THE BIRMINGHAM ECCENTRIC
ONE DOLLAR PER YEAR IN ADVANCE
WHITEHEAD & MITCHELL, PUBS.
BIRMINGHAM, FRIDAY, NOV. 12.

Thanks are due to Columbus for discovering us.

When aeronauts come down to earth they find that the laws have not changed since they soared aloft.

Thanksgiving isn't so far ahead but you can smell mince pie and cranberry sauce coming down the pike.

The glaziers in New York have organized a union. But that is one which will probably be easy to break up.

Terrific storms in the Atlantic and sea prove that man has not yet made complete conquest of the forces of nature.

With food prices still soaring, the housekeeper now has problems to solve of just as great importance as those statesmen are called on to wrestle with.

No hurry about that smoked glass. Halley's comet will not be visible to the naked eye till next spring. Query—Can an eye clothed in sooty glass be called "naked?"

Americans invented the steamship, the telegraph, the telephone, the electric light and the reaper. Then an American spoiled it all by inventing the phonograph.

The Japanese have added a course of courtship to the curriculum of the girls' schools in Japan. They might as well establish an institution of instruction teaching ducks how to swim.

The head of a woman's college in Massachusetts holds the theory that a woman's beauty should be developed before her brains. It is a sensible reversion to old principles to begin any building by a sound foundation to make the edifice all the stronger at the top.

American torpedo boats and torpedo-boat destroyers are showing a capacity for speed that is not likely to be excelled anywhere. The torpedo-boat destroyer Flusser recently made something like 33 knots an hour, and now another new craft, the Reid, reports having made 34.548 knots. These little "hornets of the sea" show they can fly swiftly as well as sting sharply.

A recruit in New York who openly cursed the army and the American flag and who asserted he had entered the United States service merely for money and graft, was court-martialed and sent to prison for several years. The country has no more use for traitors in these days than in the times of Benedict Arnold, and such an offense is severely punished because it strikes at the very root of our national life.

That Panama earthquake was only a little one. It caused some apprehension, but apparently did no damage. The canal at Panama was undertaken in the full knowledge that the region is in the earthquake belt, but also with the conviction that less danger is to be apprehended there than would have threatened had the United States adhered to the Nicaragua route, for the Nicaragua route is much longer, and the longer the route the greater the liability to injury of the canal by earthquakes.

The national game of baseball is constantly achieving new triumphs. A match was played in Berlin recently for the benefit of the American woman's club, and was dignified by some unusual features. The nines were headed respectively by Count von Bernstorff, the German ambassador to the United States, and Capt. Heath of the British embassy, while the remaining players were chosen from the United States embassy and from the American colony in the German capital.

An expert in the difficult art of exterminating mosquitoes claims at last to have found an easy way. As their breeding places are in swampy lands or in stagnant water and the season for their breeding is in April and May, permanganate of potash scattered over these places will be an effective destroyer. He claims that two applications will do the work. It is a little late for the present season, but there ought to be a demand for the mosquito exterminator in New Jersey next spring.

There is an impression among many people that Americans are not a law-abiding nation. But we observe that whenever the 15th of September comes along straw hats are removed from the urban population as if by magic. It makes little difference whether the weather is hot or not, says the New York Post. The 15th of September may be hotter than the 15th of August, but public opinion, which is the basis of morality and of law, ordains that on this particular day the straw hat must go.

The arrest and fining of a Chicago chauffeur for letting the engine of his car "rev" for an hour while he waited for a patron calls attention to a noise nuisance with which the authorities have been slow to deal.

Of the imported bathtubs of Chili during 1908 Germany supplied 45 per cent., England 38 per cent., and the United States only 15 per cent. It would seem that by a little trade diligence the cleanliness of our South American brethren might be brought nearer to our own prosperity.

The latest arctic explorer is to use trained polar bears. This is a great idea. He can come back and use the team in polite vaudeville.

The highest court in the state of Maine has sustained as constitutional the Bar Harbor ordinance prohibiting the use of the streets of that seaside resort by automobiles. So far as the constitution of the state of Maine is concerned, the Bar Harbor decision gives the authorities full power to make automobiles mindful of the rights of the public.

