

THE MANUFACTURE OF PAPER.

Prominent among the greater industries of the United States, which have grown to large proportions during the past twenty-five years, is that which is devoted to the manufacture of paper. At a recent meeting of the American Paper Manufacturers' Association the president stated that the association was formed about eighteen years ago and that the paper business had since taken on a rapid growth. At that time the manufacture of paper in the United States had grown to such an extent after the war that the capacity of the mills in 1878 in the production of paper amounted to nearly 3,000 tons of product per day. To-day the capacity of the mill product in this country is about 12,000 tons per day.

The general public has little idea of the size and cost of an average paper mill. The finished product, as we see it in our books and our daily newspaper, is so familiar, and the materials of which it is popularly supposed to be made are so cheap, and for most other purposes worthless, that to many it will be a surprise to learn that an average paper mill costs from \$1,000,000 to \$5,000,000 to build and equip. It is capable of turning out some 40 tons of paper per day, and to run the machinery requires boilers and engines of not less than 3,000 horse power. For washing the pulp, etc., there will be required 4,000,000 gallons of water per day, or enough to supply a city of 50,000 inhabitants, and the whole of that supply must be filtered by the most approved modern processes.

The manufacture of the paper may be broadly separated into two processes, consisting, first, in the preparation of the pulp, and secondly, in the formation of the paper from the pulp.

1. The preparation of the pulp.—The popular idea that paper is made from rags is true only of fine writing paper, which is made entirely from this material; but newspapers and most book papers are made entirely from wood. The better class of book paper is made from wood and a small percentage of rag. There are two kinds of wood pulp.

1. Ground or mechanical wood pulp.—This is made by grinding the ends of spruce logs against revolving emery wheels. This is done under water, and the result is a finely divided wet sawdust. The wood retains all its natural gums and acids and has no fiber. It must be used with some more fibrous material, such as chemical wood pulp. This is the cheapest form of pulp, and it is therefore only used for newspapers and so-called manila wrappings.

2. Spruce wood pulp is made from spruce or poplar. The timber comes to the mill in barked logs, which are four feet long, and have had all the knots carefully bored out. The logs are fed into a "chipper," in which the knives are arranged in an angle of 45 degrees to the center line of the machine. These knives cut the logs diagonally to the grain into "chips" which are half an inch long. The chips are conveyed to "digesters," which are upright cylinders 7 or 8 feet in diameter and 30 feet long. If spruce wood chips are being used, they are treated by the acid process, the digesters being lined with acid-proof brick. The acid liquor is obtained by mechanically combining sulphurous acid gas with milk of lime, and forming a bluish-white lime. The digesters are filled with chips and liquor in proper proportions, and are then hermetically sealed. Live steam is introduced, and the chips are boiled for eight hours under a pressure of 110 pounds to the square inch.

If the chips are made from poplar, the process is the same, except that the liquid is made from caustic soda ash and water.

After the boiling is completed, the contents of the digesters are blown out into a receiver, where it presents the appearance of a mass of soft pulp. The liquor is then washed out, and after the pulp has been blanchet, it so closely resembles the rag pulp, which is used in the manufacture of fine book paper and writing paper, that only an expert can tell the difference, both being a pure vegetable cellulose. The pulp is now subjected to a process of beating and macerating, to reduce it to the proper consistency; and at this stage coloring may be added to give any desired shade. A certain amount of sizing is also introduced—the sizing being made from resin "cut" with soda ash—for the purpose of giving impermeability to moisture and a firm surface; otherwise the product would be a simple blotting paper.

The pulp is now ready to go to the paper machine. It should be noted here that newspaper pulp is formed of 80 per cent ground pulp and 20 per cent chemical pulp. Book paper is formed entirely of chemical pulp.

11. The paper machine.—If he bear in mind the frail nature of the article which it is designed to handle the visitor to a paper mill will be astonished at the great size and weight and the massive strength of a paper mill.

