A MONSTER OF THE AIR.

THE HAVOC WROUGHT BY THE TORNADO'S DEADLY SWEEP.

A Force of Nature That Cannot Be Elim-Danger-The Recent Horror at Louis

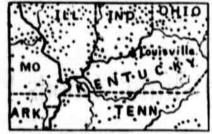
Death wears no more hideous and appalling shape than when garbed with mystery and darkness. Before the lightning's fury the man will quail who has laughed at the leaden rain of battle and stormed his way to the



2. Union depot. 3, St. Patrick's TRACK OF THE STORM THROUGH LOUISVILLE flercely defended beights of Lookout. The red Indian dies at the stake, deflant, eagle eved and undannied to the last, but a to an ache, the reason for which he cannot understand, makes him cry. In the face of nature's awful and unexpected wrath the iron nerved grow weak and the cool headed frantic. So, when the other evening the mad might of the whirlwind was hurled down upon the fair city of Louisville it is no wonder that the first sensations were those of panic and dread unutterable. But as to the crash of falling buildings succeeded the cries of the wounded, brave hearts and willing hands were not found wanting to meet the unparalleled emergency, and through the dismal hours till dawn to urge the labor of rescue by the light of blazing structures wherein fire was completing the work begun by the The scene after the storm was heartrend-

ing, heroic, sublime, American. Probably no tornado ever did such swift and deadly work on this continent as the one

which chose Louisville for the central object of its wrath. It was of a peculiar nature and defied in many respects the laws laid down as governing these natural phenomena. It has generally been held that a city of respectable se would turn a wind no matter how fierce. This is now disproved. The maximum width of previous tornadoes was placed at fifty yards. The Louisville blast extended from side to side a full half mile. Former visitations of the "cyclone belt" have taken place almost exclusively in the afternoon. latest horror had an extra terror added to it



The black dots indicate the location of previou tornadoes recorded in the south-central west. This diagram is taken from Lieut. Finley's book on storms.
by a pall of darkness. In a word, it was

unique, both as to the conditions surrounding it and the frightful loss of life and property for which it is responsible.

Louisville was founded in 1778 and incorporated as a city in 1828. It has never before met with a serious disaster, that is, serious as compared with the recent horror. The calamity which has fallen upon the metropolis of Kentucky naturally brings up anew the question: What can be done to safeguard the future! A reply may be given in these "The populous region of the United States

is forever doomed to the devastation of the tornado. As certain as night follows day is the formation of the funnel shaped cloud.

This is the deliberate conclusion reached by Lieut. John P. Finley, U. S. A., after years of careful attention paid to the subject of atmospheric phenomena. But he declares if the danger cannot be averted it is among the possibilities at least to escape the extreme effects of its wrath. There are many premonitory signs which denote with almost ab solute certainty the approach of a tornado, such as an oppressive, enervating air, the pe-culiar and unusual silence of birds, the uneasi ness of domestic animals and the developme of cowardly traits in breeds of dogs usually ferocious, like the mastiff or the buildog. Human beings feel weighed down with an indefinable premonition of some impending evil. The sultriness of the day continues, but in the hitherto clear and coppery sky great banks of clouds appear, generally one in the southwest and another in the northwest or northeast, moving towards each other. They are entirely different in aspect from the ordinary beralds of a summer storm. They may resemble the thick smoke from a burning builling, or a bank of fog or steam, or, if heavy and dark, take on a greenish hue, which presages the quick coming of a flerce and irresistible elemental foe. Sometimes nature marshals these forces of de struction in solid and heavy masses; again they roll up lightly, but black and frowning as the darkest midnight.