GOOD ROADS IN THE EAST

BITUMEN ROAD NEAR BOSTON

GRAVEL ROAD IN NEW JERSEY

THE greatest public service corporation in the United States to-day is the Highway Improvement association, said James H. McDonald, state highway commissioner of Connecticut, at the dinner given him on the private car Signet by the members of the B. F. Yoakum good roads party at New Haven a few days ago. After a trip of 1,500 miles by motor car and 5,000 miles by train through 17 states the members of the party were disposed to agree with him. They were all farmers from the great southwest—Texas, Oklahoma, Louisiana and Arkansas—and they had just finished a motor car tour of Maryland, New Jersey, New York and the New England states in search of good roads.

This trip will have tangible and immediate results. The delegation from the southwestern states returned home full of enthusiasm for good roads. They promised collectively and individually to devote their efforts to promoting a cause for which they learned $100,000,000 already had been expended in this country, and little states like New Hampshire and Connecticut were appropriating millions of dollars. Within a few years the southwestern states will have good roads.

The first actual work of road inspection in company with state engineers was in New Jersey, where the farmers found roads ranging in cost from $3,500 to $29,000 a mile. They traveled over roads made entirely of gravel and crushed by heavy steam rollers. They found these roads good for wagon traffic, but that heavy motor service wore them out. The average bitumen road over which they passed cost from $5,000 to $7,000 a mile, and furnished very satisfactory service for both motor and wagon traffic. They had been laid down in quite a lot of different ways ranging from 25 per cent. asphaltum, 25 per cent. tar and the rest in gravel and sand up to a very high percentage of asphalt. The New Jersey engineers recommended the lower percentage of asphaltum, as they do not get slippery in hot or rainy weather.

The next state visited by the investigating committee of southwestern farmers was New Hampshire. They were welcomed at Laconia by Gov. Henry B. Quinby, who told them that the state had appropriated $17,000,000 for good roads at the last session of the legislature; and then proceeded over parts of the three great trunk roads which are being built through the state, in company with A. W. Dean, state engineer, and his assistants.

They found the macadam roads in Massachusetts, and later in New York, in which the upper course is mixed with tar, costing from $8,000 to $9,000 per mile. This combination makes an extremely sound road for both wagon and motor traffic. It is customary to oil the surface of these roads from time to time in the spring and fall. As cold weather comes on they cease this oiling, as extreme cold is apt to produce a bad surface under heavy traffic conditions.

At the conclusion of their first day in Massachusetts the party tendered a dinner in Boston to Lieut. Gov. Prothingham. Among those present was W. E. McClintock, chairman of the Chelsea board of control, who had been for 15 years previous connected with the Massachusetts state highway commission, and for 12 years of that time chairman of that body. He spoke enthusiastically upon the subject of good roads and said in part:

I know of several instances where the highways have been so improved that where it formerly took two horses all day to haul one ton it now takes one horse only half a day to haul two tons. You can figure out the percentage of profit for yourselves. The load on improved roads has increased 20 to 50 and 75 per cent., and the horse power is reduced.

Farmers and state granges are enthusiastic advocates of the good roads movement in this state and recommend the continuation of the appropriations.

Then these men from the southwestern states heard about something real in the way of appropriations from Col. W. D. Schler, chairman of the Massachusetts state highway commission. They learned also that all the products used in bitumen construction in the east are coming from the western states. Oklahoma and Texas should abound in these natural oil products used in the construction of the best roads known to the science of road building in the east. They learned that the cost of these materials is much lower in the west than it is, for example, in Massachusetts. The Massachusetts highway commission is forced to pay from 30 to 40 per cent. more than the same material can be procured for in Oklahoma and Texas. Col. Schler said in part:

A foundation is necessary for a road good 12 months in the year. Here in Massachusetts we appropriate $2,500,000 in five-year terms, and spend $300,000 a year. When we build through townships they pay us back 25 per cent. of our outlay.

We have spent $7,500,000 dollars in building state highways amounting to a little less than 800 miles of road. We spend $25,000 a year in towns of less than a million valuation, with no percentage paid back. This road, where the township asks for the money, is constructed under the specifications of the state highway commission.

