The History of the United Union of Roofers, Waterproofers and Allied Workers

From the time man first emerged from the natural shelter of the cave, a roof has been the symbol of home and hearth. The primitive grass or twig roof bears little resemblance to modern roofing, yet it represents the first step in the evolutionary process that led to the development of protective covers that today we take for granted.

In primitive days, it was important that every man know how to provide his family with shelter. A nomadic existence necessitated rapid construction of a protective cover. But, as men settled into more structured living, skilled craftsmen turned to constructing homes, where the protective cover was the roof. Such tradesmen were in great demand in those earlier times when a thatched roof required frequent repair due to weather and war.

The development of roofing has paralleled the development of new structures needed for an increasingly permanent and stable population. As part of the systems and materials devised to protect homes from the elements, a special group of building tradesmen has evolved to meet today's roofing needs -- the journeymen roofers. Along with the waterproofers, their union brothers, these skilled craftsmen ensure that homes and businesses are protected from nature's whims.

Where roofers sought to protect structures from the elements, they had little protection themselves. They were exposed not only to the elements on the job but to ruthless employers who felt little need to treat tradesmen with fairness and respect. These conditions persisted until the turn of the 20th century when two organizations were formed to represent roofers and related tradesmen. First to organize was the International Slate and Tile Roofers Union of America (ISTRUA) which was founded in 1902. Under its first president, C.M. Huddelston, ISTRUA was chartered by the American Federation of Labor on June 5, 1903. Not long afterward, on November 6, 1906, the International Brotherhood of Composition Roofers, Damp and Waterproof Workers was chartered by the AF of L with Jeremiah Hurley as the first president. Three years later, the words "of the United States and Canada" were added to the union's name, reflecting the broad-based structure of the infant union.

When the Building and Construction Trades Department of the AF of L was founded in 1908, the International Brotherhood of Composition Roofers, Damp and Waterproof Workers of the United States and Canada was one of the original unions to participate. The International Slate and Tile Roofers of America became members of the Building and Construction Trades Department on December 3, 1910. The fact that both unions rallied under the banner of a united Department demonstrated that they were well on their
way to resolving jurisdictional disputes which divided the roofing trades in their early years.

For thirteen years, the two unions functioned independently, but the forces uniting them were stronger than those which had kept them apart. In 1919, delegates from the two organizations representing the roofing trades met in Pittsburgh and merged to form the United Slate, Tile and Composition Roofers, Damp and Waterproof Workers Association. Had World War I not diverted attention to Europe, this unification might have come even sooner. With the signing of the Armistice, however, officers of both unions moved quickly to bring about an amalgamation. In December of 1919, the AF of L approved the merger of the two unions, issuing a charter to the organization and conferring jurisdiction over all types of roofing including slate, tile, asbestos, slag, gravel, composition, waterproofing and damp resisting preparations when applied in or outside of buildings.

The organizers of the merger identified as one of their major objectives "to confederate as far as possible our somewhat spasmodic individual efforts into one continuous collective undertaking for the upbuilding and improvement of this association." The message was clear: in unity there is strength. The organizers cited other reasons for the merger: "To create and maintain a more harmonious and amicable relation one with another for the mutual benefit of all concerned; to increase, nourish and sustain the prestige and dignity of all affiliated locals, at the same time guaranteeing to and retaining by each its own local an individual autonomy and to broaden the scope of usefulness and extend the field of employment of each and every individual member." The combined organization would work to the benefit of all without infringing on the independent status of the locals.

The plan of amalgamation set forth the title of the new organization as the United Slate, Tile and Composition Roofers, Damp and Waterproof Workers Association -- the name that would later be adopted. The plan as presented was a bare-bones outline for merger with the more substantive work of establishing a constitution and union bylaws deferred until the first convention after the merger. Still, the document set out the fundamental principle of local union autonomy and anticipated the likelihood of jurisdictional disputes under the new structure. The article read as follows: "Local Unions shall retain their organizations as now constituted, and when two or more unions exist, a district council shall be formed for the purpose of carrying on the affairs of the Unions that affect them as a whole."

Other sections of the plan of amalgamation dealt with such issues as the establishment of a burial benefit program for the merged union along the lines of the Slate and Tile Roofers' plan, the establishment of procedures for ratifying the plan of amalgamation and for holding the first convention of the merged union.

