diag reemer to among tbe beads of the ci y government bave exercised $n$ n amall iotluence in the cessation of emall jabs, whicu employed weu by the fities and buncirecte. Takicg, heo, the ratio of decreaee as above noted, ard app?ying it to minor opratione, a cotal of rea thousand monareshown to b, out of explog-fully oue thitd of the unskilled laboring
popula ion. These are the oby laborers, who work, by the coreor more, under cuateacers
Turnivg next to the madufoctories, wo find a class of men who are not counected with the iudustry as pursuers of the cial functiona as the teamsters or pirters. Th 4 are mer workers, usiog their muecles at whatever job they are set to perform. Of these 8,000 are idle, for, from the 7,624 estab perform. Of these 8,000 are idle, for, from the 7,624 estab
lishmanta about New York, they were the first to be dis lishmenta about New York, they were the first to be dis
charged, and so added to the roll of the unskilled unem ployed.
From careful invertigation it further appears that, on each able bodied man of the class ef society to which these peo ple belong, no less than four persons are dependent. Hence there has been added to the pruper population not merely 18,000 men, but five times that total, or 90,000 souls, and this in November. Compare this aggregate with that of February of the present year-the cloning month of winter when the drain upon the public and private charities is al waye greatest. Then the total was 80,060 ; now, at the open ing of winter, the figures are 10.000 bigter. With regard to wages, in all departments of skilled laborand in all facto ries the standard has been maintained, with a few isolate exceptions. In coarse and unskilled labor, the reverse is the case. Up to the panic, the usual rates were $\$ 2$ per day, o $\$ 12$ per week; at the present time, very few contractors ar paying over $\$ 150$ por day. The Italian laborers are getting but $\$ 1.25$; and railroad contractors in adjoining States are paying that sum, and picking men beside. Tue comparison between this state of affairs and that of fourteen months ag is a striking ons. The pay rollthen was: 30,000 laborers at $\$ 2$ $\$ 60,003 ; 8,000$ laborers employ ed by factories, etc., $\$ 16,000$ total, $\$ 76,000$. The pay roll now is 4,000 laborers on city
work a. $\$ 1.75,7,000 ; 16,000$ laborers on private enterprise at work a, $\$ 1,75,7,000 ; 16,000$ laborers on private enterprise at
$\$ 1.50, \$ 24000$ : tetal, 31,000 . Difference between 1873 and 1874, 45,000 . Average share then to each man, $\$ 2$; now, 67 cents.
It is a fact that the necessaries of life are not a whit less costly now than they were a year ago, so far as the poor ma is concerned. The wholesale dealer buys his goods in gross, perbaps, cheaper; but the retailer, with lessening sales to contend with, has no reason to reduce his prices. In rent a week's wages g-neraily paya for one month; but this rela tion was adjusted bsfore wages were cut down, so that, t provide shelter for himself and family, the working man
pays not twenty-five per cent of his earnings, but fully thisty one per cent. C.sal is dearer than a yeai ago; if it remuins at ruling rates, and counting the consumption in each family of five persons at eeven pailfula per week, fif teen por cont of wages after the rent is paid must be dovoted to its purchase; and thus we night contivue through the necessaries of life, showing that not merely is utter pauper ism starivg the unemployed in the face, but even those who look to their daj's work for
with privations aud sufferiog.
Ont rasult of this condition is bsginning to be apparent in $t$ le diminution of immigrasts from Europa, and the rewarka ble ilcreare in steerage passengers leaving bis country
avowedly to seek labor in Eagland. Five huodred souls avowedly to seek labor in Eogland. Five huvdred souls on oue Saturday 2000 workiog people sailed for Great Bri taid, G romany, and Franco. Tais is a bad sbowing, and rases $q$ tes ions relacive to the existing tariff and the na tioall finace s, which tho coming Coogress desi take ioto verg serious consideration. The immed ate re ief is in th ha, ds of the charitable Public inatitutione ace deatined to be taxed far beyond theip cypablities, and private charity will be called upoo witbin the nest six monthe as never, we think. before. Provis on for meeting the outciy for foo ehould begiu at once, not delayed until the sad tales of starvation and misery fill the potice reports.
It is, moreover, a seriou + question for capitalists and mon eyed institutions to $r$ flect upon, whether they would not serve their owa ends of gain best at this $t$ me by giving these thousacds of idje men the means of hulping them selves. Is is c rain that a large number of ceserving poor are, within a few monthe, to be thrown as a charge upan ideness, since, as we have already said, muvicipal employ ment offers co opeuing whatever. Woald it not be wisefor some of our great moneged iustitutions to put out some of their money in aid of desirable local enterprises which will give the workmen employment? We can think of no better example than the case of the Broadway Underground Railway. The road is a direct continuation down town of the tracks of the splendid Underground Railway on Fourth avenue, and the approaching completion of the latter marks not only the feasibility and advantages of such a route wi hin corporate limits, but also suggests the present as the best period for proceeding with the work. The plans of the route are complete, are approved by the best engineers, leg islative sanction has been accorded to the project, and no thing remains but the acquisition of capital sufficient to initi ate operations, A source of labor will thusbe opened during the winter for eight or ten thousand men, and forty thousand psopla, near y half of the total number of unemployed, will be furnished with a means of sustrnade. As an in vestment, a first mortgage on a line through the very heart of the city, none better exists. In fine, it would be difficult to conceive of any other project now extant, capable of offor-
ing three ruch great benefits as work to the unemployed, near to it, will break off from ite tail and acattle away, ruu rolief to a population esrnestly sfesing a means of rapid ning into obstacife in ita path actiog very like a ebip with transit, and a sa, e invertment for capital contribured to its promotion.