The greatest necessity in road building is to keep the roads in repair. We must arrange for maintenance as well as construction. This is where Massachusetts is ahead of the other states. Our materials are oil, sand and gravel.

"Why," exclaimed J. P. Connors of Oklahoma, "we have 125,000 acres of asphaltum and oil in Oklahoma that has belonged to nobody except for a year or two."

The party concluded its trip through Rhode Island by a 25-mile dash from Narragansett Pier to Westerly in 45 minutes, giving a practical demonstration of the value of good roads when you desire to catch a train.

W. J. BENJAMIN.

Extending Wireless Telegraphy.

The latest innovation in wireless telegraphy is the construction of an underground station in Paris. It is being erected in the Champ de Mars and will probably be open for use next month. The station will be fitted up on the latest approved lines and comprise a machine room, a transmitting pole and accommodation for the officials. By the introduction of a 100-horsepower engine it is hoped that messages may be exchanged with places about 5,000 miles distant. The result of the experiment will be awaited with much interest.

What Was Troubling Him.

"Your husband seems dreadfully ill at ease this evening. Isn't he well?"

"O, yes, he's quite well, but confidentially, he's breaking in his heavy underwear and your house is terribly warm."—Detroit Free Press.

Something to Brag Of.

"Did the presidential train stop at Plunkville?"

"It did not," admitted the mayor of that thriving village. "But one of the party threw out a burnt match as they passed through."

ECONOMY NEEDED

There Is a Chance For Some Good Work by Congress.

Members of congress who are returning to Washington after the recent elections are making calculations on the amount of money to be expended by the government during the next fiscal year. It seems to be the consensus of opinion that the coming session of congress will not cut the appropriations below the figures at the last session of the sixty-first congress.

If such proves to be the case, it is estimated that congress, at its next session will appropriate in the neighborhood of $1,000,000,000. This would seem to be an enormous amount of money in view of the cry of economy that has been going the rounds at each of the various executive departments and the effort now being made by the several cabinet officers to cut down their expenses to the very minimum.

The appropriations made during the last session of the sixty-first congress, in round numbers $1,044,000,000, broke all previous records. For years back, the appropriations have been going up at the rate of about $30,000,000 a year. Figuring on this basis, the amount of money to be expended during the next session will probably reach $1,100,000,000.

TEDDY WELL ON OCT. 30.

The British East African government, which has been investigating the rumors concerning the illness of ex-President Roosevelt, while not successful in getting into direct communication with Col. Roosevelt and his party, has at least learned sufficient to satisfy the officials that there is no truth in these rumors. The latest dispatch, received from officials in the interior, says:

"Nothing known here (Mombasa) of the rumors. Eldama Ravine reports all well October 30. The Roosevelt party is now on a long safari."

Ate Diseased Squirrels.

The third case of bubonic plague contracted by a human being in California in the last three months, was reported Saturday to the state board of health. The victim is Frank Bellia, an Oakland butcher. He became infected through eating squirrel. The fatal cases reported previously had their origin in the eating of squirrels.

Dr. William V. Ames, 88, a prominent physician, reputed to be the oldest active member of the Elks in the United States, died in Freemont, O., Saturday.

In the local option election held in Miami, Fla., the "wets" won by the close majority of 43. The county precincts voted dry but could not overcome a "wet" majority of 134 within the city limits.

THE MARKETS.

Detroit.—Cattle—Extra dry-fed steers and heifers, $5; steers and heifers, 1,000 to 1,100, $4@4.25; steers and heifers, 800 to 1,000, $4@4.25; grass steers and heifers that are fat, 800 to 1,000, $3.75@4.25; grass steers and heifers that are fat, 500 to 700, $3@3.25; choice fat cows, $3.75@4; good fat cows, $3.50@3.65; common cows, $2.50@2.75; canners, $1.75@2; choice heavy bulls, $3.75@4; fair to good bologna bulls, $3.35@3.50; stock bulls, $2.75@3; stock feeding steers, 800 to 1,000, $4@4.25; fair feeding steers, 800 to 1,000, $3.75@4; choice stockers, 500 to 700, $3.50@3.75; fair stockers, 500 to 700, $3.50@3.75; fair feeders, 800 to 900, $3.25@3.50; stock heifers, $2.50 to $3; milkers, large, young, $35@50; cheap milkers, $40@45; common milkers, $25@35.