All four general officers endorsed the plan, with President J. T. Hurley and Secretary-Treasurer William F. Haggerty for the International Brotherhood of Composition Roofers, Damp and Waterproof Workers, and President James Cullen and Secretary-
Treasurer J. M. Gavlak for the International Slate and Tile Roofers, lending their signature to the document.

Following the ratification of the plan of amalgamation by the local unions, the first joint convention of the Composition Roofers and the Slate and Tile Roofers convened on September 8, 1919. Composition Roofers' General President Jeremiah T. Hurley called the convention to order, welcoming the delegates to the historic founding convention. With the merger the principal business of the convention, the delegates wasted no time in getting down to the matter at hand. The first order of business was a reading of the plan of amalgamation that had been drafted by the executive boards of the two international unions. Then, the convention undertook to add substance to its provisions. A governing structure was established that included a General Executive Board of seven members. The general president and the six general vice presidents were designated as the General Executive Board. The secretary-treasurer, though a general officer, was not a member of the General Executive Board. The General Executive Board was given supervision over the Association and its judgments and decisions were binding, unless reversed by the general convention of the union. The convention had the final say on all matters and represented the controlling body of the Association.

The local unions within the combined Roofers Association were to be largely self-governing with unlimited autonomy except for the general guidelines establishing requirements for membership in the Association. It was decided that apprenticeship matters would be handled at the local level. All skilled or apprentice roofers were eligible for membership. At the time of the merger, the Slate and Tile Roofers paid per capita taxes to the AF of L on a total of 600 members while the Composition Roofers paid the tax on 1,000 members.

The convention selected the first general president under the amalgamated union. George W. Jones was elected on September 8, 1919 and continued to serve until March 23, 1942, a span of 23 years. The general office was installed at 1703 Terminal Tower Building in Cleveland, Ohio. Headquarters were later moved to Chicago before coming to the present location. The purpose of the general convention was officially designated as enacting legislation, acting upon General Executive Board decisions and electing the general officers of the union.

In 1925, the union published the first issue of its official magazine -- The Journeyman Roofer. The early issues of this sprightly, informative publication set recognized standards of excellence that continue today in the union's current publication. The union's early journals provide a wealth of information about life in the early years of the labor movement. A regular feature of The Journeyman Roofer was "Report of the Organizer," which traced the travels of the union's organizer, J. T. Hurley, as he moved across the country assisting those roofers who sought to become members of the fledgling union. In the October, 1926 issue, the quarterly wage report for locals around the country revealed that the highest wage paid to composition roofers was $1.50 per hour in Atlantic City, New Jersey, and the lowest hourly wage was 70 cents in Champaign, Illinois. In addition to news of the union and organized labor, the magazine carried inspirational messages,
many of which were submitted by members, and even personal hints such as "Sixteen Rules of Health."

In that same decade of the 1920s, union leaders and members found themselves the target of anti-union campaigns by employers, the press and the courts. Among the most notorious manifestations of this anti-worker sentiment was the Landis decision. The case involved a building trades strike in Chicago. Judge Landis dealt a disastrous blow to workers seeking redress through arbitration in a ruling that rolled back workers' wages 25 percent and allowed employers to virtually ignore past agreements on work rules. While this grossly inequitable decision expired in 1923, it lived on in the memory of union building tradesmen as evidence their fight was never ending and demanded constant vigilance.

Despite the adverse climate of that period, the young Roofers union managed to grow and prosper. Through dedicated efforts of the union's leaders, membership climbed up to four thousand (4,000), more than twice the membership at the time of amalgamation. But with the stock market crash of 1929, the period of rapid growth came to an abrupt end. On Wall Street, "Black Friday" began a chain of events that would plunge the nation into its worst economic crisis in history. By March 1933, it is estimated that the Great Depression had idled 25 percent of America's work force. Fortunately, the Roofers managed to maintain its membership level throughout the economic nightmare, but any efforts to expand organizing activity were out of the question.

During the Depression, many progressive laws were proposed and supported by President Franklin Roosevelt, but to organized labor the most important was the National Labor Relations Act, which was passed in 1935. Through this new law, many of the unfair labor practices employers had used to suppress union activity were outlawed. A framework for collective bargaining was established and it became national policy to promote greater self-determination for workers. Unions were at last recognized as an integral part of work and the economy. With these protections from employer harassment and with the economy beginning to recover, organized labor began widespread organizing efforts in the late 1930s and early 1940s. By 1944, the Roofers and Waterproofers Union had grown to over 7,000 members.

