

The
OPTIGRAPH
35 mm Movie Projector
1898-1907

by
Soterios Gardiakos

August 23, 2008, October 15, 2011

UNIGRAPHICS INC., PUBLISHERS

Copyright 2006
Soterios Gardiakos
ISBN

<http://www.bioscope.biz/>

<http://gardiakos.com/>

UNIGRAPHICS INC
Aurora, Illinois. U.S.A.
Kalamata, Messínias, Greece

INTRODUCTION

The Optigraph series of projectors is one of the more interesting early 35 mm machines for one to collect. Their diminutive size makes them collectible even for those collectors with very limited space. As there are basically a total of four models made, five counting the 3½ model, it is a collection that can be assembled, by a determined collector, other than the Model 1, of which none are actually known to exist in any collection known to me. Mr. G. W. Dunston in his notes states that there was an improved No. 4 model but I know nothing of this. It is possible that Optigraph No. 1 was either a prototype or the production run was extremely small. There is a rumor of one Model 1 owned by some collector in the Chicago-land area but it has yet to be substantiated.

FRANK McMILLAN

The Optigraph it would appear was invented by one Frank McMillan of which I have been unable to find any information on. If there is any one reading this that has information on Mr. McMillan please contact me at [sgardiakos\(omit\)@aol.com](mailto:sgardiakos(omit)@aol.com). We know that Frank McMillan invented to optigraph from a handwritten letter from A. C. Roebuck to G. W. Dunston dated October 4th 1941 in which he writes ***The optigraph was invented about 1896 by Frank McMillan. It was a six pound attachment to a magic lantern, carried 250 feet of film and sold at \$25.00 to \$27.50. I financed its manufacture under the name Enterprise Optical Mfg Co. and provided an interest for Mr. McMillan who was the manger until about 1900.*** This letter is in the Carey Williams archives and Carey was kind enough to make a copy for me.

What is somewhat puzzling to me that in an article written by Mr. Roebuck in October 1943 issue of *the Sound Track*, below, the official publication of the Motiograph Company he nowhere mentions the name of Frank McMillan, whose name appears on several Optigraph patents along side with Roebuck's name.

ALVAH CURTIS ROEBUCK

What we know of Alvah Curtis Roebuck is that he was born on January 9, 1864 in Lafayette Indiana, and that he died on June 18, 1948, aged 84. Mr. John Johnson of Fowlerville, Michigan was kind enough to send me a photocopy of *The Sound Track* stated above in which Mr. Roebuck writes of his early years at Enterprise Optical which later became the Motiograph Company.

The first part of the article below deals with his life up to 1896.

“Now we have reached the point where Motiograph came into being. Ay this time there was little in the way of entertainment for residents of smaller cities and towns, other than

amateur theatricals and an occasional circus. I conceived the idea of offering for sale an "entertainment outfit," by means of which the purchaser might liven up church social activities and at the same time earn some extra money for him-self and for the church. As the talking machine was then a novelty, our first outfit featured a phonograph, records and all necessary accessory equipment,



ALVAH C. ROEBUCK

From a photograph taken about the time of the founding of Motiograph
Cover on *the Sound track*, October 1943

Motiograph really began its existence in 1896, when we switched to a magic lantern and thus entered the projection field. The complete outfit consisted of a magic lantern, a choice of several sets of from fifty-two to eighty slides, a supply of advertising posters and admission tickets, a book of instructions, etc.

Perhaps at this point the reader may indulge in a tolerant smile at the simpler amusements of the preceding generation, but let me say that the magic lantern idea was a huge success. Orders poured in from all parts of the country, and within a very short time the sale of entertainment outfits constituted an appreciable portion of our business.

It was largely that I might devote all of my time to Motiograph, then known as the Enterprise Optical Mfg. Co., that about 1897 I disposed of my interest in Sears Roebuck & Co. to Mr. Sears. Two years later, with a feeling of sorrow and in opposition to the wishes of Mr. Sears, I resigned from the company which we had founded.

The first Movie Projector

The year 1898 marked an important era not only in the history of the company, but the motion picture industry as well, for in that year we produced the Optigraph. I sincerely

believe that this was the first practical motion picture projector. I may also quote from the Modern Theatre section of Boxoffice of December 14, 1935; "Who built the first commercially practical moving picture machine? . . . The result, to our mind, is somewhat conclusively in favor of Motiograph as the daddy of the machines that turned magic lantern shows into movies."