Veal—Average Market 25c lower than last week at opening, best, $7@7.75; others, $3.75@7.25; milch cows and springers steady.

Sheep and lambs—Market opened 25c lower than on Thursday and dull; best lambs, $6.25@6.50; fair to good lambs, $5.50@6.25; light to common lambs, $4.50@5.25; fair to good sheep, $3.50@4; culls and common, $2@3.

Hogs—Market opened 15c to 20c, others 10c higher. Range of prices: Light to good butchers, $7.75@7.90; pigs, $7.25; light yorkers, $7.40@7.60; stags, 1-3 off.

East Buffalo.—Cattle—Market generally 10@15c higher; good fresh cows and springers $2 per head higher than last week; fair to good export steers, $6.50@7; best shipping steers, $6.25@6.50; best 1,100 to 1,200-lb steers, $5.50@6; mediums, 1,050 to 1,150-lb steers, $4.80@5.25; fair to good butchers' steers, best fat cows, $4.50@5; fair to good, $3.25@3.75; trimmers, $2@2.25; best fat heifers, $4.50@5; fair to good, $3.75@4.25; common, $3.25@3.50; best feeding steers, $4.50@4.75; best stockers, $3.75@4.25; little common stockers, $3@3.25; best milk, $4.25@4.75; bologna bulls, $3.50@3.75; stock bulls, $3@3.25; best fresh cows and springers, $50@60; fair to good, $35@45; common, $25@30.

Hogs—Market 15@20c lower; heavy, $8.20; mediums, $8.10@8.25; yorkers, $7.90@8.15; pigs, $7.90; roughs, $7.25.

Sheep and lambs—Market active; best lambs, $7.30@7.40; fair to good, $7@7.25; culls, $3@5.75; yearlings, $5@5.50; wethers, $4.75@5; ewes, $4@4.50.

Calves—Strong; best, $9; fair to good, $6.50@7.50; heavy, $4@4.50.

Grain, Etc.

Detroit.—Wheat—Cash, No. 2 red, $1.17¾. December opened a decline of ¼c at the opening, the first quotation being $1.18, from which it dropped ½c and recovered to $1.18¾. May opened at $1.20¼, declined to $1.20 and advanced to $1.20¾. No. 1 white, $1.18¾.

Corn—Cash No. 2, 64c. No. 2 yellow, 1 car at 64c.

Oats—Standard, 42c. No. 3 white, 1 car at 41c.

Rye—Cash No. 1, 1 car at 77c.

Beans—Cash, $3.18. Sold: November, $3 bid. December, $1.98.

Cloverseed—Prime spot, $8.90. December $9. March, $9.20. Sample, 12 bags at $8.75, 44 at $8.50, 19 at $8.25, 2 at $8. Alsike, prime spot, $8. Sample alsike, 12 bags at $7.50, 12 at $7.75 and $8.50.

Timothy seed—Prime spot, $1.75.

Feed—In 100-lb sacks, jobbing lots: Bran, $24.50; coarse middlings, $25.50; fine middlings, $29.50; cracked corn and coarse cornmeal, $29; corn and oat chop, $25.50 per ton.

Flour—Michigan patent, $6.15; ordinary patent, $5.95; straight, $5.85; clear, $5.50. Minnesota spring patent, $6.15 per bbl in wood, jobbing lots.

After entering the cafe of the Hotel Knickerbocker, New York, and shouting that the men drinking were going "Straight to Hell," Carrie A. Nation, the redoubtable Kansas saloon smasher, was followed down Broadway by a hooting crowd Saturday night until arrested and taken to the Tenderloin police station, charged with disorderly conduct.

The Cumberland Presbyterian church has sued the Presbyterian church for the possession of the Missouri Valley college at Marshall, Mo., which with its endowments, represents a value of $400,000.

One hundred and fifty American men and women who went to Nome, Alaska, on the promise of work given by an improvement company, were left penniless there. The revenue cutter Bear brought them to Seattle.