The onset of World War II sent Roofers and Waterproofers, along with their fellow building tradesmen, into the armed forces where they served with distinction. Many Roofers and Waterproofers served in the Army Corps of Engineers and in the Navy's Construction Battalions, or SEABEES as they were known. Across Europe and the Pacific, skilled craftsmen built the structures necessary to house the soldiers and equipment needed to fight and win the war.

With the final victory over the Axis powers in 1945, America's economy shifted into a transitional stage as the massive wartime production machine was being converted to civilian needs. For a brief time, building materials and other construction necessaries were rationed. But once these restrictions were lifted, construction activity blossomed. Residential and commercial building soared as returning veterans sought homes and as
business activity expanded to meet the needs of the new consumers. The skills of Roofers and Waterproofers were much in demand, and the union's membership nearly doubled in the immediate post-war period, hitting a peak of 13,666 in 1950.

The union continued its steady growth right through the 1950s as the nation enjoyed a long period of sustained economic growth and record construction levels. But the decade had its troubles as well. The 1950s opened with America involved in the bloody battle against communist aggression in Korea, and closed with the country on the verge of being drawn into a similar struggle in Vietnam. The fifties were also the decade of the Cold War as tensions between East and West increased, bringing the specter of nuclear war into our lives.

In this post-war period, two highly restrictive labor relations laws were passed, the Taft-Hartley Act in 1947 and Landrum-Griffin Act of 1959. The Taft-Hartley Act amended the Wagner Act to include a list of unfair labor practices of which unions could be found guilty. This law, which also gave birth to the so-called "Right to Work" anti-union movement, was passed as a result of heavy lobbying on the part of employers.

The Landrum-Griffin Act was designed to help eliminate the corruption that had been found in scattered instances in the labor movement. Sadly, Congress decided on draconian measures to remedy a limited problem. Under the law, unions were required to open their election, financial and administrative procedures to federal scrutiny. No other institution in the land would be so carefully watched. The Roofers and Waterproofers union was subjected to the same restrictions facing every other American union, and actively supported the efforts of the AFL-CIO and the Building and Construction Trades Department to modify the overly restrictive provisions of both laws.

As the country entered the 1960s, the Roofers and Waterproofers' membership stood at over 20,000. The decade of the sixties would prove to be one of the most turbulent and progressive in the nation's history. Unparalleled changes in technology, civil rights and social customs would alter the way America lived. In a nation led by John F. Kennedy and Lyndon B. Johnson, men went to the moon, landmark civil rights legislation was enacted and the nation went through a period of deep soul searching as old and new values came in conflict. The 1960s were also a period of great economic growth with the construction industry leading the way in the boom.

Spurred by tax cuts and fueled in part by the massive government spending of President Johnson's Great Society programs, the economy expanded rapidly. Thousands of skilled building tradesmen, including roofers and waterproofers, were involved in what seemed like an effort to rebuild the entire country. Residential, business and military construction were setting new records for the building industry.

The sixties proved to be a good time for union members as labor gained on both the bargaining and legislative fronts. While not all of labor's goals were achieved during this time, the climate was good enough to move Building and Construction Trades President Cornelius Haggerty to remark in 1965 that, "in many ways these are among the best years
in the (Building Trades) history," For the Roofers and Waterproofers the decade was a time of slow but steady membership growth.

Being a relatively small union in comparison to other building trades organizations, the Roofers and Waterproofers have long known the value of working closely with the Building and Construction Trades Department on important issues and programs. Since the 1920s the union has stood in support of Department and Federation efforts to bring about passage of some of the important civil rights and social legislation that has made America a better place for all people. Among the landmark laws passed with the support of organized labor were the Civil Rights Act of 1964 and the Voting Rights Act of 1965. The Roofers and Waterproofers supported the AFL-CIO when it rallied behind the country's attempts to stop communist aggression in Vietnam. Many Roofers and Waterproofers answered their country's call to bravely serve in the war in Vietnam.

The union also works closely with the Building Trades Department in seeking to resolve potential jurisdictional disputes before they cause interruptions at the work site. With the assistance of resolution mechanisms such as the Impartial Jurisdictional Disputes Board, differences of opinion can be settled fairly and quickly.

