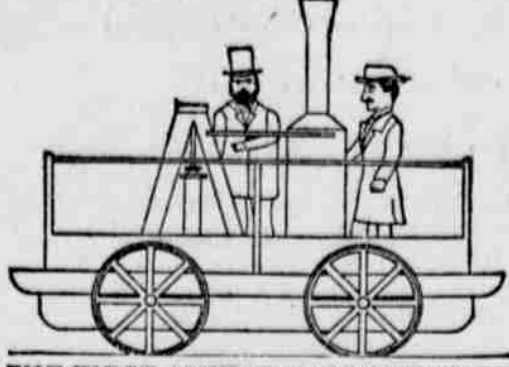


ABOUT LOCOMOTIVES.

The Evolution of the American Steam Engine.

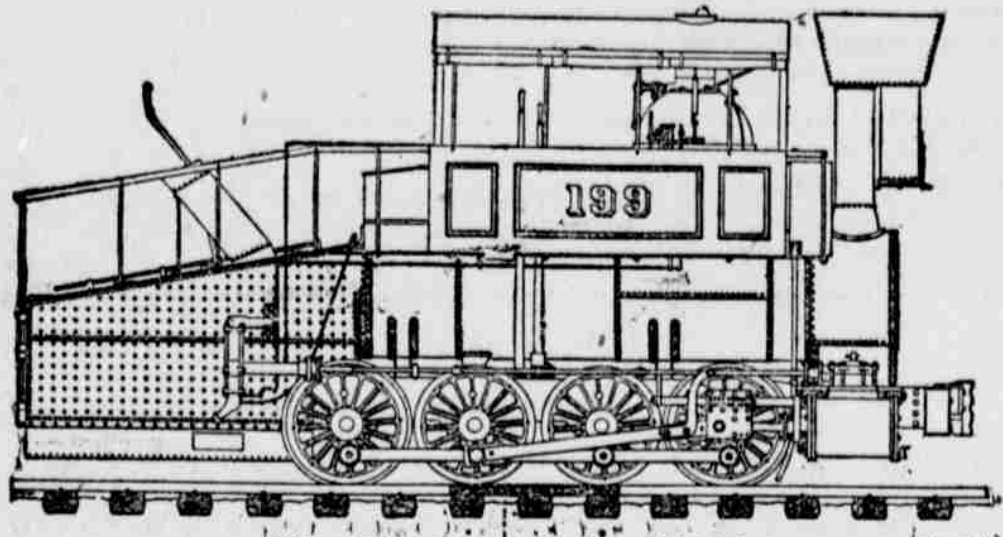
Peter Cooper's Crude Affairs—Various Other Types in Early Use and Their Peculiarities—The Modern Flyer.

Although Peter Cooper never built a successful full-sized locomotive, he is none the less entitled to the renown of being the father of the American locomotive. He began building his model on the site of the present Mount Clare workshops in Baltimore, in 1829, and made several trial trips with it before the close of that year. It was a very crude machine, judged by the present stand-



THE FIRST AMERICAN LOCOMOTIVE.

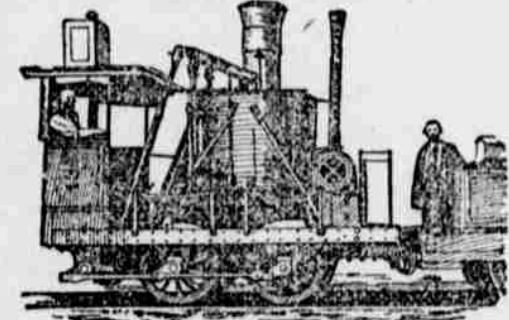
ard, having an upright boiler with a single cylinder of 3 1/4 inches diameter and a stroke of 14 1/2 inches. Instead of using the exhaust steam from the cylinder to produce a draught for the fire, as in all modern locomotives, Mr. Cooper placed a fan, revolved by a belt from



A WINANS CAMEL BACK.

