

**PIECE OF STRING IS HUMBLE MEANS OF MAKING TIMETABLES**

Genius Who Evolved Brilliant Idea Unknown but Probably Is Saint Now.

**WORK IS NERVE RACKING**

Days Required to Adjust Schedules So One Train Will Not Bump Some Other.

"Mercy, what an aggravation! They've changed the time of that train!"

When a representative of the class known as the Common People, sometimes called the Traveling Public, gives utterance to a sentiment of this kind, little he knows of the heart ache, the blood-sweating, the rivalry of one community toward another, the cry of the railroad's traffic department for faster time, and the answering wall of the operating department that to give that faster time means extra risk of disaster or derangement of the whole system.

But some inventive genius discovered a way to help reconcile the traffic department and the operating department. He did it with a piece of string.

If someone could find a way to reconcile Binkton's demand for a train arriving five minutes after noon so the population could see it come in without losing time from business, with Binkton's demand for a train arriving at 11 a. m., so the merchants could get to the city in time for lunch at the Waldorf, another line would remain in the thinning thicket of the railroad map.

**Every Road Uses String.**

But this piece of string! Every railroad of the northwest now uses string. It shows just where every train from the north will meet every train from the south, it shows how fast No. 23 must travel to keep out of the way of No. 13. And this is how it is done.

A great board, maybe eight feet long and five wide, is prepared. On this is pasted a big sheet of paper marked off with vertical and horizontal lines. Down the left margin of this card is inscribed the name of every station on the division. Along the top margin are inscribed all the hours of the day from midnight to midnight. Enough space is left between the names of the towns so that the distance in miles may be shown accurately on the body of the chart with horizontal lines drawn to the proper scale. The distance between the hour numerals is spaced so that vertical lines, representing groups of five minutes, may be drawn.

**Task Requires Many Days.**

This is the equipment the time-card maker starts with. Then he gets a half-peck of pins, a tack hammer and, of course, the string.

Now the stringing of a time-card is a task that requires many days. But the man who does it gets started after a conference with the officials who authorized the change in train time.

"Let's see if we can't get that train out of here at noon instead of 1 o'clock," the general passenger agent says. "If we can, it will arrive at Squeedunk just in time for dinner."

So the timecard maker takes a pin and his hammer and string and drives the pin where the horizontal line representing "Portland" intersects the vertical line representing noon. Knowing the distance to Squeedunk, and knowing how fast the train can be expected to go, he figures quickly that, starting at noon, this train should reach Squeedunk at, say, 6 p. m. So he drives his second pin at the bottom of the chart where the Squeedunk line intersects the 6 o'clock vertical.