As economic prosperity of the sixties turned to stagnation of the seventies, it became even more important for labor unions to stand together. Increasing inflation and unemployment, due in part to the shock the economy received from massive oil price increases, became the predominant features of the economy. Despite the weakened economy, the union managed to grow during the seventies.

The year 1973 was a time of transition for the union leadership. In September of that year, Charles D. Aquadro resigned his duties as International President, effective January 1, 1974. Earlier in 1973, International Secretary-Treasurer John A. McConaty had also retired. Mr. McConaty was replaced by Roy E. Johnson who later became International President upon Mr. Aquadro's retirement.

Charles Aquadro's retirement was a loss felt throughout the union. His impressive career had spanned most of the Roofers and Waterproofers' history and was marked by many accomplishments on behalf of union members. Initiated into the union in June 1923, Mr. Aquadro was elected Business Manager of Local 37 (Pittsburgh, Pennsylvania) four years later. In 1929 he was elected to serve as an International Vice President of the Union, then in 1942 he replaced the Union's first International President, George W. Jones.

During Mr. Aquadro's tenure as International President, the union grew nearly four-fold. As President, he formulated and led the fight for the National Roofing Industry Pension Plan (NRIPP) which was designed to enable all local unions, regardless of their size, to negotiate for pension benefits. His service extended beyond his own union to many AFL-CIO committees and boards. In the later years of his administration, Mr. Aquadro helped guide the Roofers and Waterproofers to increased awareness of job-related health hazards. This remains a focus of union activity today.
In an effort to continue utilizing his invaluable assistance, the Union named Mr. Aquadro President Emeritus upon his retirement from the position of International President. As his replacement, the International Executive Board in 1974 elected Secretary-Treasurer Roy E. Johnson. Mr. Dale Zusman was then elected to the position of Secretary-Treasurer. Both men brought excellent credentials to their respective posts.

Born in Trenton, New Jersey, Mr. Johnson joined the Trenton local in 1945. After serving the local in various capacities, he was elected business representative in 1955. Before coming to the International staff, Mr. Johnson spent ten years as the President of the Mercer County, New Jersey Building Trades Council. In February 1973, after two years on the International staff, Roy Johnson was named Secretary-Treasurer, subsequently moving up to International President.

Dale Zusman joined the union in 1946 when he became a member of Local 36 in Los Angeles. In addition to serving as Business Representative for the local, Mr. Zusman held the position of President of the California State Council of Roofers for seven years. In 1969, Dale Zusman was elected as an International Vice President. From this position he was elected to succeed Mr. Johnson as Secretary-Treasurer.

In 1975, the International Union held its 20th Triennial Convention in Las Vegas, Nevada. This convention marked the first time that General Officers Roy Johnson and Dale Zusman would preside. By that time the Roofers and Waterproofers had joined with other international unions in the Building and Construction Trades Department as participants in the National Coordinating Committee for Multiemployer Plans. An organization which protects collectively bargained health, pension and other jointly trusted benefits. The International Union had also participated in the Department's pilot program to train safety personnel.

By the time of the next convention in 1978, the Union had grown to 28,000 members. Union scale wages for Roofers and Waterproofers had risen to $11.27 an hour, up from $9.23 just three years earlier. Wages had gone up more than 18 percent, or 6 percent per year.

The delegates to the 1978 convention turned the page to a new chapter of union history when they voted to rename their organization the United Union of Roofers, Waterproofers and Allied Workers. The convention also began the task of revising the Union's constitution in order to conform with Department of Labor guidelines. The convention amended the bylaws regarding election of officers, payment of dues, honorary members and members of temporary locals.

International President Johnson used this occasion to issue a call for expanding membership and protecting jobs. He noted that there were 100,000 more potential members who must be organized and he pledged to expand the membership. He also urged members to act to protect existing jobs and raised the issue of project agreements.
The Union demonstrated its commitment to protecting members in retirement. 9,879 members in 91 locals participated in the National Roofing Industry Pension Plan in 1978, and the plan had assets of $28 million.

The Union's Safety and Health program began in 1978 through a grant from the Department of Labor. The Union developed audiovisual programs, provided training to apprentices and pre-apprentices, conducted medical examinations of roofers with at least 20 years in the trade and began researching the effects of toxic materials used in the application of single-ply systems.

