Terms of Publication. THE TIOGA COUNTY AGITATOR is pub lished every Thursday Morning, and mailed to subscribers at the very reasonable price of ONE DoL-LAR per himum, interiably in addince. It is intended to notify every subscriber when the term for which he has paid shall have expired, by the stamp which he has paid much have expired, by the stamp _____Time Out," on the margin of the hast haper. The paper will then be stopped until a further re-mittance be received. By this arrangement no man can be brought in debt to the printer. THE AGREATER is the Official Paper of the Coun

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For The Agitator. " EVERY HEART KNOWETH ITS OWN BITTERNESS. BY MIRS M. L. DOUD,

There is no brow, however gay and bright, But knows a shade of care ; There is no eye, of purb and lustrous light But knows the burning tear. There are few headts bat hide within their deeps

Some silent fount of grief; Where the proud spirit sits alone, and weeps The woes it will not breathe

true way to cow them down.

site the door.

mechanism?

with again.

fied, notwithstanding my efforts to the con-

find Bartlett curiously examining my clumsy

"My first impulse was to shut and lock the

door, and having once done it, I was ashamed

to undo my work, but went suddenly to the

house, resolved that I would return when it

was quite dark and set my prisoner at liberty.

The key of the nadlock was still in my hand

when I entered the house, and for the need

of doing something I slipped it over my fin-

enough, I los control of it presently-it flew

the rack as well-not once did 1 close my

eyes, and such fearful imaginations as haunt-

ed me, heaven grant I may never be troubled

"The night was intensely cold-the work-

Fat down the spirit's deep of deeps there its threat mines of golden thought; A thousand forms of gergeous imagery, Which the blind world goes not.

And in its silent chambers, many a joy Sleeps on its early bier; And o'er the relic time cannot destroy

Falls many a burning tear,

And flow'rs of Hope have wither'd, droop'd'and disd, 'While bursting into bloom And the pale phautoms of lost pleasures, glide Around their early tom:

Ye know not, as ye mark the smiling brow, Or watch the sparkling eye. The griefs that weigh upon the spirit now, Though voiled when ye are nigh.

Deal gently, then, with every human heart-Add not one drop of wor To the full goblet,--which a rose's leaf Might cause to overflow.

Select Miscellany.

From the New York Ledger. THE FOUR TRAVELERS. BY ALICE CARY.

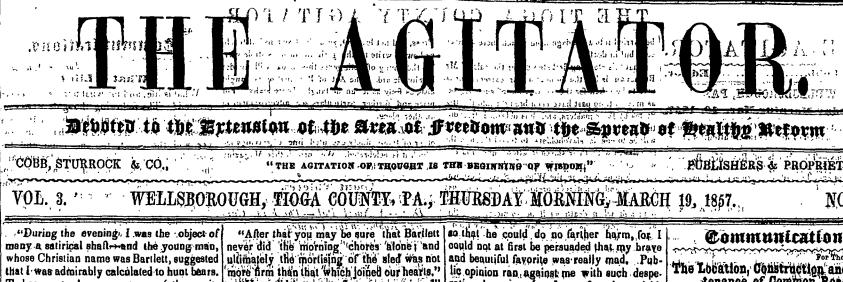
The night had shut in with snow, and by nine o'clock the wind which drove gustily from wood to meadow, and from meadow to wood, had piled a great drift against the door of a small tavern, where sat three men around as bright a wood fire as ever, with its red sparkles, drove away the thoughts of a black and stormy nig:.

The snow was of that fine and flinty quality tion. which strikes against the traveler's face like needles and the wind of that prying and familiar description that ruffles and tumbles hair and garments, turns umbrellas inside out, and causes the luckless wayfarer to peep about him for the friendly glimmer of some wayside ligh.