At first sight the massive cast iron and steel frame, from eight to ten feet wide, and from one hundred and fifty to one hundred and seventy-five feet long, appears to be better fitted to manufacture iron and steel than to handle thin, milky fluid which stands ready for manipulation at the upper end of the machine. The wet pulp, of which 95 per cent is water, first passes through a screen, where it is cleaned. It then flows into a vat, at the further edge of which is provided an outflow, which consists of a true, level, edge or lip which

forms a kind of weir, over which a broad, thin stream of pulp flows onto the paper machine proper. This stream is the full width of the machine, and its depth has to be kept perfectly true and even throughout. The pulp falls onto what is known as the Fourdrinier wire. This is an endless wire cloth, seventy meshes to the inch, which is the full width of the machine, and travels continuously over a set of parallel rolls, passing around an end "couch roll," and returning again under the machine. In addition to its forward motion, this wire cloth or screen has a lateral rocking motion across the machine. As the pulp flows onto this wire a large portion of the water assisted by the shaking, strains through and passes away, leaving a thin film of pulp which is the future sheet of paper. This film is picked up off the "couch roll" by an endless woven felt, which carries the wet sheet between several gun metal "squeeze rolls" or "press rods," which force out a sufficient amount of water for the sheet to be able to sustain its own weight.

At this point the sheet is transferred to an endless cotton felt, which supports it while it both passes over and around a dozen or more driers, which are hollow cylinders 3 feet in diameter and extending the full width of the machine, through which a constant flow of live steam is maintained. These thoroughly dry out the paper.

At this stage of the process the sheet is rough and uneven, presenting very much the appearance of a sheet of paper that has been wetted and allowed to dry out again. It now has to be ironed out, as it were, and the desired finish imparted to its surface. For this purpose it is passed through the calenders, which consist of two vertical standards which carry usually 11 superimposed chilled steel rolls of the very highest polish. This paper is inserted between the upper two and passes down through the whole set, the desired pressure being obtained by means of power-screws. This process is repeated in a second set of rolls, after which the finished paper is wound into a large roll. It is then passed through the cutters and cut to the required width and length.

If a highly finished surface is desired, the paper is passed through what are known as super-calenders, which consist of 7 rolls, 4 chilled steel and 4 of pressed paper, arranged alternately in the roll combination of the two materials in the roll giving a high finish. The whole machine is run at a very high speed, 300 to 350 feet per minute being common. There are some machines that run the paper out at the rate of 400 feet per minute, or between 4 and 5 miles per hour, and such a mill will frequently run an entire day without a break in the paper.

These speeds are only possible in the manufacture of common news paper. In making the finer grade grade of the "Scientific American," the mill can only be run at about one-half the above speed. The whole machine has to be adjusted with the greatest care and delicacy. It runs at so high a speed, and the material upon which it operates is so frail, that any unevenness in the rolls or an irregularity in the speed of any particular part of the machine, would break the sheet, and throw the work into confusion.

The following material is consumed every month in a paper mill of 40 tons per day, or 1,000 tons per month capacity:

Coal	25 tons
Wool	23 1/2 tons
Boiling powder (chloride of lime)	142 tons
Salt brine	77 tons
Lime (milk of lime)	55 tons
Lime (2-2 1/2)	17 1/2 tons
Soda ash	125 tons
English clay	200 tons

Many a paper mill is run continuously from 12 P. M. Sunday night until 12 P. M. on the next Saturday. Two sets of operatives being employed. From the time the log of wood is put into the chipper to the time the paper is cut up into sheets, the material is never handled, but passes through a continuous mechanical process.

It is not a miracle. It won't cure everything, but it will cure piles. That's what Dr. Williams' Pink Pills do, because it has done it in hundreds of cases. W. E. Brock.

The Deepest Shaft in the World.

At the greatest depth ever attained by miners in the history of the world, the mines in the vertical Red Jacket shaft of the Culmet & Hope copper mine have recently stopped sinking at a depth of 4,900 feet, as this is the required depth necessary for this company to reach the limit of its underground territory. Bored wells have been carried down to a greater depth, but the Red Jacket shaft is the largest and best constructed mining shaft in the world. Its inside dimensions are 14x22 1/2 feet, divided into six compartments and timbered throughout with pine. The shaft was started in the fall of 1880. The new shaft rock houses, which will be built of iron and will be made fire-proof throughout, is the only part of the work necessary to put this deep shaft in commission, as the hoisting machinery, which consists of two pairs of triple expansion engines of 3,000 horse power per pair, and will hoist a load of ten tons 60 feet per second, was planned and put in place while the sinking of the shaft was going on.