THE SENSATIAN OF PAIN IN THE LOWER ANIMALS. Doestre ineect which we thoughtless! y crush uocer foot, dff $r$ as much phia as we should were we armiarly des?royed? It is generally coacted that the proper anawer to
the question is in tue negatiof; and in fact it would seem the question is in tue negatiot; and in fact it would seem much morein accordance with tbe wied ow, displayed th roughout the creation of a oimated nature, that those beings which from their very essentials are eubject to whoiesale destruc tien should be spare the pangs incilent to the throes of diesolution. No one, excspt perhaps that most refined of humanitarians who had scruples about drinting water on account of the saffirings he might cause to the animalcule herein, supposes that any real eensation of agony is experievced by the zöopbyte which we tear from the rock, or by the oyater as we cut it from its abell; but there ars many who contemplate the eport of the avg'er with horror. and who see, in the writhings of the worm on his hook or in the aruggles of hie finny victim, all the tortures of human mutilation. Where then, at what particular class of being, is the dividing line to be drawn? Are only radiates and molusks apathetic to dismemberment, or do they also experiinca sensation, and how far in the ascending scale
rensibility to pain extend in its decreasing ratio?
It seems to us, and we have no deubt biological fact will bear us out in the view, that the accidental influences of cultivation, of breed, of education in human beings, and also of differences in delicacy of nervous organization, play an importart part in determining the degree of suffering. It is well known that a savage will bear pain, not merely in absoate stoicism bat apparently unmindfully, which if inflicted on a refined and cultivated individual would produce death or syncope. And this is not merely confined to the barbarian but extends through all grades of society. Physicians state hat the sufferings of childiblth are as nothing to the squaw. r to the woman who constantly performs coarse manual abor, when compared with those of the delicate females of our upper classes. The same general rule applies to the lower animals; a finely bred horse winces under a lash that the dray brute would not notice,and the trained hourd will yelp at a blow of which a street cur would think nothing. With this distiaction in varieties of species before us on ne hand, and the fact that both reason and general belief pint to the insensibility of lower animals on the other, we are brought to the consideration of au interesting argument, raised by Dr. Crosby of this city, in defence of the pracice of vivisection. It is advanced, as a generally received proposition, that the sense of pain is designed for the self preervation of all animals, and further tbat each is endowed with this sense to an extent only sufficient to ensure the re-
sult. Tbat is, in other worde, that an insect, for example, sult. Tbat if, in other worde, that an insect, for example, bas a sufficient sense of euffering to keep him from walking on a hot coal; but if we threw bim into the fire, his agony higher animal in botbing as compared to that of greater and more complicated variety of purposer.
It is very d'ficult, a, most impospible, to judge of the ex atence ot pain in an avimal by its mere phyeical contor ion. A human beiog under ihe influence of ether, during an operation, often writhss and screams as if in great torture and yet notbing is felt; simia.a.ly people in convalsions show every external sign of suffering, and yet, beyond mers mus cular soreneas due to exerion, none is present. Nor is the cry a proof of pain, for, as Dr. Crosby says, a pig will yell
