The Long Cantilever Bridge Over the adopted. Forth River at Edinburgh,

A TRIUMPH OF ENGINEERING SKILL

One and Five-Eighths Miles in Length, and

The Forth bridge at Edinburgh, which is to be opened to-morrow with great ceremony, is justly regarded as one of the greatest triso important an era in the annals of engineering. Various projects had from time to time been mooted for the bridging of the firth, but were one by one abaudoned. In 1881, however, the North British, Great Northern, Northeastern, and Midland Railway companies, being anxious to attain di-rect communication to the north of Scotland,

their respecting consulting engineers, Sir John Fowler, K. C. M. G., the late Mr. Harrison, and Mr. Barlow to report on the on the 4th May, 1881, these engineers submitted a joint report, the result of pro-longed consultations, unanimously agreeing that the steel cantilever bridge designed by Sir John Fowler and Mr. B. Baker fulfilled all the necessary conditions, and was the least expensive and most suitable design for bridging the Firth of Forth. The Forth Bridge Railway Company accordingly ap-pointed Sir John Fowler and Mr. B. Baker as engineers for the undertaking; and by the close of 1882 the con-tract was let to the combined firm of Messrs. Tancred, Arrol & Co., who forth-

WHAT A CANTILEVER IS. Before passing to the building of the structure and the many points of interest therewith connected, we propose briefly to deal with the principle of the cantilever and the general features of the bridge itself. The word 'cantilever,' which denotes a bracket, is becoming rapidly popularized. In the Forth bridge, as will be seen from the annexed diagrams, the brackets are double, being placed back to back and fastened together. No better illustration of the cantilever principle can be given than that of Mr. Baker's human cantilever—namely, two men sitting on chairs, with extended arms, and supporting the same by grasping sticks butting against the chairs. In the Forth bridge the chairs must be imagined to be placed a third of a mile apart, and the men's heads to be 360 feet above the ground. Their arms are represented by huge steel lattice members, and the sticks or props by steel tubes 12 feet in diameter and one inch and a quarter thick. No novelty is claimed for the cantilever system. It is, as a matter of fact, a prehis-toric arrangement, as illustrated in the stone corbel and lintel combinations found in the earliest Egyptian and Indian tem-

Passing on to the leading dimensions of the Forth bridge, the total length of the structure is 8,296 feet, or nearly 1% miles; and there are two spans of 1,710 feet, two of 680 feet, 15 approach viaduct spans of 168 teet, four granite arches of 37 feet span on the south shore; with three arches of similar construction and 25 feet span at the corresponding northern abutment. A 150 feet at high wa spring tides is allowed. The extreme height of the structure is 361 feet above high water, the greatest depth of the foundations being about 90 feet below the same level.

HUGE PILES OF MASONRY. The main masonry piers, three in number, situated respectively on the south shore, on the island of Inchgarvie (an island fortuitously placed midway between the two deep channels), and on the Fife shore, consist each of a group of four masonry columns of concrete or rubble faced with granite, and 49 feet in diameter at the top by 36 feet high; resting either on solid rock, as in the case of the Fife and two northern Inchgarvie piers; or on caissons filled with con-crete, as in the case of the two southern Inchgarvie and the Queensterry piers.

The masonry abutments at each end of the bridge call for no special remark, and may be here dealt with. Their dimensions have already been given. The founda-tions were in the dry, and presented no leatures of difficulty. The piers and arches were built of granite brought from the well-known quarries at Aberdeen direct to the site by sea. Upwards of 21,-000 tons of cement, 707,000 cubic feet of granite, and 117,000 cubic teet of masonry and concrete were employed in the foundations and piers; while no less than one million cubic feet of timber were used for

temporary purposes.

While the foundations and masonry had been proceeding, steady progress had been maintained in the workshops in preparing the materials for the can-tilevers. Visitors to South Queensferry



will recall to mind the admirablee quipment of the workshops and girder-yards and the interesting methods of dealing with the

DIFFICULTIES OF THE WORK. It is beyond the limit of the space at our disposal to deal with the plant employed in manipulation of the girder-work in any detail; suffice it merely to point out that from the 800 ton hydraulic bending press, employed for bending the plates forming the tubes, down to the smallest tool, the latest and most approved machinery was adopted, a large quantity of it being specially designed for the work. The drill roads with their ad-mirable plant will be recollected, where the various members were fitted together, drilled, and then taken down, to be subse-

quently re-erected in situ.

It is unnecessary to do more than mention the numerous offices, stores, dwelling houses, etc., located for the work. The requirements and organiza-tion of a vast staff of men numbering at one time over 4,000 for the carrying out of such an undertaking will be readily ap-

parent to our readers.

