THE SUNDAY OREGONIAN, PORTLAND, SEPTEMBER 15, 1907.

DISPOSING OF A CITY'S GARBAGE Strictly the Work of an Engineer Who Portland Admirably Situated for Economical Understands Modern Methods of Collection of Garbage Now Gathered **Turning Waste Into Fuel** at Great Expense A MODERN INCINERATING PLANT BY WILLIAM H. ADAMS. OW MANY of the inhabitants of Portland are aware of the conditions existing at the present time in the hweat portion of their city, near I's Lake, on lands owned by the city devoted to the purpose of storage and baal of garbage and the wastes of description of by the storage and wastes. existing at the present time in the northwest portion of their city, near Guild's Lake, on lands owned by the city and devoted to the purpose of storage and disposal of garbage and the wastes of every description, gathered by the scavenwastes. gers? Are they aware how inefficient are Woeful Waste of Fuel. the methods now made use of for a A noticeable defect in the apparatus proper disposition of the large tonnage of made use of by constructors of incineraefuse matter which is constantly accutors for many years past, and especially noticeable in the one belonging to the mulating at this location? Is it known noticeable in the one belonging to the City of Portland, was the attempt to se-cure practical incineration of garbage by combustion of ordinary fuel in the com-mon type of firebox, with generation of heats around 1000 degrees F. In our own case, the wood alone contains from 200 to 400 pounds of water in each ton of fuel put into the firebox; the combustion of this class of fuel can give only re-ducing gases, and the result is well un-derstood to be a cost per ton of garbage incinerated fully four times as great as really needed to do the work, under prop-er conditions. beyond the precincts of the City Hall that the Engel incinerator, repaired so often and kept in working order by the most strenuous efforts of the faithful attendants, is really worthless for the purpose, liable to break down at any time, which case the city would be in a sorry plight with its constantly increasing tonnage of disagreeable garbage to be disposed of either by burning in the open or by dumping it into the lake to make new land surface? There seems to have been an unwilling-It would seem to a metallurgist beyond ness to approach this important subject It would seem to a metallurgist beyond all reason or common sense to build huge fires in an almost open firebox, where radiation is enormous, and to direct the products of the combusion of this fuel and the taxpayer is entitled to know the reasons for a seeming apathy and studious products of the combustion of this fuel (incomplete combustion it must be) against a sodden body of garbage, usually of great depth above the grates. Add to this mistaken practice the withdrawing of the entire bulk of combustible gases from the surface and depending upon a tail chinney for draft to carry off the foul fumes, and we have the utmost limit foul fumes, and we have the utmost limit the consequent extravagant costs of oper-stion. In the homely sense this proavoidance of action in this regard, be-There are several available sites in the | modity; and the great heterogenious mass cause physical wellbeing of the inhabilower harbor, where the scows could be unloaded in an economical manner, the would go to the incinerator to support the necessary combustion for absolute detants of Portland should be the first consideration with the officials elected to repseveral classes of wastes being carried to separate buildings to be utilized, i. e., the merchaniable junk should be classi-field into salable and workable materials; the barrels the iron should be compressed and baled for sale to rolling mills; the barrels with due reference as before stated to the part of the garbage. Everything should be made subservient to the actual destruction of garbage, and this neces-sity of modern civilization domands the most careful and conscientious study with due reference as before stated to the future of this great city. No paralresent them in government, and to care for the details which go so far to advertion of the greater problem of handling the wastes for years to come, would be the methods employed in nearly all the tize us to the outside world. There is no single public utility to be compared to the methodical, thorough and economical

BY GEORGE A. THACHER.

disordered imagination starts from

their facts don't exist, their conduct is

what we call crazy. Maybe our pre-

historic ancestors put the cart before

able to determine

man

and its disposal in a manner to be the least offensive to the public. We are certainly justified in demanding

a city's a

and refuse.

ighborhood for an indefinite time.

Expensive Training Schools.

fuel and thus be split up and recombined

Throwing Away Fuel Collected.

The millions of money spent in Amer-

lea in abortive attempts to handle gar-

from the officials of this city energetic action in this direction. The Summer season has passed without result and the season of moist, damp and actually wet Oregon weather will soon be with us-an entire year in fact, wasted, since the great necessity for repairs or construction made known by articles in the publie press.