just as lustily, if he be merely beld as he will uoder the in fliction of a severe wound. We noyjudge, however, with greater securiy, from coincidentactioos on the part of the ceature, as to whether suff.riog is or is not pseost. If a mav, for examp'e, while udergoing a surgical cpera'ion should, as in a case we once saw, coolly as attibe urgeor and complacently munch an aopls wbild the koife was pere trating his fissh, ordinary reason would lead us to the be ive that his aerertion that "it did not hurt" wss race, and
this evrn did dumbeess prevent his stating the facs. It such be true in the ove case, and in that of the avima which we know to be most acntely sensible, then it is logi cally true in the instances of lower ordera which we aresure possess sensiciity in a lese degres; and hence if a borsa, as on one of the cases cited by Dr. Crosby, have a fore leg sho ff in battle, and thirty-six boure a fterward be found quietly grazing, although the stump is horribly cutilated, then itis easonably certain that the pain is no: proportionate to the It is well known that in any degree whatever.
It is well known that a aimale often itflict on themselves njuries which apparently must cause suffering, and yet
overy indication proves the same to be absent. Rabbite have orn themselves free from traps, and been found feeding minus two legs. Rats when pressed by hunger will eat heir own tails. We have seen pigs, after their throate have been cut, cease their cries and attempt to eat, and it is said that the came animals when stuck unawares often pay no appar ent attention to the wound. It is carious also to notice that rabbits and rats, which can support themselves even i heir locomotive process beirjured, will bite off their feet if caught in traps, but that a carnivorous animal like tbe fox will never do ro, for, once unable to run, he would starve to
death. In the first case there app*ars to be no sense of pain to prevent the action; in the second, the sense certain]y ex ists.
Again,crabs andlobsters drop their claws when frightened, seemed unhurt. There is a little lizard in Sicily,which when suddenly alarmed by the blow of a cane on the rock
oa: a radder. Sir Humphey Davy cawe to the cotclusion th at in fishers the senation of pin wess very trifling and the view seeme proved when it is considered how infinitesimal the number of fishes wh'ch arcio
to the myriads ol erga deposited.
A wasp will eat aft-r it is cut in $t$ xo; so will adrag fy when impaied; and that the insects stould auffer wo an degree seeme on its face impossiole, particularly it the mil lioas and millions which the birds est be thouglt apon.
There is busides a very carioue provirion of Natare which is littlm uoderstood, and which cowes into play, it would ap pear, in all avioals in the preaence of imm:nent destruct on or in casea wheregreat pain presumably exiets, eituer to be inficted by a natural enemy. We allude to the action of a mouse when in the pewer of a cst, or of a rabbit when soized by a weasel. In the last ingtence the rabbit ramaina motion y a wessel. In the last iostace the leas, without a sign of par in as araly ently, as the expression is, "paralyzed by fear." So aleo a
mones, amd precisely fo with man, for Dr. Lipingstone's de mouse, and precisely ro with man, for $\mathrm{D}_{\mathrm{r}}$. Líqixgtone's de
ecription of his rebsations while bsixg shaken y lion ex actly accords with such as we migbt imagine wonld be th experience of the mouse, when in the claws of the cat.
But while there is every evidence that the suffering of the lower animals is certainly less than that of man under simi lar circumstances, we cannot, however, coiecide with the idea that it is so far absent, in the case of the brates ordinarily sacrificed by vivisection, as Dr. Crosby seems to convey As he states, however, an ar æsthetic disposes of the ques ton at once; and in generalitis much more humane (and be sides is an error on the safer side) to give the unfortunat bsasts the benefit of the ether, as well as that of the doubt as to their $\begin{aligned} \text { enneibility }\end{aligned}$

