SHORE HOUSES BADLY WRECKED

Hardly One Escaped Between Turner and Sollers.

DAMAGE AMOUNTS TO $5,000

DOORS AND WINDOW SASHES GAVE WAY LIKE PAPER.

Big House of Lenox Country Club Badly Shattered—Shores of Central Pleasure Club and Friendly Hoboes' Fishing Club Damaged Worst—Northern Central Station at Sollers; Eloise, Ivy, Ainsworth and Other Shores Suffer Damage. Other Losses.

Before the sun had fully risen yesterday morning the owners and managers of the numerous shores along the Patapsco, between Dundalk and Sollers Station, were out looking over their properties, taking account of the damage done because of the explosion.

There are about 30 shoreshouses in this locality, and every one of them was damaged more or less. It was between Turner Station and Sollers Station—directly opposite where the Alum Chine went up—that the greatest damage was done. The Central Pleasure Club Shore and the outing place of the Friendly Hoboes' Fishing Club, which face directly on the spot where the explosion occurred and which are less than a mile from it, suffered the heaviest loss. Practically every window sash and frame and door and door frame in these buildings were splintered. Not a piece of glass larger than an ordinary sheet of letter paper was to be found on these shores.

A trip along the shore showed that heavy pianos had been moved from one end of a room to another, pool tables split apart, stoves overturned and clocks and lamps smashed, hundreds of dollars' worth of dishes were broken, many of the houses thrown out of plumb, and in the cases where the window sashes were not smashed the owners cannot get them back into the frames because of this. Everything is topsy-turvy.

On the Friendly Hoboes' Club Shore are three buildings. The main building was the worst damaged. There are three doors to the front of this building and every one of these was blown in. One was split in half as if it had been a piece of cardboard. The window sashes were broken into bits and glass was sent flying here, there and everywhere. The piano, directly inside one of the windows, was sent across the room, and a piece of glass in this window was sent against the piano wtih such force that it was imbedded for about two inches in the hard wood.

NOTHING ESCAPED.

Beds were overturned here; the kitchen cupboard, stocked with dishes, was demolished and the bits of china and glassware scattered about the room. The stove was overturned.

Similarly with the shore of the Central Pleasure Club, which adjoins. Although the shorekeeper of this place denies that either he or the owners had any intimation of the explosion, the place was stocked with new window sashes, which were to have been put in the early part of the week. The work was delayed and the owners of the shore are now giving thanks that it was. Here every window sash on the front of the main building was splintered, but the new ones were on hand to be put in the frames. Some of them fitted, but other parts of the house had been thrown out of plumb, and it will be some time before it can be repaired and the new sashes set.

The Manhattan Social organization's shore, which adjoins the Central Club's place toward Turner Station, was also badly battered. Toward Sollers Station the Ainsworth, Eloise, Ivy and Friendship shores were the heaviest losers. The shore of the employes of Hochschild, Kohn & Co., about half way between Sollers and Turner, was the least damaged of any on the beach.

Joseph Sullivan, shorekeeper of the Eloise and Ainsworth shores, was in the kitchen building of the Eloise shore when the explosion occurred. "I had seen the ship burning," said Sullivan yesterday, "and I was watching it. Then I saw the flash and the smoke. An instant later the deafening sound made my head ring, and then the dishes and pots and pans around me clattered to the floor. Glass flew about my head and I was thrown about 10 feet against the side of the building. Outside of a few bruises I was uninjured." William Reed, shorekeeper of the Ivy shore, recounted experiences similar to those of Sullivan.

The building of the Lenox Country Club, directly in back of Sollers Station, and the biggest and most pretentious of the shore houses along the river in that vicinity, was damaged to the extent of several hundreds of dollars.

FOUR LUCKY MIRRORS.

The big piano in the front room of this building was sent across the room, the pool tables broke in the middle, one-half going to one and the other half to the other side of the room; every one of the many pictures on the walls sent to the floor; two stoves overturned and many window panes and sashes and door locks broken. The explosion caused some freaks in this house. There are four mirrors in the place, and all of these fell to the floor, yet not one was broken. A little glass lamp chimney which was on the landing of the stairway at the second floor fell all the way down the steps and was also unbroken. Everything around the big kitchen stove was sent helter-skelter, yet the stovepipe remained unmoved. The glass doors of the china closet were smashed in, yet not one of the hundreds of dishes on the shelves was broken. John H. Horst, captain of the shore, came down yesterday afternoon with a carpenter and the work of repairing the damage was begun.

All of the windows in the rear and one in the front of the Northern Central Railway Station at Sollers were smashed. Nothing inside the little building was disturbed, however. A long line of billboards along the tracks of the United Railways to the west of their station at Sollers were knocked down by the force of the explosion.

As many of the shores were closed up and no shorekeepers are on the scene it is impossible to tell the exact amount of damage done. But one familiar with the place yesterday placed the figure at about $5,000.

WHEN 27 WERE KILLED

Death Wrought by Explosion of Medora's Boilers 71 Years Ago.

The explosion in the Patapsco River yesterday has only one near approach of a parallel in the history of Baltimore.

On April 15, 1842, nearly 71 years ago, the boilers of the new steamer Medora, owned by the Baltimore Steam Packet Company, blew up while the vessel was at her pier on the south side of the basin and was receiving passengers preparatory to a trial excursion down the Chesapeake Bay. The record of this catastrophe was:

Killed, 27.
Injured, 40.

In Scharf's Chronicles of Baltimore is published the following account of the disaster:

The Baltimore Steam Packet Company on Thursday, the 15th of April, 1842, had just finished a beautiful steamboat called the Medora, and her engine having been completed, she was to have started on a trial excursion down the Bay. The boat was a model of workmanship and her engine of great power. She was intended to run in the line of boats between Baltimore and Norfolk. The boat was lying at the wharf on the south side of the basin attached to the establishment of Mr. John Watchman and at 3 o'clock, the hour for starting on the excursion, a number of citizens, including the officers of the boat, had assembled on board. With a view to prevent too great a crowd on board, the boat had been hauled out about 30 feet from the wharf and those who were invited to the excursion were conveyed to her in small boats. About half-past 3 o'clock the bell rang and the engine was started. At this moment, and when the wheels had only made two revolutions, the boiler exploded, throwing the smoke pipes, the forepart of the upper deck and the persons who stood on it some 40 or 50 feet in the air, tearing open the sides of the vessel round the boiler and scattering the fragments of the wood and iron all around and raising the immense iron boiler up and throwing it crosswise on the deck.