Competent Engineer Needed.

In arriving at definite conclusions and suits approaching if not equaling that of thereafter the active construction of an | Europ

The expense of the taxpayers has been up-to-date plant to which all the wastes enormous, and there should be no more failures or costly operations charged to of this city shall be sent, and incident thereto the inauguration of a better ities like Portland which is in a peculiarmethod of house-to-house collection of those wastes, it would seem that the one y strong position for the inauguration of well understood principles, in a modera sure way to arrive at results acceptable to our officials and their constituents is to follow the lead of European cities and plant to be constructed by first-class tal-ent, with all due regard to the necessities of the future growth of the city. Surely employ the most competent engineer pos-sible to obtain, to whom shall be subthis city can afford to meet this question in a liberal way and yet meet it square-ly, with no mistakes in the expenditures of the needed moneys for a modern plant mitted the problem before us. So little discussion has been brought out by the action of the Council thus far and so to care for the widely extended popula-tion. Because we have delayed the conlittle interest has been excited in public that it may fairly be taken for granted struction of a proper plant for the pur-poses mentioned, is no reason why the whole question should be hurriedly disthere is no proper education on the subject so vital to each one of us; therefore ussed and settled at the' moment. the absolute need of securing the highest should be a subject of close study, and the study be directed by discussion of the recommendations of the best sanitary grade of engineering talent to aid our offi-cials in settling upon a comprehensive plan which shall answer all purposes for engineer possible to secure. In the broad sense, there is no possible years to come and give us satisfactory results. way to destroy the refuse of a city except with fire. The constituent elements of garbage should pass through incandescent

First Successful Incinerator.

Incineration of the wastes of a large city, on definite lines and for a sottled into elements which would support com-purpose, is comparatively a modern idea. In the year 1575 the first successful mu-In the year 1576 the first successful municipal incinerator was constructed in Manchester, England, and this plant was in use for 39 years, a model for number less plants of like character which are to

be seen throughout Europe. An inclnerator of about the same type. bage otherwise than by fire need never have been spent had the successes of the was first constructed in the United people in Europe been copied, and bettered States in the year 1886, which was the beginning of an era of experimental oper-To illustrate, the tonnage of fuel used at To illustrate, the tonnage of fuel used at ations along the lines of English pracour city plant for the very imperfect in-cineration of the small amount of garbage handled each day is sufficient to incin-erate three or four times the tonnage untice, yet there are not six plants in suc-censful operation in the United States to-It has been stated in many ways the reason for absolute failure of that the reason for absolute failure of our American experiments has been due to the employment of low-priced labor. carried to the city's plant each day, and the reason for an experiments has been due material, such carried to the city's plant each day, and carried to the city's plant each day, and carried to the city's plant each day, and in no way utilized, is sufficient to carry on all the necessary incineration processes without the need of a cord of wood.

to the employment of hocked upon as belonging to the scavenger class and be-neath the dignity of graduate engineers in free America, always poorest paid and least considered in the profession, where-as in Europe high-grade ongineering tai-ent is alone entrusted with the care and management of these city public utilities. The engineers in charge of European The engineers in charge of European the data trainplants are expected to have had a train-ing in each of the branches of mechan-ical, electrical, steam and sanitary engi-meering, with years of experience in the reader, but it is not difficult to educate

of practical work, and it is these oneself by a course of study in the litera-who have made the successes in ald countries and are extending their the absorption of a few of the facts which the old countries and are extending their the absorption of a few of the facts which practice all over the world. We have to successful engineers have put into book a certain extent accepted the inevitable form, and of late have established records of a The The question of incineration in the large

and of late have established records of a few successes among American engineers, and the literature these American engineers, meers have given us are acknowledged textbooks on the comprehensive subject. The question of incineration in the large way by the city is only an exaggerated example of the practice shown number-less times within a few years, i. e. the average garbage of the household can be

moderate supply of wood waste, with an admixture of leaves, grass and general sufficiently heated to gradually lose all the water in the waste matter, and thus

It

the waste becomes dessicated and innox lous and can be burned like any fuel. The weepings of the street, will smudge the watery vapors pass only as needed for the support of combustion of the fuel lying on the grate, and however foul smell-ing the waste may have been, no odor theirefrom will be noticed after passage through the incandescent fuel, whereas if any of the garbage were placed on the A careful perusal of the literature mentioned cannot fail to impress us with the facts, so well known to metallurgists, that the incineration plants of the many fire, the odors therefrom would permeate the entire house, tend to rust the pipes and gradually destroy the metal. American cities have been expensive training schools, yet they have brought to notice of late successful practice-the re-

Creating Fuel Out of Garbage.

