

Professional.

D. R. C. J. RODGERS,
DENTIST
Suite 5, Oddfellows' Building, Corner
Yonge and College Sts.
TORONTO. Telephone 3904.

CHAS. LENNON & SON,
DENTISTS.
CONFEDERATION LIFE BUILDING,
COR. YONGE & RICHMOND,
TORONTO.
Telephone, 1846.

REMOVED
Dr. J. Churchill Patton,
FROM 19 AVENUE ROAD TO 162 BLOOR ST. EAST.
'PHONE 4197.

M. R. J. D. A. TRIPP,
CONCERT PIANIST and TEACHER,
Only Canadian pupil of the great composer and
pianist, MOSKOWSKI. Concert engagements and
pupils accepted.
TORONTO CONSERVATORY OF MUSIC
AND 20 SEATON ST.

M. R. W. E. FAIRCLOUGH, F.C.O., ENG.
ORGANIST AND CHOIRMASTER ALL SAINTS'
CHURCH, TORONTO.
Teacher of Organ, Piano and Theory
Exceptional facilities for Organ students. Pupils
prepared for musical examinations. Harmony and
counterpoint taught by correspondence.
6 GLEN ROAD OR TORONTO COLLEGE OF MUSIC.

M. R. W. O. FORSYTH,
Teacher of piano playing and composition. Pupil
of Prof. Martin Krause, Prof. Julius Epstein, and Dr.
S. Jadasohn. Modern Principles - Hand Cultivation
(technic) and musical intelligence developed simultane-
ously. Pupils are expected to study diligently and
with seriousness.
Toronto Conservatory of Music, and 112 College St.
Studio for private lessons, room 2, Nordheimer Build-
ing, 15 King St. E.

W. KUCHENMEISTER,
VIOLIN SOLOIST AND TEACHER,
Late a pupil of the Raff Conservatory at Frankfurt-
on-Main, and of Professors H. E. Kayser, Hugo Heer-
mann and C. Bergheer, formerly a member of the
Philharmonic Orchestra at Hamburg, (Dr. Hans von
Bulow, conductor.)
Studio, 15 King St. W., Messrs. A. & S. Nordheimer.
Residence, Corner Gerrard and Victoria Sts.
Telephone 980.

MRS. & MISS DRECHSLER-ADAMSON,
VIOLINISTS.
Will receive a limited number of pupils at
their residence, 67 BLOOR ST. EAST.

J. LEWIS BROWNE,
(Organist and Choirmaster Bond St. Cong. Church)
CONCERT ORGANIST
Pupils received in Organ, Piano, Harmony and
Instrumentation. 130 MUTUAL STREET.
Reception hours 3 to 5 p.m. daily.

M. R. H. KLINGENFELD,
CONCERT VIOLINIST AND TEACHER.
Open for Concert engagements and a limited num-
ber of pupils.
505 Sherbourne Street,
or Toronto College of Music.

M. R. V. P. HUNT
Pupil of Dr. Carl Reinecke, Herr Bruno Zwint-
scher, etc., of Leipzig, Germany. Pianoforte teacher
at the Toronto Conservatory of Music, Musical Direc-
tor Oshawa Ladies' College, Organist Zion Congrega-
tional Church. Teaches Piano, Organ, Harmony.
Address Toronto Conservatory of Music
Or Residence, 104 Maitland Street.

MISS DALLAS, MUS. BAC.
Fellow of the Toronto Conservatory of
Music, Organist Central Presbyterian Church, PIANO,
and 99 Bloor Street West.

SCIENTIFIC AND SANITARY.

Professor Langley, of the Smithsonian
Institution, has so perfected the bolometer
that it will detect a change in temperature
amounting to a millionth of a degree!

Submarine divers now have a telephone
attached to their helmets, and thus talk
freely with workmen on shipboard. This
is a great improvement on the rope-jerking
mode of signalling.

An air brake, adapted to elevators, and
described by "The Providence Journal,"
works only when a certain speed is exceeded
on the down trip. It is meant, therefore,
as a safety device exclusively.

The system of solidifying quicksand
around sewers, foundations and other con-
structions, by injecting cement through pipes
has worked so well in certain parts of Pro-
vidence that it is now to be tried elsewhere
in the same city.

Two Connecticut telegraph-linemen re-
cently discovered a cross-circuit of rather an
unusual kind. It was found that a spider
had spun a strong web between two wires,
and that the dew and rain held by the web
made an electrical connection of substantial
magnitude.