Our travelers were therefore nothing surprised when the door opened and a "stranger trary. entered. He was a little pale-faced man, with a quiet look; and having placed his small bundle noiselessly on the floor, and brushed the snow from his thin cloak, he advanced toward the landlord and inquired in a voice singularly sweet and modest whether he could be accommodated with lodging

"No " answered the host, in a tone meant perhaps to be only decided, but which was in reality rude, greatly beyond the requirement of denial, for in truth he liked not the threadger, and began swinging it about. Naturally bare garments and altogether unpromising appearance of the stranger-besides, his en- across the room and hit my father in the trance had interrupted a charming story face-he quietly put it in his pocket, and sent me to bed in disgrace. I might have stept on which one of the three accommodated travelers was relatin;

"I suppose your little tavern is already crowded," said the pale, little stranger, speaking sweetly and modestly as before, "and I ought to have known better than to intrudepardon me, my good friend:" and stepping shop was open, and in the best winter weather toward the candle, which shone across the decidedly uncomfortable-perhaps Bartlett well-spread table, he took from his pocket a would freeze to death! The more I thought



"How did he escape from your prison ?" To keep a steady eye upon one of them critters, he said, and step backward from him, just as I had retreated from himself, was the

"You might, imagine that my first - prejudice against him was deepened considerably by this and kindred allusions, and that I parted from him for the night with feelings bordering very closely upon hatred. I lay ground that a mun's head, from which I had been sent for to visit his daughter. Night awake, I remember, trying to compose a atways supposed he let himself down; I never after night I lay awake, and I cannot think challenge, and selecting from among my school-mates a boy who I thought would have courage enough to present it. To make the a great deal to see Bartlett now ; musingly flame, can have exceeded what I endured. story short-my father hired the man-he concluded the travelar. It must be twenty. There was one reflection of peculiar bitterwas to perform such farm labor, errands and five years since we parted; but I have the ness in the circumstances-I had stolen the little sled at home in a state of perfect preser- dog! then, too, by causing him to forget his chores as were required of him, and to receive for a term of three months of this sort vation."

of service twenty-five dollars, having also "Ha ha," laughed the third traveler, who his board and washing, but that's neither here had hitherto sat silent in the dimmest corner. por there. For the life of me I could not "I am very glad to hear it, sir, for I considovercome my first dislike, but it sottened somewhat, and I delayed my revenge indefinitely. 31

"The first week of Bartlett's apprenticeship I was busy most of the time in a small and cup of grease, previously used for bright- I must die. When it was told me one day shop adjoining the stable, where harness and ening up the harness !" As he finished speak. tools of various kinds were kept, in an ating, he arose and shook hands with the storytempt to make a handsled-which was the teller so heartily, that all present must have recognized by it the generous maker of the greatest object of my boyish ambition. Once or twice, when Bartlett stopped at the door, I sled; even without the confirmation of words. slammed it in his, face, and by other little at-The landlord punched the fire with terible energy, and having turned toward it, back tentions of the same nature gave him to understand that any amicable relations betwint and face repeatedly, said as he hastily drew him and me was altogether out of the queson his overcoat-"its no use !---all the fire in

the world could not make one warm while "At last the sled, a rude and clumsy affair, that poor young man is out in this miserable was completed, and hung up on a peg oppostorm." And opening the door without more ado, he dashed out into the night and the "After supper I went to view my treasure snow.

once more, and to persuade myself that it "Your story reminds me," said the second was better than it was, for I had not equalled traveler, "of an early experience of my own my expectations, and was very much dissatiswhich has probably had a greater influence on my life and character than any other single event of my life, but the confession "What was my surprise and indignation to involves a degree of guilt on my part which I'might well shrink from, were I not sure that it links itself to no similar transgression anywhere along my subsequent life.

"Your face sufficiently attests that," remarked the old sled-maker, encouragingly, and the third traveler went on : "When I was about thirteen years old there came to live in our neighborhood a rich man-a General Brown. He had wife, children, and servants-horses, carriages, and dogs; but of these I have more especially to do with two-one of the daughters-a beautiful and saucy little girl of ten years-and one of the dogs-a beautiful and saucy little puppy-the latter, the property of the former.