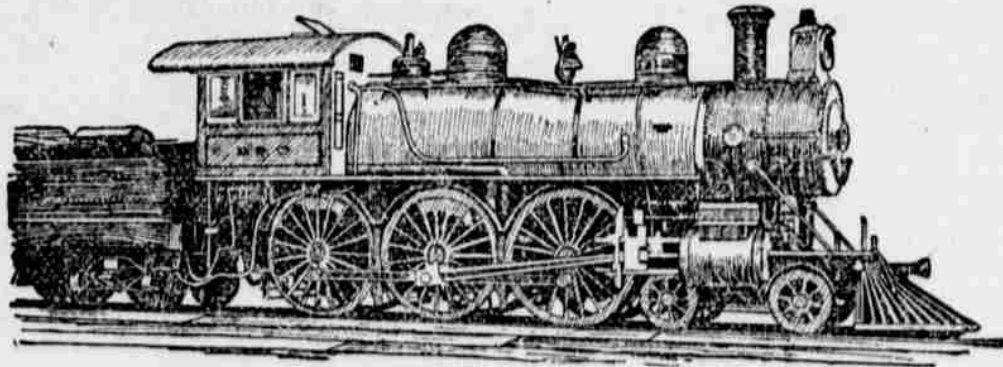
one of the axles, in the funnel of his engine. The power was applied to the other axle by means of a toothed wheel. The strength of the engine was one horse-power, and attained the then extraordinary rate of 18 miles an hour.

On the following January 4, 1831, the directors of the Baltimore & Ohio Railroad company issued their famous offer of \$4,000 for the best locomotive which should be delivered at their line before the following June 1. The winner of this contest was Phineas Davis, who called his engine the "York," from York, Pa., where it was built. It was the first of the class known as "grass-



A DAVIS GRASSHOPPER.

hoppers," and had a vertical boiler and cylinder. The exhaust steam revolved a fan which in turn revolved a second



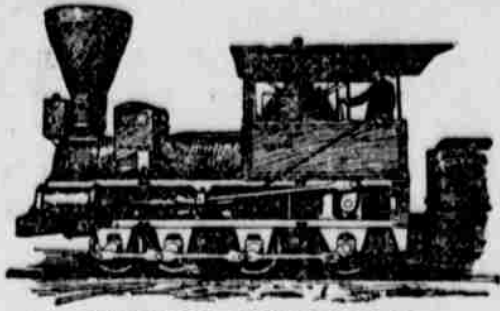
A MODERN FLYER.

fan close to the ash pan by which air was forced up through the fire. Under favorable circumstances the "York" ran at as high a rate of speed as 30 miles an hour with three or four cars, and throughout the year 1832 had an average run of 80 miles a day. It was a little later than this that the horizontal boiler was substituted for the vertical one, and the name of the engines using the horizontal boilers were "crabs" to distinguish them from those of the "grasshopper" class.

Ross Winans invented the projecting journals on the axles of car wheels, thus producing at a stroke the friction of hauling them from twelve pounds to a ton to three pounds.

Mr. Winans' first two engines, manufactured in the fall of 1836, though eight tons each in weight, had a greater drawbar pull than any of the 12-ton engines made by Stephenson in England. In the following years the first of the famous "mud-diggers" was turned out at the Mount Clare works. This type of engine had driving wheels three feet in diameter, and cylinders 17 inches in diameter, with a 24-inch stroke. Assuming that the steam pressure in the boiler was 100 pounds to the square inch, such an engine must have

had a draw-bar pull of 19,266 pounds, or enough power for even a good-sized engine of to-day, but if the bad balancing of all early locomotives be added to the friction of the toothed wheels, and the

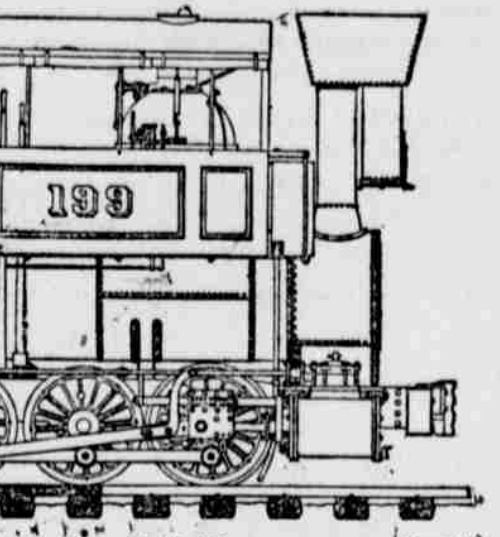


WINANS' MUD DIGGER.

lateral and longitudinal play of the connecting rods, it may be safely inferred that the "mud digger" class was never able to apply more than half its nominal draw-bar pull.

