

Talking Motion Pictures

Talking motion pictures, in which the simultaneous timing of action and sound is all times assured, have been announced and demonstrated by the General Electric Company. The process, the result of several years of experimenting in the general engineering laboratory of the company, means but slight change in standard motion picture projectors, since it involves only the addition of a sound-reproducing attachment and a loud speaker suitable for auditorium use. Both the picture and the sound are recorded on the same film.

One of the demonstrations has been with music to accompany feature films, the music being by a full concert orchestra. Development of this field requires no change in the technique of making the original film. After the original picture film has been made and titled, the accompanying music is played by a concert orchestra and is recorded on a film. The picture and sound records are then printed on one film in the proper time relation.

Another type has been the showing of singers and instrumentalists while they are presenting programs. Thus, when an orchestra is shown on the screen, it is possible to follow the playing of each musician, and see his actions on the screen and hear him. Even cymbals, similar demonstrations have been made with vocal and instrumental soloists with string and with vocal quartets, and with speakers.

To the casual observer, the talking film does not differ from the usual motion picture positive. It is of standard width, but along the left margin here is a strip of a small fraction of an inch wide on which is a series of horizontal light and dark bands and lines of varying widths and intensities. It is this series of bands and lines which produces the sound. The film is passed through the reproducer at constant speed, and as these light and dark bands pass rapidly before a tiny slit in an optical system the amount of light is varied. The ever-changing amount of light is received by a photo-electric cell—the electric eye—which is extremely sensitive to any change in the amount of light striking it. The more light received the more current it will permit to pass through its circuit. This current is amplified and changed from electrical to audible energy by an amplifier and speaker.

Fields of Application

At this early date it is not possible to define the fields in which this new type of talking machine motion pictures will be of use. One of the first, however, will be in supplying a full orchestral accompaniment for pictures. The community picture houses accustomed to having a piano or piano and violin, will be able to have the same music as the metropolitan theatre.

Another field is offered by the news reels. Not only will it be possible to show important persons, but they can talk to the audience, and visiting notables can extend their greetings.

It has not been possible for famed musicians and orchestras to appear in small communities. The talking motion pictures will permit them to be both seen and heard throughout the country.

Educationally, here are also many ways in which the new apparatus will be of service. Many schools and colleges are already equipped with motion picture projectors as an aid in classroom work, and the new film will be found of even more assistance. In the case of professors from abroad it will be possible to record their lectures simultaneously and to give their lectures, the widest possible use by circulation of the film to colleges and universities throughout the country. Similarly, it will be possible to have an authority on the subject give a description to accompany any educational film for use in schools, the speech pointing out the important features of the picture simultaneously with their appearance on the screen.

There are but a few of the possible fields in which the new talking motion pictures will find application. The list can and will be expanded.

The Apparatus

Outstanding among the features of the new apparatus are that both the picture and sound records are on the same standard motion picture film and that a standard motion picture projector, with an attachment for the sound reproducer, is used. Since the picture and sound records are printed side by side on the film it necessarily follows that the two must be properly timed or synchronized at all times—it is not possible for the picture to break and the sound to continue, or for the sound to stop and the picture to continue.

There are three principal elements in the apparatus, including a standard motion picture camera, a sound recorder and a standard motion picture projector with a sound-reproducing attachment, all driven by synchronous motors. The pictures themselves are made in the usual way on standard film.

In recording the sound, a microphone, or any sound collector of any desired type is employed, together with amplifiers. The microphone system actuates a tiny vibrating mirror which records the sound on the film as light and dark bands, the light from a small incandescent lamp being reflected by the mirror through a tiny slit in the optical system in front of the film. The higher the pitch of note the higher its frequency—and the great-

er the frequency of vibrations of the mirror which faithfully reproduces each sound vibration as a mark on the film.

The sound record can be made in different ways. Both the picture and sound can be simultaneously recorded on the same film by mounting the two recording elements as a unit. With the sound record uppermost. The two recorders can also be mounted separately and the sound and picture film negatives made as individual units, such an arrangement being preferable when the pictures are being made in studios and when the camera is being shifted constantly. Again, as in the case of accompanying music, the picture film can be entirely finished and titled, the record of the music then being made on a separate film and the two combined on the finished positive.