A little pill, then a little pill. The little pill has won. Dr. Williams' Little Early Risers, the little pills that cure great ills. W. E. Brock.

HOW WOMEN FIGHT IN CUBA.

An organization composed of women is fighting for Cuban independence with Gen. Maceo. A correspondent watching operations in the West sends an interesting letter, in which he says:

"They are the most courageous body of soldiers I ever saw. I have seen them in two skirmishes and one battle, that of Pinar del Rio, and not one of them has flinched, even when men were falling dead and wounded all around them. While the fighting lasts they show no emotion, but when the last shot is fired I have seen women throw themselves on the ground and give way to a delirium of grief.

"At the skirmish at La Palma I saw Henrietta, Isabella and Mercedes Veron, sisters, members of one of the proudest families of the eastern part of the island, fighting side by side. They seemed to keep near each other. Isabella, the youngest, was a frail little girl, not more than 17 years old. During a rush of soldiers the sisters were separated. I saw a man throw himself on Isabella and about to cut her down with a machete, when the sisters fought their way to her side and cast themselves at the soldier with indescribable ferocity. He was a strong man and could easily have fought the man jumped backward, and, turning, found Isabella alone facing him. He seemed to admire the bravery of the girls, and in a spirit of gallantry tried to escape without hurting her. But Isabella did not want him to get away alive, so she aimed a blow at him with her machete. The flat side fell upon his head and he fell. While prostrate the Spaniard struck upward, and his weapon split open the head of the girl. She never knew what hurt her.

"Mercedes and Henrietta went at the man like tigers. Before he could regain his feet they had literally cut him to pieces. The body of the Spanish soldier bore forty-eight cuts. The living sisters took one look at Isabella to see that she was not merely wounded, and, satisfying themselves that she was beyond aid, they rushed into the fight again. When the battle was over and the Spanish were flying in every direction then the womanhood of the girls appeared. They sought the dead body of their sister, threw themselves upon it, and gave way to their grief. Other women approached and tried, with feminine tact, to console the bereaved ones. Mercedes, the oldest sister, spat and stamped on the body of the man who killed Isabella. This act was witnessed by Lieut. Cass, of Maceo's staff, who sternly rebuked Mercedes, reminding her of the punishment provided by the General for those who profaned dead enemies. The voice of authority restrained the girls and reminded them that they had laid aside womanhood when they became soldiers, so they dried their eyes and set about burying the sister. She was laid away in a separate grave, and the sisters left the spot with their comrades.

"The idea of Maceo's command is Senora Florenza Palmas, who distinguished herself in the hot engagement two weeks ago near Havana City by standing on a rise of ground while the battle was raging below her and coolly discharging shot after shot at the enemy. The woman is a splendid shot, as was proven by the fact that at the close of the fight, a Captain, a Lieutenant and three soldiers lay dead from her bullets. Her position on the hill made her a good mark for Spanish bullets, but, although fired at a number of times, she came out of the fight sound as a dollar. Senora Palmas' comrades cheered her as she blazed away, and her example caused the men to fight like demons. At the close of the battle Maceo had Senora Palmas escorted before him, and publicly thanked her for the example she had shown his men. The Senora followed her husband, who is a rebel leader. She is of English stock, but was born in Cuba and educated in the United States. Her husband is American born, but grew up on the island, and owns a large plantation in Matanzas province.

"The women have been commissioned as a cavalry detachment. They ride astride their horses, and rush like furies into battle when bugle sounds charge. They took pride in competing with the men for the most dangerous positions at the fall of Pinar del Rio. Their ranks would undoubtedly be much thinner now, were it not for the chivalry of Spanish soldiers, who never seek to hurt them unless necessity causes self-preservation. Capt. Gen. Weyler has given orders that woman warriors should not be killed in battle, unless necessary to preserve the lives of Spanish soldiers. His commands are that they shall be captured alive and treated with all the courtesies due their sex.

