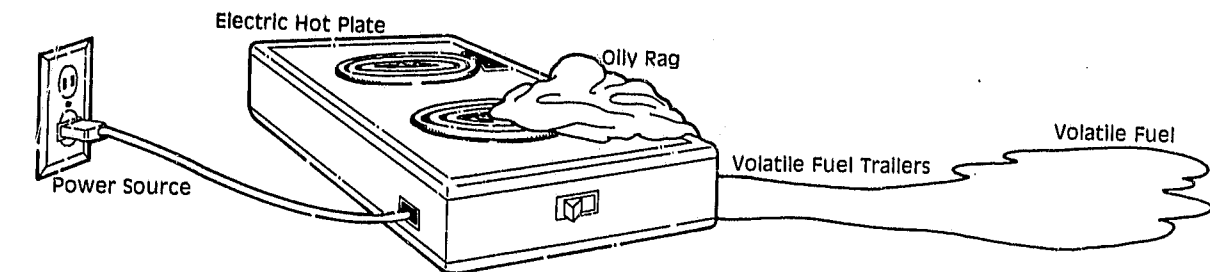
DELAY MECHANISM WITH DYNAMITE BOMB



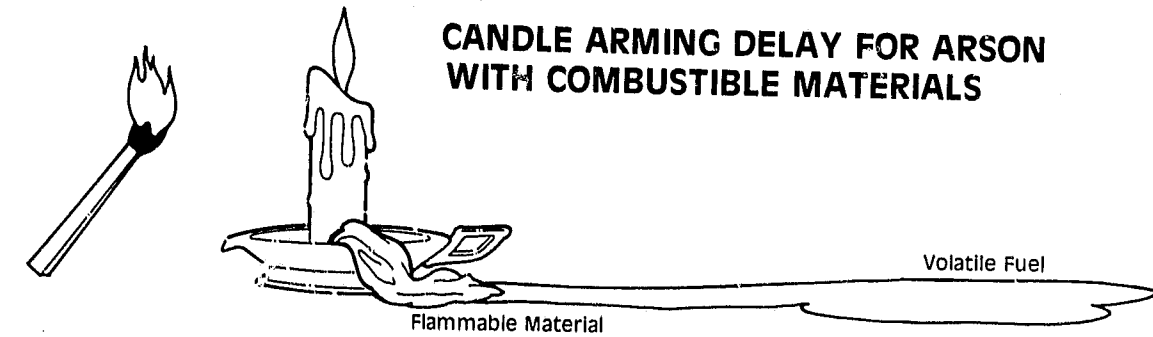
RADIO CONTROLLED BOMB



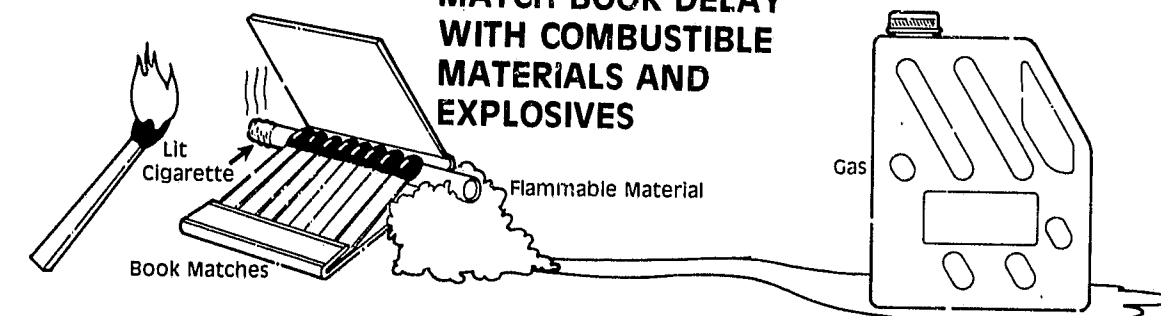
ELECTRIC HOT PLATE WITH COMBUSTIBLE MATERIAL



