

The Telephone-Register.

Circulation Guaranteed Greater Than That of Any Other Paper Published in Yamhill County.

McMINNVILLE, OREGON, THURSDAY, MARCH 9, 1893.

VOL. V. NO. 6

Look at the Map.
State of Oregon, Yamhill County.
Here you will find the most pro-
ductive section in the World,
and is cheap, offering special in-
centives to fruit raisers and
farmers.

Look at the Map.

Look at the Map.

McMinville, Yamhill County.
Here is the County seat. Here is
published THE TELEPHONE-
REGISTER, Monarch of Home
newspapers, accorded first place
in all the Directories.

Look at the Map.

Established August, 1881.
Consolidated Feb. 1, 1889.

BREATH & GOUCHER,
Physicians and Surgeons,
(Office over Dray's Bank.)

McMINNVILLE, OREGON.

BAKER,
Physician and Homeopathic
Physician.

Upstairs in the Garrison Building.

FENTON,
Attorney-at-Law.

McMINNVILLE, OREGON.

Rooms 1 and 2 Union Block.

RAMSEY,
Attorney-at-Law.

McMINNVILLE, OREGON.

Rooms 6 and 7 Union Block.

TURNEY,
Physician and Physician.

Office of surgery and diseases of women
Block McMINNVILLE, OR.

MICHAUX,
Physician and Surgeon.

McMINNVILLE, OREGON.

DIELSCHNEIDER,
Watchmaker
and Jeweler.

All kinds of Watches, Jewelry, Plated Ware
and Spectacles. McMINNVILLE, OR.

McMINNVILLE

DRAY & CO.,
Real Estate Agents.

McMINNVILLE, OREGON.

They all Testify
To the Efficacy
of the
World-Famous
Swift's
Specific.

Books on "Blood and Skin Diseases" mailed free.
SWIFT SPECIFIC CO.,
Dewey St. Atlanta, Ga.

GUARANTEED TO CURE BILIOUS ATTACKS,
SICK HEADACHE AND CONSTIPATION. 40 IN
each bottle. Price 25c. For sale by
druggists.

Picture "T. 17, 70" and sample dose free.
J. F. SMITH & CO., Proprietors, NEW YORK.

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THE MOON ON OUR KNEE.

WE CAN ALMOST CHAT WITH ITS
INHABITANT.

The Lens will be Seventy-two Inches,
And of Tremendous Power—The Won-
derful Work of Alvan G. Clark.

Alvan G. Clark, who is making two
forty-inch lenses for the Chicago uni-
versity, hopes to have them finished
and mounted in about eighteen months.
He is working on them every day, and
recently he consented to talk about
them and telescope making in general.

These lenses were originally con-
tracted for by a gentleman who intended to
present them to the university of
Southern California, but his sudden
death changed these plans and they
were purchased by Charles T. Yerkes,
of Chicago, who has presented them to
the Chicago university. The extent of
Mr. Yerkes' generosity may be known
when it is told that the disks for these
lenses cost \$20,000 in the rough, and
Mr. Clark's contract calls for \$46,000
for working them down. The amount
of money spent in their erection in an
observatory will be much more. And
they are the largest lenses ever made.

Speaking of large lenses for telescopes,
Mr. Clark intimated that a proposition
has been under consideration for two
years by two wealthy gentlemen to
contract for one seventy-two inches.
Such a telescope would bring the moon
so near the observer that it would
be like standing on the top of one moun-
tain and looking across to the top of an-
other; every detail possible to be seen
at a few miles would be plain.

"I would not take a contract to com-
plete a lens as large as seventy-two
inches," said Mr. Clark, "but I would
undertake the work. I am getting old
and am all alone, and might not live to
complete such a task."

The glasses for the Chicago univer-
sity are of one of them of flint and the
other of a crown glass. The crown glass
is 41 inches in diameter, and as it lies on
the grinding table now it is 2 1/2 inches
thick at the center and 1 1/2 inches thick
at the edges. When finished it will be
2 1/2 inches thick at the center.

"It required four years to make those
disks at the foundry," said Mr. Clark,
"and I have been at work on them
about two months, mainly in mathemat-
ical calculations, and for only about
a week have been engaged in
cutting one of them. It will be several
weeks before both are ground and
ready for the correction of spherical
aberration. Several months will be
spent in the finer work of polishing
and testing."