Y OUR recent editorial on ghosts and immortality says that the be-lief in ghosts arose from the be-Technically, the gradual evaporation of the moisture in animal or vegetable matter gives rise to a steam of noxious properties, due to the presence of hydrogen lief in immortality. Permit me to ask carbides, subplides, etc.; this steam in its passage through incandescent fuel, is dis-sociated into its constituent elements and recombined into gaseous compounds which burn with nearly as great a degree of heat as the fuel on the grate, therefore there is no anneceable loss in the first how you know that it was not the other way around? Even the man with a fact in forming a hypothesis. Even the victims of lunacy have an impresthere is no appreciable loss in the fire fed by this evaporated water. The incinefation of garbage in the large sion of a fact to start with and they govern their actions accordingly. As

way need only be carried on in this man-ner, to be entirely satisfactory in the sense that no nuisance is created and the crematory can be located in the middle of each block in the residence portion of the stire mithem being the sense portion of the city without being known as such: in fact, there is generally much greater nui-sance created by the careless storage of garbage by hotels and restaurants than in a property handled incinerator. I do not wish to be understood as stating that incineration on the large scale is carried on in the manner advised for the house-holder under stress; on the contrary, the modern incherator is an enormous fur-nace into which the garbage is dumped indiscriminately with the proper percent-age of combustibles to supply the heats of cremation. In this furnace the combus-

Age of combusticies to supply the heats of cremation. In this furnace the combus-tion takes place above the grates with an intensity unheard of in small apparatus. Nothing less than 2000 degrees F. will accomplish the purposes intended, which assures the dissociation of all the water and the generation therefrom of water gas; the union of carbon with oxygen from the air to form carbon dioxide gas and later on recombinations of all these researchers make the same argument as primitive man-that if the spirit survived death it ought to show itself now and then permit me to correct your mistake. We don't know what primitive man did, but we do know that psychical researchers are simply collecting facts concerning apparitions and later on recombinations of all these elements to turn out a useful carbon monoxide gas, which is an article of comof both the living and the dead, and all of both the living and the dead, and an instances of curious mental phenomena, like telepathy and clairvoyance. Naturally, the spiritualistic hypothesis has been considered along with others, to explain the facts which are genuine, merce just as much as any other of the many valuable products garnered from the wastes of a jarge city.

Can Eliminate Cost of Fuel.

Judging from an inspection of the av-erage refuse materials which have been carried to the city's plant during the past few years and calculating that the city should be much better cared for and no wastes be allowed to cumber the streets and vacant lots, it would be fair to state that there is sufficient fuel in the refuse materials now gathered to supply all necessary combustion to perfectly incin-erate the garbage and refuse, and that erate the garbage and retuse, and that no expense whatever need be incurred by the dity for this item of fuel. The true principles of incineration of garbage by which the wastes are made to support ombustion mean a large saving in the osts of this constant and usually dis-However surcharged

coopered, cleansed by steam and mar- the future of this great city, keted for the thousand purposes of a monious and one-day policy carriage of all wastes to large scows, moored at convenient points along the Willamette River. So far as the city is concerned, and the people should be con-suited in this matter first, the quickest disposal of the wastes are the best for large city; the glass should be and made use of; the brick is useful for refuse materials (except those disposed in the guiches and back-lots) from all portions of the widely separated discement and mortar mixtures, and could be prepared at small expense for renewed use; the good lumber of the thou-sands of boxes now unloaded upon the scavenger wagons could be sorted out, reduced in size and made useful for many tricts of Portland to the city grounds near Guild's Lake. It would be diifficult all concerned. Thereafter, it is a matter for consideration as to the most modern and least offensive method of ultimate to suggest a more expensive and less and least offensive method of ultimate reduced in size and made useful for satisfactory method of disposal of wastes disposal of the dumpage from the scows. purposes; the bones are a valuable

onsidered at this tin most satisfactory methods should be employed without regard to immediate cost. and the greatest good to i...e greatest number we shall have in this city 2 years hence ought to be the motto of the officials to whom this important ques-tion shall come within tion shall come within the next few months