TORNADO STRIKING A TOWN. The crash when the wings of this airy army come together and unite for their mighty swoop to earth is described by those who have witnessed it as something diaboli-cally grand and awe inspiring. The noise re-sembles the angry roaring of uncounted beasts of prey, or the confused yet persistent and sullen booming from a battle field. Then begins the terrible progress across town and village, the country side and city. The huge lemon of the air leaps with giant strides from ridge to ridge, or else chooses some river valley for its route and rushes onward over its sppointed course, leaving behind a pathway marked by ruin, desolation and death,

Nothing can stop the tornado save the ex-

anustion of its own inherent forces, therefore those who have studied the phenomenon have directed their efforts to discovering the laws governing its birth, course and velocity so as to formulate rules for minimizing its destructiveness. Speaking untechnically, a tornado may be said to have its origin in and be maintained by well defined upward movements of air over a limited area at the cen-Insted or Controlled How to Avoid ter of disturbance. The whirling motion of the dreaded funnel shaped cloud depends upon a pre-existing disturbed and gyrating state of the atmosphera. To illustrate this one might take a glass funnel, large at the top and with a small lower aperture. Fill this with water, remove the plug from the bottom, and the liquid will run out with no rotary disturbance. But a slight circular movement of the finger at the surface will set the water whirling as it falls with all the semblance of a miniature ternado. Says Lieut. Finley:

"The tornado with hardly an exception occurs in the afternoon, just after the bottest part of the day, and generally disappears before the going down of the sun. The hour of greatest frequency is between 3 and 4 p. m. A tornado very rarely, if ever, begins after 6 p. m., but a tornado commencing about 5 p. until nearly 8 p. m., which only means that the tornado cloud may be traveling after 6 p. m., but it does not develop, that is, make its appearance for the first time, after those

Its usual track is from southwest to north east, its velocity forty to seventy miles an hour, and its width from fifty yards to fifty rods. The tornado season is embraced between March and October. The months of greatest recurrence are May and July. In the southern states tornadoes are sometimes known during the winter and spring months. Kansas and Missouri rank highest in regard to frequency of all the states of the Union.

In the practical application of this knowledge lies its value. If a person lives in a region where tornadoes are to be expected, his best refuge in time of need is a specially



LOUISVILLE TOBACCO WAREHOUSES. prepared cave situated on the west side of the

house. If there is no such retreat, and no time to get from the building, he should avoid taking a position in a northeast room, a northeast corner, an east room, or against an east wall. The tornado creates a vacuum outside, and the air inside a closed house expands at the removal of the ordinary pressure, causing demolition by explosion. prevent this, shut all the doors and windows on the side toward the coming storm and open those on the side away from the storm. A frame building is safer than one of brick or stone, because it is more elastic, holds together longer, and does not so readily crumble and separate into falling masses.

If one has no appropriate shelter at hand he should run either north or south, preferably to the north. Whichever way he flies he will have to face a wind, as the approaching whiri pulls all the air to Reelf. If there is no other way to avoid the swift rushing terror the person in danger should throw himself face down on the ground, head to the east, and cover the head with the arms. Beware the neighborhood of a tree or stump, and seek a ditch or depression in the ground.

A great many plans have been suggested for breaking the force of a tornado, but none of them is feasible, as the storm is controlled by forces far above the ground. The impression that electricity is responsible for whiriing storms is erroneous. Electricity is the effect, not the cause of the tornado.



THE COURT HOUSE.

The map entitled "the storm center" shows the region in which the recent whirlwind displayed its most virulent activity, and indicates the location of former storms of a similar nature, and two of the illustrations are of ntial structures destroyed at Louisville. FRED C. DAYTON.

Beauty and Utility in Architecture.

Each day the spirit of the age seems not only to sanction, but also to demand with ever increasing insistence the union of the beautiful with the useful. This applies, among other things, to architectural and en gineering designs. It involves no more expense-so experts say-to build a house or barn with an attractive exterior than one that only satisfies the requirements for room and comfort and in outline looks uncompromisingly ugly. The same proposition applies to more pretentious structures erected by municipalities or by private citizens for pub lic use. Among these latter are to be num-bered water towers. It has been the rule, until recently, to regard the necessary but unadorned iron cylinder as fulfilling all re

Of late, however, the residents of cities, acluding those who are compelled to gaze daily upon an unpleasing tower, have come to the conclusion that lofty structures of this class may be made ornaments to the landscape instead of blots. Not long ago the exstence of a general but unformed popular opinion in this respect was recognized by Mr. Henry C. Meyer, editor of The New York Engineering and Building Record, and at his own expense he opened a competition for designs for a waterworks pumping station and a water tower. Over fifty architects responded, and the results attained far exceeded what had been expected. The first prize went to a Milwaukee competitor, the econd to a resident of Brooklyn, and the third and fourth to Boston architects. Outside the technical excellence displayed, the chief point regarded as solved by the competition is that of wedding beauty to utility. It was shown that it costs little or nothing more to build a water tower architecturally andsome than one phenomenally hideous.