In September 1982, the Roofers and Waterproofers became signatory to the National Erectors' Association National Maintenance Agreement. As a member of the National Maintenance Agreement's Policy Committee (NMAPC), the International participates in a jointly administered labor-management forum that has been in operation since 1972. The NMAPC has provided over 1.5 million man-hours for Roofers & Waterproofers and the International expects that it will continue to fulfill its vital role for years to come.

In January 1985, Joseph A Wiederkehr was elected by the International Executive Board to succeed the retiring Roy Johnson, and served a brief tenure as International President.

President Wiederkehr was initiated into Local #20 Kansas City, Missouri in 1949. He was appointed business agent in 1957 and was elected business manager of Local #20 in 1968. In 1970, he was elected as an International Vice President.

Succeeding Joseph Wiederkehr as International President of the Union was Earl J. Kruse of Chicago, Illinois. Elected by the International Union Executive Board in February 1985, Kruse joined Local #11 in Chicago in 1950. He became a trustee of the Local in 1961 and retained that position until 1968. He was then elected Vice President of Local #11.

From 1961 through 1980, he served as an officer of Local #11's executive board. From 1969 through 1979, he served as a trustee and chairman of Local #11's health and welfare, pension plan and vacation plan.

In 1972, Kruse was elected as an International Vice President of the Roofers' Union. In 1979, he was appointed as a special assistant to the International President. He continued to serve in these capacities until his election as President.

In December 1985, Kinsey M. Robinson was elected by the International Executive Board to succeed Dale Zusman as International Secretary-Treasurer. He was elected Recording Secretary of Local #189 Spokane, Washington in 1971 and Business Manager in 1974. He was appointed International Representative in 1982. He also served as President of the Northwest District Council of Roofers, President of the Northeastern Washington-Northern Idaho Building and Construction Trades Council and President of the Washington State Building and Construction Trades Council.
As International President, Earl Kruse has placed a strong emphasis on developing quality apprenticeship and safety & health programs for the International. As a member of the International's Apprenticeship Committee, his leadership was instrumental in assisting to develop new apprenticeship manuals for the union.

The Safety and Health and Apprenticeship Programs have become inextricably linked under President Kruse's leadership resulting in the development of the Roofers' Safety and Health Manual -- the most comprehensive resource document on safety and health hazards ever developed for the roofing industry. More safety and health audiovisual programs have been developed and an extensive library of roofing system application programs has been accumulated for use in apprenticeship classes.

The Roofers and Waterproofers Research and Education Joint Trust Fund was established in 1993 as a cooperative labor-management effort. The Fund is used to address mutual issues of concern to the Union and its signatory employers like safety and health, work jurisdiction, training and employment opportunities, regulations and other topics of mutual interest that affect our industry.

The Union continues to conduct apprenticeship and safety and health training programs, test various roofing systems for exposure to hazardous chemicals, provide technical assistance to local unions and help injured members fight for workers' compensation benefits by researching the link between their illness and workplace hazards.

Asbestos has become a priority issue in President Kruse's administration. The Union, in conjunction with the National Institute for Occupational Safety and Health (NIOSH), is conducting job site surveys to determine the levels of asbestos exposures and evaluate the risk to roofers. In addition to job site testing, the Union and the National Roofing Contractors Association (NRCA) are working jointly on the development of an asbestos training program relevant to the roofing industry that will meet all appropriate state and federal asbestos training requirements.

The Union also serves on an American National Standards Institute (ANSI) committee charged with the development of standards for hot built-up roofing, modified bitumen and single-ply systems. As members of the Building and Construction Trades Safety and Health Committee, the Union has worked on the development of OSHA standards and participated in hearings on issues facing the roofing industry and all of construction.

In 1991, the Union began to increase its organizing activities in order to increase its bargaining power and strength in the roofing industry. The Construction Organizing Membership Education Training (COMET) program lies at the heart of this organizing effort. These activities characterize today's Roofers & Waterproofers Union. Dedicated and experienced leaders are constantly striving to make life better for those skilled craftsmen who make up the membership of the United Union of Roofers, Waterproofers and Allied Workers.
Regional leadership is provided by district councils chartered by the International Union. There are ten (10) councils: Arizona-California-Hawaii-Nevada, Illinois, Indiana, Michigan, Mid-States, North Central States, Northeast, Northwest, Southern and Southwest. The International Headquarters, located in Washington, D.C., is the center of Union administration and leadership. A highly capable office staff carries on the day-to-day business of the organization and effectively relays the concerns of the membership to decision makers both inside and outside the labor movement.