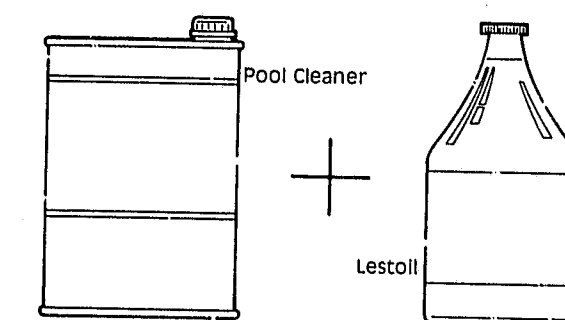
CANDLE ARMING DELAY FOR ARSON WITH COMBUSTIBLE MATERIALS



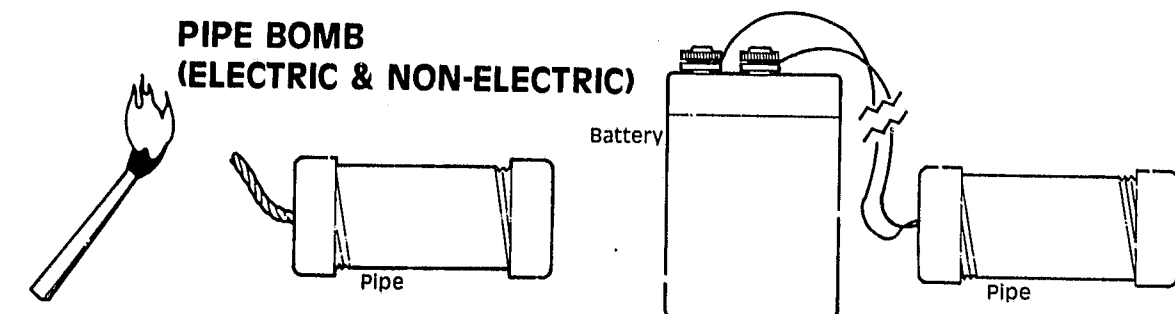
MATCH BOOK DELAY WITH COMBUSTIBLE MATERIALS AND EXPLOSIVES



CHEMICAL INCENDIARY WITH POOL CLEANER (OXIDIZER) & (FUEL)



PIPE BOMB (ELECTRIC & NON-ELECTRIC)



VII. APPENDICES

Appendix A

COUNT _____

That on or about the _____ day of _____, 19____, in _____, _____ County, _____, and in the _____ Judicial District of _____, _____, defendant herein, did maliciously damage and destroy and attempt to damage and destroy, by means of an explosive, that is, a mechanical mixture containing oxidizing and combustible units in such proportions that ignition may cause an explosion,* real property, that is, the structure known as _____, _____ Street, _____, _____, which was then leased to _____, an institution receiving Federal financial assistance, in violation of Title 18, United States Code, Section 844(f).

* This indictment charges use of the "mechanical mixture, or device" definition of explosive in 18 U.S.C. § 844 (j). The remaining definitions; i.e., the explosive or incendiary device definition under 18 U.S.C. §§ 232 and 844 (j) or the section 844 definition covering specific kinds of explosives, should be substituted as the circumstances warrant.

Appendix B

COUNT _____

That on or about the _____ day of _____, 19____, in _____, _____ County, _____, and in the _____ District of _____, the defendant, _____, did use and cause to be used an explosive, to wit, a mechanical mixture containing oxidizing and combustible units in such proportions that ignition may cause an explosion,* to commit a felony which may be prosecuted in the courts of the United States, that is, to violate Title 18, United States Code, Section 1341, Mail Fraud, which is fully set out in Count _____ of this indictment and is incorporated herein by reference as if fully set out herein, in violation of Title 18, United States Code, Section 844(h)(1).

