

IS GROWING SMALLER.

Rapid Transportation Reducing the Size of the World.

That the effect of transit facilities has been to make the world practically smaller in the past century is a state ment frequently heard. How great this shrinkage has been is strikingly shown in the case of a single European country, France, by a chart that appears in the latest volume of graphical statistics published by the French department of public works. We quote from a review of A. Latour, contributed to La Nature. He says, referring to the accompanying chart:

"We see that France has shrunk progressively from year to year like Balzac's wild ass' skin; the distance of a given city from Paris being represented, not according to its length in kilometers, but to the duration of the journeys in hours, which is the more important. On this map the geographic are for the year 1814. The lines connecting Paris to each city on the map from these various points. Proceeding in the same various points. Proceeding in the same way from 1834 (post-chaise) and for 1854, 1867, 1887 and chaise) and for 1854, 1867, 1887 and the same way from 1854 (post-chaise) and for 1854, 1867, 1887 and the same way from 1854 (post-chaise) and for 1854, 1867, 1887 and the same way from 1854 (post-chaise) and for 1854, 1867, 1887 and the same way from 1854 (post-chaise) and for 1854, 1867, 1887 and the same representing decrease in the case of the same representing the same repr

that have little relation to geographic ruth, because of the inequality of the improvement in rapidity of travel in the various directions. For instance, the time from Paris to Marseilles was 112 hours in 1814, 80 in 1834, 38.5 in 1856, 16.2 in 1867, 13.6 in 1887, and 11.4 in 1900.

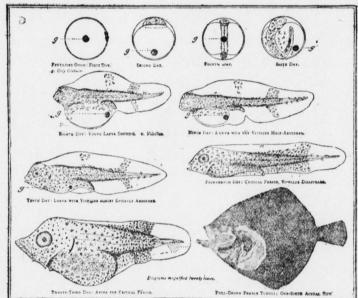
"The way in which the curve, which ought to shrink symmetrically, lengthens out along certain lines, like a splash of mud on a marble floor, shows



HOW FRANCE HAS "SHRUNK" SINCE 1814.

with a somewhat cruel exactness the important. On this map the geographic slowness of certain railway lines, like contours of France, properly so-called, the Western. As a whole, France appears to have shrunk little by little to the limits of the Department of are regarded as denoting by their Seine-et-Oise. A chart of the same kind length the time required at that time representing decrease in the cost of 1900 (railway), and uniting by a line 1900 for travelers by first-class; that the points corresponding to the same is 29 francs instead of 60 to Brest and epoch, we have a series of contours 43 instead of 82 for Marseilles.

Making A Turbot from Ovum of Fish.



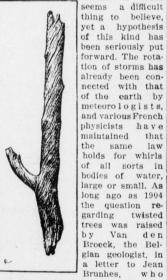
the marine laboratory at St. Vaast-la- The artificial rearing of turbot on the Hougue, England. The ova, which float in a globule, were kept in a tank of running sea water. On the seventh day the egg broke, and the young ing to note that during the experiment an accidental stoppage of the flow of ing envelope, or vitellus. That vanished the tenth day; but M. Anthony the ova.

The operation has just been suc- | did not wait so long to begin the articessfully observed by M. Anthony of ficial nourishment of the infant fish. analogy offered is considered, and if it should succeed, it could not fail to be profitable, for every adult female bears many millions of ova. It is interestwater killed the greater number of

EFFECT OF EARTH'S ROTATION.

Causes the Twists in Trees, in Air. and in Water.

