

FORECASTING OF WEATHER HAS NO TOUCH OF OCCULT

Work Is Systematic, Simple and Is Carried on Much as Any Other Kind of Business Is.

[This is the first of a series of articles on the making of weather forecasts and observations, written exclusively for The Sunday Journal by Edward L. Wells, meteorologist, United States weather bureau, Portland.]

By Edward L. Wells
Meteorologist, United States weather bureau.

In the popular mind the making of weather observations and forecasts has been surrounded by an air of mystery. If the man on the street were asked how weather observations are made he might describe a be-whiskered individual in gown and pointed cap, looking at the sky through a spyglass. In actual practice it is somewhat different.

The official weather observer arises anywhere from 3:30 to 4 a. m., depending on how far he lives from the office, and how the owl car runs on his line.

At 4:30 he arrives at the office, which occupies five rooms on the second floor of the United States custom house at North Eighth and Davis streets, and is equipped with such apparatus as is usually found in any up-to-date business office. In addition to the desks, chairs, filing cases, typewriters, business phonographs, multigraphs, addressographs, etc., there is a fully equipped printing and stereotyping outfit; there are telegraph lines connecting with the Western Union and Postal offices, and with the station at North Head, Wash.

The meteorological apparatus is quite simple, but includes instruments for measuring and recording the various weather elements, and the rise and fall of the river. It does not include a spyglass.

The observer first takes a look at the self-recording apparatus to see that it has been working properly, and that no record has been missed during the night, and makes any adjustments that may be necessary.

THERMOMETERS ARE READ

He then goes to the roof, reaching there at 4:40; there he reads four thermometers, giving the highest and lowest temperature during the night, the wet-bulb or sensible temperature, and the dry-bulb, or ordinary air temperature; he compares these readings with the autographic temperature record; he sets the thermometer for the next observation; he notes the amount of cloudiness and kinds of clouds, recording them by name, together with the direction from which they are moving; he tests the automatic rain gauge, and if rain has fallen he measures the amount in inches and hundredths; if snow has fallen he measures the depth as it lies, then melts a measured section to obtain the water content.