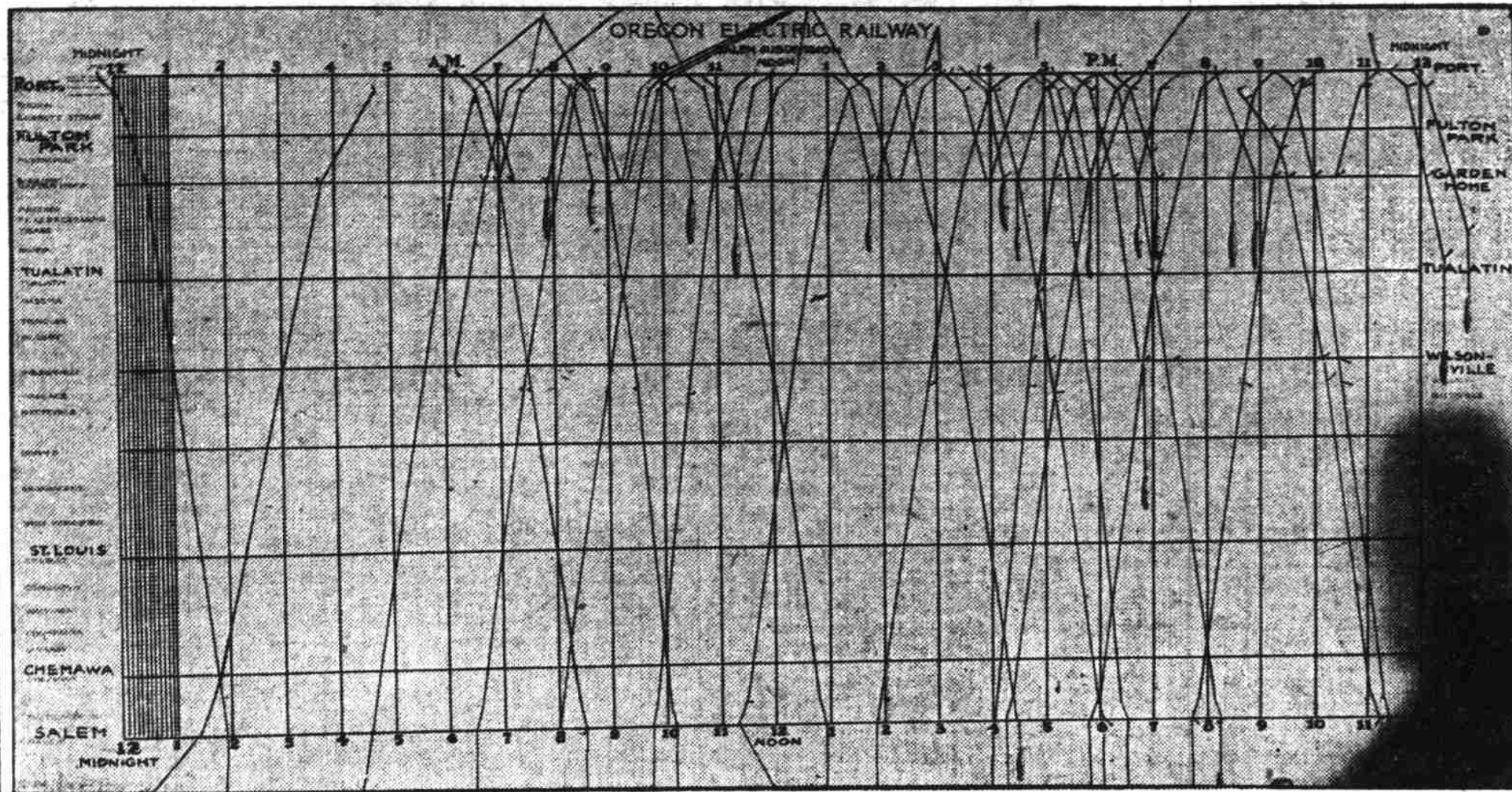
He then draws the string over those two pins. One might think this is all there is to it, but it isn't.

**Schedules Insisted On.**

For every train running on that given stretch of track there is a corresponding string, fastened with other pins. Some are freight trains, some limited passengers, some locals that stop at every water tank. Every one, important or otherwise, must run according to its schedule—that is, absolutely insisted upon by every official from the chairman of the board of directors down. And there are just so many passing tracks, just so many switching yards, just so many towns where stops must be made.

And so if this train's time is to be changed, the man who makes up the card must see to it that he doesn't

**IT TAKES GENIUS TO ARRANGE TIMECARDS SO TRAINS WILL NOT TRY TO PASS ON SAME TRACK**



Huge chart, with names of stations, from which, from one pin to another, are strung pieces of twine which, when they cross, indicate that a train must be passed. The card maker juggles these crossings so that traffic can move with facility and safety of the traveling public is made certain.

send the train head-on into another train 20 miles from a passing track nor may he put it into a station while the only track there is occupied by a freight unloading its cargo.

**Many Failures Before Success.**

So he figures and schemes. Presently he thinks he has it. He will make his train run slow between these two places while the fast mail is reaching the division point. But suddenly he discovers that by doing this he will be holding back the line, which, by all rules of operation and traffic, must get ahead. So he pulls out his pins again and drives them in another place, only to find that the freight train stops at Binkton at the very instant he figured on putting his changed-time train there.

Then this thought suggests itself. Change the time of the fast mail and start the freight an hour earlier. So he pulls out a pin or two from the strings representing these other trains and tries setting them over.