For an electric road between Philadel-
phia and Harrisburg it is proposed to use
the two-phase alternating system for long
distance transmission of the current, but
transform the latter into a continuous cur-
rent, at substations every twelve or fifteen
miles, for actual use.

A company has been formed to utilize
the big water power in Big Cottonwood
Canyon, fourteen miles from Salt Lake
City, and convey the energy to the latter
point as electricity. For two-thirds of the
year, it is said, 3,000 horse-power will be
available, and for the rest only 2,500.

Recent Swedish reports say that an
application of electricity to the smelting of
iron is to be tried on a commercial scale at
Trollhatten, in Sweden, where a great water-
power is available to run the dynamos. The
process is the invention of Mr. G. de Laval,
whose steam-turbine attracted much atten-
tion at Chicago last year.

A garbage destructor, tested in Chicago
a few weeks ago, consumed refuse contain-
ing about 80 per cent. of house ashes, with
the aid of petroleum injected by compressed
air. The garbage is slowly fed through a
brick drying tunnel, which is heated, and
in which run small cars; so that the stuff
is readily combustible when it reaches the
fire.

A careful record kept at Yale for eight
years shows that non-smokers at 20 per cent.
taller, 25 per cent., heavier, and have 60
per cent. more lung-capacity than smokers.
A recent graduating class of Amherst pre-
sented a similar difference in favor of non-
smokers, who had gained in weight 24 per
cent. over the smokers, and in height 37 per
cent., and also exceeded them in lung-cap-
acity.

At Great Falls, Mont., the volume of
water passing in the upper Missouri is about
4,800 cubic feet a second, and at Fort Ben-
ton (twenty-five miles further down stream)
United States engineers report it at 4,331;
and now the question arises, what becomes
of the rest? A belief is entertained that
the water drains off through the sand and
supplies the great artesian well basin of
South Dakota.

Educational.

**BISHOP
STRACHAN
SCHOOL**

FOR
YOUNG LADIES

Trinity Term Begins April 22nd.

MRS. MARIE M. KLINGENFELD,
Teacher of Vocal Culture, Graduate of the
Peabody Institute in Baltimore, will receive a limited
number of pupils. Toronto College of Music, or 505
Sherbourne Street.

W. J. McNALLY,
Late of Leipzig Conservatory of Music.
Organist and Choirmaster, Beverley Street Baptist
Church, Teacher of Piano.
Toronto College of Music or 32 Sussex Avenue.

WALTER H. ROBINSON,
SINGING MASTER AND CONDUCTOR
GIVES INSTRUCTION IN VOICE PRODUCTION
Pupils received for study of Musical Theory.
Open to accept engagements as Tenor Soloist at
Concerts.
Concerts directed.
Studio—Care R. S. WILLIAMS & SON, 143 Yonge St.

Professor James McLean, of Chicago, is
trying to revolutionize traction by using
compressed air on engines in the place of
steam. This would greatly change the shape
of locomotives. He would put his air-tank
where the cab now is, do away with the boiler
and tender, and employ a rotary device in-
stead of a reciprocating piston, in order to
apply his power to the driving wheels. He
doesn't say where he would put his engin-
eer.

It is said that the water of the new Ma-
chester Ship Canal is very foul, so much so
that it has a bad odor, and Commissioners
who recently traveled over the canal to in-
quire into the advisability of the Queen's
taking the same trip were doubtful as to
the expediency of such a journey. The trou-
ble is that the canal is fed by the Irwell,
Irk, and other small Lancashire rivers,
whose purification was not properly enforced
before the opening of the great waterway.

A good lubricant, says Mr. Railings, an
English engineer, should be thick enough
to keep a constant film between the oppos-
ing surfaces, but otherwise as thin as pos-
sible; it should conduct heat well, contain
nothing to act chemically on the lubricated
bearing, and be difficult of operation and
decomposition. Spermin-oil is one of the best
lubricants, but it is dear. For low speed
and heavy pressures, graphite, soapstone,
and grease are good; for high speeds and
light pressures, petroleum, olive, rape and
cotton oils are excellent.

Paul Jablochhoff, who died in Russia
on April 6, in his forty-seventh year, will
be remembered chiefly from the form of arc-
light to which he gave his name—the Jab-
lochhoff candle. In this light, now little
used, the two carbons were placed parallel,
and burned down together, whence the
name, the arc forming across the extremities.
It lighted, in 1878, the Avenue de l'Opera
in Paris, the first street in the world to be
illuminated by electricity, and thus ushered
in an industrial revolution. None of Jab-
lochhoff's other inventions are now in use,
though he died so young, but his name is
inseparably linked with the history of elec-
tro-technics.