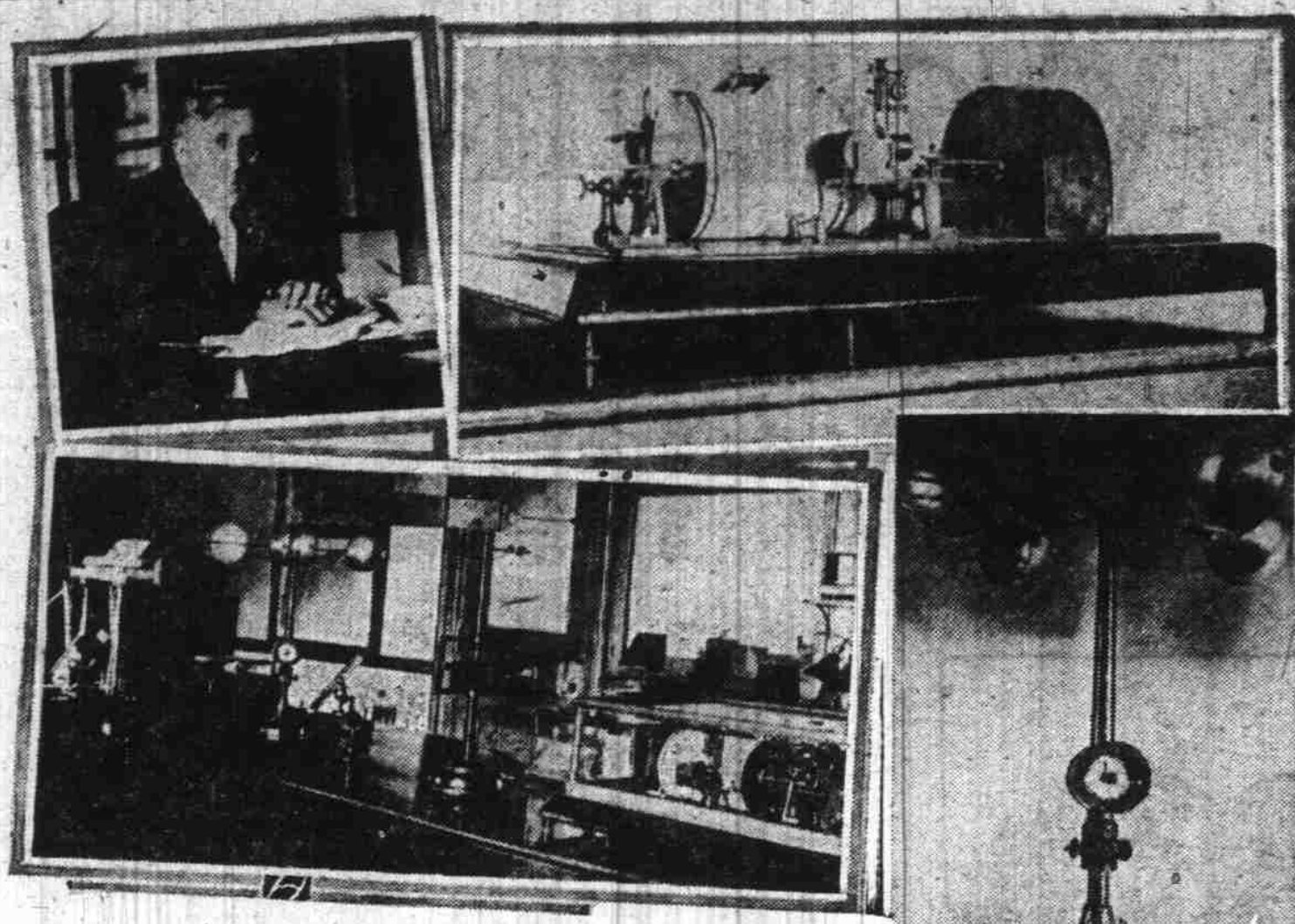
This work on the roof takes about 5 minutes, so that at 4:45 he returns to the office. He then obtains the direction and velocity of the wind and verifies his measurement of rainfall, by consulting the self-recording instrument; he next reads the barometer, taking the temperature of the mercury and measuring the height of the column to the nearest thousandth of an inch, and checks this reading with the continuous record made by the barograph; he then checks his thermometer readings with the thermometer bulb out of doors and an indicating dial in the office.

MESSAGES READY AT 5 A. M.

By this time it is about 4:48 and for the next 12 minutes he has little to do except to enter these various readings in the permanent record book, apply to the barometer readings the necessary corrections for the temperature of the mercury and the elevation of the barometer above sea level, obtain from the readings of the dry and wet thermometers the dewpoint, relative humidity and vapor pressure, check the readings made at this observation with those made 12 hours previous, add the amount of measured rainfall to the amount measured at the preceding observation, verify all these computations, and make up a code message embodying the essentials of the observations.

This message must be ready by 5 o'clock, and must be complete and correct.

WEATHER MAN AND HIS INSTRUMENTS



At stations not provided with telegraph facilities the observer must complete the message so as to get it to the telegraph office on the stroke of 5. At the same hour of actual time, about 220 men, at as many stations throughout the country, are making similar observations. At the corresponding hour in the evening the process is repeated, and during stormy weather special observations are taken from time to time.

The observation messages look something like this:

PAUL OBFUSCATE SARDINE ONION KEYHOLE TULIPS KILLING WATCHING CEREMONY VAT-FUL.

This means that at St. Paul, Minn., at the time of the morning observation the conditions were as follows:

Barometer, 30.08 inches, with a rise of .08 inch in the last 2 hours; temperature, 30 degrees; lowest temperature during the night, 28 degrees, with a killing frost; wind, northwest, 8 miles an hour, with maximum wind velocity during the night of 30 miles an hour from the north; precipitation, last 24 hours, .06 inch; river 7 foot above low water mark and falling; a thunderstorm began at 3 p. m. and continued 1 hour; sky, partly cloudy with 4 or 5 alto-cumulus clouds, moving from the west.