No paral-

on and attracts all the fish for 50 yards around. Of course the first one to see the wriggling minnow takes the cork under and the fish is landed. Everyhody is wait-ing now to hear from Bud when he goes fishing.

Honoring His Memory.

There were two little boys who re-

Recent Views of Prominent Men Whb Have Made Psychical Research.

Belief in Ghosts and Immortality

scientific men like Haeckel there is no dicate the persistence of the individual on ghosts hesitation in denying most positively the consciousness after death. and immortality says that the be-

existence of God as well as immortality of man. Haeckel's latest book, "The Riddle of the Universe," is not only sold by the hundred thousand copies, but he is quoted as an authority by many edi-tors. His reputation in his own field of biology gives an undue weight to his posi-Dr

tive assertions about other matters. Haeckel claims that all the psychic ac-tivities of man must be traced to individual cells and consist of attractions and repulsions. Sir Oliver Lodge says that apparently Haeckel hopes no one will attempt to trace psychic activities any far-

the horse, as you suggest, but if they The assumption that God is just as well as that God exists is purely a matter of metaphysics. The world shows design, therefore we assume that it is proven that it was created by a wonderful in-talligence. We assume his justice be-cause we, his creatures, have a concep-tion of justice. To the people who be-lieve with Haackel those conclusions are foolish. To them there is no ethical ar-gument for immortality. For them there predicted immortality because of something invisible that seemed to escape from the body at the moment of death, why did they claim it for men and deny it to the balance of the ani-mais. The physical process of death is identical, so far as science has been Permit me to suggest that primitive

man was more interested in facts (probably) than in a logical expecta-tion of seeing ghosts, because he had have no faith?

formed the hypothesis of immortality because of escaping breath. As for your statement that phychical and compare it with the population of the city and repeat that throughout the Nation. That will give an idea. It will

also suggest that people who do cherish faith in a just God and immortality should lend a friendly countenance to scientific inquiry into the nature of man's

personality. If it should ultimately prove as a mat-ter of scientific fact that their hope is not vain, then all mansind must adopt belief in an intelligent God. Men always accept the realities; there is no escape

Psychical resarch has never proposed to prove immortality, but nearly every investigator of world-wide prominence has concluded that survival of physical death has actually been proved by the investigations of the society. There is such reserved in the society of the that but the facts about these matters were the objects of search and investigation. It was a question whether there were any facts except those of lilusion. The

any facts except those of llusion. The only claim of psychical researchers to be scientific men must rest on their discovery of facts. There have been rumors for many hundreds of years of these facts, but the scientific question is, do they exist? The psychical re-searcher does not put the cart before the horse whatever primitive man did. He

Bishop H. C. Potter-Apart from Rev elation, I do not know any argument like-ly to be of more service to you than that of Professor N. S. Shaler, of Har-

norse whatever primitive man did. He is the target for enough brickbasts as it is from Professor Haeckel down to the editor of comic papers. As for your comments on a previous letter of mine, I will say that I ventured no opinion concerning the justice of God. You had stated that the world resked that of Professor N. S. Shaler, of Har-vard University, in his volume "The In-lice of God. Drid reaked and I sug-int I sug-it. Among which, though shadowed by doubt, inwith injustice and cruelty and I sug-gested that that was a bad argument to prove justice in the Creator. The posi-tion is this as I understand it. Among

Dr. Cesare Lombroso-There is. great probability now given us through pay-

chical and spiritistic researches that there is a continued existence of the soul after death. Richard Hodgson-I believe myself Dr. Richard Hodgson-I believe myself that some general relation between the various groups of phenomena as Mr. My-ers has exhibited will be proven true, and that eventually there will be completely satisfactory evidence, drawn from em-

pirical sources, and based on strictly scientific grounds, entirely independen what might be called theological billosophical considerations, that man in-leed does not die with the death of his

