tainly off the lines of railway.

An acre of corn can be raised for about \$6, including the rent of the land. Fifty bushels of corn will weigh 3,500 pounds, or equal to a ton and three-quarters of soft coal. of corn will make a fire which will keep a family warm all day, even in very cold weather.

keep warm, they are not likely to choose it as fuel when ing the mixture. they can get coal or wood.

HOW TO GET RID OF FOUNDLINGS.

The methods adopted by the almshouse officials of Philadelphia for getting rid of unwelcome babies appear to be complete and efficient to a degree never hefore approached in a modern public institution. The death rate is precisely 100 per cent. As the president of the city hoard of Guardians of the Poor frankly put it, when he protested against sending any more unfortunates to the almshouse: "All of them dic. None of them live; and never have we raised a child out there

The assertion seemed incredible, but an examination of the records of the institution found it to be true. It was discovered that fewifany foundlings survived the almshouse guished. treatment more than four months, and none lived more than six months. During the year 1880 there were brought to the institution 66 foundlings, of whom 30-of course the prettiest and apparently healthiest-were taken out for adoption. Of the 36 which were left all but one died within four months, and that one lived four months and one week. Nearly all died within four weeks of the time of entry.

Charges have been preferred against the management of the children's department of the almshouse by the society to protect children from cruelty, and at this writing the matter is still hefore the grand jury.

At the request of the president of the Board of Guardians, the condition of the foundling ward was investigated by the obstetrical staff of the almshouse, who attributed the terrible mortality to bad food, impure quarters, bad air, and insufficient attendance. As given in the Record the report mentions that in former years there were twelve resident physicians in the institution, thus obviating the necessity for the frequent change to which the foundlings are now subjected in their medical attendance. Under the present rules of the almshouse the number of resident physicians is twenty-three, and these are young physicians, fresh from college. As these physicians are rotated every month, the infants, who should have a permanent medical officer over them, have a new physician every four weeks. The report is also understood to say that the infant ward is ventilated from a cellar room, which is used as a drying room at high was the case.

verse habit of the foundlings; and that it is only by the most very strange. painstaking carefulness that the little wretches have been kept alive so long on the average. But there will remain is to clear out from the Washington navy yard at once, the with the people at large a distressing sense of dissatisfaction with the results of the official tender mercies of the City of Brotherly Love. As a rule foundlings are not the best possible material for making men and women out of; still a are assured that "the subject has been one of serious study lators. But it appears that Gamgee, Isherwood & Co., have Do not stop in a straight line across the grain of the wood, with the doctors of the almshouse for sixteen years," during an eye to the resources of the national treasury, to drive but carry the brush irregularly down, taking a hint from which time, it is admitted, they have been unable to rear a single foundling in the institution. Many of those who are motor go. taken away and adopted live, but none of those survive who remain in the institution.

EXTINGUISHING PETROLEUM WITH CHLOROFORM.

The following experiments made some time ago are again published, in the hope that some of our readers may be in 0.737 of the sun's diameter will be obscured 8.84 digits. duced to study the subject further and develop useful results.

generally accepted by chemists up to the present time. M. in central China, and leaves the earth in latitude 46° 20' Würtz, in his great dictionary, states that a cotton wick north and 17° 18' west from Washington, or in central Min- upon which some ammonia had been poured but had dried dipped in chloroform will hurn. M. Moigno has been mak-nesota-Morrison county. In the United States the southern up again. After a time the feather became partially green, ing experiments which seem to point to a completely oppo-

another chloride of hydrogen is formed, an equivalent of ville, Denver, Colorado Springs, etc., where the eclipse will facture of artificial flowers.

fuel on the prairies as it is to import coal or grow wood, cer-chlorine and an equivalent of carbon are set at liberty. This be very slight, and occur very late in the afternoon; at Den- $= Cl_2H + Cl + C.$

M. Moigno has established that pure chloroform, free This, at 15 cents per bushel (which is as much as corn was He has established, besides, that pure chloroform, mixed with worth on the farm away from railroads last winter), would inflammable liquids, destroys their inflammability. His ex-Some recommend raising sunflowers for firewood, but they burn with a wick. It is both uninflammable and incombus- set with a very small eclipse upon it. are not as good as corn. Nor need the talk about burning tible, that is, until the greater portion of the chloroform has corn create any reluctance to removing to regions where been volatilized. To give the experiment greater effect, it they have to burn corn for fuel. It can be raised in one- may be varied in its operation as follows: Let a liter of tenth of the time and at less expense than timber can be petroleum be spread over a surface of 10 c.c., set the liquid and as conscientiously plant corn for fuel as sunflowers or of chloroform into the mass. The petroleum is at once extrees. The Register is of the opinion, however, that, though tinguished. If, now, an attempt be made to rekindle the the prairie farmers will occasionally have to burn corn to petroleum by any inflamed body the latter goes out on touch-

> The discoverer of this curious property of chloroform, expetroleum upon this same surface—10 c.c. This liquid mass, having a depth four times that of the amount first experimented on, was well lit, and was then successfully extinguished by the same quantity of chloride of hydrogen as before-50 cubic centimeters.