"The troop of Amazons was organized by Senora P. Hernandez. Her husband was killed in one of the first engagements of the war. He owned a large sugar plantation and was counted quite wealthy. The couple had no children. When told of her husband's death, Senora Hernandez said she had lost all she cared for, and would join the rebel ranks. Gen. Maceo did not like the idea of women soldiers, but here in Cuba women mold men as they please, and the leader finally acceded to her wishes. The Senora enlisted two women from near her own home, and gathered others as they marched into other localities. She took part in burning her own plantation, which was ordered done, because if not done it

would give color to the charge of favoritism.

"Most women in the army are from the East and marched across the island with Maceo, but a few are from the West. They now number twenty, three having been killed. Four of them are negroes. The uniform consists of a red jacket, blue collar and cuffs, buff colored trousers made after the fashion of those worn by American blunder girls, leather leggings running to the knees, a wide belt to carry a revolver and machete, a leather strap fastened around the body across the shoulders where the rifle is slung. The woman cut their hair close, man fashion. Their head gear consists of a wide-brimmed hat with the brim turned up in front, making a flat surface which holds the five pointed emblem of Cuban liberty."

Karl's Clover Root Tea is a sure cure for headache and nervous diseases. Nothing relieves so quickly. For sale by the Delta Drug Store.

Untruthfulness of Morphiomaniacs.

The mental and moral destruction which occurs in a victim to the morphia habit is a fact which unfortunately has been only too frequently demonstrated. This point has led to some discussion respecting the expediency of rejecting the testimony in a court of law of those who are known to be addicted to the use of morphia. One authority has even gone so far as to say, "I would not believe a man who is a victim of the morphia habit on oath." No doubt the moral obliquity as to truthfulness present in such a person would be perfectly uncontrollable, under any circumstances, and unrestrained, even although he had sworn to tell the truth. But before coming to any definite decision upon the question of receiving or rejecting the evidence of such a witness, it would first of all be only expedient to determine what constitutes a person whose mental and moral capacities have been tainted by the use of morphia.—Med. Press and Circular.

Ask your physician, your druggist and your friends about Shiloh's Cure for Consumption. They will recommend it. For sale by the Delta Drug Store.

The political parties should each nominate as candidate for the vice-presidency as able a statesman as the one nominated for the presidency. If there is any man who feels himself too large to accept the nomination for the vice-presidency, he ought to be considered too small to be presented with one for presidency.

DeWitt's Sarsaparilla is prepared for cleansing the blood. It builds up and strengthens constitutions impaired by disease. W. E. Brock.

I was nervous, tired, irritable and cross. Karl's Clover Root Tea has made me well and happy. Mrs. E. B. Worden. For sale by the Delta Drug Store.

STILL-HUNTING FOR BUFFALO.

The Indians Disguised Themselves in Wolf

Little Bear came to my tent just as I had finished my steak, biscuit and coffee. He brought two wolf-skin disguises, which I had before seen in his traps. Each was made of two wolf pelts sewed together, with mounted nose and tail, and there were armholes with short skin sleeves, and leggings for the thighs, which came nearly down to the knees, the whole covering fastened to the body with deerskin thongs.

He had before promised to take me on a "wolf hunt" after buffalo, and he now put on the largest of the coverings and maneuvered about in front of my tent, showing the various attitudes of the wolf in shambling along, in trotting and in snaking upon its paws.

I was curious, who was wielding her wawajala (dressing knife) upon an upturned buffalo pelt pinned to the ground with wooden pegs, stopped her work and grinned approval. He certainly mimicked the wolf well, and the disguise, excepting the legs and the size, was perfect.

"Hoogh!" he said, when he had shown me how to act in crawling up to game. "We go hunt now tewan that way," pointing to the northwest, up the creek.

I was glad to go upon a still hunt, for, to tell the truth, the mixed hurly burly of the usual Ponca method and its useless dangers did not recommend it to me when I had had time to reflect after the excitement was over.