The scene presented by the boat afforded at once evidence of the immense power of steam and of the ruin of which it can be the instrument. Large oak beams were splintered to pieces, iron bars that would have withstood the strength of a hundred men were broken and wrenched into many shapes; the lighter woodwork of the deck was blown almost to atoms. As soon as the explosion took place the boat was enveloped in a cloud of scalding steam and it was from inhaling this that many were killed and to this danger those in the forward part of the vessel were all exposed. Others were killed by the flying timbers and many seriously hurt by being externally scalded by the steam. Those who were on the upper deck, aft of the engine, escaped entirely from the effects of the explosion, but in the consternation which the explosion caused several of those, thus safe from the steam, jumped overboard. Another great cause of the loss of life was the sudden sinking of the boat.

The sides of the boat around the boilers having been blown away, the water rushed in and she sunk about 60 feet from the wharf, the water reaching to near the upper deck. With commendable speed the physicians and surgeons of the city hastened to the place as soon as they heard of the disaster and among those who were present there were observed Drs. Collins, Smith, Whitridge, Baxley, Dunbar, Theobold, Roberts, Riche, Miller, Hintze, Buckler, Bryerly, Monkur, McGuire, Riley, Kinneman, Albers, Baker, Cohen, Chew, and there were doubtless many others. Col. S. Hillen, the mayor of the city, was among the first to reach the scene and with the high constables and other city officers rendered most efficient aid in rescuing the survivors and in getting the killed from the wreck and water. The following list comprises the names of the dead as far as we can learn: John C. Moale, general agent of the company; William Moale, his son; Joseph Lecompte, Capt. John Vickers, John Young, Benjamin French, John Boon, John Burns, Andrew F. Henderson, Richard Linthicum, Robert Doyle, John Speddy, George Endley, Thomas Eldridge, John Harper, John Haley, John Boston, William Lewis, George Geddes, S. W. Hackney, M. D.; James W. Lavers, James Mitchell, John Kemp, John Yeager, Jackson Reeder and Duncan Ferguson. The following are the names of those who were more or less injured, many of whom were in a very dangerous state: Captain Sutton, Francis Bezyt, ——— Stripple, Joseph Craig, John Mitchell, James Crawford, R. H. Middleton, George Reynolds, John Henderson, Levin Boston, Albert Ramsay, George Hoofnagle, Zachariah Nichols, Thomas Smith, Alexander Spavin, George Hyde, Samuel Glenn, Henry Snyder, Wesley Culley, George Clarey, John Kaylor, William Bindon, ——— Brenan, James Wilson, William Roberts, William Tumbleson, James Ridgely, Lawrenson Reigan, James Clark, George Hyman, Thomas Eldridge, Daniel Stevens, Isaiah Wagner, Louis Wagner, brothers; David Frazier, Martin Hickley, Patrick Collins, James Montgomery, William Allen and two sons, Captain Coffee, steamboat Georgia. Summary account of those on board: Dead, 27; wounded, 40; uninjured, 15, making in all on board 82.

REVISED LIST OF DEAD AND INJURED

THE KNOWN DEAD.

The known dead are:

CAPTAIN WILLIAM H. VAN DYKE, of the Atlantic Transport tug Atlantic, whose home is at 1448 Boyle street.

JOSEPH P. LENNON, 45 years old, of the crew of the Atlantic, 802 South Dallas street.

EDWARD WATERS, first officer of the Alum Chine. His home is in England.

ANDREW CAROTSKI, stevedore, 1614 Eastern avenue.

FRANK DOYLE, stevedore, 1222 Toone street, Canton.

EDWARD CASTLE, steward of the Jason, Lombard street near Third, Canton.

JOHN MARKEL, stevedore, 1114 South Third street, Canton.

R. MAYWOOD DIGGS, mate on the Atlantic, 503 South Potomac street.

JAMES GIBSON, fireman on the Alum Chine. His home is in Cardiff.

JOSEPH WOOD, colored, stevedore, 1109 Druid Hill avenue.

WILLIAM T. BISHOP, colored, died on way to St. Joseph's Hospital, from Sparrows Point, where he was struck by a flying piece of debris.

BENJAMIN FRANCIS, colored, assistant steward on the Jason, 630 North Caroline street.

HENRY GROSS, fireman on the Jason. His home is on Thames street.

JOHN LIND, fireman on the Alum Chine. His home is in England.

CHARLES DAVEY, foreman on the Alum Chine. Home is in England.

WILLIAM BALSTER, ship joiner, employed by Lewis Waggner Company, 2417 Jefferson street.

PHILIP SMITH, ship joiner, employed by same concern.

ANDREW MORRISON, 35 years old, a stevedore, 518 Glover street. He died at 10 o'clock last night in St. Joseph's Hospital, after his left leg had been amputated.

THE MISSING.

Among the missing and given up as lost are:

M. HUNTER, third engineer of the Alum Chine.

JOSE GOMEZ, donkey engineer on the same vessel.

JOHN DAVIS, foreman.

G. NEILSON, seaman on the Alum Chine.

GUSTAV LIEBIG, seaman on the Alum Chine.

GEORGE NEIBERG, fireman on the Alum Chine.

WILLIAM F. MEYERS, 527 South Belnord avenue, in charge of Barge G.

HENRY BUSCHMANN, second bargemaster.

JACK MAXWELL, who resides at Canton, boss stevedore.

JOSEPH BARTOUSEK, North Bradford street, stevedore.

JOHN GREEN, colored, stevedore.

FRANK MARSHALL, white, stevedore.

AUGUST AND HENRY KREGER, South Clinton street, both stevedores for the Joseph R. Foard Company.

THE INJURED.

AT ST. JOSEPH'S HOSPITAL.

ALLEN MADISON, 21 years of age, 3219 Colgate street; cut arm, wrist and injured about the right hip.

JOSEPH PUROL, 52 years old, 2231 Bank street; fractured right leg.

WILLIAM SWANN, 34 years old, Patapsco House, Sparrows Point; lacerated scalp, face and head.

WILLIAM LAUBE, 1604 Thames street, member of the crew of Jason; crushed chest and lacerated hands.

WILLIAM SIMPSON, 31 years old, 2822 Dillon street; impaction of the legs and suffering from shock.

BENJAMIN E. KERR, colored, 64 years old, 1423 McMechen street; compound fracture of ribs and of the right ankle joint.

GEORGE N. MATTHEWS, colored, 53 years old, 1423 Druid Hill avenue; lacerated leg, scalp and severely sprained back.

JAMES H. CARTER, colored, 44 years old, 1367 North Carey street; lacerated left leg.

GEORGE W. GREGORY, colored, 53 years old, 1346 North Carey street; dislocation of the clavicle.

GEORGE GREGG, South Ann street, sailor; seriously burned about face, arms and hands. He was discharged from the hospital after receiving treatment.

JOSEPH MARSHALL, 3428 East Lombard street; crushed left side.

AUGUST LAISAN, 24 years of age, 1116 South Kenwood avenue; bruised and contused scalp. Also suffering from shock.

ARTHUR NELSON, 23 years of age, Thames street; contused scalp and also suffering from shock.