The Projector

The sound-reproducing attachment, which is connected to the standard motion picture projector, consists of a photo-electric cell behind the film and a small electric lamp with suitable optical arrangement in front of the film. As the film passes a small slit, similar to the one used in making the sound record, a varying amount of light is admitted to the photo-electric cell, the amount of light depending upon the photographic density of the sound track. The result is that a very minute and varying current, an exact replica of the sound wave, is produced. This tiny current is amplified and led to a loud speaker, which reproduces the sound in sufficient volume to fill the auditorium. Any suitable loud speaker may be employed.

HOW TO STRENGTHEN WEAK COLONIES IN THE SPRING

In every colony of bees there is a certain amount of routine work that has to be done no matter whether there is a crop of nectar awaiting to be gathered from the flowers or not. The amount of surplus honey that any colony can be expected to store will be in direct proportion to the number of bees it has over and above those required to perform the routine of that colony. These extra bees are known as the field force and to produce them at the right time and of the right age requires skill and knowledge of bee behaviour on the part of the beekeeper. The field force must be as large as possible and ready for work at the commencement of the main flow of nectar and to be of the right age must be produced during the six or eight weeks just prior to the flow. The first step is to have each colony headed with a good, prolific queen during the spring and early summer, as the queen is responsible for laying the eggs that will produce the workers. The second step is to have each colony strong enough in bees to take care of the maximum amount of brood the queen can produce. Weak colonies can be strengthened by any of the following methods, given in order of preference:

- (1) By uniting to them combless packages of bees imported early in the spring.
- (2) By giving combs of sealed brood from extra strong colonies.
- (3) By shaking into them some bees from extra strong colonies.
- (4) By placing the weak colonies over strong colonies with a queen excluded between, and leaving them there for from two to three weeks.

Remember also that it receives food from rear bees and that protection from cold influences the rate of expansion of the brood nest.

CAN'T GET RID OF MONEY

New York police are worried because they have accumulated approximately \$5,000,000 which cannot be spent or given away.

The officer doing the most worrying is Thomas A. Hogan, property clerk. Cash, jewelry, liquor, securities and miscellaneous articles with an estimated value of \$8,000,000 are in his care for safe keeping. The collection has grown so large that providing storage space and accounting for it takes up all Hogan's time.

Valuable Liquors

The chief item is a collection of liquors valued at \$5,000,000 seized in raids. Securities valued at \$1,500,000 is the next largest item. These were found or taken from thieves. Automobiles with an estimated worth of \$500,000 cause Hogan no little worry. He also has \$50,000 cash in his safe that cannot be disposed of.

Drugs valued at \$500,000 and gambling paraphernalia valued at \$200,000 are other large items. A pearl necklace, variously estimated to be worth \$5,000 to \$30,000, reposes in the safe. It was taken from a negro who was trying to pawn it for \$5. She said she found it, and no one has claimed it.

Left \$10,000 Behind
Included in the cash in Hogan's safe is \$1,481.07 in small change taken from the room of Tillie Reize, a beggar. There also is \$9,521 found in a police captain's desk drawer; he thought it was a bribe. There is another sum of \$10,261, dropped by fleeing robbers, and never claimed.

WATER

Iron Pumps of All Kinds

Renfrew Ranges and Separators
Brantford Windmills
Gould, Shapley and Muir
Gas Engines

Schutz Pump & Tile Co.
Phone 15 Durham, Ont.

In Other Communities

Taken From Our Exchanges About People of Your Acquaintance

WALKERTON

Mr. John Tinkham of the C. P. R. was operated on at Bruce County Hospital last Friday afternoon by Drs. T. Sayage of Guelph and J. T. H. Robinson of town. He is reported to be doing nicely. Fireman McMullin of West Toronto is employed on the way-freight train Mr. John Tinkham is in the hospital.