"I was a poor boy, but independent in disposition, and perhaps from a set se of disadvantage, a little insolent in bearing-especially towards my superiors. It happened that I passed General Brown's house twice every day as I went to, and returned from school, little white hand, whispering at the same time and this little puppy barked at me regularly, the softest of hushes ! There was something morning and night, with a degree of malig- in the tone and the manner that unlocked a incul

The Location, Construction and Main-tenance of Common Roads, ration, however, that I was forced to yield. asked one of the three travelers, with a pe- and indeed my own fears were so wrought culiar expression of face which showed that upon by reports of Jenny's critical condition, some secret feeling of his own had found that I would scarcely have objected to lay my head on the block. My apprehensions were was a window not much higher from the lived fifty miles distant from General Brown's or of the advantages of putting them into really knew, for the subject was one which I that the sufferings of any martyr who ever was very careful not to revive. I would give felt the fire wrapping about him a sheet of

> latter it shows a fault in the former, as the mistress, I was the occasion of his bringing her to the most horrible of deaths,

If there had been in the neighborhood confessor to whom I might have gone with ered it quite a triumph of ingenious work-manship, at the time; especially in view of life out of me, it would have been the greatthe circumstances under which I wrought- est imaginable relief, but with that awful semy only light being manufactured from a rag cret stifled in my heart, it seemed to me that that Gen. Brown had just driven up to the door of our house, in his carriage, I positively trembled with agitation and fright-and even after he had shaken hands and spoken kindly with me, I could not help fearing he had a hangman's rope concealed beneath his cloak.

"He came, simply to accertain our opinion is to whether the dog was mad or not, and also to assure me of his deep interest in me, and sympathy for me. 'Suppose you ride over with me,' he said, when he was about to take leave; "it would be a great relief and comfort to Jenny to hear you, yourself express the belief that the dog was not mad." "I was an awkward youth, and my em-

utterly out of the question, and if the Geneal had asked me to accompany him to London, I must have done so.

"Through a great hall, and up a wide staircase I was conducted, seeing nothing distinctly, but feeling almost overborne by a dim consciousness of magnificence, and thence into a room of such luxuriance elegance of furnishing, as might, I thought at the time befit a queen. There reclining on a low bed, pale almost as her white dress, was the unfortunate Jeany, She lifted herself up when she saw me, and, reaching forth her hand, smiled so sweetly as to make my evil doing seem darker than it had ever seemed till then. I thought she was an angel, and I a devil, and resolved that I would not add hypocrisy to the first moment I found myself stone with her, and showed myself in all my evil deformity. Hearing the footsteps of her father approaching, she hurriedly, and with a look of sweet trouble in her face, lifted up one Rates of Advertising,

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the top. This line would appear straight when drawn on a map, while a level line traced round the base of the egg would ap. pear crooked, and of greater length, while both are equally crooked and of equal length. But suppose the apparent straight route to be this subject, that, "The compton roads of the United. States are inferior to those of any other civilized country. Their faults, are these by a moderate increase of length? The those of direction, slope, shape, surface and merest tyro in road-making must answer in generally of deficiency in all the attributes the affirmative. Then, how far may we with of a good road ; most of which arise from a strict economy increase the route ! This toe. want of the true principles of road-making, will vary with the amount of friction assumed. but "as a general rule," says Gillesple, "it may be increased to avoid an ascent, to at least twenty or thirty times the height of the state a horized and the slope." Thus if a road up a slope has a horized Thus if a road up a slope has a horizontal distance of 500 feet, and a rise of 100, that is a slope of 1 to 5, it would be good economy to adopt a road 2000 or 3000 feet longer in its stead, if such a road is level, or in that proportion to obtain one of an easier slope, which can be done either by winding sable, and how these can be overcome to the around the hill or ascending the slope by a zig zag line. One of these methods should There is a variety of opinions concerning always be adopted on islopes greater than he greatest allowable slope, varying from our maximum. By the latter method any destred grade may be obtained, as the line can degrees. Those who laid out our old roads be made of any length, exceeding the line directly up the slope.

Thus we see the advantages of making curves instead of straight lines for roads in this hilly region. Coleridge says,

"Sraight forward goes The lightning's flash, and straight the fearful path Of the cannon-ball."