* This indictment charges use of the "mechanical mixture, or device" definition of explosive in 18 U.S.C. § 844 (j). The remaining definitions; i.e., the explosive or incendiary device definition under 18 U.S.C. §§ 232 and 844 (j) or the section 844 definition covering specific kinds of explosives, should be substituted as the circumstances warrant.

Appendix C

COUNT _____

That on or about the _____ day of _____, 19____, in _____, _____ County, _____, and in the _____ District of _____, defendant _____, did maliciously damage and destroy, and attempt to damage and destroy, and cause to be maliciously damaged and destroyed by means of an explosive, to wit, a mechanical mixture containing oxidizing and combustible units in such proportions that ignition may cause an explosion,* the structure known as _____, _____ Street, _____, _____, and personal property, that is, furniture, fixtures, and inventory located inside of said building, said real and personal property then being used in an activity affecting interstate commerce, in violation of Title 18, United States Code, Section 844(i).

* This indictment charges use of the "mechanical mixture, or device" definition of explosive in 18 U.S.C. § 844(j). The remaining definitions; i.e., the explosive or incendiary

device definition under 18 U.S.C. §§ 232 and 844 (j) or the section 844 definition covering specific kinds of explosives, should be substituted as the circumstances warrant.

Appendix D

COUNT _____

That on or about the _____ day of _____, 19____, in _____, _____ County, _____, and in the _____ District of _____, defendant _____ herein, knowingly and unlawfully, did possess a firearm, as defined by Section 5845(a), Title 26, United States Code, to wit, a destructive device, and more particularly described as a combination of parts designed and intended for use in converting a device into a destructive device and from which a destructive device may be readily assembled, that is, _____, which firearm was not registered to him/her in the National Firearms Registration and Transfer Record, in violation of Section 5861(d) and 5871, Title 26, United States Code.

Appendix E

GOVERNMENT'S PROPOSED INSTRUCTION NO. _____

It is alleged in Count _____ of the indictment that the defendant used an "explosive." The term "explosive" is defined in part as any chemical compound, mechanical mixture, or device that contains any oxidizing and combustible units, or other ingredients, in such proportions or quantities that ignition by fire may cause an explosion. (*United States v. Charles E. Davis*, (unreported) No. 478-73 (S.D. Ga. 1978).)

Appendix F

GOVERNMENT'S PROPOSED INSTRUCTION NO. _____

It is alleged in Count _____ of the indictment that the defendant used an "explosive." The term "explosive" is defined as an "explosive or incendiary device." An explosive or incendiary device means any incendiary bomb, grenade, firebomb or similar device. An incendiary device is any article capable of producing sufficient heat to destroy property of any kind, and having components designed to ignite that combustible material. (18 U.S.C. §§ 232(5), 844(i), and 844(j); *United States v. Davis*, (unreported) No. 79-1508 (9th Cir. 1981).)

Appendix G

GOVERNMENT'S PROPOSED INSTRUCTION NO. _____

The term "maliciously" means that a person does a wrongful act willfully, that is, on purpose, to the injury of property or person. (I Devitt and Blackmar, *Malice* § 16.06, at 512 (1977).)

GOVERNMENT'S PROPOSED INSTRUCTION NO. _____

The word "maliciously" means that malice which characterizes all acts with an evil disposition, wrong or unlawful purpose, a state of mind which actuates conduct injurious to others without any lawful reason. (*United States v. Charles E. Davis*, (unreported) No. 478-73 (S.D. Ga. 1978).)

Appendix H

ATF Lab Case No. _____

UI No. _____

STATEMENT

The flammable liquid(s) identified in this case is (are) _____

Contact between _____ and
the atmosphere may produce an explosive as defined in 18 U.S.C. § 844(j)—that is,
a mechanical mixture containing oxidizing and combustible units in such propor-
tions that ignition may cause an explosion.