Monte Carlo outwardly is one of the most seautiful and attractive places in Europe, but more suicides occur there than at any of the capitals of Europe. The great gaming establishment is responsible for an untold amount of misery, and every gold piece of profit might almost be said to be wet with numan blood.

The tradition that links the letter R and oysters together can be traced back at least as far as 1599, when Butler wrote in his "Dyet's Dry Dinner:" "It is unseasonable and unwholesome in all months that have not an R in their name to eat an oyster.

THE LATE GEN. SCHENCK

Anecdotes Which Show His Real Char meter. Like all men of strong convictions, aggressive personality and extreme capacity for

making warm friends or bitter foes, Gen. Robert C. Schenck, who died recently at Washington, was the object during his life time of much exaggerated praise and an equal amount of undue criticism. Perhaps the greatest storm of abuse that ever poured upon his head fell just after President Lincoln had commissioned him brigadier general of volunteers at the outbreak of the late civil war. Schenck was a civilian, a lawyer, a sucsessful politician, an ex-diplomate; but of military affairs he knew nothing, and those opposed to him said so in plain terms. His appointment was denounced in one leading newspaper as an outrage on the soldiers, and it was suggested that he be turned over to some orderly sergeant of the regular army and "made to drill like sixty for a month."

It was only a little after his entering on active military service that Schenck's critics found a new occasion for reiterating their original views. The general was engaged in securing possession of the London and Hamp- 4. A short sleep. 5. In apple. 6. A vehicle. shire ratirond. At Vienna the train conveying his forces was fired upon, the engineer uncoupled the locomotive and ran away, and Schenck's handful of men had to face a band of very eager and active opponents. The truth of the matter, as afterward established, was that the combatants on both sides displayed creditable courage and came out of the contest with honor, but Schenck's enemics declared that behad been ignominiously routed, and sarcastically dubbed him the hero of Vienna,"

The probable reasons why President Linoln gave Schenck his commission were two in number. For one he knew the man to be able, aggressive and brave. And again he considered himself under great personal obligation. It may not be generally known, but it is an actual fact that Mr. Lincoln gave Schenck the credit of first naming him for the presidency. In September, 1859, the for-mer addressed a meeting at Dayton, O., on the politial issues of that period. Allusion being made to the subject of the next presidency, Mr. Schenck suggested "that if an bonest, sensible man was wanted, it would be well to nominate the distinguished gentleman from lilinois who had just addressed them.

However, if the beginning of Schenck's nilitary career was not glorious, either through lack of experience or want of opportunity, he showed conspicuous gallantry and ability later on. At the second battle of Bull Run, while in the thickest of the fight and urging his men forward, a ball struck his right wrist and his sword dropped from his hand. Says one of the historians of the war: "Soldiers still enjoy telling of the general's rage and fearful imprecations at the loss of his sword." He refused to leave the field until he had recovered it. The wound permanently injured his right arm, and for the remainder of his life Gen. Schenck wrote with his left hand.

When minister to England Gen. Schenek became the target of a good deal of adverse comment because he was reported to have published a book on poker playing for the use of the English aristocracy. "Poker Bob," as he was afterwards called by his opponents, never took the trouble to deny the charge, but his friends claimed that he simply wrote out the rules of the game in compliance with the request of a lady. She had the manuscript put in type and issued a few copies of the pamphlet for private circula-

Gen. Schenck spent the last years of his life in absolute retirement. He gathered about him a few old friends, but cared to make no new ones. As one of his biographers says: "His enemies spoke of him as selfish; his friends called him whole souled, generous, ig hearted, hospitable."