JOSEPH WESKEY, 44 years old, 1242 Decker avenue; suffering from shock.

ANTON KRUCZNSKI, 1229 Decker avenue, sailor; suffering from shock.

JOHN KESCHSKI, 2511 Fleet street, sailor; suffering from shock.

ARTHUR NEILSON, 36 years old, 1706 Thames street; lacerated scalp.

EDWARD KENDRICK, 27 years of age, 545 West Hoffman street; lacerated back. Was able to go to his home.

EDWARD SNIADAK, 40 years old, 1513 Thames street; lacerated face and back.

JAMES E. HAMMOND, colored, 709 George street; lacerated thigh. Was later removed to his home.

ARTHUR BRAGG, 1133 Park avenue; bruises over body and leg.

Besides the above, at least 30 men who were suffering from minor injuries were given treatment. Their addresses and names could not be learned, as all went immediately to their homes after receiving attention.

AT JOHNS HOPKINS HOSPITAL.

MYER GARNER.
JAMES O'NEIL.
JOHN FOSCHIE.
BARNEY CYWISKY.
ADAM MICHAEL.

WASHINGTON BRADHOUSE, 2621 East Madison street.

JOHN FISHER, 92 South Tucker street.

SAGLAS BOKWKI, 214 South Wolfe street.

JELVA HARDY, Hamburg road.

All injured, but none believed to be fatally hurt.

GEORGE WARMBOLD, 612 East Eager street, wireless operator on the Jason, arm broken, head badly cut and body badly bruised. Treated at Johns Hopkins Hospital.

MERCY HOSPITAL.

CHARLES A. RUBY, 2139 Camden street, lacerated arm.

AUGUST REICHEL, 3720 East Lombard street, bolt penetrated his chest. Injuries about head.

LEON KRIST, Sparrows Point, leg amputated, may die; condition serious.

PETER ERICKSON, Sparrows Point, cuts about head, face and shoulders.

SAMUEL CARTER, colored, bruised on head and cuts on arm.

WOODVILLE EMMETT, colored, Sparrows Point, fractured skull.

JOSEPH GURNER, 278 Elliott street, scalp wound and internal injuries.

STEAMER'S CREW ACCOUNTED FOR

Six of the Twenty-three Were Killed.

HOW OTHERS WERE SAVED

WERE TAKEN TO THE ANCHORAGE IN THE LAUNCH.

War Department Appropriates $5,000—Money to Be Used by Engineers for the Removal of the Wreck of the Alum Chine—A Piece of Steel Struck a Schoolhouse a Mile Distant—Hawkins Light Put Out of Commission—List of Dead and Injured Is Still Incomplete.

There were 23 men making up the crew of the British steamship Alum Chine, including Captain Anstey. Fifteen of the men are now quartered at The Anchorage, at the foot of Broadway, at the expense of the British consul; Charles Davis, a fireman, is in a hospital, and the remaining six were killed.

The names of those killed are: Edwin Walter, chief officer; Hunter, the second engineer; Gibson, a fireman; George Veerhoven, a sailor; Joseph Gomez, fireman, and Newberg, fireman.

With the exception of two firemen all the men were shipped on the Alum Chine at Barry, England. Newberg and J. Hansen were shipped through Shipping Master Goodhues, of this city.

T. McCormick, one of the sailors of the Alum Chine who was rescued by the gasoline lauch Jerome, said that most of the ship's crew were working about the deck on the after part of the ship. Fourteen of the crew, on seeing the smoke and fire, hastened over the side of the ship on board the Jerome, which was lying alongside. Eleven stevedores who were working on the ship also boarded the launch, which immediately moved away. "We had hardly gotten 150 yards away when the explosion took place," said McCormick, "and our escape was remarkable. We saw the tug Atlantic take off a number of men, and the vessel was almost half way to Sparrows Point when it turned around and came back. I saw three men on the car float, and there were a number still on the ship, but how many I do not know. I suppose it was to take off these men that the Atlantic returned.

"We watched the tug approach close to the ship when it was enveloped in the dense clouds of smoke which were pouring from the hatches. The men on the Atlantic appeared to be fishing around the water. It might have been that the men on the car float jumped overboard and it was they that the tug was after. Nothing further was seen, as smoke covered everything."

The 15 sailors at the Anchorage are to return to their homes on the first steamship sailing from this port to England.

WILL REMOVE WRECK.

Portions of the wrecked hull of the Alum Chine have been located by the officials of the Lighthouse Inspector's Department. Capt. E. C. Ruland, inspector in charge of the Fifth district, realizing the danger to shipping passing up and down the channels and those seeking anchorage, ordered the tenders Orchid and Maple to the scene of the disaster, where, for many hours, the crews dragged and finally located the wreck.

A gas buoy, showing a flashing red light for six seconds, with an eclipse of seven seconds, has been established about 40 feet east of the wreck of the vessel, which is sunk on the westerly side of the main ship channel at the Lower Anchorage, on the line of the Fort McHenry Channel. There is only 12 feet of water over the wreck.

Arrangements will at once be made by Col. Lancing B. Beach, chief in charge of the United States Engineers at this port, to remove the obstruction and work is to begin at once.

The War Department has authorized the immediate use of $5,000 by army engineers for the removal of the remnants of the wreck.

STEEL HURLED A MILE.

Reports continue to come in concerning the effects of the disaster. William Raabe, keeper of Leading Point Light Station, at Hawkins Point, reports that a piece of steel struck a schoolhouse about one mile inland and broke several panes of glass. The shore around Hawkins Point, it is reported, is covered with masses of floating wreckage from the ill-fated steamship.

The concussion was so great that the glass in Hawkins Point Light Station was demolished and the light temporarily placed out of commission. The glass in the light at Fort Carroll also suffered, but the keepers got busy and made repairs in time to guide ships entering the port at night.

Mate Gibson, of the steamer Westmoreland, which was near Seven-foot Knoll, bound from Love Point for this city, reported to the officials of the company that he saw the great volume of smoke, which, at the top, branched out like a blooming flower and then burst into a ball of flame. The noise of the explosion followed.

In an interview given a representative of The American over the side of the ill-fated Jason yesterday morning, Joseph T. Martin, superintendent of construction of the Maryland Steel Company, declared it was impossible to estimate the amount of damage to the collier at this time, as only a superficial examination could be made. No one but the company's officials were allowed on the damaged vessel this morning, hence the interview from the side of the Jason.

Mr. Martin stated there was a cargo of 12,338 tons of coal in the Jason's hold, and that this would have to be removed and the vessel taken in drydock before anything like an accurate estimate of the damage could be procured. She will then be surveyed by insurance underwriters, as she was insured by the company, up to the time of being turned over to the government.