And so the process goes on. Sometimes he will wake up in the middle of the night and shiver with delight at the thought of a way he can send No. 4 into Binkton ahead of No. 11 and so make room for No. 44 on the passing track three miles south of Spinkhurst.

**"Old Man" Disapproves.**

Finally he has it all figured out, so that every string on his board will cross the other strings at just the right places and at the same time conform to the possible running time of the trains, the sidetracks, the demands of the passenger department, the limitations of the freight department and the wishes of the public. So he shows his result to the superintendent, who says, "Fine," but withholds his O. K. until the general manager sees it. The general manager looks at it, scowls, and says, "Won't do, you've got that freight train waiting an hour too long at that siding and when we are paying trainmen and engine crews the outrageous wages they demand now, an hour means money."

So the work has to be done over again.

But when the final and official O. K. is put on the new train chart the official's breath again and maybe take time for lunch. But that isn't all that has to be done before the new schedule goes into effect.

**Working Timetables Made.**

Next comes the making up of the working timetables, a big booklet that is made for the exclusive use of employees. This is how the working card is made.

Taking a sheet of paper, the man who makes the card writes down the names of the stations in order. Then in columns ruled off for the purpose, he puts down the time of arrival of each train, as shown on the chart by the strings in their intersections of the vertical lines. When he has finished this, train for train and string for string, the new card is ready to be sent to the printer and the time-card maker puts away the board until another train is to be started, or one

taken off or another change is made in time.

C. A. Vermillion, superintendent of telegraph and car service of the Spokane, Portland & Seattle railway, is one of the deans of timecard makers of the whole northwest. He strung his first card nearly 25 years ago on one of the Missouri lines. There was some discussion then as to the value of the system, which then was an innovation. Nearly every road in the country now uses the system.

**Many Charts Required.**

The North Bank system requires 10 of these train charts to keep their schedules easily recognized. On some of the longer stretches maybe two boards are used to take care of the movement of one train. Several are

used on the Oregon Electric, one on the United Railways, and the main steam lines and branches each require the board.

Four are used by the Southern Pacific's Oregon lines, and two by the O. W. R. & N. On the last named road, however, the system is a little different, each division point keeping track of its own schedules and making up its own board.

It has been discovered that the simpler the board is, the easier the work for the train dispatcher. When an engineer knows exactly what he is to do, the dispatcher doesn't have to bombard him with telegraphed or telephoned orders at every station or so, and the time loss due to unlooked-for waits on passing trains is reduced.

Nobody around the Portland railroads remembers now who invented the string, but whoever he is has long since been made a saint.

**MEN ENGAGE IN FIGHT**

Mike George, a new foreman at the Northern Pacific terminal yards, and Steven Vassae, a laborer employed at the yards, severely beat each other yesterday in a fight at Sixth and Flinders streets, and were arrested by Patrolman Waddell. The fight resulted when George attempted to exercise his new authority by ordering Vassae to stay out of the terminal grounds. Their case will come before the police court tomorrow morning.

**BUYERS' WEEK THIS YEAR TO EXCEL ONE HELD LAST SUMMER**

Portland Jobbers and Manufacturers Preparing Elaborate Entertainment.

**EXPECT BIG ATTENDANCE**

Responses Coming in Rapidly. Private Concerns and Salesmen Adding Their Efforts to Increase Number.

Jobbers and manufacturers of Portland will be busy all this week preparing for the reception at their various establishments next week of hundreds of country merchants from all parts of the northwest who are coming in response to invitations sent out asking them to be in Portland Buyers' Week, August 10 to 15.

Successful last year, when it was inaugurated, Buyers' Week promises to be more successful this year. More than 150 return postcards, mailed out with the invitations, have been received by the Jobbers' and Manufacturers' association and it is learned through traveling salesmen that a great many more are coming who have not sent in word of their intention.