Messages are almost never so long as this, as all these events are not likely to occur in the same 12-hour period; the messages more often consist of only three to five words. The code is simple, saves expense, and lessens the likelihood of mistakes.

The messages have the right of way over the wires, and are rapidly collected at the centers where forecasts are made. Next Sunday's article will tell how this information is used in making forecasts.

Work Is Commenced On Road to Anthony

Baker, July 31.—Work began Thursday on the long-talked-of road to Anthony lake by a crew of men under the supervision of the Whitman forest office, thereby paving the way for opening up a new summer resort. The road will start at the Smith ranch on North Powder river at the junction of the river and Anthony creek, about one mile from the forest reserve boundary.

About \$6000 will be spent this year. This will complete the road as far as the first crossing on Anthony creek. When completed, the road will have cost between \$15,000 and \$20,000, and will be easily accessible for automobiles. At present the beautiful chain of lakes at the head of North Powder river and Grande Ronde river can be reached only by pack horse over steep mountain trails.

Hood River Man Is Witness at Hearing On Asiatic Problem

Hood River, July 31.—R. E. Scott, secretary of the Anti-Asiatic association, who has returned from Tacoma, where he gave evidence before the congressional committee investigating the Japanese problem on the Pacific Coast, told the committee that the association was formed by white ranchers with the object of curbing the rapid acquisition of property in Hood River county by Japanese, and that in this respect it had been successful, because 75 transfers of local property to Japanese had transpired since the association came into being.

He also informed the committee that the Japanese of Hood River invariably send their American-born children back to Japan for their education, with the result that only in rare exceptions were Japanese children found in the local schools. While he admitted that local ranchers did not regard Japanese already established here as a menace to the white population, he pointed out the desire of Americans to check further inroads of aliens who cannot be assimilated.

Hood River Garage Men Will Secure 3 Tanks of Gasoline

Hood River, July 31.—With the Standard Oil company reducing the local allotment to garages, garage men have decided to secure three tanks of independent gasoline and have already made arrangements to handle it on arrival. While this gasoline will cost considerably more than current prices here, users have assured garage men that they will pay the price. Sufficient to carry tourists to Portland or The Dalles is being sold to them. Hundreds of touring cars are passing through here every day and the auto park is filled to capacity.

Hood River Masons will hold their first annual picnic at Cascade Locks on Sunday, August 8, by which date the Columbia river highway will be completely paved from this city to the locks. It is expected that several hundred persons will celebrate and a number of attractions are to be provided.

Sick Girl Is Placed In Proper Custody; Red Cross Sponsor

Baker, July 31.—Sylvia Riggs, 3 years old, recently brought to Baker from Grant county by Mrs. Elizabeth Burrows of the local Red Cross chapter, has been placed in the custody of her grandfather, Charles Waldo, by order of the juvenile court. The girl is the daughter of Walter Riggs and was found suffering with whooping cough, receiving little attention. The child's mother died last fall and since that time she has been taken from place to place by her father.

Elder and Mrs. F. F. Oster, for eight years missionaries in Persia and Armenia, have arrived in Baker for a visit. During the week Mrs. Oster was forced to flee at night on a horse, carrying her 3 months old baby in her arms.

Gasoline Explosion Cause of \$100,000 Fire in Los Angeles

Los Angeles, July 31.—(U. P.)—Fire originating from the explosion of a tank of gasoline completely destroyed the Diamond Auto works and two adjoining buildings, with a loss estimated at \$100,000, late this afternoon. More than a dozen automobiles were consumed by the flames, it was reported. The flames were under control at 3 o'clock.

Albany Store Sold

Albany, Or., July 31.—Stock, fixtures and building lease were included in the sale of the Worth department store here to the J. C. Penney company, represented by F. E. Livengood, according to announcement made Monday. The consideration is said to have been not less than \$80,000. The contents of the present J. C. Penney store will be combined with that of the Worth store, which occupies a large, new brick building.

Legion Plans Picnic

Condon, July 31.—The Frank Burns post of the American Legion will stage a picnic at the Lost Valley picnic grounds Sunday, August 8. A program will follow a picnic dinner served by the ladies' auxiliary.