PHILIP L. WINEMAN
Forensic Chemist

Reviewed by: RICHARD L. BRUNELLE
*Chief, Forensic Science Branch
Scientific Services Division*

Appendix I

1. *Fire Protection Guide on Hazardous Materials, Seventh Edition*, National Fire Protection Association, Boston, MA, 1978.
2. Zabetakis, Michael G., *Flammability Characteristics of Combustible Gases and Vapors*, U.S. Department of the Interior, Bureau of Mines, Washington, DC, 1965.
3. Coward, H.F. and Jones, G.W., *Limits of Flammability of Gases and Vapors*, U.S. Department of the Interior, Bureau of Mines, Washington, DC, 1952.



DEPARTMENT OF THE TREASURY BUREAU OF ALCOHOL, TOBACCO AND FIREARMS WASHINGTON, D.C. 20226

Appendix J

REFER TO

T:T:E:AWG

Sample Statement

MEMORANDUM TO: Special Agent James L. Smith
Kenwood, New Jersey

FROM: Chief, Explosives Technology Branch

SUBJECT: Examination of Case Number 0012-0180-6004-P

As requested, attached is a determination made by the Explosives
Technology Branch concerning the above subject.

ROBERT F. DEXTER

Attachment

Sample Statement

Statement of
Explosives Technology Branch
Bureau of Alcohol, Tobacco and Firearms
made at
Washington, DC, on March 16, 1981

At the request of Special Agent James L. Smith, Bureau of Alcohol, Tobacco and Firearms, Kenwood, New Jersey, reports, photographs, and physical evidence relating to Case Number 0012-0180-6004-P were examined by the Explosives Technology Branch in order to determine if the materials involved in this investigation would constitute a destructive device as that term is defined in 26 U.S.C. § 5845(f), and/or an explosive as that term is defined in 18 U.S.C. § 844(j).

The items submitted for analysis and evaluation included the following:

- Item 1.* Special Agent's Report of Investigation, dated December 6, 1979.
- Item 2.* ATF Report of Laboratory Examination OKL-5112.
- Item 3.* Physical evidence submitted for examination.
- Item 4.* Photographs (21-8" x 10" color) of premises and materials for evaluation.

Technical analysis and evaluation by Albert W. Gleason, Explosives Enforcement Officer, and Thomas D. Cousins, Explosives Enforcement Officer, included a review of the above items, permitting an opinion as to device design, construction, functioning, and effects.

Device Design and Construction

The devices, as described and photographically depicted, consisted of six plastic jugs each containing a quantity of liquid identified as gasoline. These containers were found suspended approximately midway between the floor and ceilings in several rooms of the premises in question. Leading from the front door to the areas containing the gasoline filled containers were fire trailers, consisting of gasoline-soaked paper toweling. Also found within the premises in proximity to the trailers were two cigarette matchbook time delay ignition devices.

Device Functioning and Effects

The aforementioned items are components commonly utilized for incendiary purposes. The cigarette/matchbook devices were assembled and intended for use as an ignition source. When lit, the cigarettes will burn slowly, providing a time delay before igniting the matches. This action would cause ignition of the paper toweling (trailers), which would carry the fire throughout the premises. The burning trailers would generate and propagate fire to the combustible materials, eventually reaching the gasoline-filled containers. The ensuing heat and flame would cause the plastic containers to rupture, dispersing the gasoline throughout the area. Gasoline is a highly flammable liquid, which when exposed and mixed with air, produces readily ignitable vapors. Gasoline used in this manner is intended to accelerate the pace of the fire to support combustion among other materials and to ensure a complete burning.

Based upon the above, it is the opinion of the assigned that the materials in question when assembled and utilized as described, are capable of producing sufficient heat to destroy property and are components which were intended to be utilized to ignite and destroy property. As such, the device, as described would be properly identified as an incendiary device and would constitute an "explosive" as that term is defined in 18 U.S.C. § 844(j). In addition, the aforementioned device, being designed for use as a weapon, would constitute a "destructive device" as that term is defined in 26 U.S.C. § 5845(f).