Sorry to hear that there is a probability that some of the members of the hockey team will leave town shortly. Though it is many years since I took part in the game now called hockey (it was "shinney" when I attended school) many of us older chaps follow with interest the fortunes of the local team, which has done so splendidly. Much as we regret losing our young men, the prospects are, so a young friend told me, that others will be fit by next season to fill the gaps. With a new rink, which we are reasonably certain of being built this summer, Walkerton will have an equal chance with other teams on the ice. Healthy sports and recreation of all kinds among the boys and girls and young men and young women and good natured rivalry in games among we who have travelled farther along life's pathway should be given every possible encouragement.

On Tuesday evening the Children's Aid Society of Bruce County, at a meeting held here, appointed Miss Inglis, formerly matron of the Children's Shelter at Port Hope, to a similar position at the home here. She succeeds Miss Hall, who relinquished her duties recently. Miss Inglis will assume charge at once. Mr. Frank Milhousen, who conducts a fox farm on the Durham road east of Walkerton, was in Brampton recently with his solicitor, Mr. Campbell Grant of town, attending Court before the County Judge in a dispute arising out of the sale of four pairs of silver black foxes, which Mr. Milhousen purchased from some fox ranchers in Brampton a few years ago and over which dispute the Brampton court reserved judgment. Since then, however, Mr. Milhousen has entered an action in the Supreme Court at Walkerton for \$10,000 damages for alleged misrepresentation and fraud.

Melvin Pearson, who attended High School here, and figured prominently on the local football team last season, has become assistant to Mr. P. T. Walker, furniture dealer and general director. Last week he succeeded Mr. Norville O'Malley who has been offered a position outside of Walkerton. "Tuff" will certainly be missed here, particularly in sporting circles. He was a valuable member of the baseball team, being its chief pitcher, and captained the hockey team.

A shower was given at the home of Mr. and Mrs. James Gowlock on Tuesday evening for Miss Lettie Austin who is marrying Mr. Norman Ernest shortly. The bride-to-be was the recipient of many pretty and practical gifts.

MOUNT FOREST

Mr. and Mrs. James Mark, who have lived in Mount Forest for the past twelve years or more, moved to Holstein on Saturday and will make their home with their daughter, Mrs. Thomas McMillan.

A pretty but quiet wedding took place on Wednesday, Feb. 23rd, at Westminster Manse, Mount Forest, of Berenice Louise, elder daughter of Mr. and Mrs. Fred Pierce, and Mr. Jack C. Wagner, Newton, the Rev. Dr. MacRae officiating.

The bride wore a simple gown of rose crepe over pink satin and large black satin hat. The bride and groom were unattended.

After the ceremony the young couple returned to the home of the bride, where dinner was served, after which they left on a short honeymoon trip to Detroit and Ann Arbor. The bride travelled in an almond green flat crepe and hat to match, and blue needlepoint coat

with grey fur buffs and collar. Upon their return they will reside in Newton, Ontario.

Mrs. John Neal, Owen Sound Road South, on Monday forenoon fell on Main Street with the result that a hip bone was broken. The injury is all the more serious as the limb was injured several years ago, and had not completely recovered its strength.

MARKDALE

Mrs. Margaret Boyd, who resides with her daughter, Mrs. Alex. Miller on the Highway South, went to Toronto last week expecting to undergo an operation for goitre.

At the Council meeting on Monday evening a committee representing the Agricultural Society waited on the council asking for co-operation in advocating the erection of a skating rink in King Edward Park. A committee was appointed to represent the council.

Mr. Milford Bebee, for 38 years a resident of Owen Sound, passed away on Friday last, aged 75 years. Before locating in Owen Sound Mr. Bebee, who was a harnessmaker, was in business in Chatsworth and Markdale.

The Village Council will have 'stop' signs erected at all the dangerous corners in the village before the opening of the motor season.

A REMARKABLE CASE

A curious case was on trial in the county police court yesterday. It appears that a cat was pounced upon by a dog which began doing its best to kill it. A man interfered, freed the cat and began beating the dog. Another man came along, saw the dog being abused and interfered. Another man carrying a crow-bar, who had seen the whole thing, stepped forward and threatened the man who interfered with the man who was beating the dog that had worried the cat.

They were in court, that is to say, two men and a policeman were in court. The cat had escaped, the dog had escaped, the man who had rescued the cat and beaten the dog was not there, and the man with the crow-bar would not tell the policeman the name of the man who had beaten the dog.