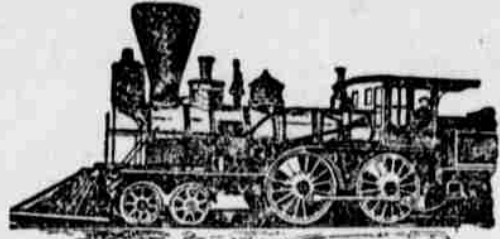
The variety of locomotive still known as the "camel back" was first built by Ross Winans between 1850 and 1853. These were the first 30-ton engines ever used in any part of the world. Next to one modern class of engines, which shall here be nameless, they were perhaps the ugliest locomotives which have ever been built. Yet the "camel backs" could pull trains no other engine built up to this time could, and kept their scheduled time, summer and winter, over the mountain grades of the Alleghanies, and so well built were they that some of them put into service 30 years ago are still pegging away, much too good to be relegated to the scrap heap.

The "Dutch wagons" were introduced by Samuel J. Hayes in 1857. They were wood-burning engines with inside



A WINANS CAMEL BACK.

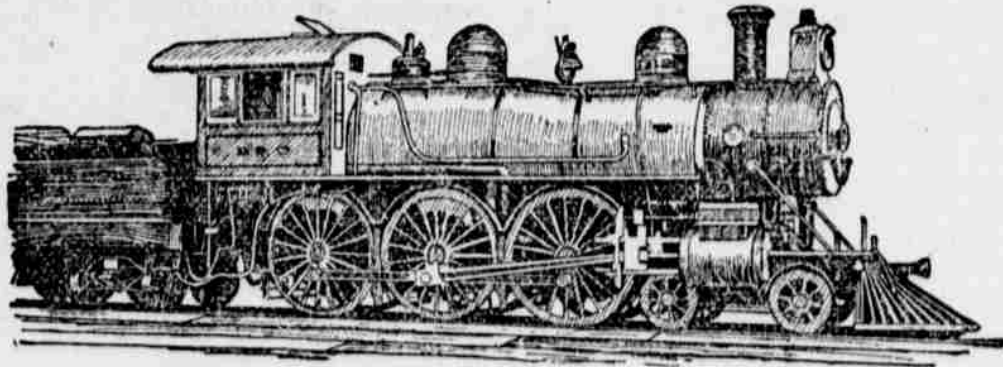
cylinders. As inside cylinders demand forged cranks on the driving axles, and as these crank axles are liable to fracture with excessive strain or after long



HAYES' DUTCH WAGON.

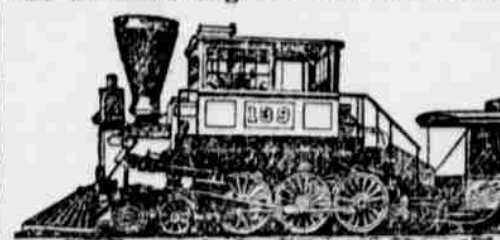
use, American builders have wisely avoided them.

Between the era of the "Dutch wagons" and the mammoth locomotives of to-day lie the classes of engines familiar to every one, because examples of them are still to be found working on every branch road. But the latest example of engine building, as illustrated by the ten-wheeled consolidated passenger engines at present in use on the B. & O. road, brings up such magnificent concentration of speed, strength and endurance as were never before seen in the history of the world. These engines have six coupled wheels, six feet six inches in diameter, cylinders 21x26 inches, and a steam pressure of



A MODERN FLYER.

170 pounds to the square inch. They haul the Royal Blue line trains, and on many occasions have gone a mile in 50 seconds, while one of them has been timed covering a mile in 32 seconds. When it is borne in mind that a "horse-power" really means what a very strong horse can lift in a minute, the force of one of these engines will be realized



A HAYES' GRADE ENGINE.

by conceiving 1,100 horses all able to make one mighty pull at the same moment. As to speed, one of these engines will advance at the almost inconceivable rapid rate of 100 feet in a second. There may be inventions which may be considered more marvelous than the modern high-power locomotive, but surely none displays in concrete result the power of man to surpass his own strength. E. H. MULLIN.