> M. Moigno then proceeded: 1. To raise the vapors of explosive gases. The greater number of these mixtures lost their inflammability. 2. To expose a wick saturated with chloroform to a strong flame of alcohol. The flame became smoky, and an intensely opaque vapor of hydrochloric acid -HCl—was formed. 3. To pass the vapor of boiling chloroform into a good flame of alcohol. The flame is extin-

> Practically what can one make of these experiments? Less, perhaps can be made of them in the way of process than in that of principle. They point to the possibility of the extiuction of the obstinate and dangerous flame of burning petroleum.

> The principal difficulty in this application of chloroform will consist in its high price, chloroform costing from ten to fifteen francs the kilogramme. This difficulty will, doubtless, prevail against the adoption of the new principle for the extinction of petroleum fires in large towns, where less costly means are at hand, but it will not hinder its adoption in a case considered till now almost beyond the reach of helpfire on board ship. In this direction M. Moignothinks there is fair room for experiment and reasonable ground to hope for satisfactory results. If the indications given by laboratory experiments lead to good practical results an important problem will have been solved. It is not impossible to conceive that a ship could be furnished with a supply of chloroform, so stored as to admit of projection to any point where fire broke out. However considerable its first cost, this, as the chloroform keeps good from voyage to voyage, would be small for each one; and in presence of the terrible disasters it is capable of preventing, the question of cost disappears altogether.

PLEA FOR A GOVERNMENT PERPETUAL MOTION.

We publish in another column an extract from the retemperature for the pauper clothing, so that the foundlings markable report of Chief Engineer Isherwood to the Secreare compelled to breathe a vitiated atmosphere; also that | tary of the Navy, in which he strongly urges, in fact almost they are seldom if ever taken out of this room except during implores that functionary to order the construction, at govthe summer time. It is also said that the medical staff con- ernment expense of an experimental motor on Gamgee's nected with the almshouse has from time to time protested plan. It will be seen that the ballucination of perpetual in vain against the food supplied; that patients have actually motion has taken complete possession of the Chief Engisuffered from scurvy brought on by the food, and that the neer's brilliant intellect, and made him for the time being milk supplied has often been not only unfit for use, but that the laughing stock of the engineering world. This is much no attention has been given to repeated warnings that this to be regretted, for Mr. Isherwood is an individual of superior attainments, and high capabilities. That such a No doubt the official baby killers will to a man testify that man should embrace so palpable a delusion, and run off everything has been done by them to discourage the per-into such a labyrinth of absurdities as the report shows, is

The very best thing that the Secretary of the Navy can do whole crowd of Gamgee followers, and allow no more of the public money to be wasted on such stupid and irrational schemes.

It is unfair to Keely to allow this thing to go on. His death rate of 100 per cent in six months is a little too com- perpetual motion is kept going by supplies drawn from willprehensive to be accepted with composure, even when we ing victims—the private contributions of New York specu-crevice, and another rag to rub off any superfluous paint. their wheels. In both cases it is money that makes the

The Partial Eclipse of the Sun.

obscuration occurs in latitude 69° 4' north and longitude room will need more days to dry. Use twice as much oil as 90° 24' east of Washington, or in northern Siberia, where turpentine. Do not economize the oil, and be as prodigal

The shadow (Penumbra) first touches the earth in latitude The doctrine of the inflammability of chloroform has been 39°9' north and longitude 178° 40' west from Washington,

proceeds from the reaction indicated by the formula, CHCl₃ ver at 6:13 P.M.; at Jefferson City, Mo., the middle of the eclipse occurs at sunset, the sun setting partially eclipsed. The sun will set more or less eclipsed throughout Missouri, more particularly from any trace of alcohol, does not burn. Illinois, Iowa, Wisconsin, Michigan, Indiana, and Ohio. From Cairo, Ill., the boundary line of the eclipse, where it begins at sunset, follows the general direction of the Ohio be as cheap for fuel as soft coal at \$4 per ton. Two bushels periment was an easy one to perform, and began by mixing river to Zanesville, thence to Buffalo, N. Y. Thus none petroleum and chloroform in the proportion of five parts of of the Southern Atlantic or New England States are the former and one of the latter. This mixture will not favored, and the North Central States will only see the sun

The Gamgee Zeromotor.