Mr. Clark explains the making of a
lens from a disk very readily, for it is
no secret, though very much of an art.
He first tests the disk as it comes from
the glassmaker for strains. This is done
by setting it on edge in the center of a
long, dark cellar. At one end of the
cellar he places a light, and as an as-
sistant holds a lens between the light
and the disk, Mr. Clark, at the other
end of the cell, with his keen and prac-
ticed eye can detect any flaw, for the
rays of light are intensified upon the
disk and magnify any wave or irregu-
larity. Should there be one slight flaw it
must be located, and if near the surface
it can be removed in polishing, but if
too deep for this the disk is rejected.

These tests completed, the disk is
shaped roughly, and in this work a
problem in mathematics has to be solv-
ed, based on the diameter of the glass
and the focus. The castings are made
inside of the disk, and on the glass
is revolved and steel filings are used to
roughly grind the disk down to the
shape of the lens. Many courses of
emery are then applied until the disk
is normally finished. Though this
work seems mechanical and crude, it is
so fine that Mr. Clark in his measure-
ments calculates as fine as the one
thousandth part of an inch. Of course,
instruments will not do this, and it is
here that Mr. Clark's practiced eye
comes in for many tests.

The disk is now ready for the final
polishing and the hardest and most
delicate part of the process of grinding.
Many months of eight hours with the
day are spent in rubbing the disk with
bees wax and rouge, and all by hand.

Mr. Clark estimates that he and his
assistants will spend about sixteen
months in rubbing the forty-inch lens
for Chicago. The great lens was
rubbed more than two years, six days
a week and eight hours a day.

Some idea of what this does to a lens
may be gained from this: When the
glass comes to the glassmaker it is actu-
ally clearer than the clearest atmos-
phere known. If both sides be covered
by an opaque substance and then one
covering lifted a little at the edges there
is no reflection, as in a mirror, but the
effect is as if looking through a hole to
the other side of the disk.

The polishing finished, the testing
must be done. The lens is set up in a
dark cellar and a light placed at one
end of the absolutely dark apartment.
At the opposite side of the lens, at pre-
cisely the distance from it that the
focus should be, figured mathemati-
cally, an eyepiece is placed. Each of
myriad rays of light must fall upon
every point of the surface of the big
lens at such an angle that they will all
be refracted to an infinitesimally small
point fully fifty feet away. The vary-
ing of the width of a spider's web in
the refraction of one ray renders the
lens imperfect, and then it is that Mr.
Clark, with great patience and skill
has to locate the imperfection and re-
move it by rubbing his finger over it
ever so lightly until the ray is reverted
to its proper course. So delicate is this
work that the mere pressure of the fin-
ger on the glass may displace hundreds
of rays, and to change one the most
skillful touch is necessary as well as the
most practiced eye in detecting and lo-
cating it.

Mr. Clark says that should a piece of
hair or dust so small as not to be seen
by the naked eye fall upon the lens it
might hide two of the largest stars in
the firmament, and as for scratches on
the surface of the glass, it must be the
perfection of smoothness.

Mr. Clark then again spoke of the
large lenses. "I am quite certain that
a 74-inch lens could be made," he said.
The difficulty in the past has been, not
the finishing, but the procuring of the
glass large enough. But Martols, the
French glassmaker from whom I buy
my disks, writes me that he has en-
larged his factory and can now make a
dial six feet in diameter.

"It would probably require eight
years to make such a disk. You can
have no idea of the difficulties the glass
maker has to encounter. The material
has to be selected with the utmost care,
and every bit of it has to be chemically
pure, and several disks would have to
be made probably, before one that
would pass a test would be produced.
Several years ago we were asked if we
could make a lens to cost a million dol-
lars. My brother George replied that we
could make one for which we could
charge a million, but it was doubtful if
we could put that amount of work into it.

"Now, however, that I can get a disk
large enough I have no hesitation in
saying that, could I live long enough to
finish it, I can make a lens which
will actually be worth a million."

This suggested the question of the
cost of lens.