In addition to the circulars sent out by the jobbers and manufacturers, many individual jobbing houses have been in communication with their customers throughout the northwest and have received many promises of attendance. Traveling salesmen have also been instructed to give the event all the publicity within their power and to urge attendance. This campaign of publicity promises to result in hundreds of buyers visiting Portland.

**Fare Refund Attractive Feature.**

An attractive feature in the eyes of the prospective buyer is the arrangement which has been made by which the railway fare of one buyer from each store will be refunded in case his purchases during the week from members of the Jobbers' and Manufacturers' association aggregate \$500. Railways are giving fare and a third rates and these rates will be open as well to members of their families whom buyers may wish to bring along. Entertainment for the visitors will

include banquets and smokers at the Commercial club, theatre parties, automobile trips about the city, noon luncheon at one of the city's big manufacturing plants, and a jollification at The Oaks. One of the important entertainments will be the luncheon club luncheon at the Hotel Portland, Wednesday, August 12. All the visitors will be guests at this luncheon and they will be given opportunity to make one-minute talks boasting their home towns for first, second and third prizes. Several have already entered their contest. There will not be a dull moment during the week.

**Furniture Men's Banquet.**

An event of importance will be the banquet to be given Thursday night, August 13, by the furniture jobbers and manufacturers of Portland to their out-of-town customers at the Hotel Multnomah. It is planned to make this one of the most eventful trade banquets in the history of the city. Furniture dealers are coming from all parts of the northwest. The local furniture men have sent out special invitations to the trade in addition to those forwarded by the Jobbers' and Manufacturers' association and traveling salesmen representing the Portland furniture houses have been doing effective publicity work.

The theory of the banquet is to enable the Portland heads of jobbing and manufacturing concerns to become personally acquainted with their customers and to enable the country merchants to inspect in person and gain some idea of the size and diversity of the jobbing stocks carried in Portland, the premier jobbing city of the northwest, and become informed as to the numerous articles manufactured in this city. Most of the selling is done through the medium of traveling salesmen and jobber and customer come very little together. Thus the element of personal contact, one of the most potent in modern day business relations, is generally lacking.

**Many Buyers Came.**

It was to remedy this condition that Buyers' Week was inaugurated last year, the dates being September 1 to 6. Last year 253 buyers came from 251 towns. Of these 174 were from Oregon, 70 from Washington, 18 from Idaho and one from Montana. Goods to the value of considerably more than \$100,000 were purchased from members of the Jobbers' and Manufacturers' association. No record was kept of purchases from firms not affiliated with that organization. Of the 253 buyers, 108 bought more than \$500 worth each and obtained fare refunds. Many of these buyers had never before purchased goods from Portland houses, hence the element of new business was an important factor, as it promises to be again this year.

The area from which Portland jobbing houses draw business is 240,821 square miles, of which 136,768 square miles is exclusive and 103,513 square miles

**Famous Stars Heard In New Records**

All Latest Dances, Including Keston and One Step Are, Out; Catchy Songs Add Interest.

Vacation time finds a generous selection of dance and popular records included in the Victor August offerings, eminently suited for beach, mountain or country place. They are of the double-faced kind and embrace all the latest hesitations and one-steps as well as the most melodious and catchy tunes of the day.

In the more serious classifications a record by Christine Miller, noted concert artist, recently added to the Victor's list of singers, is a feature. Miss Miller makes her debut with "Old Black Her" and "Come Out, Mr. Sunshiner."

"Caruso sings a Neapolitan favorite, "Manella Mia," with his usual dash while he also appears in a concerted number with Humpel, Rothier and De Segurilla. It is the quartet, "I Shall Behold Her," from Verdi's "Masked Ball."

Titta Ruffio, who appeared to advantage in Portland last winter, sings an air from Franchetti's new opera, "Christoforo Colombo," which had its premiere at Philadelphia last fall, and the glibly Algerian baritone, has a duet with Dumy Destinn. It is "Good Night," a Bohemian folk song.

Alma Gluck and Louise Homer sing "Roses of Aves," while John McCormack has a new record of Tosia's "Good By." Pot-pourri from two of the latest Broadway musical shows are to be found in a double-faced record giving gems from "The Follies of 1914" and from "Iole."