A LEGACY OF DISEASE.

Veterans of the War Repaid in Sickness.

Abasha Risk Only Lives Because He Persevered—Suffered Since the War With Kidney Disease.

From the News, St. John, Kansas.

Every citizen of St. John, Kansas, is acquainted with Abasha Risk, one of the "Old Veterans" of the late war and resident of this city. A few months ago he was a complete physical wreck, from kidney trouble and diarrhoea, almost unable to get around at all. Your correspondent, who had learned he had found relief, meeting him on the street recently, asked if he wouldn't give him all the facts, as he was interested, as were also all his friends. Mr. Risk said he was only too glad to let the people in general and his old comrades in particular, (who he knew were suffering from complaints similar to his), know what had benefited him.

He then made the following statement: "I had been suffering for years from a complication of diseases, among them kidney and liver trouble and chronic diarrhoea. The greatest trouble of all, however, was the complete wreck of my nervous system, resulting from my service in the army. I was, in fact, in a most terrible and deplorable condition. I tried every remedy I could hear of without the least beneficial results, until I saw a testimonial of an "old veteran" who was in the same regiment with me during the war (with whom I was well acquainted), stating that he had been cured of a similar complaint by the use of Dr. Williams' Pink Pills. I had almost given up hope, but concluded at last to give Pink Pills a trial, as they might possibly help me. I began using them and soon commenced to feel slightly better; my improvement was very slow, however, but still it was noticeable, and this was encouraging. In the course of about three weeks my condition was vastly improved. To the present time I have taken 13 boxes of Pink Pills, and can truthfully say I believe I am entirely cured of my liver and kidney trouble, and nearly so of my diarrhoea. My nervous trouble, too, is so much better that I am sure a cure will be entirely perfected in a short time.

"My wife also used the Pink Pills with great benefit. Her blood was in an extremely bad condition. Since using the pills, however, this condition has entirely disappeared. I consider Dr. Williams' Pink Pills the most marvelous discovery of the age. I cannot say too much in their praise."

ABASHA RISK. Dr. Williams' Pink Pills for Pale People are not a patent medicine in the sense that name implies. They were first compounded as a prescription and used as such in general practice by an eminent physician. So great was their efficacy that it was deemed wise to place them within the reach of all. They are now manufactured by the Dr. Williams' Medicine Company, Schenectady, N. Y., and are sold in boxes (never in loose form by the dozen or hundred, and the public are cautioned against numerous imitations sold in this shape) at 50 cents a box, or six boxes for \$2.50, and may be had of all druggists or direct by mail from Dr. Williams' Med. Co.

The man who falls on a banana skin one will have sympathy, but he will only make fun for the boys the next time he lands on his back.—Ram's Horn.

Piso's Cure is a wonderful Cough medicine.—Mrs. W. Pickert, Van Sicken and Blake Aves., Brooklyn, N. Y., Oct. 26, '94.

The man who wears a face like a coffin, should not complain if he finds no welcome.—Ram's Horn.

There are no excuses not to use St. Jacobs Oil for bruises.

No great man ever had time to play checkers in the middle of the day.—Atchison Globe.

Cascarets stimulate liver, kidneys and bowels. Never sicken, weaken or gripe, 10c.

The man who rides a hobby thinks nobody else is making any headway.

As it certainly cures it, St. Jacobs Oil is the Master Cure for rheumatism.

A jury of ravens would not be long in deciding that a linnet could not sing.

When bilious or constive eat a Cascaret, candy cathartic, cure guaranteed. 10c, 25c.

No old girl should have the nerve to crimp her hair in the back.

With a rub or two lumbago is often cured by St. Jacobs Oil. Small cost, big profits.

If a man works hard and gets along, lazy people say he is "lucky."

THE GENERAL MARKETS.