"That matter is settled by the size,"
said Mr. Clark. "For example, I
charge \$100 for a 4-inch lens, and so on.
This proportion is not strictly adhered
to, however. For the 32-inch Russian
lens I paid \$25,000. For the Chicago
lens I am to receive \$10,000. I hope
for the benefit of astronomy that the
day may come when a larger lens than
any now in existence will be made, but
I fear that I shall not live to see it,
though you, as a young man may."

The future advance, to Mr. Clark's
mind, in the making of large telescopes
must be along the lines of the refract-
ing rather than the reflecting telescope.

Alvan G. Clark is the single male
representative of what twenty-five
years ago began to be one of the re-
markable firms of the world. His father,
Alvan Clark, gained renown as a
portrait artist, and followed the profes-
sion of a painter until middle age.

He had a very keen eye, and so steady
and skilled was this that it is related
that he could take a rifle and stand-
ing a hundred yards away, plant bullet
after bullet in the hole made by the first
shot, so surely that only the hole made
by the first one was afterward apparent.

Chased by a Box Car.

"I was chased once by a box car,"
said an ex-railroad man. "It was out
in Colorado, the land of steep grades
and sharp turns. We were sliding
down the mountains one day with a
baggage car and two coaches. I was
upon the rear platform looking at the
road, when I described a box car coming
down the grade at a rate of speed that
was appalling. If it struck us we were
gone sure, for it could smash the entire
train into kindling wood and pile it up
in one of the gorges. Our only hope
was to either outrun it or wreck it. The
engineer caught sight of it at the same
instant that I did and put the lever
down among the tallo' pots.

It appeared impossible, that we
could hold the train on the sharp turn
while moving more than a mile a min-
ute, but we did and the box car contin-
ued to saw'wood. If we could once get
to the foot of the grade we would be
safe, but that was soon seen to be im-
possible. Rapidly as we were going,
the box car continued to gain on us,
and now we could see that it was load-
ed with iron. Something must be done
and done quickly. All the passengers
had to get into the forward coach and
were hanging on to the seats. I signal-
ed to the engineer to shut off the abra-
hard on the rear coach, pulled the pin
and the engineer opened the throttle.
We had gone 100 yards when the box
car ran into the coach and sent splin-
ters flying a quarter of a mile high.
Both went plunging over into a chasm,
and I hunted up a passenger who had
a pocket flask and proceeded to rein-
force my nerves."

What He Was Waiting for.

A Brush street man has a boy who
will learn a great deal more than he
knows now if he is given a chance. The
other evening when he came in his
mother called him from the kitchen
and told him to go and split some kind-
ling. Not having gone in five minutes
she came into the dining room.
"Go out and split that kindling," she
commanded. "What are you sitting
here for?"

"I'm waitin' for pop," the boy said
doggedly.

"Well, what are you waiting for him
for?"

"Waitin' for him to come in. He's
out there at the gate talking to a man,
and he said he had won a whole pile of
chips this afternoon."

The wages paid to Chinese laborers
are about 60c per diem with rations.
The workers are easily contented, de-
manding only the plainest of food, and
for housing they are satisfied to creep
together under a long low mat shed
with a solid back to the north wind.
The severity of the weather usually
stops all such work before Christmas.
What the men do when they retire to
winter quarters I cannot tell; but Chi-
nese have a curious hibernating fac-
ulty, whereby by abstaining from mus-
cular exertion they are able to econo-
mize considerable in their eating. In
times of necessity, when wages fall be-
low a certain range, poor people some-
times choose not to work, because they
consider that they would have to take
more food to repair the waste than the
work done would produce.—*Montevideo
Magazine.*

BITS OF WESTERN LIFE.

FROM THE EARLY DAYS IN BODIE
AND VIRGINIA CITY.

Hollin M. Daggett's Coal Mine on the Com-
stock and How he Unloaded the Shares
at a Very Handome Profit.

When Bodie was in the prime of its
prosperity about ten years ago there
was among its citizens a wild Irishman
noted for his sharp tongue and howling
disregard for money or position. When
partially primed with whisky he was
good of mounting a barrel or dry-goods
box and indulging in a rough-and-tum-
ble style of oratory, which, while it was
not as polished as the rounded periods
of Bob Ingersoll, was sure to draw an
admiring audience.

He was finally discharged from one
of the mines for some exhibition of
freshness that insulted the dignity of
the