A list of the dead and injured, according to Mr. Martin, was impossible at this time. The officials are working their utmost to get direct information of the 180 men supposed to have been on the collier. Many of the men were picked up here and there in the shipyards to form the crew to take her on the trial trip, and Mr. Martin declared it difficult to get exact information as to the identity of the men thus assembled.

AN EXPLOSION ANALYZED

Atoms, Molecules, Electrical Bonds and All.

Atoms, when put together electrically, form molecules. The atoms and molecules may be theoretically represented as figures bounded by straight lines, according to the number of electric bonds by which they are held together. All kinds of material substances are now known to be held together electrically. Thus, in a molecule of water, two atoms of hydrogen are held together by one atom of oxygen, and the substance resulting is water.

Dynamite is made up of the substance called nitroglycerin, which explodes when the electric bonds holding the many atoms together in the larger bodies or molecules are broken. To diminish its danger from explosion, so that nitroglycerin can be more safely handled, it is mixed with some less explosive substance, and this compound is the dynamite of common use.

The explosion of a soap bubble shows how dynamite also explodes. The soap bubble does not explode until one molecule is forced to break its connection with its neighbor. It is the same case with nitroglycerin. As long as the molecules hold together there is no explosion, but a blow from a hammer, or other kind of a shock, may occur in such a way as to cause one molecule of nitroglycerin to separate from its neighbor. This shock, which may come from a blow, an electric current or other mechanical force, is propagated so rapidly that practically the entire mass of the explosive goes off at once.

Molecules of every kind may be theoretically and pictorially represented by combinations of straight lines, each full line, such as the side of a square, indicating a valance, or the combining force between two neighboring atoms.

The molecule of nitroglycerin has three atoms of carbon (C), five atoms of hydrogen (H) three of nitrogen (N) and six of oxygen (O), and may be theoretically pictured thus.

In exploding nitro-glycerine breaks up into other molecules, such as carbondioxide, ammonia, water and nitrogen gas.

IN TRIBUTE TO THE DEAD

Memorial Services Will Be Held in Many Churches.

As a memorial to those who lost their lives in the explosion, special services will be held today in churches of all denominations throughout the city. Acting upon the suggestion of The American, the preachers will today plead with their congregations to aid the families of those who are dead or injured. The hymns that will be sung will be prayers that have been put to music.

Rev. Dr. John Roach Straton, pastor of the Seventh Baptist Church; Rev. Dr. Polemus H. Swift, pastor of Madison Avenue Methodist Episcopal Church; Rev. J. Franklin Bryan, pastor of South Baltimore Station Methodist Protestant Church; Rev. Dr. Don S. Colt, pastor of Madison Square Methodist Episcopal Church; Rev. Dr. L. M. Zimmerman, pastor of Christ English Lutheran Church; Rev. Dr. A. H. Hussey, pastor of Christ Unitarian Church, and Rev. Dr. John P. Campbell, pastor of Faith Presbyterian Church, are among those of the leading ministers of Baltimore who have promised to hold memorial services today.

Tomorrow morning at the meeting of the Ministerial Union of Baltimore memorial services will also be held. The ministers have promised to co-operate with those who are endeavoring to help the sufferings of the victims' families.

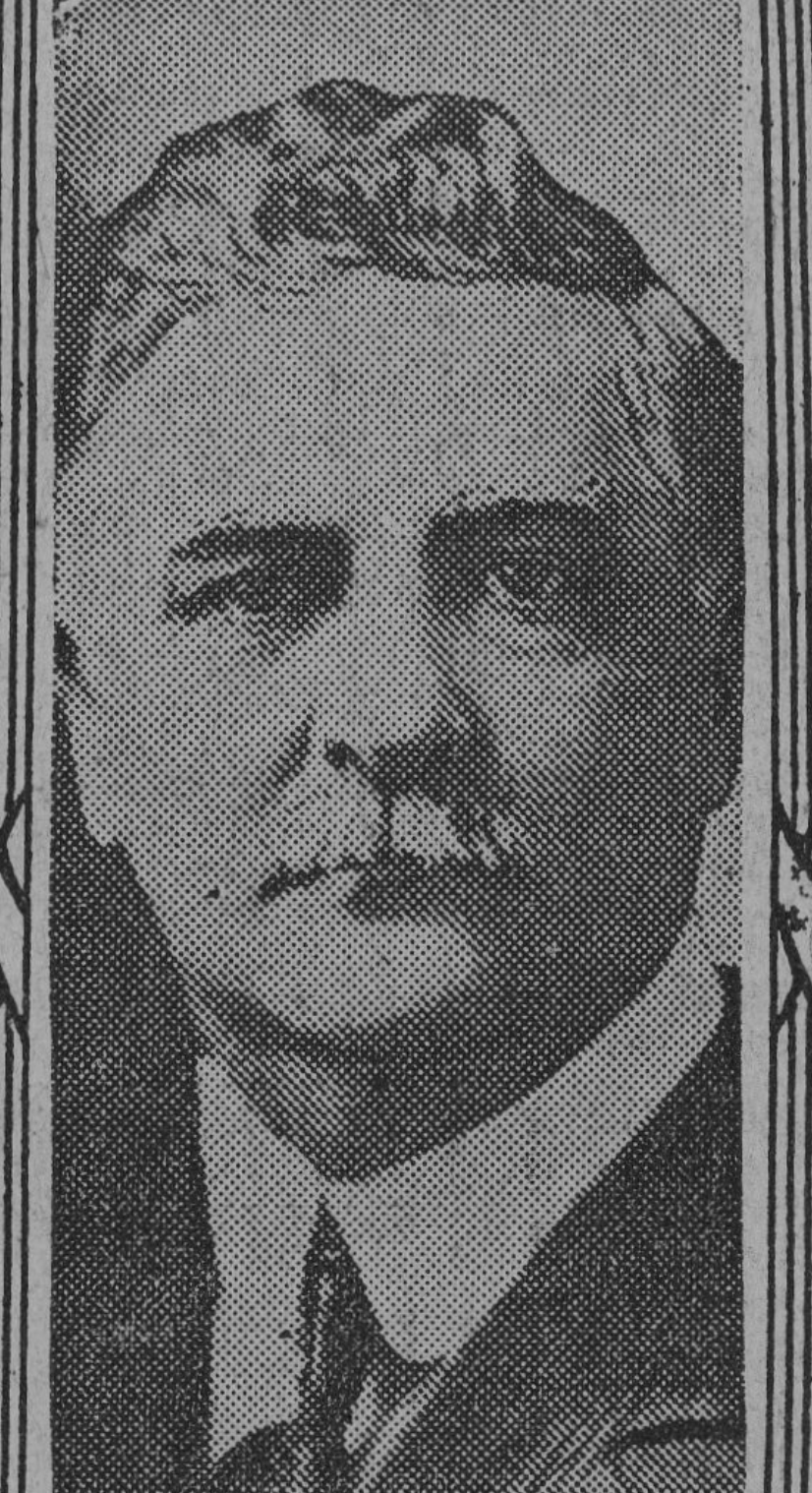
Plans are under way for a mass-memorial service to be held within the next two weeks.