Magistrate Brunton, who needs to be a very Solomon at times, was one on this occasion. He dismissed the case.

And he was right surely. When one considers all the parties to this affair, from the cat to the policeman one finds that each acted for the best according to his or its lights. The cat, as far as it is known, was as innocent of offense as it is in the nature of a cat to be. The man who rescued the cat was a humane man and he only beat the dog in the hope of teaching it a lesson to be less cruel. The man who rescued the dog from its beating was another humane man. The man with the crow-bar was just a man—he had seen the whole thing and knew all that had happened. He threatened the interfering man to make him listen. The policeman, hearing a man with a crow-bar threatening a man without a crow-bar, nabbed him, as was clearly the duty of a policeman. The magistrate, who heard all about it and decided that everybody should go home and forget it, was a just magistrate.—Ex.

The Chinese Situation

"Sun Chuan Fang is advancing on Tsekiang. The Tsekiangese, who were approaching Shanghai with Chang Kai Shek, are withdrawing to Nanking. During this time Tehang Tso Lin is marching to occupy the south. Do you get all that?" "Oh, yes."

"Then for heaven's sake explain it to me."

Test it Yourself! "SALADA" GREEN TEA

Write Salada, Toronto, for free sample.

TOYS HELP CHILDREN TO GOOD DEVELOPMENT

Should Be Safe, Durable and Large Enough So Muscular Effort Will Make Body Grow.

"Toys should help develop children both physically and mentally as well as entertain and amuse them," states Margaret Wylie of the New York state college of home economics at Ithaca, N.Y. "Good toys are those which are safe, durable, and adaptable to different kinds of play. They need not be expensive."

"Contrary to the general opinion large toys are best for small children because the child's large muscles develop first. Large light-weight blocks of basswood or soft pine may be pushed or pulled or carried about by the young child. If little tots have crayons they should be the large marking type that are nearly as round as a spool. Beads to string should also be large, with large holes. A shoe lace is convenient for stringing large beads or spools.

"Toys that require muscular effort develop the child physically. A wagon or something which he can push or pull, and which he can load and unload, or a tricycle are good physical exercises.

"Children like things which make a noise, and well-chosen musical toys are desirable. A rubber ball helps to teach a child rhythm; spools to clap together may be used for the same purpose. Picture books develop a sense of color; and objects of various textures, such as rag dolls, hard blocks, and other things, rough and smooth, help to develop the sense of touch.

"Dolls, dishes and other toys for make-believe, play should be usable and workable, not poor imitations, such as painted tin dishes which

MINISTER ACCEPTS CALL

Rev. J. D. Mackenzie-Naughton of Owen Sound, formerly of All Saints, Gollingswood, has accepted the call extended him by St. John's "Stone" Church of St. John N. B.

Dr. Mackenzie-Naughton will succeed at St. John, Rev. A. L. Fleming, the present rector, who has been elected Archdeacon of the Arctic, and he will take up his work among the Eskimau in the very near future. He was a missionary to the same county for several years, but had to resign on account of ill health, but after his five years at St. John his health is fully restored and he is going back to his former work. He is a close personal friend of Dr. Mackenzie-Naughton.

The church at St. John, known as the "Stone" Church, is outside of the cathedral, the most important church in the Diocese of Fredericton, and has the largest congregation. "I could not, in view of the importance of the work there, and the larger field, refuse to accept this call," said Dr. Mackenzie-Naughton, who stated that he hoped to be able to commence his duties there on May 1st. He has been in Owen Sound five years.

cannot be used because the paint comes off on the food."

Cause of Misery

Willie was dejectedly walking home from school and his woebegone appearance attracted the attention of a kind-hearted old lady.

"What is troubling you, my little man?" she asked.

"Dyspepsia and rheumatism," replied Willie.

"Why, that's absurd," remarked the old lady. "How can that be?"

"Teacher kept me in after school because I couldn't spell them," was Willie's dismal answer.

Have You Seen The New Spring Styles In Men's Oxfords?

Drop in and we will be pleased to exhibit them for your approval.

We are confident that this is the snappiest range of Oxfords which have ever been exhibited in our town.