The Denver board of aldermen adopted a resolution providing for a committee of five, three aldermen and two supervisors, to work jointly with commercial associations in an effort to secure the international aviation meet of 1910 for Denver. The move is to be state wide.

Japanese Sailor Tells One

In Conjunction with Compliment to American Men Sailor Relates Funny Story.

Admiral Uriu was most impressed in America by the broad shoulders of American men. At a dinner in Washington he said:

"It has been proved to me that in some cases American men's broad shoulders come off with their coats. I still maintain, however, that you are a broad-shouldered race on the whole. Your average shoulder is bone and brawn, not cotton wadding. It is the real thing and not (like the Salt Beach freckle cure) a sham."

Admiral Uriu smiled. Then he went on: "A fortune teller on the white sands of Salt Beach guaranteed to cure freckles magically for one dollar. A great many young nursemaids, speckled by the Salt Beach sun, bought the cure. It consisted of a lot of magical pow-wowing, crystal gazing and so forth, and at the end each nursemaid received a sealed envelope that she was to open at midnight and read by the light of the moon. Following these instructions in the letter she would cure her freckles absolutely.

"But, alas! at midnight, six hours after the fortune teller's train had carried him off, this is what the poor Salt Beach nursemaids read by moonlight in their mysterious envelopes:

"'The Freckle Cure—Remove the freckles with a penknife, soak them in salt water over night; then hang them in the smokehouse in strong smoke of hickory sawdust and oak bark. Freckles so treated for a week can not fail to be thoroughly cured.'"

About the Size of It.

Little Willie—Say, pa, what is a figure of speech?

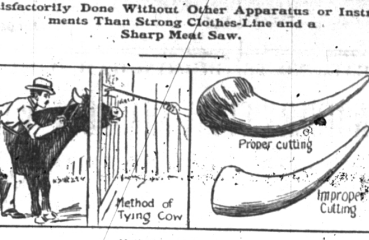
Pa—Almost every woman is a figure of speech, my son."

British Eminence at Sea.

Great Britain owns more than one half of the world's ocean shipping.

DEHORNING OF CATTLE IS EASILY PERFORMED

Satisfactorily Done Without Other Apparatus or Instruments Than Strong Clothes-Line and a Sharp Meat Saw.



Method of Dehorning.

The dehorning of cattle can be very satisfactorily performed without other apparatus or instruments than a good strong clothesline and a sharp meat saw, or miter saw with a rigid back. The method of controlling the animal with the clothesline is shown in one of the illustrations. The heavy line is passed around the upper part of the neck and tied in a knot that will not slip, otherwise it will choke the animal. The free end of the rope is carried between the horns, through the stanchion to the front, up over the horizontal stanchion rail, then down underneath the neck and up and over the top of the stanchion rail to an assistant, who should hold it firmly. The stanchion is then opened, allowing the animal to withdraw its head, and the rope held tightly is passed once around the muzzle, up over the stanchion rail and through to the front where it is held by the hands of the assistant. This effectually restrains the animal and the dehorning operation can be commenced. If the stanchion rail is too wide to permit of properly securing the lower part as well as the upper part of the animal's head, the turn of the rope round the muzzle may be omitted and the last lap of the rope carried around the stanchion rail to the front and to the hands of the assistant. Care should be taken that the rope pass each time over the neck of the animal between the horns in such a way as not to interfere with the work of the saw. The rope must be held by an assistant instead of being tied, so that should the animal throw itself off its feet during the operation it can be promptly slackened. This, however, is rarely necessary, for as soon as the head is secured, the operator should be ready, standing at the right shoulder of the animal, to saw off first the right and then the left horn.

The horn should be severed from a quarter to half an inch below where the skin joins the base of the horn, cutting from the back toward the front. If the cut is made too high, an irregular, gnarly growth of horn is very apt to follow.

The worry, pain and cruelty often inflicted by cattle upon their mates before being deprived of their horns is much more to be considered than the pain of the dehorning operation.

WEEDS SHOW SOIL FERTILITY

Cause the Farmers Greater Loss Than Any Other Factor by Reducing Yields.

By Harry Snyder.