The erection of the so-called vertical tubes over the main piers formed the first stage after the completion of the bed plates and skew backs. These columns are 12 feet in diameter and 343 feet high. They were built to a height of about 30 feet by means fordinary cranes supported on timber staging. The remainder of their erection was performed from a platterm, which, elevated by means of hydraulic lifting presses working inside the columns, was carried up with them. The platform, which was raised about 16 feet at a lift, carried with it all necessary granes, rivet furnaces, etc., in addition to shelters for the men. Access to the plat-form was gained by means of cages, similar to those employed in mines, and actuated in a like manner by winding-engines; all material, etc., being similarly wound up to the

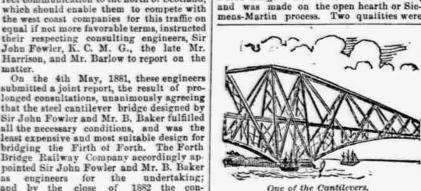
platform ready for erection. The riveting of the work was performed by specially designed machines, worked by hydraulic power; the rivets, of which there are no fewer than 8,000,000 in the entire structure, being heated in furnaces burning refuse oil, a novelty which has proved so successful that its use is now largely

THE SUPER-STRUCTURE.

The erection of the vertical columns being completed in six months, the top member connecting them (see fig. 2) was duly built into position on the platform, now resting on the summit of the columns. Meanwhile, the bottom members, formed of tubes vary-ing in diameter from 12 reet to 5 reet, were so Strongly Built That carried out on either side by means of a crane secured to a movable groundwork, which traveling along the tube itself followed up the erection. The tube itself followed up the erection. The top members and the upper portions of the struts and ties were erected by means of special cranes traveling along the top members themselves. The material, already fitted, drilled and in some cases also par-

with the requisite temporary supports, until a junction in the middle was effected. The southern central girder was closed on Octo-ber 10, 1889; that over the northern channel on the 7th of November following.

TWENTY ACRES OF BRIDGE. The 54,000 tons of steel employed in the Forth bridge is that known as mild steel, and was made on the open hearth or Siemens-Martin process. Two qualities were



employed, one to resist tensile and the other compressive strains; having strengths respectively of 30 to 33, and 24 to 37 tons per square inch in tension. Under the combined circumstances of the most ndverse conditions for the stability of the structure, the maximum rolling load, and the fercest hurricane, the strain will never exceed 7½ tons per square inch, and in some parts considerably less; it will readily be perceived how ample

is the margin of safety allowed.

The changes resulting from variations of temperature have of necessity to be allowed for, and in so large a structure they are considerable—an inch for every 100 feet being arranged for in expansion and contraction, the space over the whole length of the structure gives for this purpose no less than 7 teet. For each pier and cantilever, with part of the connecting girder which it has to carry, 18 inches of play have been

The surface of the bridge requiring to be kept painted is no less than 20 acres; while the rivets employed it laid end to end would cover about 380 miles in length; and the plates used in the construction would extend a distance of over 44 miles.

TESTED WITH LOADED TRAINS. The structure was tested by the engineers on the 21st of January of this year by placing on the center of the two 1,700 feet main spans, two trains, each made up of 50 loaded coal wagons, and three of the heaviest en-gines and tenders; the total load thus massed upon the span being the enormous weight of 1,800 tons, or more than double that which the bridge will ever in practice be called upon to sustain. The results attained were most satisfactory in every respect, and in exact accordance with the calculations of the engineers. Three days across the structure by the Marchioness of Tweeddale. The formal opening ceremony is fixed for the 4th of March, and will be performed by His Royal Highness the

Prince of Wales. The approach lines in connection with the Forth bridge are rapidly nearing comple-tion and consist of lines between Winchburg and Dalmeny, giving direct access to the bridge from Glasgow, and between the bridge and Edinburgh. On the north side, Inverkeithing is being directly connected with the bridge and Burntisland with Inverkeithing. Various shorter lines and widenings are being carried out, and the Gienfarg Railway is being pushed forward to completion.

to completion. In conclusion, we may add that the Forth bridge and the approach lines will, it is confidently anticipated, reduce the journey from Edinburgh to Perth or Dundee from two and a half hours to little more than one our. In the same manner the run from Edinburgh to Aberdeen should be made in three and a half hours instead of four and a half or five; and that to Inverness in six and a half instead of eight hours, while on the journey from London to the north of Scot-land a saving of an hour or an hour and a thought of the English sports and their

half may be anticipated. A MYSTERIOUS DISAPPEARANCE.

A Beaver Falls Man's Hat Found Floating on the Ohio River.

ISPECIAL TELEGRAM TO THE DISPATCH. BEAVER FALLS, PA., March 2 .- No trace of the missing man, George E, Liscomb, who so mysteriously disappeared after attending a banquet at Rochester, Wednesday evening, further than the finding of a hat at among the bushes, a short distance below the hotel at which the banquet was held, that Liscomb was attending. The hat was brought to this place and positively identibrought to this place and positively identi-fied by Mrs. Liscomb as the one her husband

wore the fatal night.