ALBERT W. GLEASON
Explosives Enforcement Officer

THOMAS D. COUSINS
Explosives Enforcement Officer

ROBERT F. DEXTER
Chief, Explosives Technology Branch



DEPARTMENT OF THE TREASURY
BUREAU OF ALCOHOL, TOBACCO AND FIREARMS
WASHINGTON, D.C. 20226

Appendix K

REFER TO
T:T:E:AWG
Sample Statement

MEMORANDUM TO: Special Agent John R. Jones
Kenwood, New Jersey

FROM: Chief, Explosives Technology Branch

SUBJECT: Examination of Case Number 0012-0180-6001-A

As requested, attached is a determination made by the Explosives Technology Branch concerning the above subject.

ROBERT F. DEXTER

Attachment

Appendix K—(Cont.)

Sample Statement

Statement of
Explosives Technology Branch
Bureau of Alcohol, Tobacco and Firearms
made at
Washington, DC, on March 16, 1981

At the request of Special Agent John R. Jones, Bureau of Alcohol, Tobacco and Firearms, Kenwood, New Jersey, reports, photographs, and physical evidence relating to Case Number 0012-0180-6001-A were examined by the Explosives Technology Branch in order to determine if the materials involved in this investigation would constitute a destructive device as that term is defined in 26 U.S.C. § 5845(f).

The items submitted for analysis and evaluation included the following:

- Item 1.* Special Agent's Report of Investigation, dated January 6, 1980.
- Item 2.* ATF Report of Laboratory Examination OKL-140, dated January 30, 1980.
- Item 3.* Physical evidence.
- Item 4.* Two (2) 8" x 10" color photographs.

Technical analysis and evaluation by A. W. Gleason, Explosives Enforcement Officer, and Thomas D. Cousins, Explosives Enforcement Officer, included a review of the above items, permitting an opinion as to device design, construction, functioning, and effects.

Device Design and Construction

The materials relating to the investigation of an attempted arson of a private residence located at 2155 Murdock Avenue on January 6, 1980, are consistent with those of an improvised incendiary weapon commonly referred to as a Molotov cocktail. The device was constructed utilizing a frangible container (a 32-ounce Papst Blue Ribbon beer bottle), a flammable liquid identified as gasoline, and a cloth wick placed in the bottle opening.

Device Functioning and Effects

Proper utilization of a Molotov cocktail requires that after the cloth wick is lit, the bottle containing the flammable liquid be thrown against a hard surface. This action is intended to cause the bottle to burst, aerating the flammable liquid and causing the fuel-air vapors to ignite. This type of device is capable of causing extensive property damage and/or injury or death to persons in proximity to the device when functioned.

Appendix K—(Cont.)

Based upon the above, it is the opinion of the assigned that the device as described is properly identified as an incendiary bomb and, as such, constitutes a destructive device as that term is defined in section 5845(f), Chapter 53 of the Internal Revenue Code, as amended.

ALBERT W. GLEASON
Explosives Enforcement Officer

THOMAS D. COUSINS
Explosives Enforcement Officer

ROBERT F. DEXTER
Chief, Explosives Technology Branch

Appendix L

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF PENNSYLVANIA

UNITED STATES OF AMERICA
Plaintiff,

v.

JOSEPH LEONE
Defendant.

CRIMINAL NO. 70-280

STIPULATION

IT IS HEREBY STIPULATED BY AND BETWEEN the United States of America, through its undersigned counsel, and the defendant Leone, individually and through counsel, that gasoline is an explosive, as the term "explosive" is defined in 18 U.S.C. § 844(j) and used in 18 U.S.C. § 844(i), and Count IV of the Indictment.