CITY HALL GIVEN MANY REMEDIES AGAINST EARWIGS

Rapacious Insects That Devour Flowering Plants Are Easy to Exterminate, Visitors Assert.

Now that it has been officially discovered that the earwigs are in our midst, the city hall is being rushed by individuals, almost as numerous as the earwigs, who have the secret of how to exterminate them.

Residents of Walnut Park, who are watching the rapacious insects devour their rose leaves and other flowering plants, regard the plague as highly serious, but persons who claim to have seen earwigs many times before say their eradication is a simple matter.

"Farmer" Smith, the venerable agricultural agent of the O. W. R. & N. Co., was at the city hall Saturday morning, talking with the mayor and Commissioner Mann about the situation. He mentioned a formula to put the quietus on earwigs, as follows:

Mix one pound of paris green with 25 pounds of wheat bran, mixing dry. Chop two oranges very fine, using a meat-grinder if possible, and mix with

a pint of molasses. Dampen the mixture of bran and paris green so it is crumbly but not soggy, and then mix through it the molasses concoction. Flavor the whole mass with about 20 drops of anise oil.

SMALL DOSE SUFFICIENT

The mixture may be placed around the plants affected by the pests, in small quantities, and it should be covered by pieces of wood or something else solid enough to keep the birds and chickens from eating it. Smith guarantees that every earwig in smelling distance will investigate, masticate and immediately go to his reward.

One pound of arsenate of lead mixed with 50 gallons of water and sprayed on the under side of the leaves is also mentioned as a means of exterminating the pests.

It remained for J. L. Hooper, city purchasing agent, to make the most novel suggestion in the drive against the earwig. Hooper is an Englishman and he says the earwig is one of the commonest enemies of the flower gardens in the United Kingdom.

REMEDY USED OVERSEAS

The gardeners overseas fight them in this wise: Drive wooden stakes about a foot long through the affected areas. In the bottom of moderately large flower pots stuff loosely a handful of soot or city hay. Invert the pot over the end of the stake. The festive earwig, Hooper declares, will desert the plants and climb the stake, clinging inside the straw and remaining there. Each morning the straw will be found to be alive with the insects and they can be destroyed by burning or drowning with hot water. A few days' treatment of this sort will clean out the colony, Hooper says.

Residents of Walnut Park appeared before the city council Friday afternoon and appealed for action on the part of the city in combating the

GIFTS THAT LAST

The DIAMOND—the Gem Imperishable!

ARONSON Diamonds are full of life—flashing, glowing, scintillating life, that never dies—never grows old!

Wear an Aronson diamond and keep young! Give an Aronson diamond as a token of never-ending affection!

ARONSON'S

Washington at Broadway

"Buy It at Jennings's for Less" in the August Furniture Sale

We inaugurate a series of weekly sales that will continue to keep this Portland's busiest furniture store! Now is the ideal time to furnish your home for winter! Not only are the savings of worth-while interest, but the quality of the furniture offered is an added inducement for buying. Come and see these unusual values! In addition to lowest prices, we extend the most liberal credit.

August Weekly Sales Open Tomorrow Morning

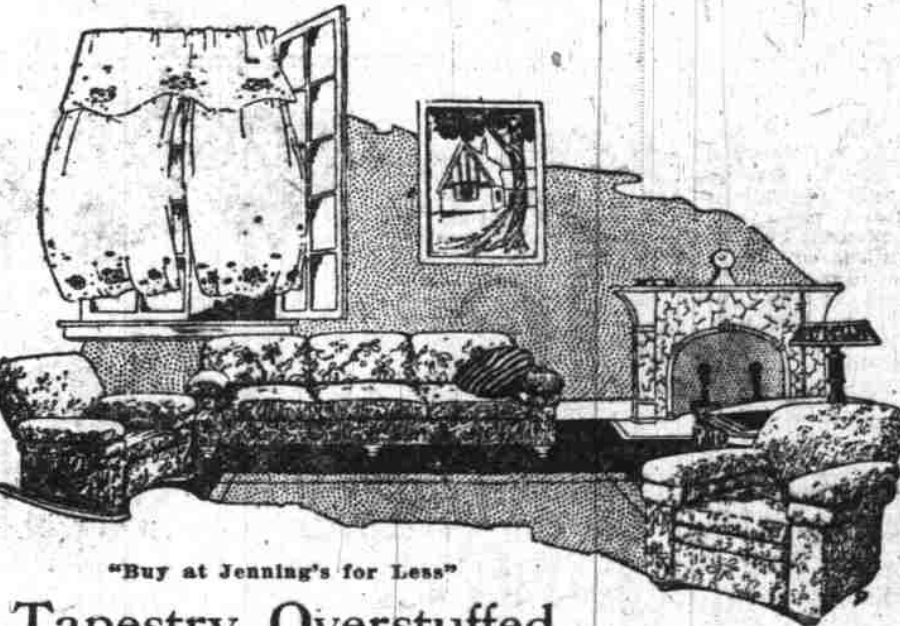
"Buy at Jennings's for Less"