A large list of educational records rounds out the month's offering.

competitive. This area is divided among the various northwestern states as follows:

Oregon—Exclusive, 75,608; competitive, 15,999; Washington—Exclusive, 7,260; competitive, 27,090; Idaho—Exclusive, 53,900; competitive, 23,740; Montana, 20,800, all competitive; Utah, competitive, 700; Wyoming, competitive, 6184.

The wholesale business of Portland, as nearly as can be estimated, amounts to \$130,000,000 a year and there are between 2500 and 3000 traveling salesmen with Portland as their headquarters.

No competing city can marshal such an array of facts as these—facts which make Portland the admitted leading wholesale city of the Pacific northwest.

Motor driven windlasses have been invented for raising poles of circus tents quickly.

**NOW IN FULL BLAST!**

**Baker's Gigantic Clearance**

Started with a bang --- going with a rush! And with good reason. Never in the history of shoe merchandising in Portland has there been such a sale.

It's impossible to be indifferent in the face of such bargains. While the values are extraordinary, this sale is decidedly unlike most clearance shoe sales from the fact that you have your choice from scores of COMPLETE lines of NEW Summer Footwear—NOT short and badly broken lines only. You can be almost sure to be fitted in any style you select if you come before it is too late. COME TOMORROW and avoid disappointment.

**ATTENTION MEN!**

All Broken and Discontinued Lines of the High-Grade NETTLETON Shoe, Now, Pair **\$4.85**

Mary Jane Pumps **\$2.45**

Broken and discontinued lines of Women's Shoes, button and lace, patent colt, gunmetal and tan calf leathers. Former price to \$5. To clean them up, now priced at, a pair **\$1.95**

All Women's \$5.00 Colonials, patent, gunmetal, bronze, turn or welt soles, with the new Louis or Cuban heels, now **\$3.85**

All \$3.50 Colonials, made in the season's popular leathers, now **\$2.45** at, the pair

All \$3.00 Colonials, patent or gunmetal leather, now **\$2.25**  
All \$2.50 Colonials, patent or gunmetal leather, now **\$1.95**

All Women's \$4 Colonials, patent, dull or satin, turn or welt soles, absolutely new styles, now **\$2.95**

Men's \$4.00 black and tan calf English last Shoes, now **\$3.25**



Men's \$5.00 black or tan English Oxfords, now **\$3.85**



Men's \$4.00 round high toe, tan or black button or blucher Shoes, now **\$3.25**



Men's \$3.50 high toe black and tan Oxfords, now **\$2.85**



Women's \$5.00 Colonials, patent colt, gunmetal and bronze, now **\$3.85**



Women's \$4.00 Colonials in patent or gunmetal. Now **\$2.95**



Women's \$3.50 Colonials, new Louis or Cuban heels. Now **\$2.45**



Women's \$2.50 Colonials, turn soles and Cuban heels, now **\$1.95**



**Nettleton for Men**  
All regular staple shapes good the entire year, including the popular Tarsic London, Composite and other lasts, with sizes to fit any foot.  
**10 Per Cent Off Regular Prices**

**G.H. Water**  
LARGEST RETAILER OF SHOES WEST OF CHICAGO  
**380 Washington Street—Corner West Park**

**Laird & Schober FOR WOMEN**  
New Pumps and Boots of this famous make, including all the new and staple shapes.  
**10 Per Cent Off Regular Prices**

**WOODARD CLARKE & CO. DRUGS**

**Like the Elusive Flea**

Is the gentleman who flits from place to place, "fitting" Trusses. His fancy price may well be forgotten by the victims; not, however, the unskillful and dangerous appliances which he leaves a heritage of woe.

For 49 years we've fitted trusses right here in Portland. It's part of our calling as dealers in all those appliances which relieve or remedy bodily defects and deformities. Our fitters, men and women, are trained people. Our warranty of satisfaction has a meaning. We are behind it. You don't pay if you're not pleased.

Visit our store—ten floors devoted exclusively to our calling—the largest retail Drug Store in America.

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