In all of the Catholic churches of the city today prayers will be offered for the repose of the souls of those men who lost their lives in the catastrophe.

MAYOR GIVES CREDIT TO WORK OF THE STAR

Due credit to The Star was given yesterday by Mayor Preston for making the fight which resulted in dynamite being loaded away from the city. That this resulted in the saving of thousands of lives and prevention of untold damage is shown by the explosion on Friday which, had it occurred on land, would have spread death and devastation broadcast.

Mayor Preston issued a statement yesterday in which he emphasizes this point. Following is the Mayor's statement in full:



MAYOR PRESTON

Holmes & Bishop.

"Too much credit cannot be given The Star and The American, particularly The Star, on account of the crusade waged by them against the loading of dynamite in the harbor of Baltimore.

"When I came into office I found that it had been the custom, under a blanket permit, to carry dynamite through the streets with little or no precaution being taken to insure the safety of people and property, and that dynamite in large quantities was being loaded in the harbor of Baltimore.

"After the active campaign of The Star and The American I looked into the matter carefully, revoked the former permits and had prepared a set of regulations for the handling of high explosives, and among these regulations was one requiring that dynamite ships be loaded outside the harbor of Baltimore and opposite Quarantine.

"It gives me pleasure to say that this activity on the part of The Star and The American resulted, I believe, in the saving of enormous loss of life and property to the citizens of Baltimore."

WHY DYNAMITE IS DANGEROUS

A Shake or a Shock Will Cause It to Explode.

CARELESSNESS IS PERILOUS

DESTRUCTION WROUGHT WHEN IT BREAKS LOOSE.

Manufacturers Have Stringent Rules—Oddities in the Explosion. It Will Sizzle When a Lighted Match Is Applied—Miners Blown Into Eternity When Trying to Thaw Frozen Dynamite—Havoc Wrought by a Stray Bullet from a Pistol.

This is the Age of Dynamite. Wherever civilization penetrates today, there echo the wonderful blasts. The Prince of the Demons of Fire has become the slave of man. Chained by the chemist's cunning, he flames forth, roaring at the beck of his master, to hurl from the path the most massive barriers, as a child might scatter chaff. The engineer now guides his railway whithersoever he will, undismayed before the mightiest obstacles opposed by nature, for the jinn of dynamite waits to vanquish them at a word. Throughout the world, the patient and indomitable explosive is busy in a myriad of enterprises, destructive, yet constructive, deftly tearing down granite ridges, swiftly clearing away soil for foundations, steadfastly laboring with miners in the mountains.

Dynamite is sterilized nitroglycerin. Nitroglycerin is, of course, a high explosive, one of the very liveliest, although at certain temperatures and in small quantities it is capable of burning without detonation. When detonated, the volume of gases and the heat developed are such that the products of combustion occupy a space 10,000 times that required by the original body of the liquid, and this change of bulk occurs in a single instant. It is this irresistible demand for vastly multiplied room that gives to nitroglycerin its enormous explosive force.

For the sake of precision in considering the manner in which explosive bodies are consumed, detonation is differentiated from explosion. Detonation is descriptive of the action in high explosives when the explosive wave passes through the body with the extreme of velocity. But in the case of combustive explosives the body is burned on its exposed surfaces as is a fire in the grate, only with much more rapidity, and this action is technically termed explosion. The heat at the surface converts the body under the flames into gases; so that, as fast as the solid is dissipated into gas, the oxygen carried in the material combines with the combustible elements, thus evolving still more heat, which maintains the action until the body is entirely consumed.

HOW IT IS MADE.

Ultimately, as the nature of this action became understood after much experimenting, chemists were able to render nitroglycerin a bit more docile, although even yet it is far from being a stolid, dependable creature. Purity of the compound has been secured at last, and some measure of stability.

In the present method of manufacture, a charge of 7,500 pounds of mixed nitric and sulphuric acids, one to seven parts sulphuric, is run into a steel tank, which is provided with a vertical rotating shaft, armed with paddles for rapid stirring of the acids when glycerin is admitted. The tank is equipped with coils, through which cold water is circulated for the purpose of maintaining low temperature. In order to keep down the heat developed by reaction, the temperature must be held between 20 and 25 degrees Centigrade (68 and 77 degrees Fahrenheit). This is regulated by the amount of glycerin injected into the mixed acids, and by the efficacy of the cooling device. The glycerin is allowed to run into the acids in a continuous stream, while the acids are constantly agitated, very gently. The quantity of glycerin should be 14½ per cent. of the total weight of acids used. When all the glycerin has been run in, the charge is drawn off into a separating tank, where the nitroglycerin rises to the top, while the acids are drawn off to be recovered, and the nitroglycerin is conducted into drowning and washing tanks. One pound of sweet glycerin should yield nearly two and a quarter pounds of nitroglycerin.

Despite all advances in the art of manufacture, however, nitroglycerin has steadfastly retained its unsavory reputation as a freak invention, too sensitive for safe employment.

NOBEL TO RESCUE.

It was Nobel who at last came to the rescue. He discovered that, by absorbing the treacherous liquid in infusorial earth, the sensitiveness became greatly reduced. He offered this mixture to the world in 1866, under the name of dynamite. That mad monster, nitroglycerin, was in chains!

Several years later Nobel discovered that a form of nitrocellulose, or guncotton, could be made, which would dissolve in warm nitroglycerin, establishing a thick jelly, and that this jelly, nitrogelatin, could be rendered very insensitive as the percentage of nitrocellulose dissolved in it was increased.

Today the use of infusorial earth in the manufacture of dynamite has been generally abandoned, but the principle involved has survived to splendid efficiency of achievement, for it is that which underlies the production of all dynamite, and in it are found safety, economy and supreme energy. At the present time the absorbent for nitroglycerin is composed of a mixture containing wood meal and pulverized nitrate of soda or nitrate of ammonia, often with the addition of a small percentage of sulphur, resin or charcoal. Frequently, too, nitroglycerin is thickened with about 2 per cent. of gelain-pyroxlin, before being mixed with absorbent materials. This is known as gelatin dynamite.

Both common dynamite and gelatin dynamite are classed according to the percentage of nitroglycerin contained in them. The favorite is the 40 per cent.; the others used oftenest are the 50, the 60 and the 70 per cent. But the dynamite form is preserved to as low as 5 per cent. in a bank blasting powder; while it may run as high as 94 per cent. in a blasting gelatine. The commonest, that known as 40 per cent., contains 39 8-10 per cent. of pure nitroglycerin, and along with this are 46 1-10 per cent. of sodium nitrate, 11½ of woodplup, 7-10 of calcium carbonate and 1 9-10 of moisture.