Solid Mahogany and Cane Davenport \$218.50

Regularly Priced \$300

This is one of our finest davenports; it is faultlessly constructed, furnished in either silk damask or velvet upholstery. It has three loose seat cushions and three back cushions.

\$135.00 Chair to Match \$96.50



Tapestry Overstuffed Davenport \$194.75

August sale price extraordinary! A full-size Davenport—spring seat, arms and back; three loose spring cushions! Terms to suit! Chair to match, if desired.

Denim Overstuffed Davenport \$98.50

We can furnish this davenport in any pattern denim to suit; it has spring seat, arms and back, and it is fitted with three loose spring cushions. Sold on easy terms. Chair to match \$58.50.

Colored Marquisettes 36-Inch Width Regularly 60c a Yard Special 43c

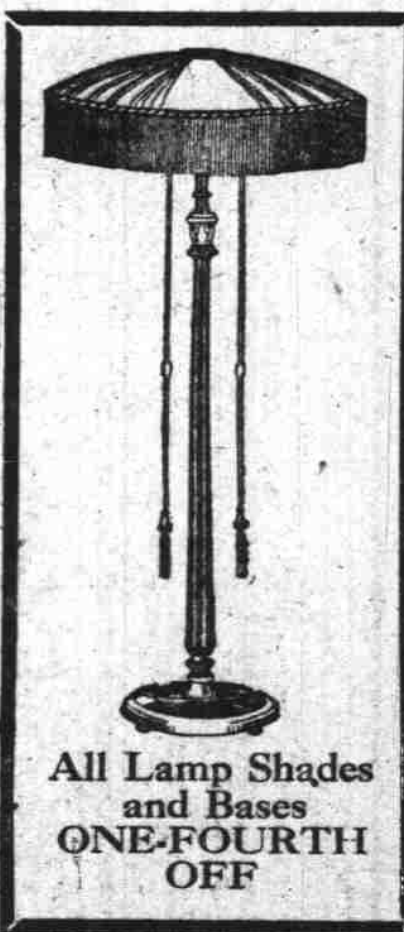
Roman-Stripe Portieres
One-Half Price
Regularly \$7.50, \$11, \$12, \$13
Deduct One-Half

Heavy Repp Portieres
One-Half Price
Regularly \$13.50, \$22.50, \$25, \$27.50
Deduct One-Half!

Reed-Fiber Pieces Deeply Reduced

There are notable reductions throughout our lines of reed and fiber furniture. Now is the time to buy these daintiest of pieces for your "better home." We give here but two examples, in order to show the extent of the reductions:

Regular \$35.75
Rockers reduced to **\$25.50**
Regular \$40.75
Chairs reduced to **\$29.25**



Washington at Fifth

JENNING'S

Washington at Fifth

High Quality Wilton Rugs

Discontinued patterns in 9x12 size are reduced.
\$195 Rugs are reduced to **\$142.50**
\$135 Rugs are reduced to **\$98.75**
\$105 Rugs are reduced to **\$85.00**
\$95 Rugs are reduced to **\$76.50**

Other Rugs Reduced

\$75 Wool Velvet Rugs, 9x12 size, one piece, reduced to **\$57.50**
\$20 Axminster Rugs, 4-6x10-6 size, reduced to only **\$14.75**