There is now but little doubt but what Liscomb either fell into the river and was drowned or else was murdered for his valuables and the body thrown into the river The river will be dragged to-morrow, and telegrams have been sent to the lower towns

WHAT IT COSTS TO RUN A COUNTY. The Receipts and Expenditures of Washing

ton County for Ten Years. SPECIAL TELEGRAM TO THE DISPATCH. WASHINGTON, PA., March 2 .- A. S. Eagleson, County Treasurer, has tabulated the receipts and expenditures of Washington county during the last decade, by years. Expenses for county, State, and school purposes aggregated \$2,703,540 78. The maintaining of convicts in the workhouse and penitentiary in 1880 cost \$804 10, and in 1889, \$4,971 56; quite a healthy increase. Jail expenses, including boarding prisoners, amounted in 1880 to \$3,280 84, and ten years later to \$4,775 32. Total expenses for the ten years, \$59,930 31. Public school expenditures have aggregated \$1,166,092 77. They were \$85,270 99 in 1880, and in 1889 \$142,-184 16. The assessed valuation of real and personal property last year was \$45,717,399.

Occasional Faintness. Dr. Fjint's Remedy, taken when vertigo, occasional faintness, nausea, loss of appetite and inability to sleep appear, will prevent the development of inflaumation of the brain, of which these are the first symptoms. Descriptive treatise with each bottle; or address Mack Drug Co., N. Y.

Don't fail to secure your tickets at Kle-ber's to-day for Otto Hegner's concert, \$1-March the One Dollar Month-\$1.

Bring the family to Aufrecht's "Elite" gallery, 516 Market st., Pittsburg. 12 cabinets or one large 8x10 for \$1. Elevator. Baker's Pure Cod Liver Oil. (Known over 40 years.) Also Baker's Emul sion for throat and lung troubles. Druggists TRY a case of Pilsner Beer. The most es

One of the Needs of Pittsburg, According to a New York Manager.

SCHAEFER, THE BILLIARD EXPERT,

Tells Some Neat Little Stories of His Personal Experiences.

PITTSBURG PHIL ON ENGLISH RACING

[CORRESPONDENCE OF THE DISPATCH.] NEW YORK, March 1 .- Mr. Aronson proprietor of the Casino Opera Company, is of the best towns to patronize our class of amusements in the country. Everybody seems to like light opera there, but the facilities the two theaters have for the companies rendering an attraction successfully, is simply appalling. I speak more particu-larly of the dressing rooms provided for the performers. I am not so mercenary that I would not accept offers outside of New York for engagements, but I will not jeopardize my interests by dissatisfied singers; made so by being subjected to provincial stage adjuncts in a large opera house or place of

amusement. "Actors, and especially opera singers, are very fastidious in their makeups, and they want to show to the best advantage in order to enhance their value as professionalsand why shouldn't they? The more attrac-tive they are the more in demand they are, and, naturally, larger salaries are the re-

A MODERN THEATER NEEDED. "By all means, you Pittsburgers should have a new theater, with all the modern accommodations, and I am sure the projector and the stockholders would not go wrong in

realizing upon the investment."

"I was walking down Broadway yesterday afternoon just when the rush of ont-door humanity was at its highest tide. In front of Daly's Theater some workmen were engaged in fixing the electric lights over the theater entrance, and a long ladder was ex-tended from the sign to beyond the middle of the sidewalk. There was perhaps four feet space from where the two uprights touched the pavement to the curb, and those four feet were scrupulously given the preference by the superstitions surge of people. My friend and I, not that we were fearful of some ill, followed in the wake of our prede-cessors, and walked around the ladder. With his customary suavity of manner and cordiality, Captain Sam Brown stood in the rotunda of the Hoffman House yester-day and greeted his many New York acquaintances. I approached him on matters pertaining to his stables. He came over to see trainer Rogers about the jumpers which will be entered in the leading turf events

STABLES OF FINE STOCK. "I really can't give you much informa-tion," said the Captain, "as I have not seen Mr. Rogers yet. However, from what I Mr. Rogers yet. However, from what I learn by letter the horses which are under his supervision up at Morris Park are in prime condition. I have 22 head up at the park, among them Reporter and Sonorita, both 'Suburban' and Brooklyn handicap starters. At my Kentucky tarm I have many a fine youngster, which will vie with the best ones in a season or so. I also have a few monn the river farm near Browns. a few upon the river farm, near Browns-ville. I had a very successful season last year, and if I have the same luck this year there will be no reason to complain."

The Captain said that the coal business had been extremely lax for over a year, and the river shippers were heartily discouraged He attributed it to the non-demand for fuel in the Southern manufactories. "We can't complain about rivers just now," said he. "There is enough water to float an ocean steamer going right by the Monongahela House, In Cincinnati the whole river front

in that line, and if the coal trade had been half so good we shippers could sit down and feel comfortable in our offices."

The Captain left for home this evening. A quiet, pale faced young fellow stood amid a group of sports in the Sturtevant House last night. He was the cynosure of all, and his conversation was figuratively picked from his lips, and deposited in the deepest pocket of thought of the listener. It was Pittsburg Phil. George Smith, as he is known to his Pittsburg associates, is known all over where horse racing is in-dulged in, and many is the "booky" who can attribute much of a season's losses to the good judgment of Phil. He has just returned from an extended tour of England and the Continent, where he closely observed the foreign races and the manner of

is inundated. As for Pittsburg iron busi-

ness I never knew a better era of prosperity

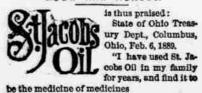
"Well," said he, "I was very much pleased with them all, over there, and I was royally treated by people who had heard of some of my betting streaks. There is a chance to win some money at an English track, but there would be still better opportunity if they played the horses 'for form,' which they do not. They have more jumping races than we have, and the dis-tance run is never below a mile and three-eighths and as high as one and seven-eighths vening, further than the finding of a hat at one two miles. I rather like this method, son yesterday, floating on the Ohio river tor it gives the student of horse who is there horses in each race, and note their condition at the finish. This does me many a good turn at some future date. See?