That the rotation of the earth should have the effect of twisting the trunks of trees seems a difficult



quotes him in an article contributed to La Nature. Said Mr. Van den Broeck, after de

scribing his observations on twisted

"If the twist of a tree trunk may be explained by physical and natural causes dependent on the conditions of growth of the tree, we might imagine that the direction of the torsion would that the direction of the torsion would that the direction of the sun's apparticular the height of the tree is about to recorrespond to that of the sun's apparticular the height of the tree is about to recorrespond to that of the sun's apparticular the height of the tree is about to recorrespond to that the height of the tree is about to recorrespond to that the height of the tree is about to recorrespond to that of the height of the tree is about to recorrespond to that of the sun's apparticular the height of the tree is about to recorrespond to that of the sun's apparticular the height of the tree is about to recorrespond to that of the sun's apparticular the height of the tree is about to recorrespond to that of the sun's apparticular the height of the tree is about to recorrespond to that of the sun's apparticular the height of the tree is about to recorrespond to that of the sun's apparticular the height of the tree is about to recorrespond to that of the sun's apparticular the height of the tree is about to recorrespond to the sun's apparticular the height of the tree is about to recorrespond to that of the sun's apparticular the height of the tree is about to recorrespond to that of the sun's apparticular the height of the tree is about to recorrespond to the sun's apparticular the height of the tree is about to recorrespond to the sun's apparticular the height of the tree is about to recorrespond to the sun's apparticular the height of the tree is about to recorrespond to the sun's apparticular the height of the tree is about to recorrespond to the sun's apparticular the height of the tree is about to recorrespond to the sun's apparticular the height of the tree is about to recorrespond to the sun's apparticular the height of the tree is about to recorrespond to the sun's apparticular the height of the tree is about to recorrespond to the sun's apparticular the height of the tree is about to recorrespond to the sun's apparticular the height of the tree is about to recorrespond to the sun's apparticular case is precisely the opposite. Of 1,000 this remarkable tree yielded 130 bushtrees, at least 990 twist in the other di-els of apples. The tree is regular in rection, that is, contrary to the hands of a watch, and consequently in the branches is 130 feet in diameter.

same direction as most water whirls. "Botanists to whom I have referred the question-almost always a new one for them-have confirmed the facts shortly afterward, but none of them has been able to give an explana-

Going on, Mr. Van den Broeck suggested that there may be some corre lation between the direction of twist and that of cyclonic storms and vor tices in water, both of which generally turn to the left (counter-clockwise) in the northern, and to the right (clock-wise) in the southern hemi-sphere. This difference depends on the direction of the earth's rotation,



Tree Trunk Counter-Clockwise Twist.

which is different in the two hemispheres as one goes from the equator toward the poles. If the same cause affects the twist of a tree, the trees in the southern hemisphere must of course generally turn in the opposite, or "clockwise," direction; but on this point, apparently, we have no infor mation.

A Giant Apple Tree.
At Cheshire, Comm., stands an apple tree which is known to be 190 years old, and is believed to be much older than that. The trunk is 17½ feet in

Improves on Rifle.

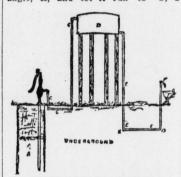
Herr Mauser has invented what he considers an improvement on his well-known rifle by which it reloads itself automatically from a cartridge cham-



FARM WATERWORKS.

How a Good System Can Be Put In by the Farmer Himself.

Get a good force pump, B, and put it over a large well, setting it near the edge. From the pump run an iron pipe, C, down to the ground, then three feet away from the well. Then run pipe up 30 feet to tank D, which should be about three feet high and eight feet in diameter. From bottom of tank run another pipe, E, down below frost line; then turn at a right angle, X, and let it run to O, a



Pump and Gravity System.

point almost under the watering At O bend it up until it is about a foot above top of trough, G, and place faucet at F. At X or O other pipes may be attached to run to the house, says Missouri Valley Farmer. Pump the tank full. The water will run into the pipes, and any time the faucet is turned at trough or house the water will flow instantly.

FARM SCALES.'

The Satisfaction Which One Farmer Gets Out of Their Possession.

A pair of wagon scales on farm are like the necessities of life in the home and family. I would not know how to do without them, de clares a writer in Farm and Home never owned a farm without scales and it seems to me the farmer that can could go to sleep if his barn was on fire. There is no end to the reasons for scales on the farm. The satisfaction they afford is alone worth ten times their cost.