Ether Displacing Chloroform.

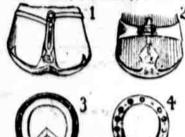
Dr. Roger Williams has made a careful exmination of the hospital books, from which it appears that in ten years chloroform was administered at St. Bartholomew's 12,368 times with fatal results in ten cases, being about one in 1,236. The most important resuit of Dr. Williams' investigations, however, is the discovery that when ether instead of chloroform had been used during the same period there were only three deaths out of 13,581 instances. Dr. Williams tells us he has long been aware of the greater safety of ther, and he declares his belief that this is the conclusion towards which professional opinion is steadily moving.

Of Interest to Photographers. It has recently been discovered that sulphate of quinme possesses the power of rendering light non-actinic, and that a plate of white ground glass, which has been covered with a strong solution and allowed to dry, may be used in the photographic lantern in stead of that of the ordinary ruby color, says Popular Science News. We have recently seen a bromide print developed by the non-actinic white light produced in this manner, which was perfect in every way and did not show the slightest trace of fogging. If future trials show the method to be a practical one, the use of red light in photography will become a thing of the past

Some Curiosities in Horseshoes At the Animals' institute in Wilton place, London, recently, a very interesting exhibi-tion was made of horseshoes old and new.



Some of those displayed were the handiwork of prehistoric man, while others showed the latest developments of Nineteenth century ingenuity. The first illustration depicts; 1 the earliest nailless shoe, from a Roman camp near Mayence; 2, earliest form of shoe used in northern Europe, spiked top, from a Scan-



MODERN HORSESHOES. dinavian tumulus; 3 and 4, two styles of Roman shoes of the time of the early Casars. In the second picture are shown: 1 and 2, varisties of the modern nailless shoe; 8, shoe with a rubber frog pad; 4, a non-slipping shoe.



No. 90 - Charade

In the far Pacific isles Where the sleeping water smile Grows a tree which bears the wonderful complete Tis a certain kind of LAST, Which, when in the over cast Much resembles FIRST-'tis good to cat,

FIRST, no doubt, is scarce out there While, with us, the whole is rare. And we would not prize it for a steady diet; But I'd sample every taker Kept in nature's storehouse vast, And if I had some All. I'd like to try it

No. 91.-An Hour Glass. The central letters, reading downward, will spell the name of a famous general. Cross Words: 1. Complaining. 2. Continuing for a long time. 3. One of the planets, 7. A weapon. S. A large shallow dish. 9. A walk for amusement.

No. 92,-In Many Places, Behind me men will take your pence, And also take your common sense.

Before me prisoners must wait. Until they hear pronounced their fate

Behind me prisoners must grean Until they shall for crime atom Behind me men of shrewdness dwell,

Who help you, but you pay them well I am a parrow strip of sand, Where ships near shore will sometimes strand

I am in berakiry a sign Some special honor to define

I am a rustic kind of gate, Where lads and lasses often wait. And now, with using little wit. You know my name from what is writ.

No. 93.—A Train of Cars. 1. What car runs to Montreal in the win

2. What car sometimes has many tracks? 3. What car is seen only in the southern

4. What car runs continually during a presidential campaign: 5. What two cars are of a bright color? 6. What car takes the place of another?

No. 94.-Hidden Trees. 1. "Hills peep o'er hills, and Alps on Alps arise. "I will not presume To send such peevish tokens to a king." "Visions of childhood, stay, oh. stay. Ye were so sweet and wild."

Speed, say you?

Aye, in motion of no less celerity than that of thought." 95.-A Standard Book



No. 96.—Numerical Enigma. My 2 and 4 is an interjection. My 1, 5 and 6 is a boy's name. 1, 8 and 9 is a cooking vessel. My 3, 4, 5 and 7 is an interrogative pro-

My whole is the name of an Indian chief.

No. 97.-A Word Change.

Change flag to ship in four words, No. 98.-A Bird Puzzle.