But adds in striking contrast :

'The BOAn the Auman being travels, That on which blessing comes and goes, doth follow The rivor's course, the valley's playful windings, juryes round the comfield and the hill of vines."

Morè in the future, C. L. HOYT,

What Makes Old Maids and Bachelors.

We will paint a picture-one in which the ights and shades appear strong, perhaps, but possible occasion, and often remind us of how which every one will recognize as not out-4The king of France with forty thousand men, Marched up a hill, and then marched down again." raging the truth of nature. There are two houses built side by side. In the one dwells But because roads were laid, having steep slopes in them, it is no reason why we should a widow and her daughter, fair, light-hearted, adopt that in our new ones, or even follow the the sunshine of her mother's declining years. but alas! not rich. With all the affectionate old ones, as if all their makers did was as instincts of a woman's heart, with all the caunalterable as the laws of the Medes and Perpabilities to create happiness in a man's house. she remains unseen and unchosen. As time The greatest allowable slope varies slightly passes on, she gradually deepens into old when considered as an ascent or a descent. maidism. Where once she was heard singing In the latter it should never exceed the "angle about the home, like Una making a sunshine of repose" in mechanical science, which is in the shady place, her voice is now heard the angle made with the horizon by the steepshrill in complaint; parrots and cats accuest plane, down which a body will not slide mulate, taking the place of a more human its own accord, its gravity just balancing love, and her words are those of sharp reits friction, so that the least increase of slope, proof and spite against those very instincts or the least force applied, will cause the body of maternity which have been so long the to descend with a uniform and unaccelerated master-spirit of her thoughts. Her affections, velocity. This slope will of course vary with after in vain throwing themselves out to seek the nature of the surface, being much less on some sympathetic answer, turn in with hitter. smooth than an uneven one. But as we ness upon her own heart, and she remains earnestly look forward to an improvement in that most melancholy of all spectacles-a surface, it is best to take such a surface for nature with aspirations unfilled. In the next our data, as would do credit to any community house lives a bachelor-young, open-hearted to possess. On the very best class of brokenand generous. Busied in the struggle of life, stone, or plank roads kept in the best order, he has perhaps no time for parties; he sees this limiting slope is, according to experiments little of society, the female portion of it es. by Sir Henry Parnell, 1 in 35, or falls 151 ; a knowledge of his own brusque pecially ness of manners at first prevents him from coming in contact with womankind, and this or there is danger of injury to the animal shyness in time becomes so strong as not to be overcome. It might seem strange, but we are convinced it is the fact, that some men are much more afraid of women than women are of men, and fearing "to break the ice" is a fruitful cause of old bachelorism. Grad. ually age grows upon him, chalk stones gath. er in his knuckles, gout seizes hold of his toes; served by menials, he is a stranger to mum will vary according to the amount of the soft and careful hand of affection; and he goes to the grave, his death not only un. lamented but absolutely rej iced over by his heir-at-law. A wall of but six inches thick has all this time divided these two people.---Society does not allow them even a chink. which, like Pyramus and Thisbe, they might whisper through, although by nature they might have been formed to make a happy couple, instead of two miserable units. KILLED MORE THAN HIS MAN .- You have heard of Dr. Thompson, the waggish proprietor of the Atlanta Hotel, in Atlanta, in this State. Well, once upon a time, two gentlemen, (the one decidedly under the influence of spiritual presence, and the other approximating the same condition,) stopped at the Doctor's hotel. In consequence of some extraordinary manifestations on the part of the 'tightest" gent, he soon found himself "nigh unto a muss" with the Doctor. His friend however, carried him off before matters had reached a crisis. After stowing him away, the friend returned, and accosting the proprietor, said very emphatically, "Sir you have been treading on dangerous ground ; that man is not to be triffed with, sir; do you know, sir, that he has killed his man, sir ?" "Killed his man !" says Thompson, with a voice like a thunder clap, and a most intense expression of contempt upon his phiz, "By Jove 1 sir let me inform you that I have practiced medicine for twenty years, and you musn't attempt to frighten me with a chap who has only killed his man. Bahl sir, it won't begin to do." The fellow "collapsed," A neighbor of ours, not long since, introduced to he son, about six years of age, a little brother, who had just arrived in this world, which all agree in abusing, but none like to part with, even in exchange for a betline from one and to the other passing over didn't you pick out a white one, father ?"