At this time I am delivering 20,000 bushels of onions to a large storage buyer. I weigh the loads as they go out and the wagons as they return. I compare my weights with the buyers'. Although they may weigh me short 50 to 100 pounds some loads, it is a great satisfaction to know what is going on and that it is not a great deal worse. The farmer is a back number that will deliver grain to an elevator and cattle and hops to a shipper, not knowing his weights.

I might enter into a long, practi-cal use for scales on the farm, for scientific uses in the feed lot, etc., but I do not believe that the farmer who has made money enough to buy pair of scales needs details. He only needs to wake up, install a pair of scales on his farm, read good farm journals and do business on busines

WHEAT AND CHAFF.

How about storm windows? The man who simply marks time never gets anywhere. It takes manhood as well as brains

and muscle to run a farm.

About now the farmer's wife enjoys good dry stove wood. How about the wood lot? Are you

doing anything to preserve it? What are your plans for a more attractive farm home next year?

There are still places in this counwhere straw stacks are burned. The man who really likes his work finds profitable amusement in it.

It's the country worker who gets the penefit of the beautiful fall weather. The manure spreader feeds the land more satisfactorily and economically. Self confidence, not conceit, is the most desirable element in the farmer.

Plants Change.

Plants change their characters ac-cording to the conditions in which they are, and this is more true of the they are, and this is more true of the artificial plants than any other. Take the wheats by way of illustration. They have been so artificially bred for a long time that they are very susceptible to conditions. A wheat at the Tennessee experiment station that had been bred to have a large amount of protein and a small amount of starch suddenly developed a great deal of starch in a wet year when the leaves grew large. This change, according to season, is the hardest thing to combat in any artificial plant, and any plant that has been modified by man is artificial. The more changes e make with plants the easier are changes made. The last 25 years has seen more new brands of cabbages brought on the market than ever before and some of them are very dif-ferent from the old varieties.

Cleaning the Stalls.

quickest and easiest way to clean stalls is to use a steel stable hoe to scrape and push out the manure after the bedding has been gathered up with a fork. Stalls thus cleaned are drier, cleaner, and healthier for all animals. The manure is richer too, because most of the nitrogen in the wet manure is saved.

KEEP UP THE WHEAT LAND.

Fertility of the Soil Must Be Kept Up at Any Cost.

The fertility of the wheat land must be kept up at any cost, but we are certain that in some parts of the west the fertility is surely declining. Only a small per cent. of our farmers have as yet reversed the process. It is easy enough to keep up the fertility of the wheat fields if the owner of the wheat farm is willing to take the information that has been collected from the experiences of other men. Wheat land cannot be kept up in fertility if the process of wheat raising every year is followed.

Two things must be done-a rotation must be established and some fertilizer such as potash and phosphate must be applied in some quantities each year. Rotating so as to bring in a leguminous crop every few years will help keep up the supply of nitrogen and will improve the physical tex ture of the soil. Potash and phos phorus can be applied in small quantities each year at a small cost per acre and this must be done if the quality of the land is to be maintained. Rotation is a good thing, but it can never bring in potash or phosphorus that have been taken from the land or which the land lacks.

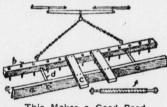
With proper handling our wheat lands can be made to produce the great crops they did 40 years ago. In fact, it is possible to make them produce more than they did in their old condition, for in addition to putting back the fertilizer we can im prove them by draining, many of the wheat fields being in need of this But this cannot all be done in a day A little should be done each year in the way of putting in the fertilizers the crops must have. The benefits of rotation cannot be gained in a few years, but the periodical turning under sod or the roots of leguminous plants will be a constant method of improving soil conditions.

In the middle west are millions of acres of land that are kept in wheat year after year, but which are now producing ten bushels less per acre than they used to produce, says the Farmers' Review. The returns will be still less in years to come, if steps are taken to prevent further exhaus tion. It is not only the loss of the fertility that has to be considered, but the badness of the physicial con-dition resulting from the loss of fertility. In fertile ground the strike deep and spread out in all di rections. These roots rot and leave the soil in a good condition physically. But in poor soil the root systems are weak and the soil gradually packs down so hard that the frosts even do not go down far. There is no way in which the farmer can make easier than by improving the fertility of the land he has in wheat.