When Little Bear and I mounted our ponies and rode out that morning, the camp was in an uproar, as usual in the preparation for a hunt. A scout had come in with news of a big herd to the eastward, and the Indians were running in ponies, saddling and cinching them on all hands, and there was much barking and plunging among the wild and skittish ones, as usual. Squaws were bustling about at the command of their lords and masters, and young lads, in half leggings and short shirts, were rushing to and fro, making a great parade of helping to get the hunters started.

CASTORIA

for Infants and Children.

THIRTY years' observation of Castoria with the patronage of millions of persons, permit us to speak of it without guessing. It is unquestionably the best remedy for Infants and Children the world has ever known. It is harmless. Children like it. It gives them health. It will save their lives. In it Mothers have something which is absolutely safe and practically perfect as a child's medicine.

Castoria destroys Worms.
Castoria allays Feverishness.
Castoria prevents vomiting Sour Cured.
Castoria cures Diarrhoea and Wind Colic.
Castoria relieves Teething Troubles.
Castoria cures Constipation and Flatulency.
Castoria neutralizes the effects of carbonic acid gas or poisonous air.
Castoria does not contain morphine, opium, or other narcotic property.
Castoria assimilates the food, regulates the stomach and bowels, giving healthy and natural sleep.
Castoria is put up in one-size bottles only. It is not sold in bulk.
Don't allow any one to sell you anything else on the plea or promise that it is "just as good" and "will answer every purpose."

See that you get C-A-S-T-O-R-I-A.
The genuine signature of J. C. Pitcher is on every wrapper.
Children Cry for Pitcher's Castoria.

chief with his bow and arrows at his back, he slipped down the ravine into the creek channel, keeping entirely out of sight of the herd. The wind was fairly in our favor, and we kept along the bed of the stream, in which ran a little trickling brook at the bottom, until we reached the mouth of a dry run leading across the valley and through the middle of the herd. There were such runs and ravines cutting back into the hills every half mile or so.

Up this gully we went at a jog trot, bending low, until it became so shallow that we could begin to see the buffalo upon the hills above.

The chief then squatted and motioned me down. We put on the wolfskins, he taking the largest, for, despite his name, he was a large and powerfully made man. Adjusting the eyeholes so that we could see plainly, we crawled out upon the open ground upon our hands and knees. Almost the first thing that happened to me was to get one of my knees filled with cactus spikes, and while I whined about trying to pull them out I heard Little Bear growling under his breath, "Hoogh! Twan hoop plenty—we kill hoop!"—Frank Welles Calkins in St. Nicholas.

The Newspaper in School. The growing influence of newspapers in school education was illustrated at a conference of the Public Education association in New York when Miss Josephine C. Locke, supervisor of drawing in the public schools of Chicago, told how the children are being trained to search the columns of the press in working on topics of a public nature. It should be one of the functions of every school to teach the children how to read a newspaper to the best advantage—and also what newspapers should be read.—Springfield Republican.

Never risk a joke, even the least offensive in its nature and the most common, with a person who is not well bred and possessed of sense to comprehend it.—Brydger.

Women on a Colorado Jury. Two women sat on a jury in a justice court in Cripple Creek the other day. Constable Hathaway, when he went out to get his panel, concluded that as the fair sex could now vote they could also act as jurors, and so brought in a bevy of women and a few men. The case on trial was that of a landlady who was charged with stealing a ring valued at \$12 from one of her boarders and sending it to her daughter at Des Moines. The two women, along with a number of men, found the defendant guilty and assessed a fine of \$1 and costs against the landlady after an absence of five minutes from the box.—Denver Republican.

She Is Eighty-four and Goes Skating. On New Year's day Mrs. James Gosling, 84 years old, was dared to put on skates and take a spin on the canal in Shulton, Conn. In spite of her age the old lady would not take a dem, and in company with middle-aged members of her family she put on the skates and spent a good part of the afternoon showing the girls how their grandmothers used to do it when they were young. She didn't fall once. She was so well pleased with her experience that she proposes to enjoy the sport again during the winter.