PETER F. VAIRA
UNITED STATES ATTORNEY

JOSEPH LEONE
Defendant

Date: _____

MORRIS B. SILVERSTEIN

EDWARD STEVEN CASTORIA
Attorney

U.S. Department of Justice
Washington, DC 20530

BARRY H. DENKER, ESQUIRE
Counsel for Defendant

Date: _____

Date: _____

Appendix M

Case:

U.S. v. Harold Gene and Martin
Whiter
U.S. District Court, Central District
of California
Criminal No. 80-430 WPG

Contact:

United States Attorney
Los Angeles, CA
FTS 688-2413

Judgment:

Convicted of 18 U.S.C. § 844(i) and
conspiracy to commit 18 U.S.C.
§ 844(i).

Appeal:

None.

Target:

Business warehouses—(Firefighter fa-
tality).

Method:

Use of electrostatic toner and disper-
sant with trailers and other com-
bustible materials ignited from out-
side structure with liquid trailer.

Case:

U.S. v. Henry Aguilera
U.S. District Court, Western District
of New York

Contact:

United States Attorney
Buffalo, NY
FTS 437-4829

Judgment:

Convicted of destruction of property
by means of explosives [18 U.S.C.
§ 844(i)].

Appeal:

None.

Target:

Bakery.

Method:

Incendiary device and fuel-air explo-
sive.

Appendix M—(Cont.)

Case:

U.S. v. Michael Kelley
U.S. District Court, Western District
of New York

Contact:

United States Attorney
Buffalo, NY
FTS 437-4829

Judgment:

Convicted of destruction of property
by means of explosives [18 U.S.C.
§ 844(i)].

Appeal:

None.

Target:

Dry cleaning store.

Method:

Incendiary device and fuel-air explo-
sive.

Case:

U.S. v. Junior Lee Birchfield
U.S. District Court, Middle District of
Tennessee (Nashville Division)
486 F. Supp. 137 (1980)

Contact:

United States Attorney
Nashville, TN
FTS 251-5151

Judgment:

Case dismissed in pretrial because
Judge Thomas A. Wiseman ruled
that the circumstances in the case
did not constitute an "incendiary
device" as argued by the AUSA. A
vapor-air explosive theory was not
argued by the Government.

Appeal:

None.

Target:

A furniture store.

Method:

Access to the building was made
through a hole in the roof. Gasoline
was spread over building contents
and matches tossed through the
hole were used to ignite the
gasoline.

Appendix M—(Cont.)

Case:

U.S. v. Daniel Cole
U.S. District Court, Northern District
of Georgia
Criminal No. 80-06-2

Contact:

United States Attorney
Atlanta, GA
FTS 242-6954

Judgment:

Defendant indicted under 18 U.S.C. § 844(h)—the use of an explosive to commit a felony prosecutable in courts of the United States, and mail fraud. Defendant was convicted of conspiracy, mail fraud, and 18 U.S.C. § 844(h).

Appeal:

None.

Target:

Arsonist hired to burn a residence in exchange for the title to the property.

Method:

Gasoline was spread on beds and a trailer laid to the electric range in the kitchen. Rags were used to connect the trailer with the range heating element.

Case:

U.S. v. Bruce Davis, Michael Free and Paul Guilford
U.S. District Court, District of Hawaii
Criminal No. 78-01294

Contact:

United States Attorney
Honolulu, HI
808/546-7170

Judgment:

Paul Guilford plead guilty to 18 U.S.C. § 844(i).

Bruce Davis was convicted of destruction of property by means of explosives [18 U.S.C. § 844(i)]; violations of I.T.A.R. [18 U.S.C. § 1952(a)(3)]; and three counts of mail fraud [18 U.S.C. § 1341].

Michael Free was convicted of destruction of property by means of explosives [18 U.S.C. § 844(i)].

Appeal:

Case was appealed on several points although the assignment of error concerning the definition of an incendiary device was considered without merit and not discussed. Conviction upheld by Ninth Circuit Court of Appeals in March 1981.

Target:

Pornographic book store.

Method:

The device used in this case was an accelerant-soaked rag lit with a match.