## Straw Lightning Rods

The Journal of the Society of Arts, London, and other pa pers have given currency 10 a statement, deriv.d from prominent French paper, to the effect that lightning rods made of atraw bad been used in France, and found quite a effective for protection as metal rods, and far cheaper. President Henry Morton, of the Stevens Institute, has written an interesting reply to this statement, given in another colomn, in which he sbows the utter absurdity of the straw lightning rods, and also takes occasion to point out,in a very cear and satisfactory manuer, what kind of a rod is necessary to ensure protection, how it sbould be arravged upon the building, etc. This article will, we are confident, be studied with interest by all who are really desirous of possessing correct information upon the solject.

## SCIENTIFIC AND PRACTICAL INFORMATION.

 FALL SICKNESS.In a levgtby article on the above subject, Dt. Hall concludes that if persons in the country where intermittent fevers prevail would adopt the precaution, in early fall, to take their breakfast before goirg out of doors, and ketp a blazivg fire upon the hearth in the living rocm duriog the morning aod evening, fevers and chills would almost en tisely disappsar as a prevailing dieease.
The importance of ridding apartmente of the dampness and sharpuess of the morxing and evening air, and the as. pulsion of all miasmatic particlea, cannot be over estimated by those who would have good health.
the french and mighish tunnel.
The project for the tunnel under the English channel has been officially transmitted from the French Government to the Eoglish Fortign Office. Among other plans, it is euggested that the means of inundating the entire bore sbould be placed in the hands of each governceent, so that, in case of war bresking out betweea the two countries, the work may be rendered useless. It is calculated that a force of 2000 horse power, oderativg for two mon bs, would be sufficient to pump the water out of the tunel.

## A NEW white allox.

This metal, recently invented by $M$ Delalot, is said to be very cbeap, and to possess qua. itifes rendering it suitable to repla e the various white allys now in use. The proporti ne are pure red copper 80 parta, oxide of nadganese 2 parte, zinc 18 parts, and phosobate of lime 1 part. The copperis first m+lted a ad the mauganere added litile by litle Wuen the latter is dissolved, the phosphate is similar. ly mingled. The scaria is removed and tinelly the zinc is goded about ten minut-s before casting To accelerate the fusion of the manganese, $\frac{\frac{7}{2}}{2}$ part fluoride of calcium, $\frac{1}{2}$ part borax, and 1 part wood cbarconl may be used as a flux.

The Boston Boarl of Fire Commissioners, taught by the acent calamity at Fall River, have isaued a circular calling the attention of peraons who have on their premises apparaar freventing the spr-ad of fires, to the necussity of a regular inspection of and instruction and drill in the same.
They adviee that printed cards,explaining the construction, ar. ravgemant, and use of such appliances, be posted where they cannot fail to be seen, and that the occupants be drilled as often as once a week in the nse. Where fire escapes are attached to buildinga, the board recommend that they be frequently used and examined.
Mr. Theodore J. Harbach, of Pbiladelphia, has designed and executed, for the great Ceitennial ever t . di s for medals, of a number of historic eurjects, such as Old Independence Hall, the Old Cracked Liberty Ball; a Head of Washington, etc. On the obverse sides, persons can have their business cards, making a novel and durable advertisement, which the possessor is likely to keep.