BETTING AND WINNING. "The English people are heavy betters, especially the swell or titled owners of runners. I tell you it would be great 'grait' for the boy who could stay right there and plunge a little upon his knowledge of the horses and race track. Just the same rule prevails there as here, that 'the winner esn't always win,' and so it is the world over in the racing countries. America is quite good enough for me, but I will return to England again, perhaps, to attend the Derby in April. I am going out to Pitts-burg to see my folks, after which I will re-

burg to see my folks, after which I will re-turn to prepare for the summer races. This is going to be a bangup season, judging from the youngster debuts to be made in equine social circles, and I look forward to it with great anxiety."

Billiards are the proper thing just now, having been stimulated by the tournament now in progress in Chickering Hall. All the crack cursum are competing with the crack cuesmen are competing, with Schaefer a good favorite. He is a funny Schaeler a good invortic. He is a funny little German, who can tell a good story and keep a party of friends interested all evening. He was sitting in Nick Engle's last night, relating some of his exploits in years gone by. He said: "About 12 years ago I landed in Pittsburg with \$12 50 in my pocket. A friend of mine was with me and he head to see the said." he hadn't a cent. We had come all the way from Leavenworth, Kas., where billiards

"Good and Honest."



FOR CENERAL USE. It is a good, honest medicine and honest men will not hesitate to recommend it to suffering JOHN P. SLEMMONS. Bookkeeper, THE CHARLES A. VOGELER CO., Splimore, MA

was a dead rabbit, and we had to come East to make a stake. I got a room for \$2 to a week and started out on the town to look for week and started out on the town to look for something resembling money. Naturally I drifted into a billiard establishment. Well, I was a sight, and just looked like a jay from the lumber regions of Michigan. I wore a slouch hat, fiannel shirt, no collar, pants in my boots, and a musty odor about my whole outlit. The place I first went in proved to be the most frequented by sporting classes, who were willing to bet on anything. It was called the 'White House.' I saw a gentleman rolling the balls around I saw a gentleman rolling the balls around carelessly, whom I challenged to a game. He sized me up and winked significantly to some of the bystanders, who as much assaid:
'Get on to the jay.' The gentleman I had
approached was Mr. Davis, of Davis &
Dodd's billiard parlors. He was considered
the second best player in Pittsburg, his

partner being his superior. the assistant engineers who worked upon the great structure contributes to Chambers' Journal of February 22 the following account of the bridge. The briefest glance at the map of Scotland abundantly evidences the raison d'etre of the gigantic structure across the Firth of Forth, whose successful completion has just marked so important an era in the annals of and in the structure across the cantilever fashion, with the requisite temporary supports, until HIS OPPONENT SUBPRISED. leaving him enough margin to allay sus-picion as to my identity. The next was \$10 picion as to my identity. The next was \$10 a side, which I also won, and so on I doubled the stakes until I was beating him at an even game. By this time a large crowd had gathered about us, and Davis, seeing he couldn't vanquish me, handed his cue over to Dodds, and I said I would play him for \$100, which he accepted. Many outside bets were made, the Pittsburger being slightly the favorite. We banked, and I ran 52 points the first inning, and in the next inning ran the game out—100 points. The people were crazy, and I would hear, ever and anon, 'Who is he?' 'That's the Texas Wonder, sure!' 'No, it's Slosson!' and such little side talk.
"I took several hundred dollars out of the

"I took several hundred dollars out of the town, paid for my room and went to New Orleans, where I worked the same racket. There I would have won a billiard room from a fellow, had his partner not come in and stopped him playing. I went to St. Louis from there, and made a few dollars there. One funny incident happened: I was pitted against a big traveling man, who was looked upon as the custodian of bil-liards in St. Louis. He was a swelled-head liards in St. Louis. He was a swelled-head sort of a fellow, but wouldn't piay for a stake, so I proposed for the drinks. He assented, and I heat him very handily. 'Who the devil are you?' he asked me, 'I'm Slosson,' said I. He laughed and said: 'Well, you got none the best of me. I am Schaefer; come on for another game.' It was great sport for me while it continued, but they finally got on to me and my business was killed."

my business was killed." Among the Pittsburgers I see in the city are J. K. Verner, Charles H. Read, Hugh Fleming, L. D. Fleming, of Allegheny, who sailed for the Bermudas Friday. John Lynch, the Uniontown merchant, is at the Hoffman, Manager Harry Davis, of the London Theater, was here this week securing attractions for the season of 1890, such as pedestrians and boxers for his popular little resort. Thomas D. Messler and wife are at the Albemarle; John S. Clarke, William McConway, George G. McMurtry and Reuben Miller are at the Fifth Avenue. LYMAN KAINE.