The weed crop indicates the condition of the soil as to fertility and previous methods of farming, and is indeed an index of the farming that has been practiced. Where grain crops have been grown extensively weeds, as mustard and wild oats, take such firm possession of the land as to seriously decrease both the yield and quality of the grain. Where crops have been rotated and the conditions have been less favorable for the development of weeds, larger yields have been secured.

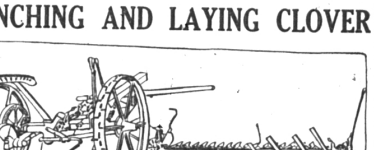
Weeds take from the soil a much larger amount of fertility than is generally conceded. A light grain crop and a heavier weed crop remove from the soil more fertility than a heavy grain crop. The stronger feeding powers of weeds enable them to secure from the soil plant food which would otherwise go to the support of grain crops, the weak feeding cereals being unable to compete with the strong feeding weeds. The best use that can be made of a weed crop, is to plow it under for green manure and make it produce humus, of which many of our soils stand much in need. In this way weeds can be made to add fertility to the land through the indirect action of the vegetable matter upon the soil.

At the Minnesota experiment station analyses have been made of many of the more common weeds and it was shown that in some grain fields from 20 to 40 pounds and more of nitrogen, 15 to 25 pounds of phosphoric acid and 30 to 50 pounds of potash had been removed from an acre of land by the weeds. This is as much as is removed in a grain crop. The production of weeds is a heavier draft upon the land than the production of heavy grain crops. A weedy farm will get out of condition and run down in fertility faster than a farm that is thoroughly cultivated and upon which large crops are produced.

How to Feed Young Pigs.

Young pigs should be fed regularly several times a day. Keep their troughs sweet and clean, and be particular not to overfeed them. Feed all they will eat up clean within ten minutes. Feed a ration that will grow and develop frame, muscle, bone and a healthy body, without an excess of fat. You will find the by-products of the dairy, orchard, garden and kitchen, with a small addition of wheat middlings, ground wheat or barley, or any food of similar character is what will be required to produce a foundation for future usefulness.

BUNCHING AND LAYING CLOVER



A Clover Buncher.

Clover seed will be a high, light crop this year owing to the dry weather. Good heavy seed will be scarce and high in price next year. Those having a good stand of clover that will yield one bushel of seed to the acre would do well to save it. One hundred pounds of plaster spread to the acre will be a help in increasing the growth of the clover. Those having a mowing machine and a reaper platform can easily and cheaply save the seed. A light platform of sheet iron may be made to fit the mower: Bolt the platform to the cutter bar, letting the rear end drag on the ground. A man should walk behind the mower with rake to draw the clover on the platform and when full it is pulled off into windrows.

If there is a large growth of clover and little seed, cut when seed is hard and cure as for hay.

The illustration shows a finger-like attachment for bunching and laying the clover out of the way of the horses.

Ventilating Stables.

Horses and cows are in the stable at night for rest. When the weather is warm the atmosphere in close confinement becomes very warm and oppressive, so much so that the animals become very uncomfortable and hence fail to get proper rest. The horse that does not get proper rest is not in a good condition for heavy work the following day, and the cow that does not sleep in a cool, restful place in hot weather will not give a full flow of milk. The temperature of the working or producing animal must be kept normal to give the best results. If there are no windows in your stables, cut out a number now and let light and fresh air come for the health and comfort of the animals.

Sheep Need Good Care in Fall.

If the sheep are left out in the chilly fall rains, coughs and colds may result.

Many an otherwise good shepherd forgets that his sheep relish salt in winter the same as in any other season.

Market some of the older sheep, and retain part of the choice lambs for the improvement of your own flock. The best in your flock will be none too good. A poor sheep is as difficult to shape up and fatten as any other poor farm animal. Furnish plenty of proper rations and start the sheep through the winter in good shape. It will pay.

Feed for Ewes.

Oats make a very desirable grain feed for the breeding ewes. After lambing time, an ear of shelled corn may be added to a pint of oats, fed daily. When feeding oats, scatter well over the bottom of the troughs, so the sheep cannot get too much in their mouths at a time. This prevents choking, and insures thorough mastication.