Appendix M—(Cont.)

Case:

U.S. v. Charles Emmitt Davis, et al.
U.S. District Court, Southern District
of Georgia, Savannah Division
Criminal No. 478-73

Contact:

United States Attorney
Savannah, GA
FTS 248-4422

Judgment:

Convicted of 18 U.S.C. § 844(i).

Appeal:

None.

Target:

A bar.

Method:

A mixture of gasoline and mineral spirits was spread on the walls and floor. Electrical timers and a hot plate were set to initiate rags placed on the hot plate and soaked with the accelerant.

Case:

U.S. v. Allyn B. Hepp
U.S. District Court, Northern District
of Iowa Central Division
Criminal No. 80-3006

Contact:

United States Attorney
Cedar Rapids, IA
FTS 366-2411

Judgment:

Convicted of damaging a building in interstate commerce by means of an explosive [18 U.S.C. § 844(i)].

Appeal:

Being appealed on several points including whether pipeline gas (methane) is an explosive. The arguments presented are based on legislative intent and the definition of a mechanical mixture.

Target:

A service station.

Method:

In this case pipeline gas was allowed to escape from a hole broken in the gas meter. The vapors found a source of ignition and an explosion occurred.

Appendix M—(Cont.)

Case:

U.S. v. Ana Erika Agrillo-Ladlad,
et al.
U.S. District Court, Northern District
of Illinois, Eastern District
Criminal No. 80 CR378

Contact:

United States Attorney
Chicago, IL
FTS 353-4127

Judgment:

Convicted of 18 U.S.C. § 844(i).

Appeal:

Pending.

Target:

United Latino's Press.

Method:

Newspaper trailers saturated with
gasoline and naphtha were spread
in the office. The wiring and timer
of a copy camera were to be used to
ignite the fuel-air vapors.

Case:

U.S. v. Joseph Leone
U.S. District Court, Eastern District
of Pennsylvania
Criminal No. 79-280

Contact:

United States Attorney
Philadelphia, PA
FTS 597-2556

Judgment:

Found guilty of 18 U.S.C. § 844(i),
and mail fraud [18 U.S.C. § 1341].

Appeal:

None.

Target:

Bar owner convicted on circumstan-
tial evidence, arsonists never iden-
tified.

Method:

"Petroleum derivatives" identified in
debris.

Appendix M—(Cont.)

Case:

U.S. v. Thomas J. McGeehan and
David Stone
U.S. District Court, Eastern District
of Pennsylvania
Criminal No. 78-368

Contact:

United States Attorney
Philadelphia, PA
FTS 597-2556

Judgment:

Convicted of conspiracy [18 U.S.C.
§ 371] to destroy by means of an
explosive [18 U.S.C. § 844(i)].

Appeal:

The decision was appealed to the U.S.
Court of Appeals for the Third Cir-
cuit (Nos. 79-1407 and 79-1684) on
several points including whether a
flammable liquid is an explosive.
The conviction was upheld, but the
court did not address the definition
of an explosive. The public
defender has requested a hearing
before the Supreme Court.

Target:

An undercover agent contracted ar-
sonists to burn a house. The house
was obtained from HUD which had
given the rowhouse to the
Philadelphia Office of Housing and
Community Development, a
Federally funded project.

Method:

The arsonists were arrested after hav-
ing spread paint thinner through-
out the first floor, and preparing
what was supposed to be a
chemical ignition delay. The test
tubes in the delay were later found
to contain Coca-Cola and water.

Case:

U.S. v. Robert Allen Marshall and
Robert Daniel Martinez
U.S. District Court, Northern District
of Texas
Criminal No. 4-79-105

Contact:

United States Attorney
Fort Worth, TX
FTS 334-3291

Judgment:

Martinez pled guilty to 18 U.S.C.
§ 844(i).
Marshall pled guilty to 18 U.S.C.
§ 844(i).

Appeal:

None.

Target:

A van-conversion operation.