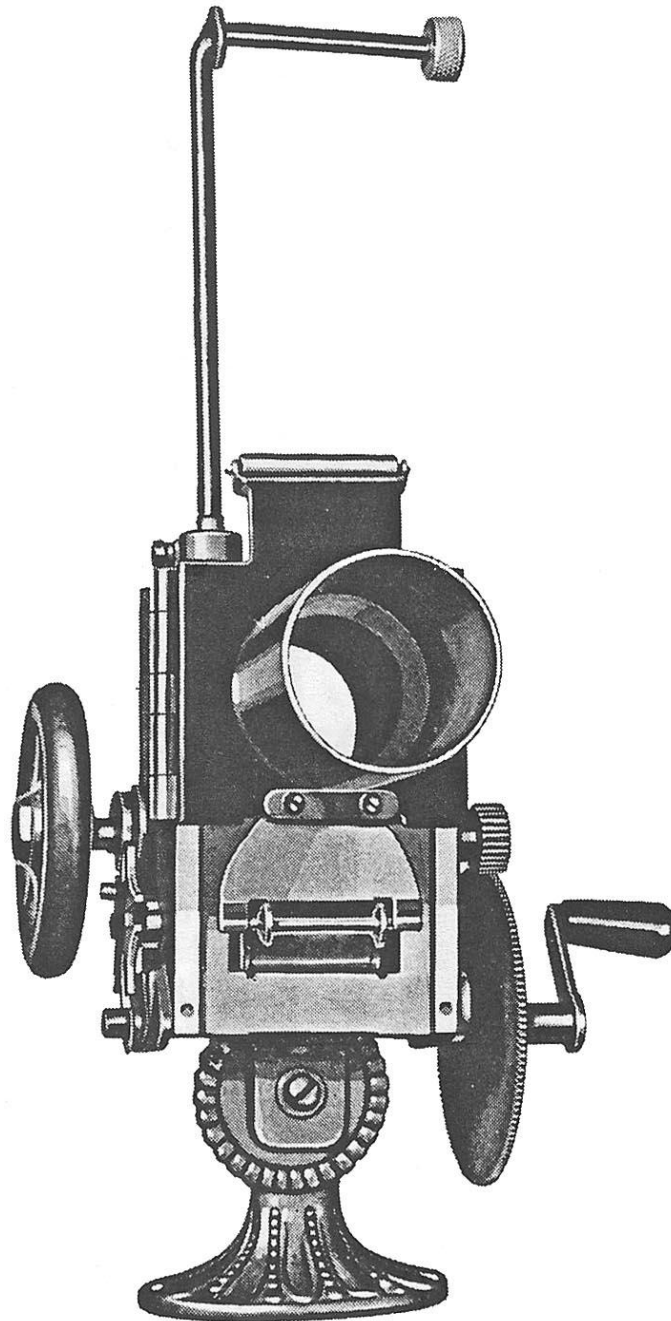
The optigraph was a combination motion picture projector and magic lantern. You may form an idea of what it looked like from the accompanying illustration [see photo of Optigraph 1] as well as I can describe it to you. In order to achieve a combination machine, I had conceived the idea of a hinge which permitted one to swing open the lens portion of the projector and insert the film. It was hand operated by means of a crank, while lighting was obtained by means of an incandescent lighting outfit employing gasoline. Many people may view it today with something akin to mirth, but at the time it proved itself to be a very serviceable machine,

The ensuing decade constituted what might be termed a period of development. A number of improvements were made in the mechanism including a very simple and efficient framing device, while the addition of a film take-up reel provided an element of safety and greater protection for the film. All in all, the little machine was beginning to evolve along the lines of the modern projector."

The rest of the article deals with the Motiograph projectors.

OPTIGRAPH No. 1

ENTERPRISE OPTICAL MFG. CO.
Optigraph No. 1



Optigraph No. 1 made in 1898, note the left hand crank
The optigraph was invented about 1896 by Frank McMillan. No known Optigraph prototypes from 1896-1897 are known to exist.. The above projector was either a prototype or was produced in very limited numbers.