determination of pushing their way through, and of defying nature and wheel-carriages both, in one valiant effort of courage and icience," Many times they seemed to act on the principle that the bale of a kettle is much shorter when turned in a vertical position than when lying horizontal; and to such an extent was this often carried as to make the road absolutely more crooked to keep within this all important principle. They introduced Hogarth's "line of grace" on every

barrassment rendered any sensible apology

it half a dozen pieces of silver into the palm the landlord's mouth began to thaw into something like a smite, as he said-

" Perhaps, if one of my guests should consent to share his bed, I might manage;" and the gentlemen at the fire began to draw back their chairs, so as to widen the circle.

Not beeding these friendly premonitions, however, the stranger selected the price of a night's lodging and supper, and presented it table-take what I owe you, for though you blessed me unaware, 1 am none the less your debtor.

And having said this, he closed the door sofily, and stepped out into the snow. The landlord sal down, grim and troubled-the candle began to grow dim, and the fire which a little while before had blazed so high and so bright, to fall together and darken.

"i wish the young man had cursed me," said the uncasy landlord, breaking silence, at las., "instead of leaving me this silver;" and rising with abrupt energy, he threw the money out into the snow, as if the holding of it burnt his hand.

"I can appreciate your feeling, my dear sir,' said one of the three traviers, unbuttoning his great coat and grawing a long breath, as it to relieve himself of some troublesome inoughts. Then stirring the fire, he answered the looks of inquiry directed toward him by saying, "One stormy night like this, when I was a lad somewhere about ten years old, there was a knocking at the door, and I ran to open it, supposing I knew who was coming, for we lived in a secluded country neighbornood, and were not likely, especially after night, to see strangers. When, therefore, I saw by the light of the candle I held in my hand, a tali, gaunt fellow, with great black eyes, hugging a rifle within one arm, and a knapsack in the other, I drew back with a manner that was unmistakable-the stranger gripned, and there was a smothered titler in the circle about the fire. My first glance at the stranger, as he stepped within the door, returned it with a respectful nod, but there after I had locked you up, too ? were some twitches about the corners of his mouth that showed me how much he enjoyed my confusion

'He proved to be an adventurer-a young back-woodsman in search of his fortune, which he hoped to find as the thired man' of some farmes. The night was as wild as this, sideration.

lank purse, and with one hand shook out of of it the more likely it seemed to me that he would; then, of course, I would be taken to of the othe: The frozen expression about prison, and in the end either have my head cut off, or be hanged ! I wished I had never seen Bartlett, and, above all things, I wished I had not locked him up in the workshop! That night was so long, I thought I could have walked around the world before the first glimpse of daylight. Be sure I was up at cock-clowing time, and at the door of the workshop a minute thereafter, trembling in every limb. I listened, but not a sound could to the landlord saying "I looked through I hear. Bartlett was, no doubt, past making vour window, my good sir, and in imagina any noise. At length fear lent me courage, tion warmed at your hrc, and feasted at your and 1 called-no answer; then 1 knocked and shouled-still no reply. At last I fell on my knees and wrung my hands, and prayed

with all my might. The cold was certainly very intense, and my cheeks were stiff, as with the whitening daylight pressed my face against the cracks of the door, to see if 1 could discover the corpse of Bartlett,

"Presently my eye began to distinguish objects, and it was not long in fixing itself upon one-not Bartlett, but the most workman-like and beautiful new sled imaginable, hung up in the close neighborhood of my poor and unsatisfactory one.

"While I stood lost in wonder and admiration. I heard a footstep, and turning round, stood face to face with Bartlett, who, safe and sound, was coming into the barn-yard to attend to his morning work. He seemed not to observe me particularly, but went about his chores as if nothing had happened.

"Shame, mortification, and sorrow weighed me to the earth, and in spite of the desperate effort I made to divert myself, by picking the burs from the tails of the oxen, I finally burst into tears.