R-I-P-A-N-S
The modern standard Family Medicine: Cures the common every-day ills of humanity.

FIRST NATIONAL BANK OF HILLSBORO.
Transacts a General Banking Business.
J. W. SHUTE, President
BENJ. SCHOLFIELD, Vice-President
J. D. MERRYMAN, Cashier

Sells Sight Exchange and Telegraphic Remittances, and issues Letters of Credit available throughout the United States. Draws Bills of Exchange on London, Liverpool, Dublin, Paris, Berlin, Frankfurt-on-the-Main, Stockholm, and all principal cities of Europe.
Collections made on all accessible points. Banking hours from 9 A. M. to 3 P. M.

FERRY'S SEEDS
Ask for them—get them, plant them. They are the standard seeds everywhere; sown by the largest planters in the world. Whether you plant 20 square feet of ground or 50 acres, you should have Ferry's Seed Annual for '96. The most valuable book for farmers and gardeners ever given away. Mailed free.
D. M. FERRY & CO., Detroit, Mich.

EAGLE MARBLE WORKS!
T. G. HARKINS
MANUFACTURER OF MONUMENTS, HEADSTONES and all kinds of Marble Work in TALIAN AND AMERICAN MARBLE. Importer and dealer in A Mexican and Scotch Granite Monuments.
226, Nelson St., PORTLAND, OR.

HILLSBORO HOUSE
J. NORTHROP, Proprietor
Corner Second and Washington Streets
NEWLY FURNISHED
RENOVATED
FIRST CLASS ABLE, and all accommodations for the convenience of guests.
Charges Reasonable

Free Silver
WE WILL SEND FREE
One Solid Silver Scarf Pin For 12 Coupons; or, for 2 Coupons and 12 cts.
WE WILL ALSO SEND FREE, Solid Silver Link Sleeve Buttons For 30 Coupons; or, for 2 Coupons and 80 cts.
You will find one coupon inside each 2 ounce bag, and two coupons inside each 4 ounce bag of
BLACKWELL'S GENUINE DURHAM TOBACCO.
SEND COUPONS WITH NAME AND ADDRESS TO BLACKWELL'S DURHAM TOBACCO CO., DURHAM, N. C.
Buy a bag of this Celebrated Smoking Tobacco, and read the coupon, which gives a list of other premiums and how to get them.
2 CENT STAMPS ACCEPTED.

NORTHERN PACIFIC
Runs Pullman Sleeping Cars
Elegant Dining Cars
Tourist Sleeping Cars
ST. PAUL
MINNEAPOLIS
DULUTH
FARGO
GRAND FORKS
CROOKSTON
WINNIPEG
HELENA and BUTTE

Through Tickets... TO
CHICAGO
WASHINGTON
PHILADELPHIA
NEW YORK
BOSTON AND ALL PORTS EAST AND SOUTH

Through tickets to Japan and China, via Tacoma and Northern Pacific Steamship Co., an American Line.
For information, time cards, maps and tickets, call on or write
A. D. CHARLTON,
Assistant Gen. Pass. Agent, Portland, Or.
255 MORRISON ST., COR. THOMP.

SUNSET LIMITED
SEASON OF 1895-1896.
WILL RUN
TWICE A WEEK
BETWEEN
San Francisco
and New Orleans
OVER THE GREAT
SUNSET ROUTE
LEAVING SAN FRANCISCO
TUESDAYS & SATURDAYS
From Tuesday, November 6, 1895.

The most complete, modern, elegantly equipped and perfectly arranged Vestibuled Transcontinental Train in America. New Equipment, especially designed and built for this service.
DIRECT CONNECTION IN NEW ORLEANS FOR ALL EASTERN PORTS. QUICK TIME.

RAILWAY TIME TABLE.
EAST AND SOUTH...
THE SHASTA ROUTE
OF THE SOUTHERN PAC. CO.
EXCURSION TRAINS LEAVE PORTLAND DAILY

South	North
8:50 P. M. Lv. Portland	Ar. 8:10 A. M.
10:45 A. M. Ar. San Francisco	Lv. 6:00 P. M.