Catarrh to Consumption.

Catarrh in its destructive force stands next to and undoubtedly leads on to consumption. It is therefore singular that those afflicted with to and undoubtedly leads on to consumption. It is therefore singular that those afflicted with this fearful disease should not make it the object of their lives to rid themselves of it. Deceptive remedies concocted by ignorant pretenders to medical knowledge have weakened the confidence of the great majority of sufferers in all advertised remedies. They become resigned to a life of misery rather than torture themselves with doubtful palliatives.

But this will never do. Catarrh must be met at every stage and combated with all our might. In many cases the disease has assumed dangerous symptoms. The bones and cartilage of the nose, the organs of hearing, of seeing and of tasting so affected as to be useless, the uvula so elongated, the throat so inflamed and irritated as to produce a constant and distressing cough.

Sanford's Radical. Cure meets every phase of Catarrh, from a simple head cold to the most loathsome and destructive stages. It is local and constitutional. Instant in relieving, permanent in curing, safe, economical and never-failing. never-falling.
Each package contains one bottle of the
RADICAL CURE one box CATARRHAL SOLVENT, and an IMPROVED INHALER, with

treatise; price, \$1.
POTTER DRUG & CHEMICAL CORPORATION, Full of comfort for all Pains, Infammation and Weakness of the Aged is the Cuticura Anti-Pain Plaster, the first and only pain-killing one engine the migrater. New, instantaneous and infallible. Vastly superior to all other remedies and appliances for relieving pain and strengthening the muscles. Feels good from the moment it is applied. At all druggists, 25 cents; five for 81 00; or, postage free, of Potter DRUG AND CHEMICAL CORPORATION, Boston, Mass.

THE PUBLIC Will please remember that the physicians of the Catarrh and Dyspepsia Institute have no connection whatever with any other physicians

city, which is permanently located at 323 Penn avenue. The following is one of five hundred similar cases cured within the past year:



MRS. ELIZA SMITH

"Hundreds of people in Pittsburg have told how wonderfully they have been cured by the physicians of the Catarrh and Dyspepsia Institute at 323 Penn ave., and I feel it my duty to state my case. My catarrh, which had troubled me so long, had begun to affect my lungs, and they pained me very much, especially when I coughed or raised up the offensive discharge which seemed to so fill up my windpipe and bronchial tubes, that I found it often difficult to breathe. I coughed more or less both day and night. It would often hurt me to breathe, my breath became short, and I feit a tight oppressive feeling in my lungs. I often felt a pain in my left side. My food would sour on my stomach, giving me a full, uncomfortable feeling after cating, with belching of gas. My hands and feet were cold and clammy. I could not walk any distance, or up a hill without getting out of breath. I had many other aches and pains and also suffered from those diseases peculiar to women. In fact, I grew weaker and weaker until I felt as if I did not care whether I lived or died, as I would be an invalid the remainder of my life. I tried several doctors, but I found no relief. Reading of so many cures made by the physicians of the Catarrh and Dyspepsia Institute, and which seemed similar to minc, I took three months' treatment from these specialists. The result is I now feel like a new woman. I have gained 25 pounds in fiesh; my work does not seem a burden to me as it used to, and I feel well and strong. I shall be glad to tell anyone further what these physicians have done for me. I live on Lemington ave., near Lincoln ave., East Liberty, this city." MRS. ELIZA SMITH.

Consultation free to all. Patients treated successfully at home by correspondence. Remember the name and place—The Catarrh and Dyspepsia Institute, 22 Penn avenue, Pittsburg. Send two 2-cent stamps for question blank. Office hours, 10 A. M. to 4P. M., and 6 to 8 P. M. Sundays, 12 to 4 P. M. 1624 MWFSu state my case. My catarrh, which had troubled me so long, had begun to affect my lungs, and

MONDAY, MARCH 3,



FOR MEDICINAL USE NO EUSEL OIL

Every reader should bear in mind that th distinct claims made for this whiskey, and which its great popularity and universal use have proven, are absolute purity and superior power. It does not pretend to rank with the umerable whiskins that are on the market innumerable whiskirs that are on the market, and the thousand concoctions which unscrupulous druggists seek to thrust upon their customers, but it maintains, as it has for years, it reputation as the only pure, uniform and reliable whiskey in the market. Send for an illustrated book descriptive of its merits.

Duffy Malt Whiskey Co., Rochester, N. V.



KORNBLUM, Theoretical and Practical Optician. No 50 Fifth avenue, near Wood street, Telephone No. 1686. dc28-8

DATENTS O. D. LEVIS, Solicitor of Patents, 131 Fifth avenue, above Smithfield, next Leader office. (No delay.) Established 20 years. se25-60 NEW ADVERTISEMENTS.

WALL '.' PAPER.

BIG STOCK. NEW GOODS. LOW PRICES

In all new choice styles for spring. Also Portiers, Curtains, Linoleums, Window Shades, Etc. Come and see us. It will be to your interest. We show 50 styles of Linoleum in all qualities, and all grades of Carpets and Wall Paper.