Under Earl J. Kruse's leadership, the services and benefits available to the membership have steadily been improved. The National Roofing Industry Pension Plan has continued to increase the level of benefits for plan participants, while reducing the time necessary for vesting. The Plan has assets of over $700 million.

The Roofers and Waterproofers Research and Education Joint Trust Fund is a labor/management endeavor begun in 1993 to address issues of mutual concern to both the Union and its signatory employers.

The Roofers Political Education and Legislative Fund (RPELF) provides funds to local unions for use in supporting candidates in local and state elections that are sympathetic to labor's views.

The Union Privilege Programs provide members with such services as: A reduced mortgage program; a low interest, no-annual-fee MasterCard; legal services; a driver and traveler program; a loan program and a prescription drug and health needs program.

In the operation of the Union, International President Earl Kruse is ably assisted by International Secretary-Treasurer Kinsey M. Robinson and the ten International Vice Presidents serving on the Executive Board.

"Old Time Roofing"
The whole built-up roofing industry in the 20's was a conglomerate of materials and equipment for which there was hardly any other use. The bitumen was a coal tar pitch which was the residue of distilling soft coal to get illuminating gas, coke and coal tar. Coal tar was distilled to get light oil, dead oil and roofing pitch.

The felts were discarded clothing made into felts and saturated with coal tar. Plastic cement was a mixture of coal tar or asphalt, slate dust and asbestos fibre. With the above items you used tools and equipment that consisted of: A hay wheel, borrowed from the farmers, bolted to... A handmade derrick of two bys and boards with the tail piece weighted by a bag of gravel which... Was a patched coffee bean burlap bag with a tight weave to hold...

The 80 pounds of washed pea stone 1/2" gravel that... Was hoisted by manila rope by one or two strong backed laborers who were usually covered from head to foot with plastic cement, pitch, etc., and sometimes... They hauled up 6 gallon buckets of heated pitch with a loop in the bail so that pail wouldn't slop on the way up and... The smarter people
on the roof kicked out rolls of saturated tar felt and mopped them in with... A cotton mop which was a wooden handle with two roofing nails near the end around which was tied...

Three pounds of knotted and broken hard twist cotton yarn that was rejected from a cotton mill that made the cord for old fashioned cord rubber tires which... Were seldom used by the roofer because he drove up on a horse drawn Democrat Wagon and it was always wise to keep the horse excreta away from the tar kettle because... If it got in the hot stuff it generated pungent gas and bubbled the hell out of the kettle so... It sometimes spilled out onto the wood burning under it and all hell broke loose until the fire department got there to straighten things out...

And the roofer refused to buy his pitch in anything but wooden sugar and flour barrels because he needed the staves to put under his kettle to start the fire to burn the cord of hard wood he used every day to heat the pitch which he... Ladled out with an old fashioned tin water dipper with a wooden handle extension and also ladled from the bucket for his gravelling... If the roofer was roofing over planks he used pretty paper or sheathing to put down, first made from old newspapers that he nailed to the deck with... One inch steel barbed roofing nails driven through a roofing tin, which was the punch out to put a hole in one gallon varnish cans where they soldered in the spout and I used to buy these from a bean blower manufacturer in Baltimore, Maryland, named Ammidon... And then sometimes the sophisticates in the business used insulation all recovered from garbage heaps of several industries such as:

a. Flaxlinum, a residue of the linen industry,
b. Cabost Quilt (Sea weed from Downeast) sewed between sheets of Kraft and the sea weed (balder wrack) was gathered in Nova Scotia where the great Fundy tides would go out and the Novies drove their dump carts out to load at low tide. They always took a pig with them because he could smell the turn of the tide and start running to shore and the men would follow. These were special pigs highly bred to do this. Those that couldn't smell the tide got drowned before they got to shore and then we had
c. Licorice Roof left over from making licorice balls (called Moftex)
d. Wheat Straw
e. Corn Stalks
f. Sugar Cane (Celotx) that came from board that wasn't dense enough to hold together in an upright wall and...