Above trains stop at East Portland, Oregon City, Woodburn, Salem, Turner, Marion, Jefferson, Albany, Eugene, Junction, Medford, Halsey, Harrisburg, Junction City, Irving, Eugene, Irwin, and all stations from Roseburg to Astoria, inclusive.

ROSEBURG MAIL DAILY:	
6:30 A. M. Lv. Portland	Ar. 6:40 P. M.
8:25 P. M. Ar. Roseburg	Lv. 8:50 A. M.

Salem Passenger Daily:

4:00 P. M. Lv. Portland	Ar. 10:15 A. M.
6:15 P. M. Ar. Salem	Lv. 8:00 A. M.

DINING CARS ON OGDEN ROUTE. PULLMAN BUFFET SLEEPERS
Second-Class Sleeping Cars
ATTACHED TO ALL THROUGH TRAINS
West Side Division.
BETWEEN PORTLAND & COVALLIN
Mail Train Daily (Except Sunday).

7:50 A. M. Lv. Portland	Ar. 6:20 P. M.
8:50 A. M. Lv. Hillsboro	Lv. 5:00 P. M.
12:15 P. M. Ar. Corvallis	Lv. 1:35 P. M.

At Albany and Corvallis connect with trains of the Oregon Coast & Eastern Ry.

Express Train Daily, (Except Sunday).

1:45 P. M. Lv. Portland	Ar. 8:05 A. M.
4:00 P. M. Lv. Hillsboro	Lv. 7:15 A. M.
7:25 P. M. Ar. McMinnville	Lv. 5:50 A. M.

THROUGH TICKETS to all points in the Eastern States, Canada and Europe, can be obtained at lowest rates from A. S. Fens agent, Hillsboro.

E. F. ROGERS,
Asst. G. P. & P. Agent
Hillsboro, Ore.

Extraordinary!
The regular subscription price of THE Independent is \$1.50
And the regular subscription price of the WEEKLY Oregonian is \$1.50.
Any one subscribing for THE Independent and paying one year in advance can get both THE Independent and WEEKLY Oregonian one year for \$2.00
All old subscribers paying their subscriptions for one year in advance will be entitled to the same offer.

HILLSBORO PUBLISHING COMPANY

NORTH PACIFIC
CLAY WORKS
A full stock of
DRAIN TILE
Constantly on hand
Orders Solicited.
JAS. H. SEWELL, Hillsboro, Oregon.

O. R. & N. CO.
E. C. McNEILL, Receiver.
THE EAST
GIVES THE CHOICE OF TWO TRANSCONTINENTAL ROUTES
Great Northern Ry. Union Pacific Ry.
Via SPOKANE DENVER
Via MINNEAPOLIS Omaha
AND Kansas City.
St. Paul
LOW RATES TO ALL EASTERN CITIES.
OCEAN STEAMERS
LEAVE PORTLAND EVERY 5 DAYS
FOR
SAN FRANCISCO
For full Detail, call on J. I. KNIGHT, Hillsboro, Or., Or address, W. H. HURLBERT, Gen'l Pass. Agent, Portland, Oregon.

SOLENTIAN AMERICAN Agency for
PATENTS
CONVEYS, TRADE, COPYRIGHTS, DESIGN PATENTS, ETC.
The information and free Handbook write to the most successful location in America. Old-time business for securing patents in America. Large list of inventors and their inventions. The fee is a small sum given free of charge in the Handbook.
Largest circulation of any patent paper in the world. Regularly illustrated. No independent source of information. Address, R. H. C. 100 N. 3rd St., Philadelphia, Pa. 19106.

\$100.00
Given Away
Every Month
to the person submitting the most meritorious invention during the preceding month.
FOR INVENTORS, and the object of this offer is to encourage persons of an inventive turn of mind. At the same time we wish to improve the fact that...
THE PRESS CLAIMS CO.
618 F Street, Northwest, WASHINGTON, D. C.
The responsibility of this company may be judged by the fact that the stock is held by over one thousand of the leading newspapers in the United States.