RABBI'S STRONG PLEA

Rev. Dr. Guttmacher Preaches on Catastrophe.

Rabbi Adolph Guttmacher, in his morning sermon yesterday at the Madison Avenue Temple, made a strong appeal to his congregation to aid in the relief of those who were injured in the explosion of Friday, and the families of those who were blown to death. He said in part:

"There are times and occasions when the most gifted tongue is feeble and impotent and the most impassioned words are cold and insufficient to modulate the true accounts of the soul, the thoughts and sentiments which sway mind and heart. One of these occasions is the calamity which occurred yesterday at our very doors, in the harbor of our city. The awfulness of it pulls strongly at our heart itself and makes vibrate with sympathy every fiber of our being. The newspapers tell us that several scores of families will be deprived of their breadwinners, that widows and orphans will have to look for support and help to the kind and good public.

"The cause pleads for itself. To dwell upon the duty you have to the unfortunates ones would be an insult to your manhood and womanhood. It makes its strong appeal to every heart that sympathizes with those who are in sorrow and suffering.

"Give and give freely. The time for help is now. It is urgent that you should give with full hands."

FLASHED WORD TO CITY

Wireless Operator Eye-witness to the Disaster.

Eugene Murray, wireless operator on the steamship Borgestad, who was an eyewitness to the disaster from the deck of his steamer, and who sent the first message of the explosion to this city, when seen last night gave out the following statement:

"We had passed the ill-fated ship just about 15 minutes before the explosion occurred. At that time the ship appeared to be on fire, as dense clouds of smoke were pouring from the forward hold. Hardly had we docked at the pier of the United States Asphalt Refining Company when there was a deafening report, and the next instant we were thrown to the deck of the steamer. The ventilator screens were torn from their fastenings and hurled about 15 feet in the air. One of the firemen on our ship narrowly escaped being hurled into the furnace by the force of the explosion. He was shoveling coal on the fires when the detonation came.

"After the smoke cleared away I saw what looked like the car float a mass of flames on the water. Presently this disappeared below the surface, and nothing remained but a few splinters of wood, which were floating about near where the ill-fated ship had been anchored a short while before."

RABBI RUBENSTEIN ILL

So No Memorial Service Was Held at Bolton Street Temple.

Rev. Dr. C. A. Rubenstein, rabbi of the Bolton Street Temple, who was to have conducted a memorial service yesterday, was forced to remain in his home on account of illness. Dr. Rubenstein has been suffering from an attack of bronchitis for the last week.

Jacob L. Coen, a lay reader, read the services in the temple yesterday morning in Dr. Rubenstein's stead. Should Dr. Rubenstein's condition permit it he will preach a memorial sermon this morning in the temple.

DRAG CHANNEL FOR THE DEAD

Work of the Lighthouse Tenders a Failure.

MAY NEVER BE RECOVERED

FEARED MISSING MEN WERE BLOWN TO PIECES.

The Joseph R. Foard Company, Agents for the Alum Chine, Considered Making a Search for the Bodies, but After an Investigation Nothing Was Done—Fishes and Seagulls Killed by the Concussion—Flags at Halfmast in the Harbor.

The channel and other parts of the waters of the Patapsco within a radius of several thousand yards was dragged yesterday morning and afternoon by the crew of the lighthouse tenders Orchid and Maple in an effort to recover some of the bodies of those among the missing. All efforts proved futile, however.

No vestige of the missing was found floating on the waters and it is the general belief that those who have as yet not been found will never be seen again. The Joseph R. Foard Company, agents for the ill-fated vessel, considered making a search for the bodies, but after an investigation of the circumstances nothing was done, as it is the belief at that office that all bodies not yet accounted for were blown to atoms by the explosion.

The lighthouse tenders dragged the waters carefully, however, but nothing was brought up to indicate the presence of any bodies at the bottom of the river at any place. Some debris was brought to the surface, but even that showed no signs of having been near human flesh. The police boat Lannan took no part in the search for the bodies. When inquiry was made why this was not done, the reply came that the accident occurred in the county waters and that the local police department had not been requested to take any part in the search for the missing.

"If the Lannan can be of any assistance," said Deputy Marshal Manning, "it will be sent to the scene within a few minutes' notice."

The waters near the scene of the catastrophe remain as ever—calm and placid. Excepting the hundreds of small fish that were killed by the explosion and the carcasses of some seagulls, which were carried down into the Bay by the westerly winds of yesterday, there remains no trace of the horrible disaster. The seagulls that met death by the explosion were flying in the vicinity at the time, and were killed, it is said, by concussion. The fish were killed almost instantly, and their bodies came to the surface and were carried down stream. There were hundreds of them. Shutters, window frames and other debris, believed to have been from the sunken tug Atlantic, also floated on the water and was carried down stream.

One noticeable feature in the vicinity of the catastrophe yesterday was the fact that out of respect to the dead, all tugs and the smaller craft that plied up and down past the scene carried their flags at half-mast. A glimpse further up into the harbor showed that the spirit of sympathy was also carried out by the larger vessels. Flags on all British ships in port were at half-mast, and on many of the other vessels it was also done.

The big navy collier Jason still rides at anchor in the same place where she stood when the Alum Chine was blown out of existence. Its great grey hull, looming up out of the water, is dented and scarred from the volley of steel which was a part of the ill-fated freighter. Many curiosity-seekers and others, some of whom were sesafaring men, who were interested in the wreck of the Jason, went to the scene yesterday in small boats.

Some succeeded in getting aboard the Jason, while others were denied permission. Souvenirs in the shape of pieces of steel, which formed the hull of the Alum Chine, were eagerly picked from the decks of the collier. These oddlooking relics are in many shapes, and proved the awful force and power of dynamite.