KANSAS CITY, MO., April 5.	
CATTLE—Best beefs.....	3 60 @ 4 80
Stockers.....	3 50 @ 4 50
Native cows.....	2 40 @ 3 05
HOGS—Choice to heavy.....	3 00 @ 4 00
SHEEP.....	3 30 @ 4 55
WHEAT—No. 2 red.....	95 1/2 @ 96
No. 2 hard.....	78 @ 81
CORN—No. 2 mixed.....	20 @ 20 1/2
OATS—No. 2 mixed.....	17 @ 18
RYE—No. 2.....	30 @ 31
FLOUR—Patent, per sack.....	2 40 @ 2 50
Fancy.....	2 00 @ 2 25
HAY—Choice timothy.....	8 50 @ 9 00
Fancy prairie.....	5 50 @ 6 00
BRAN (sacked).....	53 @ 54
BUTTER—Choice creamery.....	17 1/2 @ 18
CHEESE—Full cream.....	10 1/2 @ 11
EGGS—Choice.....	7 @ 7 1/2
POTATOES.....	22 @ 23

ST. LOUIS.	
CATTLE—Native and shipping.....	3 50 @ 4 40
Texas.....	3 00 @ 4 15
HOGS—Heavy.....	3 00 @ 4 15
SHEEP—Fair to choice.....	2 00 @ 4 10
FLOUR—Choice.....	3 20 @ 3 30
WHEAT—No. 2 red.....	93 1/2 @ 94
CORN—No. 2 mixed.....	21 1/2 @ 22
OATS—No. 2 mixed.....	18 @ 18 1/2
RYE—No. 2.....	31 1/2 @ 32
BUTTER—Creamery.....	17 @ 23 1/2
LARD—Western mess.....	4 07 1/2 @ 4 15
PORK.....	8 40 @ 9 00

CHICAGO.	
CATTLE—Common to prime.....	4 35 @ 5 00
HOGS—Packing and shipping.....	3 75 @ 4 15
SHEEP—Fair to choice.....	3 25 @ 4 50
FLOUR—Winter wheat.....	4 30 @ 4 60
WHEAT—No. 2 red.....	87 @ 89
OATS—No. 2.....	24 1/2 @ 24 1/2
RYE—No. 2.....	16 1/2 @ 17 1/2
BUTTER—Creamery.....	16 @ 21
LARD.....	4 22 1/2 @ 4 25
PORK.....	8 45 @ 8 50

NEW YORK.	
CATTLE—Native Steers.....	4 35 @ 5 00
HOGS—Good to Choice.....	4 20 @ 4 50
WHEAT—No. 2 red.....	82 1/2 @ 83
CORN—No. 2.....	30 1/2 @ 31 1/2
OATS—No. 2.....	22 @ 22 1/2
BUTTER—Creamery.....	15 @ 22
PORK—Mess.....	9 00 @ 9 25

Deafness Cannot Be Cured

by local applications, as they cannot reach the diseased portion of the ear. There is only one way to cure deafness, and that is by constitutional remedies. Deafness is caused by an inflamed condition of the mucous lining of the Eustachian Tube. When this tube gets inflamed you have a rumbling sound or imperfect hearing, and when it is entirely closed deafness is the result, and unless the inflammation can be taken out and this tube restored to its normal condition, hearing will be destroyed forever; nine cases out of ten are caused by catarrh, which is nothing but an inflamed condition of the mucous surfaces.

We will give One Hundred Dollars for any case of Deafness (caused by catarrh) that cannot be cured by Hall's Catarrh Cure. Send for circulars, free.

F. J. Cheney & Co., Toledo, O.
Sold by Druggists, 75c.
Hall's Family Pills are the best.

Some very harsh things have been said of the sin of loafing, but no one can successfully dispute that loafing is very pleasant.—Atchison Globe.

Fortune Seeking Emigrants.

Many a poor family that seeks the western wilds in the hope of winning a fortune, is preserved from that insidious foe of the emigrant and frontiersman—chills and fever—by Hostetter's Stomach Bitters. So effectually does this incomparable medicinal defense fortify the system against the combined influence of a malarious atmosphere and miasma-tainted water, that protected by it the pioneer, the miner or the tourist provided with it, may safely encounter the danger.

"Is the sail the only thing that guides a ship?" asked the green passenger. "No," said the mate; "there are rudders."—Indianapolis Journal.