"Buy at Jennings's for Less"

Rare Dining Suite of Solid Mahogany \$685

Regularly Priced \$1028

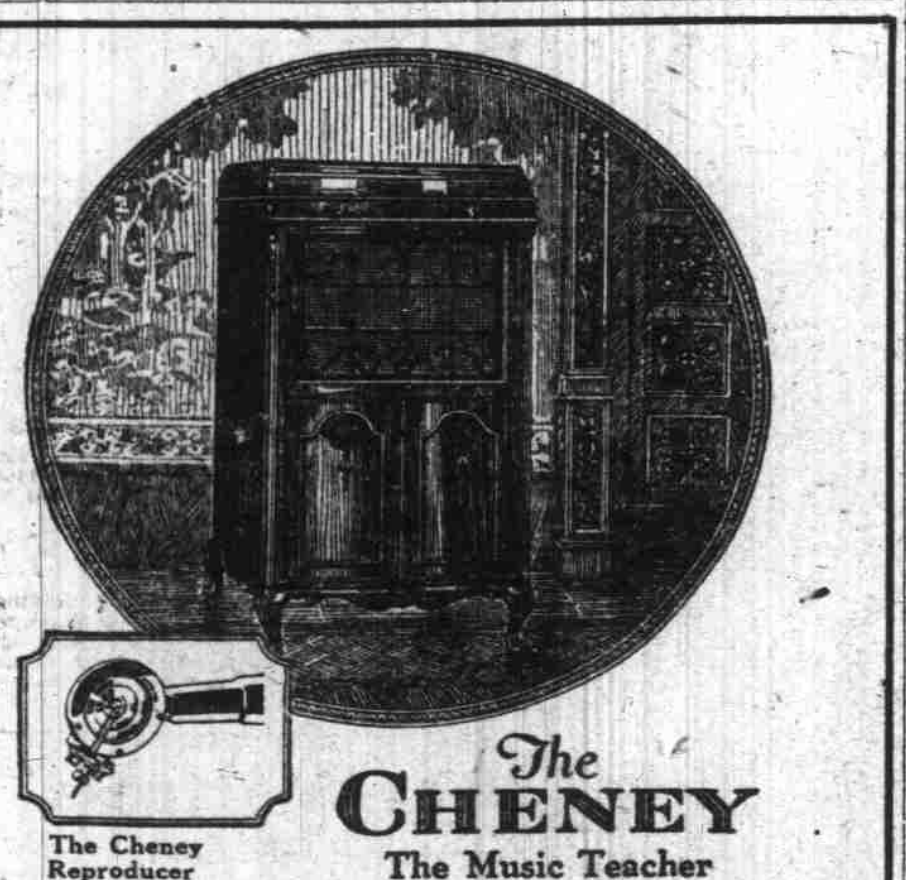
Only one suite to sell, therefore we have put it in the August sale at a price which should sell it tomorrow! Ten pieces in Adam design, richly finished, massive and luxurious: Large Buffet, Extension Table, Large China Closet, Serving Table, Carver, and five Diners. Fully to appreciate the beauty of this suite, you must come and see it. Terms if desired.

"Buy at Jennings's for Less"

Substantial Bedroom Suite in Ivory Enamel \$121.75

Regularly Priced \$163

This is a moderately priced suite of three pieces: Full-size Bed, Triple-Mirror Dressing Table and Chair. This reduction makes it an object for immediate purchase.



The CHENEY The Music Teacher

LOVERS OF MUSIC enjoy intimate evenings with their favorite artists when The Cheney plays in the home. In its music, technique and personality are revealed with delicacy and vibrant beauty.

The Cheney embodies an original application of acoustic principles. It restores to all records the sustained tones and mellow overtones of the original rendition, playing with a wealth of exquisite harmony.

Cheney cabinets are true period models and while more beautiful, the price is not more than for ordinary phonographs.

Priced \$125, \$150, \$185, \$250 and Up

Come in—See and Hear the Cheney

G. F. Johnson Piano Co.

147-149 Sixth Street, Portland