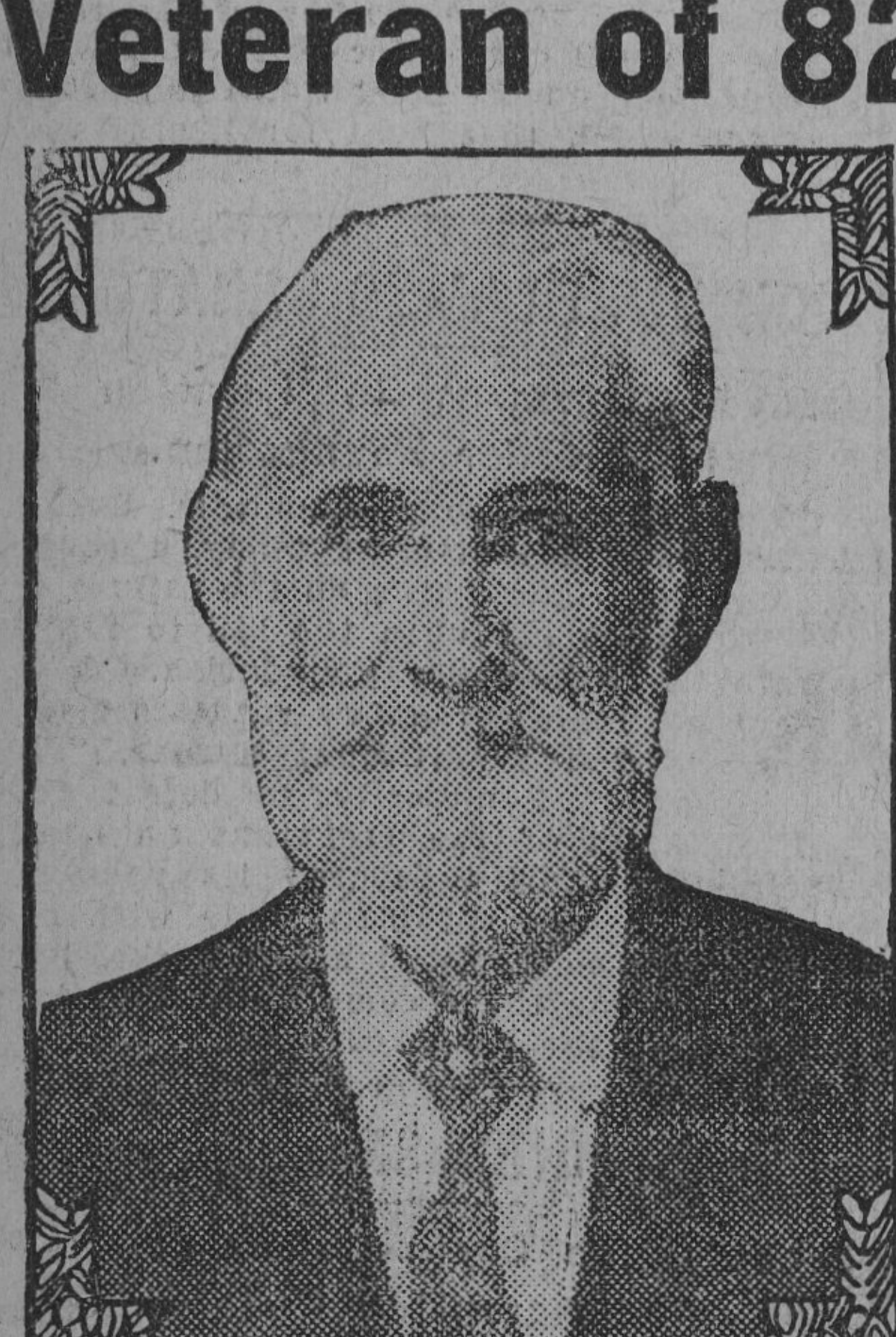
The owners of small craft took an active part in the search of the waters for bodies of the missing. Some visited the scene with that purpose in view, but all their efforts proved to no avail. The revenue cutter Apache, in command of Captain Carmine, visited the scene, and also dragged for bodies.

Veteran of 82-Life Saved

Mr. W. C. Atkinson is filled with enthusiasm over his complete recovery from grip and loss of appetite.

"I myself do firmly believe that had I not seen the advertisement of Duffy's Pure Malt Whiskey on my return to my country home from the National Soldiers' Home in Tenn., I would have died, as I had taken a very severe cold which gave me grip and I could not eat enough to give strength. Right then I bought 6 bottles. It helped me so much that I vowed that thereafter I would not be without it.

"I know that, taken as prescribed, it is certainly good for old people. I am a veteran of the Mexican War of 1846. I was a musician only 17 years of age. I was 82 years old September 25th. Born in 1830. Very distinctly do I remember seeing the stars fall."—W. C. Atkinson, Russellville, Tenn.



MR. W. C. ATKINSON—82 years old.

Duffy's Pure Malt Whiskey

is a safeguard in Winter against serious diseases, if used as directed. You can break up a cold with Duffy's before it becomes deep-seated and dangerous.

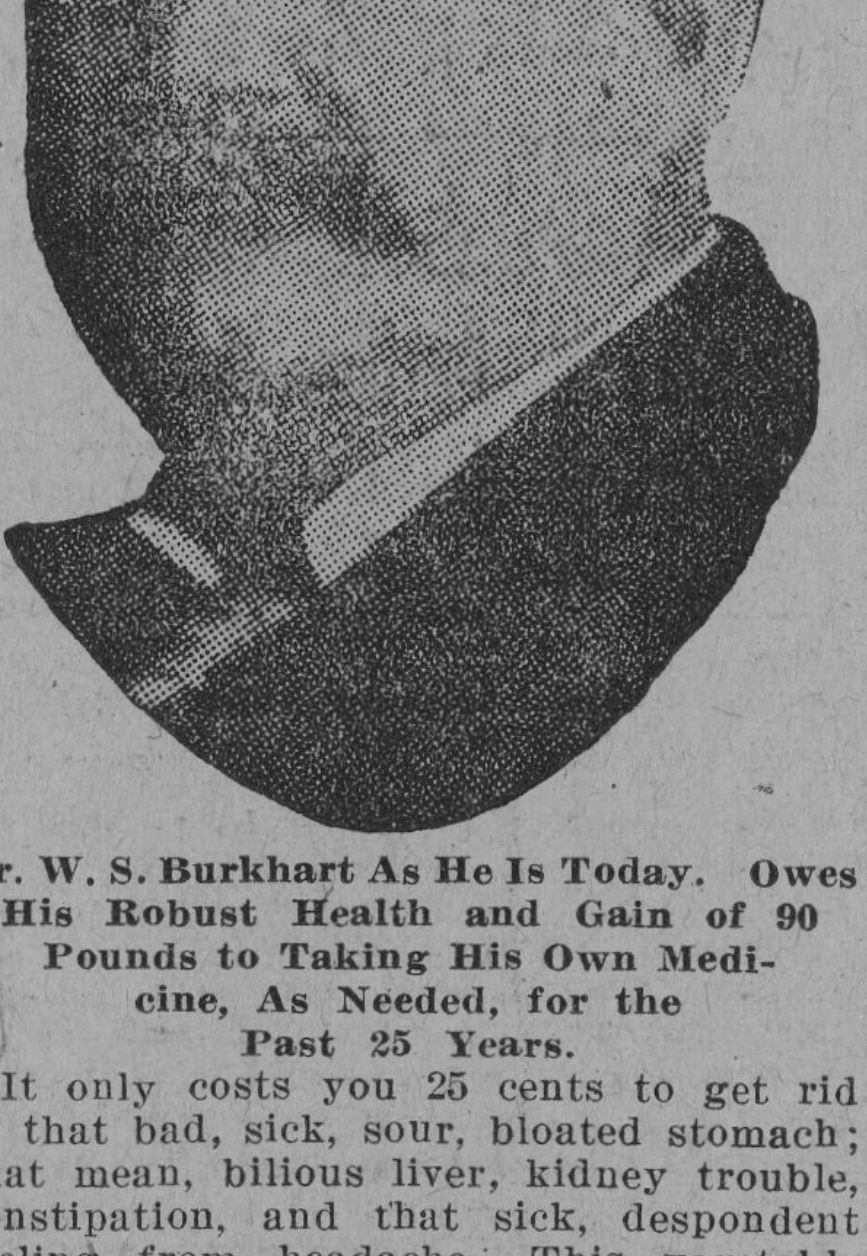
For men and women who are exposed to Wintry blasts and raw, wet weather it is an effective protection. It is pure and dependable in throat, lung and stomach troubles. It overcomes weakening, wasting and run-down conditions of body, brain and muscle. Makes the old feel young and keeps the young strong and vigorous.