Sheep on Farm.

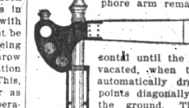
Farming conditions would be improved if more sheep were kept, as they help to exterminate weeds. But dogs and other objectionable features appear to have driven sheep from most of our farms.

HOW BLOCK SIGNALS WORK

Operation of Ingenious System That Insures the Safety of Railroad Passengers.

Comparatively few people know just what is meant by block signals when they read that a railroad has established the system on its lines. The block is a length of track which, on double track roads, has at its entrance a post and movable arm, and on single track lines one at each end. To say that a line has every inch protected by this system means that the entire line is divided into consecutive blocks. Only one line from Chicago to New York is thus protected, and of the total in the United States, one-third is on the Union and South Pacific lines.

The operation of the block system is simple but absolute. In a few words, it means that a train cannot move from one block into the next until the latter block is empty. As a train moves forward, the signal arm is set to show that the block just left may be entered by the next train following. When a train enters a block it so affects the energy that is a part of signaling, that the semaphore arm remains horizontal until the block is vacated, when the arm automatically drops and points diagonally toward the ground. Therefore, as long as the engineer sees only drooping signals he can keep on going, but the instant he finds the arm stretching out over the track, he must come to a stop, knowing that that block is occupied by another train.



The energy mentioned above is electricity, the current being obtained from a battery near each post. The rails of each block are made as if all of one piece by connecting the joints with wire. The extreme ends are then connected and thus a circuit is formed in which the current flows. When no train is in the block, the mechanism operated by the current pulls the arm down and holds it there. When a train enters the block the wheels and axles, combined with the rails, form a shorter circuit, the energy that held the arm down is withdrawn and up it swings to a horizontal position.

Each block is independent of all other blocks. When the last wheels of a train leave it, the current resumes its flow and the signal arm at the entrance is pulled down to the "proceed" position. But before the hind wheels have finished doing this, the front wheels of the locomotive have entered the next block and caused the arm there to rise to the "stop."

For a single track line the automatic arrangement is the same, but there is a signal at each end of the block. To prevent two trains on a single track line entering a block at the same time from opposite ends, before the entrance to a single track block is reached the train sets a stop signal at the far end of that block, and as it enters the block the entrance signal to stop just as is done on double track. Half a mile or more before reaching the entrance signal of each block the engineer comes to what is called the "distant," which tells him how the other or "home" signal is set.

As the automatic signal is constructed, it cannot show "go ahead" unless the entire combination of rails, wire, current, magnet, etc., is working perfectly. If a wire parts, a rail breaks, a battery fails, a switch point opens the slightest, the combination fails and the released arm resumes the horizontal position. So, when the engineer sees the stop signal, he knows that there may be a train on the block, an open switch, or a broken rail or signaling apparatus.

At night colored lights are displayed on the same posts. The lamps will burn right always without replenishing, but are refilled every four or five days. When the signal is at stop, the engineer sees the flame through a red glass. The caution light on the distant is yellow. A green lights means go ahead and is used on both the home and distant signals.

Where two or more lines cross at grade the general plan of semaphore arms for day and colored lights for night is the same, but owing to the complications all signals are controlled by levers operated by men from a central station. The crossing and continuous tracks are governed by the interlocking system. When this is in perfect order and the crossing unoccupied, it displays "stop" to every track approaching the crossing. Any change must be made by the signalman, and to display "proceed" he must first lock all other approaches with the stop signal.

There are now about 11,000 miles of railway equipped with the block system. The only line thus protected every inch from Chicago to California is via the Northwestern, Union and Southern Pacific. One-third of the 11,000 miles of automatic signaling is on the Harriman lines—and the Northwestern has more miles of double track automatic than any other railway.

Quite a Shock.

Bridegroom (expectantly)—Now, my dear father-in-law, I wish to say just a word about my debts— Father-in-law (slapping him on the back)—Did you say debts? Why, my boy, I'll bet my debts exceed yours three to one!—Fliegende Blaetter.

The Producer.

"Does your husband play cards for money?" "Judging from practical results," answered young Mrs. Torkins, "I should say not. But all the other men in the game do."