The predominant colors are Daco, Red, Tan and Black and are made up in the finest calf skin procurable.

These shoes are custom made by the makers of the well known Astoria Shoes and are built to wear.

We also have a good assortment of Women's Tie Slippers in Patent and Tan for spring. These are the most popular shoes on the market.

Repairing a Specialty

J. S. McIlraith The Cash Shoe Store Durham, Ont.

Maple Syrup Season :-: Is Here :-:

And with it comes the need for a good supply of good quality

Sap Pails Sap Buckets Spiles, Syrup Cans, Etc.

- 1/2 inch Auger Bits, special \$.35
- Heavy Braces, each 1.00
- Hammers, each85
- Hatchets, each 1.25

Now is the time to order your Sap Pails. Made any size you wish on short notice.

BLUE LINE GALVANIZED WARE

It will pay you to see this line of Galvanized Ware Dairy Pails.

Cross & Sutherland Hardware Co., Limited

THE PEOPLE'S MILLS

CUSTOM CHOPPING EVERY DAY

and have put in a full line of FLOUR AND FEED

which we are offering at the following prices:

- | | |
|---|--|
| Maple Leaf Flour, bag . \$ 4.50 | Prairie Pride Flour, bag \$ 4.25 |
| Royal Household Flour, per bag 4.50 | Feed Flour, per bag 2.25 |
| Majestic Flour, per bag 4.25 | Crimped Oats, per ton 45.00 |
| O Canada Flour, per bag 4.25 | Chopped Oats, per ton 45.00 |
| King Edward Flour, bag 4.05 | Strong Mixed Chop, ton 40.00 |
| Pastry Flour, 24 lb. bag 1.00 | Screenings, per cwt. 1.50 |

Gunn's Big 60 Beef Scrap and Poultry Foods
Blatchford's Calf, Pig and Poultry Feeds

We handle only the best lines and sell at reasonable prices. Get our price before you sell your wheat, as we intend buying wheat to ship.

GOODS DELIVERED IN TOWN EVERY DAY.

Phone 8, Night or Day.

JOHN MCGOWAN
The People's Mills Durham, Ontario

DON'T DO THIS AND DON'T

Here are a few "don'ts" prepared by a doctor of the motor car department at the Land and Commercial High list is a timely one many important contains advice that is heart by every car an automobile. Gained from the Tech any time.

Don't speed at night.

Don't stop in front of a house.

Don't drive fast on other places which are liable to dart out on you.

Don't back your car driveway on to the looking for passing.

Don't blow the horn everything to move give you the right-of-way.

Don't take for granted person hears your horn.

Don't take for granted person sees you coming.

Don't forget that highways were not made alone.

Don't try to escape a car.

Don't forget to give possible to your left.

Don't forget to stop signal before stopping to the left.

Don't drive close vehicles, for they may be.

Don't forget to look out behind a car at a red light.

Don't forget that sections on the highway roads.

Don't forget that generous things to hit.

Don't forget the people.

Don't forget that drivers are not experts.

Don't forget that loose gravel roads is slippery.

Don't forget that slip on slippery road.

Don't start or stop jerk.

Don't neglect the cater coming trouble.

Don't back into the jurors to the tires.

Don't leave your car in the weather.

Don't start your car are sure the speed is true position.

Don't come to a stop applying the brakes rear wheels.

Don't let the engine when car is standing.

Don't round corner it is hard on tires.

Don't let the tires is injurious to rubber.

Don't ride the curb cause a hitch to slip bumper out.

Don't use calcium radiator.

Don't buy cheap parts.

Don't forget to check oil about every 1,000 miles.

Don't use the clutch than is necessary to release.

Don't forget to release switch as soon as the car is on.

Don't run the car on a hill.

Don't start off in hard on the engine.

Don't forget that a car speak in your warning signal.

Don't start off in hard on the engine.

Don't forget that a car speak in your warning signal.

Don't start off in hard on the engine.

Don't forget that a car speak in your warning signal.

Don't start off in hard on the engine.

Don't forget that a car speak in your warning signal.

Don't start off in hard on the engine.

Don't forget that a car speak in your warning signal.

Don't start off in hard on the engine.

Don't forget that a car speak in your warning signal.