CAUTION—When you ask your druggist, grocer or dealer for Duffy's Pure Malt Whiskey, be sure you get the genuine. Sold in SEALED BOTTLES ONLY—never in bulk. Look for the trade-mark—the "Old Chemist"—on the label, and make sure the seal over the cork is unbroken. $1.00 a large bottle. Write for a medical booklet and doctor's advice free. The Duffy Malt Whiskey Co., Rochester, N. Y.

ABSOLUTELY PURE & UNADULTERATED
TRADE MARK

Dr. Burkhart Says

The Lord May Forgive You, But I Will Not, If You Don't Send for a Free Treatment of My Vegetable Compound.



Dr. W. S. Burkhart As He Is Today. Owes His Robust Health and Gain of 90 Pounds to Taking His Own Medicine, As Needed, for the Past 25 Years.

It only costs you 25 cents to get rid of that bad, sick, sour, bloated stomach; that mean, bilious liver, kidney trouble, constipation, and that sick, despondent feeling from headache. This vegetable compound is also recognized as the greatest spring remedy known.

I give you more for 25 cents than any one else would give you for $5.00, and what is more, if you are not satisfied I will return your money. Take me at my word. You take no chance and you will always feel grateful towards me for this offer.

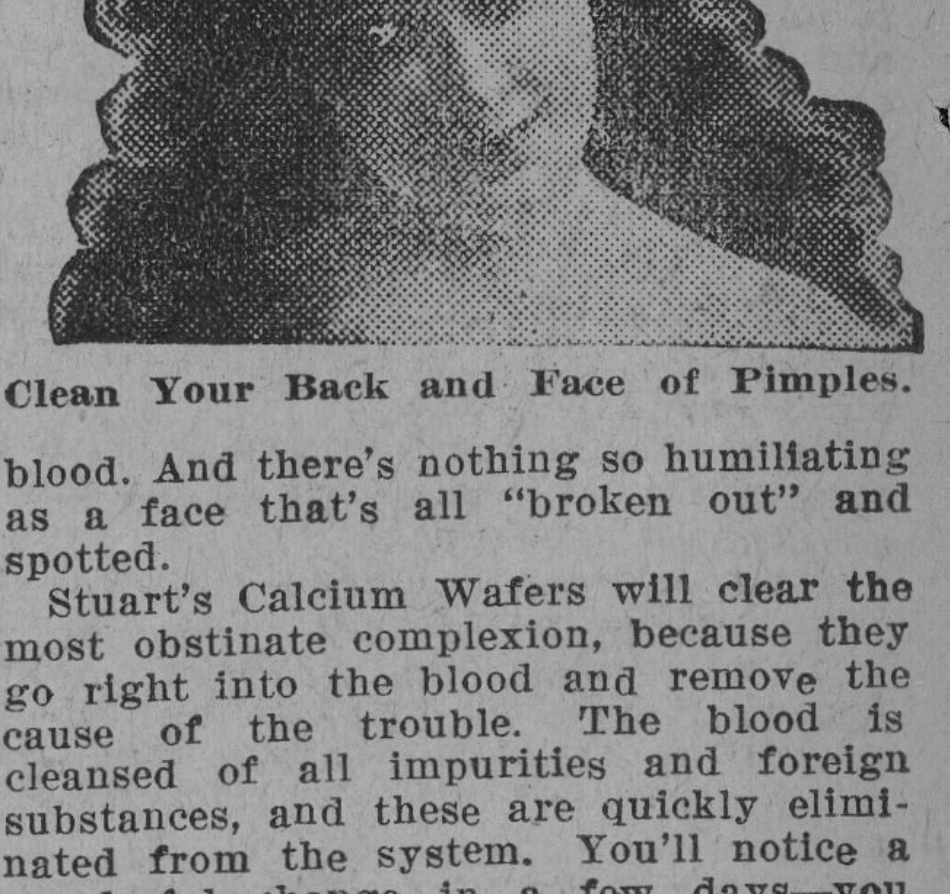
Shake off the burden of sickness, my friend. Do it today. 25 cents will put you on your feet. Remember, I let you be the judge. No cure, your money back for the mere asking. Banks or business firms in Cincinnati will tell you my word is good. Get the treatment today from your druggist or will be sent prepaid on receipt of price. Be sure to ask for and see that you get Dr. Burkhart's Vegetable Compound.

To prove its merits conclusively, I will send trial treatment free. Dr. W. S. Burkhart, Cherry Hill Square, Station R, Cincinnati, Ohio.

Banish Those Ugly Pimples

Skin Cleared in a Short Time by Stuart's Calcium Wafers, the Greatest Blood Purifier Known.

Pimples, blotches, skin eruptions of all kinds, are simply the impurities in the blood coming to the surface. All the external treatment in the world won't do a particle of good unless you purify the blood. And there's nothing so humiliating as a face that's all "broken out" and spotted.



Clean Your Back and Face of Pimples.

Stuart's Calcium Wafers will clear the most obstinate complexion, because they go right into the blood and remove the cause of the trouble. The blood is cleansed of all impurities and foreign substances, and these are quickly eliminated from the system. You'll notice a wonderful change in a few days—you will hardly know yourself in a week.

And Stuart's Calcium Wafers are absolutely harmless to any one. Their ingredients are just what a physician prescribes in most cases of skin eruptions and poor blood. These wafers are put up in a concentrated form, which makes them act quickly and thoroughly.

Begin taking Stuart's Calcium Wafers today and then look at yourself in the mirror in a few days, and find all those awful pimples, blackheads, acne, boils, liver spots, rash, eczema and that muddy complexion rapidly disappearing and your face cleared like the petal of a flower.

You can obtain Stuart's Calcium Wafers at any drug store at 50 cents, and there is now no reason why anyone should be disfigured by pimples or any other skin eruption. —Advertisement.

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