The assumption that God is just as well body. F. W. H. Myers, summing up what re-corded facts proved to him-(a) In the first place, they prove survival pure and

gument for immortality. For them there is no faith in it because their leaders in the scientific world have ridiculed it as absurd. How large a body of people

bodily death. Rev. Minot J. Savage-I belleve with my whole soul that it will not be long before immortality will be as much discovered as America was discovered

To that number may be added a large list of names like Camille Flam-marion, the astronomer, Professor Charles Richet, Andrew Lang, Sir Wil-

liam Crookes, and A. R. Wallace. The Oregonian has said recently that the question of immortality is the most important in the world. Is not the important in the world. Is not the scientific avidence which has been col-lected and is being collected on the subject worthy of careful scrutiny? Is it not jumping at conclusions to say with-out such scrutiny that there is not a single fact to prove survival of physical

investigations of the society. There is such general ignorance of that fact that you may give me space to quote the opin-lons of a few scientific men. Dr. J. H. Hyslop in a recent interview published in The Oregonian expressed himself as fully convinced of a future life.

Fishing With Electric Light.

Elizabethtown (Ky.) News-

Elizabethiown (Ky.) News. Bud Ashlock, who is one of the best fishermen in this section or any other section, is fixing to scoop up all the local sports who use the reel and line here-abouts. He has a new contrivance which he thinks is sure to catch them. A small wire runs through the eyelets on the pole down the line to just below the hook

cently went to visit a country aunt. They were allowed to run about and get dreadfully dirty, and consequently

were very happy. They adored their aunt and tried to please her, and they succeeded in rather an odd way upon one occasion, as you will see. They were in the midst of a mud ple tournament when their aunt, carefully dressed came out of the house and dressed, came out of the house and ounted into her carriage

"Where are you going, Aunt Mary?" and asked John. "To Mr. Bailey's funeral," the saunt

replied. 'Dear me!" sighed Billy, the younger,

"Thave never been to a funeral. I do wish you would take us, Auntie!" "If you had only asked sconer," said Aunt Mary, "I would have dressed you and taken you out. Mr. Balley was our principal citizen and I would have been glad to have you do his memory henor." Away went the carriage, but John and Billy stood and pondered. To miss the Billy stood and pondered. To miss the funeral of the principal citizen was out of the, question; but they wanted to please Aunt Mary. There was no time to bathe, don best clothes and so forth, but they would honor the departed to the best of their ability. Imagine, then, Aunt Mary's supervise when she behad her two

Mary's surprise when she beheld her two well-meaning nephews walk into the vil-lage church and solemnly proceed up the center alsie, bare-footed, deplorably with best hats on and rigid kid gloves!

Negro Prisoners Help Science.

Montgomery (Ala.) Advertiser. The State Board of Health of Louisi-ana is trying sugar molasses, in which sulphuric acid is used, on negro prison-ers, to determine whether it is injurious to burden back

to human health.

The Harvesters.

Denver Republican. The golden gleam of grain, bright in the

The golden gleam of grain, bright in the sun. And from the roadside comes the sound of leaves That whisper in the hedge, the while the sheaves Are marshaled where the noisy binders run. Broad grows the stubble now, at day begun. And in the hymn the harsh machin'ry weaves. There is no jarring note--no voice that grieves Nor grudges the ksen blades their vict'ry won; For on the harvest field great nations win-

woh; For on the harvest field great nations win-Tis here they rise to power, or they fall; No shock of war, no battle's swful din, But on this peaceful field is settled all; Here, through long, quiet hours, far from all strife.

Froud man comes humbly, that he may have life!

(b) In the second place, they prove that between the spiritual and material worlds an avenue of communication does in fact exist. (c) In the third place, they (c) In the third place, they have a service of the surviving spirit retains, at least in some measure, the memories and the loves of carth. Sir Oliver Lodge-I am, for all personal purposes, convinced of the persistence of human existence beyond bodily death

Take a census in the Portland churches