Fits stopped free and permanently cured. No fits after first day's use of Dr. Kline's Great Nerve Restorer. Free \$2 trial bottle & treatise. Dr. Kline, 933 Arch st., Phila., Pa.

The greatest objection we have to "free" things is that they cost too much.—West Union Gazette.

For a world in which there is nothing new under the sun there are a lot of discoverers.—Truth.

A dull, racking pain—neuralgia. Its sure cure. St. Jacobs Oil.

When a man slips he always stops to look at the place where he slipped.—Atchison Globe.

Just try a 10c box of Cascarets candy cathartic, finest liver and bowel regulator made.

It is a little singular that passengers are not allowed to converse with the man at the wheel, though he is spokesman of the ship.

The proof of it is thousands say St. Jacobs Oil cured us of neuralgia.

Birds are supposed to have, in common with all living creatures, certain reasoning faculties, and yet they are the most flighty.

No man has a good appetite if he can wait patiently for his dinner.—Atchison Globe.

The man who knows himself well will know a great deal about other men.

A GREAT deal of nonsense has been written—and believed, about blood purifiers. What purifies the blood? — — —

THE KIDNEYS PURIFY THE BLOOD AND THEY ALONE.

If diseased, however, they cannot, and the blood continually becomes more impure. Every drop of blood in the body goes through the kidneys, the sewers of the system, every three minutes, night and day, while life endures.



puts the kidneys in perfect health, and nature does the rest. The heavy, dragged out feeling, the bilious attacks, headaches, nervous unrest, fickle appetite, all caused by poisoned blood, will disappear when the kidneys properly perform their functions.

There is no doubt about this. Thousands have so testified. The theory is right, the cure is right and health follows as a natural sequence. Be self-convinced through personal proof.

Established 1883.

THREE DOLLARS.

THREE DOLLARS.

W. L. DOUGLAS \$3 SHOE ..BEST.. IN THE WORLD

For 14 years this shoe, by merit alone, has distanced all competitors. Endorsed by over 1,000,000 wearers as the best in style, fit and durability of any shoe ever offered at \$3.00. It is made in all the LATEST SHAPES and STYLES and of every variety of leather. One dealer in a town given exclusive sale and advertised in local paper on receipt of reasonable order. Write for catalogue to W. L. DOUGLAS, Brockton, Mass.

Pistols and Pestles.

The duelling pistol now occupies its proper place, in the museum of the collector of relics of barbarism. The pistol ought to have beside it the pestle that turned out pills like bullets, to be shot like bullets at the target of the liver. But the pestle is still in evidence, and will be, probably, until everybody has tested the virtue of Ayer's sugar coated pills. They treat the liver as a friend, not as an enemy. Instead of driving it, they coax it. They are compounded on the theory that the liver does its work thoroughly and faithfully under obstructing conditions, and if the obstructions are removed, the liver will do its daily duty. When your liver wants help, get "the pill that will."

Ayer's Cathartic Pills.

CANDY CATHARTIC Cascarets CURE CONSTIPATION

REGULATE THE LIVER ALL DRUGGISTS

10¢ 25¢ 50¢

ABSOLUTELY GUARANTEED to cure any case of constipation. Cascarets are the Ideal Laxative. They never grip or sicken, but cause easy natural results. Sample and booklet free. Ad. STERLING REMEDY CO., Chicago, Montreal, Can., or New York. 371.

SEE THAT Ladies THIS NAME IS STAMPED ON Every Pair OF SHOES YOU BUY. IT IS A POSITIVE GUARANTEE OF SUPERIORITY. Ask Your Dealer for Them. **A. Driesmeyer SHOES. JEFFERSON CITY, MO.**

DROPSY NEW DISCOVERY gives quick relief and cures 99% of cases. Sent for book of testimonials and 10 days' treatment free. Dr. H. H. GREGG'S DROPSY, Adams, Va.

Weeks Scale Works, HAY, COAL, STOCK, GRAIN, BUFFALO, N.Y. AND COTTON SCALES.

600 SECOND HAND BICYCLES \$5 TO \$15—All makes. GOOD AS NEW. Must be closed out. List free. L. A. Mead Cycle Co., Chicago.

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IT IS THE BEST. YUCATAN. A. N. K.—D 1681

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