Was cleverly cut into pieces, 2 x 4 (multiples of 4 x 8), to foil the foxy carpenter who might try to use it and sold to roofers at $7.20 per square, 1" thick. The size and price didn't change for years -- the only progress was Ferox put in to discourage vermin that loved the little bits of sugar in the board. If there was an old roof to take off, you used a spud bar which was a Model T Ford axle hammered out on one end at the blacksmith to give you a real tough blade. No other axle could be used by a Ford. Just wouldn't take it... What are you sneering at? Until these and other insulations invaded the scene, you got damn good roofs and no problems. Then came the stormy period when nothing worked 100%.
Composition Roofing
Reprinted from the Elastic Stone Roofing Co. Catalog, Published in 1868.

The demand of the public for composition roofing is imperative -- the nature, use and surroundings of many buildings render such material indispensable. To meet this demand, many new inventions have been presented within a few years, all claiming to possess the essential merits, and with time, have proven almost invariably unreliable; and the many, who, through the specious representations of their agents, have become their patrons, have been so often disappointed, that a really meritorious article is now received with extreme distrust.

Certain properties are essential to the success of a composition roof:

- It must be water proof; this, of course, is of primary importance.
- It should be fire proof; in many places this is extremely essential, in all places very desirable.
- It must be elastic, to admit of the expansion and contraction of heat and cold, shrinking and swelling of roof board, etc. without cracking.
- It should not run in the hottest weather to which it may be exposed, filling up water pipes, conductors, etc., or dripping from the eaves.
- It must be cheap to be within the reach of every one.
- It must be easy to apply and to keep in order, that any one may use it without the aid of skilled mechanics.
- It must be durable, no one wishing to put on a new roof every year. Lastly, but by no means of least importance, it must be in the hands of prompt and reliable business men, backed by ample capital, that their patrons may know that they have the ability as well as the disposition to carry out their contracts in the spirit and to the letter. Lacking any of these essential points, no roof can long be popular or successful.

A few simple facts will show the reasons why many roofs have failed to give satisfaction, and we shall endeavor to show how these defects are obviated in our composition. To find such material as will combine the many properties so essential, has long been the study of manufacturers of roofing material.

Cheapness is easily obtained, but at the expense of other necessary properties. Fire proof properties will not always admit of water proof qualities, and vice versa. Material can readily be made that will not run, but by its hardness becomes liable to crack; and of this the reverse may be said.

Fire and water proof properties being found, it is essential that the roof should be durable or lasting in its properties. Coal Tar, in various combinations, has long been an important and popular ingredient; being cheap, a preservative and water proof material; but being of a highly inflammable nature it becomes necessary in so using, to combine with it some material that will render it non-combustible.
Various material has been used by different parties. Sand, Gravel, Lime, Plaster Paris, etc., have been used, but are objectionable; Sand or Gravel making material too porous, or adding to great weight, and Lime or Plaster Paris becoming by the action of water so hard as to be liable to crack. Coal Tar also contains a large amount of Naptha, a highly gaseous or volatile spirit, which, upon exposure to the atmosphere, is soon evolved or passes away. A composition, therefore, made by mixing into coal tar such material as shall render it of proper consistency that it may not run when applied, will become upon the evaporation of the Naptha, (leaving only the resinous and extremely brittle part of the tar) so hard that it must inevitably crack, these difficulties and their cause being known, we propose to show how they are obviated by the preparation of our elastic stone roofing composition.

Six Ply Roofing Coverings
Excerpt from a speech delivered by Col. M. W. Powell in 1911.

When felt, composition and gravel roofing was introduced in Chicago in 1847, no one had sufficient experience with this class of roof to know the requirements of a composition roof for first-class buildings. We all had the idea that two or three thicknesses of felt were sufficient. It was but a short time before we found that this was not so, and after that in all cases were commended foundations of not less than four thicknesses of felt.

We guaranteed these roofs for five years, and at the expiration of five years they were recoated. In a short time we found that this foundation was so light that a double coating of roofing cement and gravel would crack it. Then we recommended a six-ply felt roof. Such a foundation as this, put on properly, can be recoated many times, and it will not crack. No first class building should have a lighter roof than six-ply felt. Such a foundation, by dressing it over with roofing cement and gravel every ten or fifteen years, at the least calculation will last seventy-five to one hundred years.