Some of our American contemporaries are speaking with raised for the same purpose, and the farmer may as easily alight, and when it has well taken, pour 50 cubic centimeters considerable hopefulness of a new motor which has been designed by Professor Gamgee, and which has recently been reported upon favorably by Chief Engineer B. F. Isherwood. This "zeromotor," as it is called, is, it appears from Mr. Isherwood's report, an apparatus by means of which the heat in water or other objects at a natural temtending the scale of his experiments, next poured 4 liters of perature may be utilized to vaporize ammonia under very considerable pressure, the gas so obtained being used to move a piston in a cylinder, and being employed with the greatest practicable measure of expansion. The ammonia gas becomes "by that very expansive use greatly refrigerated and diminished in bulk, and partially liquefied at the end of the stroke of the piston, when it is exhausted and then returned by a method invented by Professor Gamgee to the ammonia boiler whence it came. The cycle is thus a closed one; no material is lost, and no heat is rejected in matter leaving the engine." It is not quite clear how the gas can be "diminished in bulk" by "very expansive use," but we may pass this point by for the present. Mr. Isherwood goes on to speak of the engine utilizing the heat in natural objects, and therefore costing nothing in money for fuel, while he enlarges on the great value for naval purposes of such a motor, particularly to the United States, which does not possess coaling stations in different parts of the world, and finally he recommends his department to spend money in assisting Professor Gamgee to prosecute his experiments.

We must own to considerable surprise at finding an engineer of Mr. Isherwood's experience give his support to such a scheme. We need scarcely say that it is utterly chimerical to attempt to obtain continuous motive power in the manner in which Professor Gamgee proposes, as it would be to attempt to continuously propel a vessel by utilizing the power derived from a turbine driven by water entering through a hole in the vessel below the external water line. For instance, if we suppose such an engine as Professor Gamgee proposes to be constructed, and to be in the first place cooled to a temperature below that of surrounding objects, so that there may be a flow of heat into it, then unless the whole of the heat so flowing into the machine be converted into external mechanical work, the temperature of the apparatus will rise more or less gradually until it attains the temperature of objects around it, when the inflow of heat from these objects will cease, and as a matter of course the development of work also. We have said external work because any work expended in overcoming the internal frictional resistances of the machine will, as a matter of course, only aid the rise in temperature. As a matter of fact, Professor Gamgee's proposed zeromotor is simply a perpetual motion in disguise, and the sooner this fact is recognized the better for those who are concerning themselves with it.—Engineering.

The Art Interchange instructs its readers how to color a pine floor which is to be partially covered with rugs, a fashion which prevails to a great extent just now. Obtain at any house-painter's store turpentine and linseed oil (not boiled). Ask the clerk to put a little Japanese drier in the turpentine. Buy either burnt sienna or Vandyke brown, or both, according to the color of the rugs and the tint on the walls. These colors come put up in tin cans, smaller but otherwise similar to tomato or fruit cans. After the floor has been washed thoroughly clean, and dry, begin by mixing in another receptacle the oil, turpentine, and paint. The mixture should be so thin that it will run with liquid readiness. Lay it on with a brush, stroking the brush the way of the grain of the wood. Protect your hands with old gloves, rags, one pretty well charged with paint, to rub in every nature's lines in the wood. By mixing the burnt sienna and Vandyke brown a rich color will be produced without using the paint thick. The mixture should be so thin that the grain of the wood will show through. If too much tur-The sun will be partially eclipsed May 27. The greatest pentine is used the paint will rub off. If too little, your in rubbing as your strength will permit.

Ат a Berlin feather-dyeing establishment an ostrich feather dved in shades with methyl-violet was laid upon a paper limit of the eclipse begins on the Pacific coast, a few miles the green passing gradually into violet, and producing an south of Astoria in Oregon, passing through Portland, Salt extraordinary effect. This reaction is being utilized in If chloroform—CHCl3—be submitted to the action of heat, Lake City, and just south of Pueblo, Col., taking in Lead-feather-dyeing, and will probably be applied in the manu-