Example: My first is a girl's name. My second, "mixed type." Answer: Mag-pie. (a) L "To be spangle," 2. "A kind of fish something like a cod, but more slender largely used for food in Scotland and Ire

(b) 1. "Market." 2. "Not out." "A pool of water above or below a (c) L waterfall." 2. "A snare." (d) 1. "A long beam on board ship." 2

How Often Does He Strike? A clock in London Tower stands: Upon it rests a wooden man. A wooden hammer in his hands He holds as tightly as he can

That faithful clock might time the sun; The little man is just as true, or when he hears the clock strike one He with his hammer strikes one, too.

Now, gentle reader, can you tell How often, when the day is done. The little wooden hammer fell To let the little man strike one? Varieties.

"Sh!" said the rabbit, "the guinea pig will hear." "No matter if he does," replied the pussy cat. "The guinea pig is not a tail-Arithmetic is the sum of many a small

boy's troubles. It cannot be denied that dogs are very affectionate creatures. One often sees them attached even to tin cans.

Key to the Puzzler. No. 83.-A Cross Puzzle: From 1 to 2, Lenten season; from 3 to 4, Easter Sunday. Cross words: 1. Lee, 2. Era. 3. Garnished, 4. Agitation. 5. Eve. 6, Nor. 7. Sis. 8. Eau. 9. Awn. 10. Sad. 11. Probate. 12. Journey -work. No. 84. - Easy Pictorial Crossword:

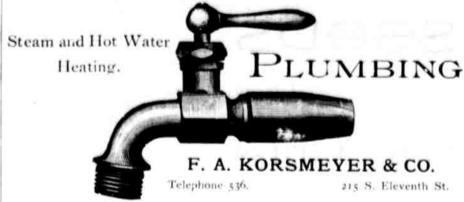
In pear, but not in fruit. In can, but not in oil In slipper, but not in boot. In rock, but not in soil. The whole is a pleasure ground-park No. 85.—A Tangle: The stately elms against the sapphire dome.

Their graceful arches cast, And flocks of fleet winged swallows flying home. Like silent shadows passe No. 86.—A Peculiar Quadruped: Arma

No. 87.-Haif Square: AUSTRALIA UNTWINES STRIPED TWINER RIPEN ANER LED 1 8

No. 88.-Curious quizzes: 1. Draw a horizontal line through the center of 1888, 2 When he's just eighty-four (ate afore). 3, Forty-one (for ten one: 4 Four, two and

eight (fortunate). No. 89.-Conundrums: The counterpart. Because they have eyes to see what they are doing. He is going to try another climb clime). One steps up stairs and the other tares up steps. Because his business mates time seifish (sell fish)



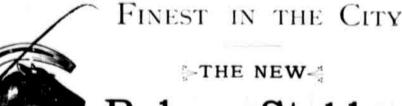
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"In truth, a noble company. What are their pleasures?"

pervious to the weather, and overcome the swaying motion incident to ordinary trains. The Burlington's Flyers are provided with a library of carefully selected books for the free use of patrons, while card tables, congenial friends, and "High Five" conduce to "drive dull

vestibules insuring safety against telescoping, im-

"There the huge sirioin reeked, hard by Plum pudding stood, andChristmas pie Nor failed old Scotland to produce At such high tide, her savory goose." Quietly, and at ease, the traveller partakes of

"Come, friends, Let's have a social smoke."

viands that tempt the epicure, and amid tasteful and elegant surroundings, the pleasures of the meal are enhanced by the charming and picturesque panorama continuously gliding by.

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> woods, and carpets of Royal Wilton, combine in the highest degree, the artistic with the beautiful "We sigh to think our wondrous journey done."

J. FRANCIS. Gen'l Pass, and Ticket Agent, Omaha.

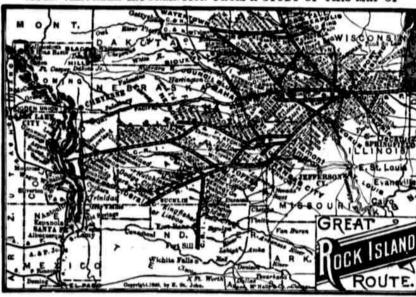


care away."

A. C. ZIEMER.

City Pass, and Ticket Agent, Lincoln.

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