Method:

Gasoline was spread and ignited by
tossing flares into the building.

Appendix M—(Cont.)

Case:

U.S. v. Francis Ronald Marziani
U.S. District Court, Eastern District
of Pennsylvania
Criminal No. 74-688

Contact:

United States Attorney
Philadelphia, PA
FTS 597-2556

Judgment:

Convicted of conspiracy [18 U.S.C. § 371], and attempted destruction by means of an explosive [18 U.S.C. § 844(i)].

Appeal:

The conviction was upheld before the U.S. Court of Appeals for the Third Circuit (No. 75-1682). One of the contentions on appeal was that "gasoline in steel drums, even with timers, wiring and hot plates attached, is not an explosive..." The appellate court found no reversible error.

Target:

Office and manufacturing plant for air conditioning and heating ducts.

Method:

One thousand gallons of gasoline was placed in twenty 55-gallon drums. The drums were opened so that the gasoline dripped out. Three electric timers and three hot plates were placed in combustibles (toilet paper, boxes, etc.) and used to ignite the gasoline vapor which caused an explosion.

Case:

U.S. v. Ralph Chilton Morris
U.S. District Court, Southern District
of West Virginia
Criminal No. 80-20035

Contact:

United States Attorney
Charleston, WV
FTS 924-1472

Judgment:

Defendant acquitted on all counts.

Appeal:

None.

Target:

Defendant allegedly burned on apartment house he owned for insurance.

Method:

Gasoline and kerosene were spread throughout the apartment and ignited. One trailer composed of a kerosene-soaked string was recovered.

Note:

A problem developed with the indictment which charged a violation of section 844(i)—using an explosive as defined in section 232(5). The attempt to relate case facts to the incendiary device definition in section 232(5) was in error. The fuel-air explosive definition in section 844(j) should have been used.

Appendix M—(Cont.)

Case:

U.S. v. Mullins
U.S. District Court, Eastern District
of Virginia
Criminal No. 79-159A

Contact:

Ms. Kelly Green
Special Prosecutor
Washington, DC.
FTS 377-4772

Mr. James Difonzo
Special Prosecutor
Washington, DC.
FTS 724-6156

Judgment:

Convicted of conspiracy [18 U.S.C. §371] to commit violation of 18 U.S.C. § 844(i).

Appeal:

None.

Target:

Arson-for-hire; undercover contract to burn a warehouse; suspects apprehended committing the act.

Method:

Spreading gasoline throughout building and igniting with the use of carpet trailers.

Case:

U.S. v. Ralph Natale, et al.
U.S. District Court, Eastern District
of Pennsylvania
Criminal No. 78-222-1-6

Contact:

Strike Force Attorney
Philadelphia, PA
FTS 597-2790

Judgment:

Samuel C. Kerns plead guilty to conspiracy [18 U.S.C. § 371] to commit 18 U.S.C. § 844(i).

Vincent Fardella found guilty on conspiracy [18 U.S.C. § 371] to commit 18 U.S.C. § 844(i).

Ralph Natale found guilty of above.

Appeal:

None dealing with 18 U.S.C. § 844(i).

Target:

Furniture store.

Method:

Testimony and evidence indicated the use of flammable liquid (gasoline); ignition source unknown.

Appendix M—(Cont.)

Case:

U.S. v. George Dan Poulos and Kim T.
Kilgore
U.S. District Court, District of
Kansas
Criminal No. 79-10022-01

Contact:

United States Attorney
Wichita, KS
FTS 752-6481

Judgment:

Convicted of 18 U.S.C. § 844(i) and
conspiracy to commit 18 U.S.C.
§ 844(i); sentenced as a dangerous
special offender [18 U.S.C. § 3575].

Appeal:

Pending.

Target:

A home rental-apartment locator
service.

Method:

Gasoline poured throughout building;
vapors reached an ignition source
and ignited; arsonist received
minor injuries.

END