"Why bless me, my little man, what is the matter? Are you freezing?' exclaimed Bartlett, approaching me; and dropping from | another so much as a recognizing glance. beneath his arms two bundles of oat-straw, which ho carried preparatory to feeding the sheep, he began to chate my hands, while he bent over me in the tenderest and most affectionate manner.

"'I am not freezing, Bartlett,' I sobbed at last. I am crying because you worked in was one of flushed and hery indignation. He the cold and made me such a nice sled, and

"'O never mind the locking up,' said Bartlett ; 'If I never have a worse jailor I myself-"What business had the little rascal

the new sled !' and bringing it out of the rate ?" was the general exclamation. Some workshop (he had the key in his pocket) he placed me, together with the two bundles of been me who was bitten instead of the dear straw upon it, and away he ran, dragging me and it was soon agreed that the young man after him, down the hollow, and up the hill snould remain with us till morning, and his to the sheep pasture, my fine new sled divid. dogs upon me. Poor Snarler had to pay with proposition meanwhile be held under con-ing flocks of gobbling turkeys and gabbling his life for his bad behavior. In vain liplead should remain with us till morning, and his to the sheep pasture, my fine new sled dividgeese, as we went.

which I construed into a pointed from the whole family-especially from Miss Jenny, the mist ress of the offending puppy. She was often in the door-yard, and it appeared to me that she took pleasure in the anything about it." belligerent manifestations of her favorite.-One day when the flew at me with unusual demonstrations of ill will, I shook my fist in his face, which so angered him that he followed me some distance down the road snapping at my heels. Seeing that Miss Jenny was watching us from the grass-plot, and apparently enjoying my retreat, I picked up a sharp stone, and sent it at the young tiger with such force as to send him back limping. Truth is, I construed the ill-manners of the puppy into an insult from all the members of General Brown's family, as before remarked. "The spirit of Pet, for so his mistress called him, was not at all subdued by the blow I had given him; on the contrary, I found him more troublesome than before, and once when he took me at disadvantage and startled me into a betrayal of fright by growling suddenly at my heels, his pretty little mistress clapped her hands in a most provoking wav.

"That day I determined on revenge, and it was not long in coming-I stole the dog, and sent him out of the neighborhood! Two vears afterwards he was brought to me, as noble a specimen of his species as ever was seen. He soon grew very fond of me, and , notwithstanding my old dislike, came to believe he was the best and bravest creature in the world.

"I had seen Jenny Brown a great many times, meauwhile, for as she rode in her carriage to the academy, and I walked behind to the district school at much about the same hour, it not unfrequently happened that we met, but we had never bestowed upon one

"When the weather was unusually fine, Jenny would sometimes walk home in the evening. Upon one of these occasions, and by one of these ordinations that mete out justice to all, my dog, that I had named Snarler, in remembrance of his old tricks, flew at the little girl and bit one of her hands severely. Forthwith he was reported mad, and the indignation of the whole neighborhood was directed, not only against my dog, but against may thank my stars-but come, let us try to keep such an ugly great brute, at any went so far as to say it was a pity it had not little girl, while others declared that they only

waited the opportunity of setting their own for him-in vain I proposed to confine him light of day.

leeper deep in my heart than had ever been touched before-something that said as plainly as words could have said it-"don't let father know how bad you are-I don't care

persons is dangerous—we found this one of ours so, extremely, for it led to another one before long, the revealing of which would have been the spoiling of all our happiness. When Jenny was fifteen, we were engaged, Mrs. Gen, Brown's decision to the contrary notwithstanding. She had brought her hus, band a good deal of money, and though she had chosen a man with no fortune whatever. she was violently opposed to having her daughter follow the example she set. What the result was you can all guess we stole away one rainy midnight, and at sunrise were man and wife; and Jenny, God bless her, notwithstanding the bite of the dog, has nevstant."

"And were the old folks ever reconciled ?" asked the first traveler.

"Heaven only knows,"-replied the happy husband. I have never seen the face of either of them since-but I have no doubt that our energies; fortune smiled, and I rather think," chair complacently, "that I could buy Gen. Brown's grand estate to-day, without much inconvenience to myself !"