Geo. W. Snaman,

136 FEDERAL STREET, ALLEGHENY.

RAILROADS. PITTSBURG AND WESTERN RAILWAY
Trains (Ct'l Stan dtime) | Leave. | Arrive.

CURTAINS! CURTAINS! CURTAINS! **DOUGLAS & MACKIE**

Will offer several thousands of pairs Nottingham Lace and Swiss Applique Curtains at fairly bewildering prices. Below are a few samples from this immense purchase:

190 pairs heavy Lace Curtains, 3 yards long, at 450 a pair, worth 75c.

220 pairs pretty Lace Curtains, 3 yards long and 52 inches wide, will be offered at the ridiculous price of \$1 a pair; sold everywhere at \$1.75.

175 pairs handsome styles Lace Curtains, 3½ yards long and 1½ yards wide, that usually fetch \$2.25; our price is only \$1.50 a pair.

100 pairs very stylish 3½ yards Lace Curtains to be sold at \$2 a pair, usual price \$3.

AND SO ON, all along the Lace Curtain line; curtains that are worth from \$3.50 to \$10 a pair will sell from \$2.25 to \$5 a pair.

Handsome Swiss Applique Curtains that usually sell from \$10 to \$12.50 all marked to sell at \$8.59 and \$10 a pair.

A most magnificent assortment of Portieres, with and without fringe, that are worth from \$3.50 to \$20, will sell from \$2.50 to \$20.

DOUGLAS & MACKIE 151 and 153 FEDERAL STREET, ALLEGHENY.

Opening of our New Retail Shoe Store, No. 433 Wood Street,

W. M. LAIRD

Boots, Shoes, Rubbers, Slippers,

GREATEST ACTIVITY PREVAILING IN OUR

ENLARGEMENT BARGAIN SALE. All the sacrifices of the past are dwarfed by what

we offer to-day. The goods must go no matter what the loss. Come and add to the Market Street excitement.

During the past two weeks we have been giving attention to the very highest classes of goods, and have given the public a chance to buy the best goods for the prices of cheap stuff.

We will quote you our lower grades, proportionately as cheap as the finer, in which you can see the best bargains ever presented in medium that the first proposed in the proposed and pro

and cheap goods, all of which are strictly guaranteed.

WOMEN'S SHOES.

Ladies' extra quality Pebble Grain Button Shoes, every pair warranted, at \$1 18. Ladies' Bright Dongola and Goat, Common Sense and Opera lasts,

all widths, equal to any \$2 50 Shoe, at \$1 48. Ladies' fine French Dongola Button, perfect in style and fit, plain and Patent Leather tips, at \$2 18. Ladies' fine Dongola, hand-welts, all widths and styles, warranted,

MEN'S SHOES.

Men's solid B Calf Dress Shoes at \$1 24. Men's extra fine V Calf Dress Shoes at \$1 74. Men's high-grade Calf Shoes for dress at \$2 48.

worth \$3 50 at \$2 48.

Men's extra quality Calf Welt Shoes, all styles, silk-stitched, at \$3. Men's extra fine Hand-sewed Calf Bal. and Congress, nothing better \$5, at this sale \$3 90 a pair.

Men's solid Working Shoes, \$1, \$1 25 and \$1 50.

BOYS' AND YOUTHS'.

Boys' solid A Calf Lace Shoes, 98c. Boys' Finest Veal Calf Dress Shoes, \$1 98. Youths' Solid Dress and Wearing Shoes, \$1 and \$1 25.

MISSES' AND CHILDREN'S.

Misses' Pebble Goat, Heel and Spring Shoes, all sizes, at o8c-Misses' extra fine Dongola and Goat, spring heels, at \$1 25. Children's Dongola and Goat, spring heels, 50c. Infants' Goat and Dongola Button, 39c.

Laird's Mammoth Bargain Shoe Stores. WHOLESALE HOUSE,

RETAIL STORES, 406 and 408 MARKET STREET

> JOHN FLOCKER & CO., Flocker's Lubricating Hemp Packing

515 WOOD STREET.

FOR RAILROAD USE.

Italian and American Heimp Packing, Clothes Lines, Twines, Bell Cord, Fish Lines, Chalk Lines, Night Lines, Sisal Bale and Hido Rope, Tarred Lath Yarn, Spun Yarn, etc.

WORKS—East street, Allegheny City, Pa.

OFFICE AND SALESROOM—S) Water st., Pittsburg. Telephone No. 1370. 1613-1838

LLEGHENY VALLEY RAILROAD—ATMINISTRY ACTION OF MICHAEL CAMP. AC., 1636 a. m.; Niagara Ex., dally, 8-45 a. m., Hulton Ac., 1918 a. m.; Valley Camp. Ac., 1630 p. m.; Hulton Ac., 1930 p. m.; Kittsaning Ac., 4-50 p. m.; Budalo Ex., dally, 8-45 p. m.; Budalo

KAUFMANNS' DAILY CARD



Is the subject of our talk to-day. We shall try to be brief but convincing. Such stocks as ours need no blow and bluster, no fuss and feathers to back them up. On the merit of the goods and prices alone we ask your patronage. If you're an expert of clothing, so much the better for us. If you're a keen observer of the various details of a Garment: Sewing, Trimming, Buttonholes, General Finish, Fit, etc., you'll not leave without buying. If you're a judge of good values, we'll not have any trouble in making a sale.