The Chicago Auditorium roof was put on in this summer in 1888, and it was not touched for sixteen years, and did not leak in that time. Then it was recoated in 1904. I am well convinced from fifty-eight years experience in the roofing business that the roof foundation on the Auditorium will be good for one hundred years. When a roof is put on in the above manner, it is twice as fireproof as the four-ply roof and three times as fireproof as a metal roof. I was an officer in the Chicago Fire Department for fifteen years, and have seen all kinds of roofs tested in regard to fireproof qualities. If an adjoining building is on fire, with any amount of flames coming over onto the roof next to it, it will resist the fire, but any kind of metal roof will become unsoldered and burn through in a very few minutes, as the iron lays lightly on the roof boards. If the building takes on fire from the inside the composition roofs lays so airtight to the boards, that when the sheathing and roof timbers burn and fall, there being such a weight to the gravel roof, it keeps the fire down inside and prevents it from spreading to adjoining buildings.
The greatest drawback with gravel roofs throughout the country is that some property owners and architects have the idea that anyone can put on a gravel roof. This is a great mistake.

Black Paraffine: An accident brings it to the Roofing Industry
Tidings of the success of Truman J. Pearch and M. W. Beardsly in establishing the Paraffine Paint Company plant on San Francisco Bay have reached this city, where both men are known as sterling citizens and inventors of great patience. Your correspondent is able to reveal the inside account of their wonderful discovery of the way to use "black paraffine" in the manufacture of the new waterproofing material, "P & B Paint." That discovery is one of the romantic accidents of science and bids fair to rival Benjamin Franklin's discovery of the electricity in lightning.

Truman Pearce has been esteemed in this city for many years as a chemist and druggist, who in the spare moments carried on many patient experiments in the rear of this store. It was here that he found out by accident how to dissolve the "black paraffine" brought by Mr. Beardsley from the Ventura oil fields. Together they had tried many chemicals as solvents, but none dissolved the stubborn maltha which they wished to use for waterproofing materials. One day, while handling some gopher poison (carbon bisulphide), Mr. Pearch accidentally spilled some into Mr. Beardsley's "black paraffine." At first, he was greatly annoyed by his clumsiness, but as he watched events, Mr. Pearce's chagrin turned first to astonishment and then to joy, for the carbon bisulphide had actually dissolved the maltha and made it completely liquid. Pearch and Beardsly, who was present clasped hands and congratulated each other, for they realized they had made an epic discovery.

For a time, they kept their secret, meantime applying to the United States Patent Office for patents on their original process for reducing paraffine to usable liquid form. Then, the patents issued, they approached some of their friends regarding the forming of a company for the manufacture of waterproofing paint. Some of their close friends were important figures in the explosives industry, and these gentlemen undertook to raise the capital for the new company.

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World War II Proves Built-Up Roofs Are Bomb Defense
United States cities may have an unexpected ally in defenses against air raids -- the roofs of apartment, industrial and office buildings. That is the word brought back from England by James McCawley, secretary of the United Roofing Contractor's Association, after an eight-month tour of inspection of bombed areas. Ninety percent of the roofing in the United States areas deemed most likely to be bombed are of flat, asphalt construction, McCawley estimates. Not more than eight percent of English roofs are of asphalt, McCawley says, most of them being slate or tile.

"Flat roofs with built-up asphalt roofing will go far to protect American cities from incendiaries and high explosive bombs," McCawley says. "Roofs are the primary targets
of incendiaries, and the objective is to start as many fires as possible." "Fires not only take frightening toll of life and property, but also serve as beacons which guide enemy planes to military objectives where demolition bombs are dropped."

"Incendiaries splinter and shatter the slate or tile which cover most English steep roofs, cut through the wood understructure and the lathe and plaster ceiling, and come to rest on the floor below," he explains. "English experience," he says, "has demonstrated conclusively that built-up asphalt roofing over a base of reinforced concrete or wood sheathing offers the greatest resistance to incendiaries.

"Bombs which fall on built-up asphalt with timber base occasionally penetrate the roof and set fire to the boarding," he concedes, but adds "flat roofs in American cities which might be the targets of Hitler's bombers generally have a reinforced concrete base. Smaller suburban apartment houses and industrial plants often use wood sheathing." But even these generally resist bomb penetration unless the covering is badly weathered, English bombings show. Resiliency of the asphalt permits it to absorb the bomb impact, without damage.

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