"And his good will you always had," exclaimed the old sled maker, coming out of the shadow in which from the beginning of the story he had been sitting, and shaking hands as heartily as he had done with the first traveler. "How is Jenny? how is my little runaway 1—bless her déar soul !"

Tears were in the old man's eyes, as he spake, which neither of the younger travelers thought incompatible with the dignity of his grey beard, as they fell and glistened upon it. At this juncture there was a great stamp. ing at the door, and the next instant it opened and our host entered, followed by the little pale man, smiling at the good fortune which had overtaken him. If the storm howled after that, nobody heard it, and four more genial travelers never sat down to a good supper with better appetite, than did those we write of, and never landlord brushed the cobr webs from old wine bottles with a readier hand, than did our host of the wayside tavern.

Theory is continually the precursor of

feet to the mile, which therefore should be the maximum on such roads, and if this slope be much increased, the speed must be slackened or carriage. If the slope is increased so a "A secret of any sort between two young | carriage cannot be driven down it with safety at a greater speed than four miles an hour, there evidently is a loss of ten minutes in. every mile, and therefore it would be true economy in time saving to adopt a level route three times as long as the steep one.

PUBLISHERS & PROPRIÉTORS.

Communications.

Por The Agitato

An eminent engineer and writer says on

The faults of direction and slope are inva-

riably connected, for if there is a fault in the

slope is increased or diminished by the direc-

As there is always more or less hill to be

overcome in every route, we must consider

how much hill, or how steep a slope is admis-

three degrees to as high as seven or even ten

seemed to have had no limiting angle, and in

fact, no fixed principle of road-making at all,

but like Marshal Wade had "formed the heroic

tion of the road in ascending that slope.

practice."

best advantage.

sians.

oſ

NO. 34.

Considering a slope as an ascent, its maxiextra exertion a horse can put forth. This is not very well ascertained or defined, and depends very much on the length of the ascent, but is assumed by Gayffier to be double his usual exertion. Assuming the same class of roads as before, it is found that on such. the amount of power necessary to draw a load on a level is about one thirty-fifth of the er to my knowledge been mad for a single in- | load, and if the horse is capable of exerting twice that amount, the slope that would require that extra power to overcome the force of gravity, is found to be just 1 in 35, hence

on this hypothesis, this would be the maximum. These two results become equal because the amount of extra exertion is assumed runaway match was the best thing that could as double the usual force of traction, although have happened—it threw me upon my own for a very short hill, a horse is capable of exerting six times his usual force, still about concluded our traveler, leaning back in his twice his usual exertion seems the most reasonable. Hence the greatest allowable slope. should never exceed 1 in 80, or 1 in 35, which is one degree and fifty-eight minutes, or one degree, filly-five minutes.

The laws of Pennsylvania fix the slone at "five degrees whenever it is practicable, (except at the crossing of ravines and streams) where, by a moderate filling and bridging the inclination can be kept within these limits."

(See Roads, Highways and Bridges, Sec, A, Art 3d.) This angle gives us a slope of one in eleven, up which, the same force of traction will draw only one quarter the load that can be drawn on a level road, of the same quality of surface.

The passion for straightness which is the predominant one at present, is too apt to and forthwith settled his bill. make the viewers think it is 'impracticable' to keep the road within the limit of five degrees. and thus it is we have many roads with slopes of from three to eight or ten degrees. The

writer quoted at the commencement of this article says, "It cannot be too strongly impressed on the road-maker that straightness ter. The boy looked at his infant brother is not the highest characteristic of a good with some perplexity, and then raising his road, but should in all cases be sacrificed to eyes to his father, inquired-"Where did make a road level, ar less steep," which may you get it ??? "Bought it, my son," exoften be done without at all lengthening the claiming the father, with a laudable gravity. truth; we must pass through the twilight and route. For instance, let half an egg be laid Again the boy looked at the baby, and after its shadows; to arrive at the full-and perfect on a table, and let it be required to draw a a short time, sagaciously asked, "Why