First and foremost come our natty English Sack and Box Spring Overcoats for Young Men. They come in a handsome variety of light and dark shades, cut extremely and medium short. Prices range from \$7 50 to \$25.

Then, the regular Fly-front and Prince Charles style Spring Overcoats are here in hundreds of fashionable designs and textures. For conservative and genteel dressers they will just fill the bill. Prices for them range from \$6 to \$25.

SPRING OVERCOATS FOR BOYS AND CHILDREN-These are not light-weight winter Overcoats (carry the news to the dealers), but garments expressly made for and possessing all the freshness and vigor of the spring season. They are extremely nobby and dressy, and are all the rage among the "upper ten" of the East at present. Prices range from \$3 to \$12.

SATCHELS: From Overcoats to Satchels is quite a jump, but we do wish you'd call to see our enlarged and improved Satchel Department-rst floor. A more extensive assortment of these traveling requisites cannot be found in the State. Why, we actually show more than the various exclusive trunk stores in this city' put together. Our low prices do the rest. Can you wonder at our big trade?

KAUFMANNS

Fifth Avenue and Smithfield Street

PENNSYLVANIA RAILROAD - ON AND station, Pittaburg, as follows, Eastern Standard Time: Time:

MAIN LINE EASTWARD.

New York and Chicago Limited of Philman Vestibule daily at 7:15 a. m.

Atlantic Express daily for the East, 3:20 a. m.

Mail train, daily, except Sunday, 5:30 a. m. Sunday, mail, 8:40 a. m.

Trains arrive at Union Station as follows:
St. Louis, Chicago and Cinctunati Express,
daily. 200a m.
Mail Train, daily. 8:10p. m.
Mail Train, daily. 8:10p. m.
Western Express, daily. 7:45a. m.
Facilic Express, daily. 7:45a. m.
Facilic Express, daily. 12:45p. m.
Chicago Limited Express, daily. 12:50p. m.
Fast Line, daily. 12:50p. m.
Fast Line, daily. 12:50p. m.
For Uniontown, 5:20 and 8:55a. m. and 4:25 p.
m., without change of cars; 12:50p. m., connecting at Greensburg. Trains arrive from Uniontown at 9:45a m., 12:20, 5:3a and 8:10p. m.
WEST PENNSYLVANIA DIVISION.
From FEIDERAL ST. STATION, Allegheny City.
Mail train, connecting for Blairsville. 6:45 a. m.
Express, for Blairsville. conducting for Butler.
Springdale Accoms: 5:29 a.m., 2:5 and 6:45 p. m.
Springdale Accoms: 11:50 a.m. 3:30 and 6:20 p. m.
Freeport Accom. 4:15, 8:20 and 11:40 p. m.
On Sanday. 12:35 and 9:20 p. m.
Allegheny Junction Accommodation. 8:22 a.m.
Hairsville Accommodation. 8:22 a.m.
Baitsville Accommodation. 11:00 p. m.
Trains arrive at FEDERAL STREETSTATIO N.
Express, connecting from Butler. 10:35 a.m.
Mail Train. 14:4p. m.
Butler Accom. 9:10 a.m., 4:40 and 7:25 p. m.
Blaitsville Accommodation. 10:30 a.m.
Freeport Accom. 10:10 a.m. and 1:10 p. m.
On Sunday. 10:10 a.m. and 5:00 p. m.
Move North Apolio Accom. 5:30 a.m. and 5:00 p. m.
North Apolio Accom. 5:30 a.m. and 5:00 p. m.
North Apolio Accom. 5:30 a.m. and 5:00 p. m.
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North Apolio Accom. 6:30 a.m. and 5:00 p. m.
North Apolio

Trains leave Union station. Prisoding as lowes:
For Monongahela City, West Brownsville and Uniontown, 19:49 a.m. For Monongahela City and West Brownsville, 7:95 and 19:40 a.m. and 4:40 p. m. On Sunday 1:91 p. m. For Monongahela City, 5:40 p. m., week days.
Dravosburg Ac., week days, 3:20 p. m.
West Elizabeth Accommodation, 8:20 a.m., 2:00, 6:20 and 11:35 p. m. Sunday, 9:40 p. m.
Ticket offices—Corner Fourth avenue and Try street and Union station.
CHAS. E. PUGH.
General Manager.
Gen'l Pass'r Agent,



From Pittsburg Union Station. ennsylvania Lines. Trains Run by Central Time.