ROAD DRAG AND HARROW.

A Combined Tool Which Will Do Very Effective Work.

This road drag is superior to any drag that I have ever seen, declares a Kansas correspondent of Farm and The front piece consists of a 4x4 oak strip, b, ten feet long, through



This Makes a Good Road.

which are driven ordinary harrow teeth about three inches apart. This is attached to the rear piece, a, which is a 2x6 oak timber ten feet long faced with three inches of one-fourth-inch metal on the bottom, e, which projects one inch. These pieces are kept apart by wooden blocks, d, upon the bolts, f, and by the top strips, c, each 2x6. This makes a fine level road as it har rows it and scrapes it at the same

Soy Bean Experiments.

Recent experiments experiment station indicate that the Ogema soy bean requires about 95 days to mature seed. Ito San and Early Brown about 115 days, No. 12,-399 about 130 days and Medium Early Yellow approximately 150 days. In yield of seed per acre Early Brown ranked first with 29.4 bushels and Ogema last, with 14.5 bushels for northern Indiana. For central Indiana Early Brown was first, with 19.8 bushels and Ogema last.

Treating Seed Potatoes for Scab.

Again we give the proper method of treating seed potatoes for scab: Soak them for two hours in a solu-tion containing one-half pint of formalin to 15 gallons of water. When planting, avoid ground which has recently produced a scabby crop of

Liming Land.

Liming land improves both the beavy and light land. The heavy land is made more friable, and the leachy soil is made more cohesive and works

A well mixed pile of prepared soil is what everyone who attempts growing flowers should have in readiness for the transplanting season

There is no farm so valuable and productive that it cannot be made more valuable and more productive by turning it into a dairy farm.

Turned Down.

Gobsa Golde spoke anxiously.
"I understand," he said, "that my name was brought up last evening at the Knickerbocker Club."

"Yes, that is true," said L'Oignon.
"And would you mind telling meer-what action was taken in the mat-

"Not at all. The secretary was instructed to purchase six quarts of blackballs for the use of the mem-

Gentle Brutality.

A New York woman testified that her husband "gently threw her downstairs," which shows that the charge that modern men are lacking in consideration does not hold good in the metropolis.

Who Likes Lemon Pie? Who Likes Lemon Fier
You should try at once "OUR-PIE"
Preparation for delicious Lemon pies. A
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Lemon pie in the old way while I can get
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"You are wrong; it is everything to
my credit."—Houston Post.

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When a woman wants to make man feel like a dollar minus 70 cents she asks him to describe the costume some other woman had on.

For Over Half a Century Brown's Bronchial Troches have been unexcelled as a cure for hoarseness, coughs and sore throat.

A good intention will no more make a truth than a fair mark will make a good shot .- Spurstowe.

PILES CURED IN 6 TO 14 DAYS.

PAZO OINTMENT is guaranteed to cure any case of Itching. Blind, Bleeding or Protruding Piles in 6 to 14 days or money refunded. 50c.

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Promotes Digestion. Cheerfu

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Aperfect Remedy for Conslipation, Sour Stomach, Diarrhoe

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35 Doses - 35 Cents

Guaranteed under the Food

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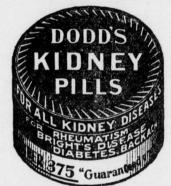
Recipe of Old Dr.SAMUELPHUIER

Often the Case.

"A man should think twice before "And a woman three times before

she sings."—Harper's Weekly. ONLY ONE "BROMO QUININE"
That is LAXATIVE BROMO QUININE. Look for
the signature of E. W. GROVE. Used the World
over to Cure a Cold in One Day. 25c.

After coaxing a girl to sing a man is apt to wish he hadn't.







PATENTS Watson R. Coleman, Patent Attor-ney, Washington, D. C. Advice

framicted with Thompson's Eye Water

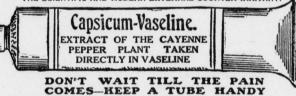
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