SOUTHWEST SYSTEM—PANHANDLE ROUTE.
Leave for Cinclinati and M. Louis, d 1:15a. m.,
d 7:30 a. m., d 3:00 and d 11:15 p. m. Dennison, 2:45
p. m. Chicago, d 1:15 a. m. and 12:05 p. m.
Wheeling, 7:25 a. m., 12:36, 6:10 p. m. Steubenville, 5:35 a. m. Washington, 5:55, 8:35 a. m., 1:55,
3:26, 4:45, 4:35 p. m. Bulger, 10:10 a. m. Burgettstown, S 11:35 a. m., 5:25 p. m. Manafield, 7:16,
3:26, 14:36 p. m., 10:36, 6:30, 48:30, 3:20 p. m. MeDonalds, d 4 fb. d 19:45 p. m.
TRAINS ARRIVE from the West, d 2:10, d 6:00 a.
m., 3:05, d 5:35 p. m. Dennison, 9:30 a. m. Steubenville, 5:05 p. m. Wheeling, 2:10, 8:45 a. m.,
2:05, 5:35 p. m. Burgettstown, 7:15 a. m., S 7:05
a. m. Washington, 6:65, 7:20, 8:50, 10:25 a. m.,
12:45, 3:55, 9:49 and 8:6:20 p. m. Bulger, 1:40 p. m.
McDonalds, d 6:35 a. m., d 9:00 p. m.
NORTHWEST SYSTEM—FT, WAYNE ROUTE.

High, 3:55, 9:49 and S 6:20 p. m. Bulger, 1:40 p. m. McDonaids, d 6:35 a. m., d 9:30 p. m.

McDonaids, d 6:35 a. m., d 9:30 p. m.

NORTHWEST SYSTEM—FF. WAYNE ROUTE.—Leave for Chicago, d 7:25 a. m., d 12:25, d 1:00, d 5:48, except Saturday 11:20 p. m.: Toledo, 7:25 a. m., d 12:25, d 1:00, d 5:48, except Saturday 11:20 p. m.: Toledo, 7:25 a. m., d 12:25, d 1:00, and except Saturday 11:20 p. m.: Grestline, 5:45 a. m., c 12:49, p. m.: 12:45, d 11:05 p. m., and 7:25 a. m., via P., Ft. W. & C. Ry. New Castle and Youngstown, 7:65 a. m., 12:23, 3:45 p. m.; Youngstown and Niles, d 12:20 p. m.; Meadville, Eric and Ashtabela, 7:95 a. m., 12:25, 3:45 p. m.; Heaver and Jamestown, 3:45 p. m.; 12:20 p. m.; Meadville, Eric and Ashtabela, 7:95 a. m., 12:25 p. m.; Heaver Falls, 8:15, p. m.; Heaver Falls, 8:30, p. m.; Beaver Falls, 8:0, 5:50 p. m.; Beaver Falls, 8:30, p. m.; Beaver Falls, 8:30, m.; Enon, 3:300 p. m.; Beaver Falls, 8:15, 11:30 a. m.; Enon, 3:300 p. m.; Lectsdaic, 5:30 a. m. Heaver Falls, 8:43, 4:44, 5:30, 6:18, 7:30, 9:30 p. m.; Conway, 10:33, 4:30, 4:44, 5:30, 6:18, 7:30, 9:30 p. m.; Conway, 10:33, 4:30, 4:44, 5:30, 6:18, 7:30, 9:30 p. m.; Conway, 10:33, 4:30 p. m.; Lectsdaic, S 8:33 p. m.

TRAINS ARRIVE but non station from Chicago, except Monday, 1:30, d 6:30, d 6:33 a. m., d 5:56 and d 6:30 p. m.; Crestline, 2:10 p. m.; Youngstown and 6:30 p. m.; Crestline, 2:10 p. m.; Youngstown and New Castle, 9:10 a. m., 1:25, 6:35 a. m., 1:25, 6:35 a. m., 1:10, m.; Wheeling and Bellaire, 9:30 a. m., 1:25, 7:00 p. m.; Wheeling and Bellaire, 9:30 a. m., 1:25, 7:00 p. m.; Wheeling and Bellaire, 9:30 a. m., 1:25, 7:00 p. m.; Heaver Falls, 7:20 a. m., 1:10 p. m.; Heaver Falls, 7:20 a. m.; 1:10 p. m.; Heaver Falls, 8:45, 7:45, 8

DITTSBURG AND LAKE ERIE RAILHOAD
COMPANY. Schedule in effect November II,
1899. Central time. Dayart-For Cleveland,
\$500, \$600 a.m., \$125, \$420, \$9200 p.m. For Cincinnati, Chicago and St. Louis, 500 a.m., \$120,
\$920 p.m. For Bulfalo, \$200 a.m., \$120, \$920 p.
m. For Salamanca, \$200 a.m., \$120, \$920 p.
m. For Salamanca, \$200 a.m., \$120, \$920 p.
m. For Salamanca, \$200 a.m., \$120, \$125 a.
m., \$123, \$420, \$930 p.m. For Beaver Falls,
\$500, \$120, \$200, 10:18 a.m., \$125, \$20, \$420, \$20,
\$230 p.m. For Chartiers, \$500, \$120 a.m., \$23,
\$12:40, \$120, \$120, \$120, \$120, \$120,
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City Ticket Office, 69 Smithfield Street,