Photo, *THE SOUNDTRACK*, October 1943

ENTERPRISE OPTICAL MFG. CO.
Optigraph No. 1

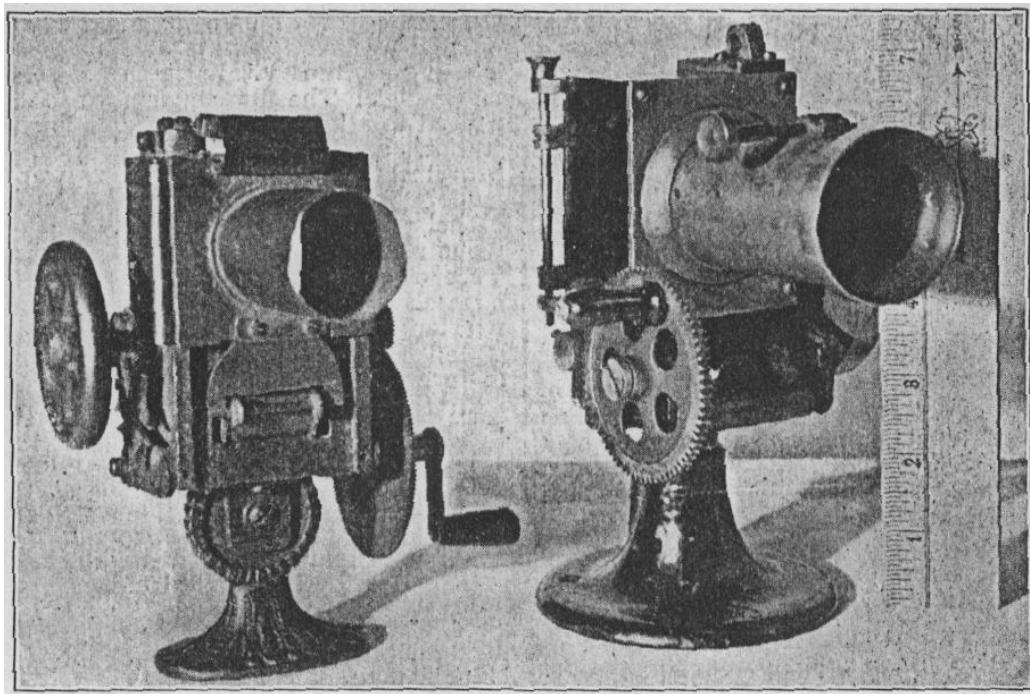


Figure 1

”Many of the “old timers” will recall the small mechanism shown to the right of figure 1. This was the commercial model of what later became the “Motiograph”. To the left in the same illustration is shown the development model. Improvement is evident even in this early beginning. The development model had no shutter and the crank was located on what we would now consider the wrong side. However, the commercial model had the crank placed on what is now generally accepted as the “operating” side.

Figure No. 2 (not shown) is interesting in that it shows the development of the “Optigraph” as it was then called, from Model No. 1 to Model No. 3. Curiously, No. 1 [he means No. 2] was the first attempt was the first attempt to provide magazines to enclose the film and was the first to provide a take-up device. In those days film ordinarily came in only 50 –ft lengths.”

The above is a excerpt from an article written by O.F. Spahr, of Enterprise Optical Mfg. Co.,, titled *A Projector Built for Sound* that appeared in July 1930 issue of the *Motion Picture Projectionist*,

This, Figure 2, which is not illustrated here, incorrectly numbered the Optigraph projectors and originally appeared as an article by F. H. Richardson, *What Happened in the beginning*, in the September 1925 issue of *The Transaction of the SMPE*. This is what happens when one copies from a source with out checking it out first. If I have made any such errors I would appreciate it if my readers would point such errors to me.

OPTIGRAPH No. 2

ENTERPRISE OPTICAL MFG. CO.
Optigraph No. 2

OUR 1899 MODEL OPTIGRAPH...

THE MACHINE THAT MADE THE NAME FAMOUS.

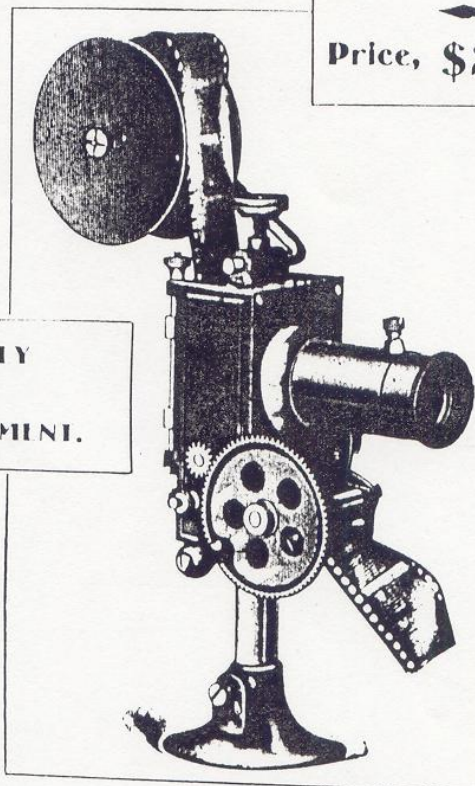
Throws a Sharp, Clear Picture
Up to 20 Feet in Diameter....

No. 21200

Price, \$25.00

Can, at purchaser's option, be fitted with lens of differing range without additional expense.

**A STRICTLY
HIGH
GRADE
INSTRUMENT.**



Better today
than other
Projecting
Machines
sold for \$50.00
and \$75.00.



INCLUDES...

**EXTRA
REEL**

for rapid
rewinding
of films.

USED AS AN ATTACHMENT FOR MAGIC LANTERNS AND STEREOPTICONS.

No. 21200 Optigraph Attachment, 1899 Model, for Magic
Lanterns and Stereopticons

\$25.00

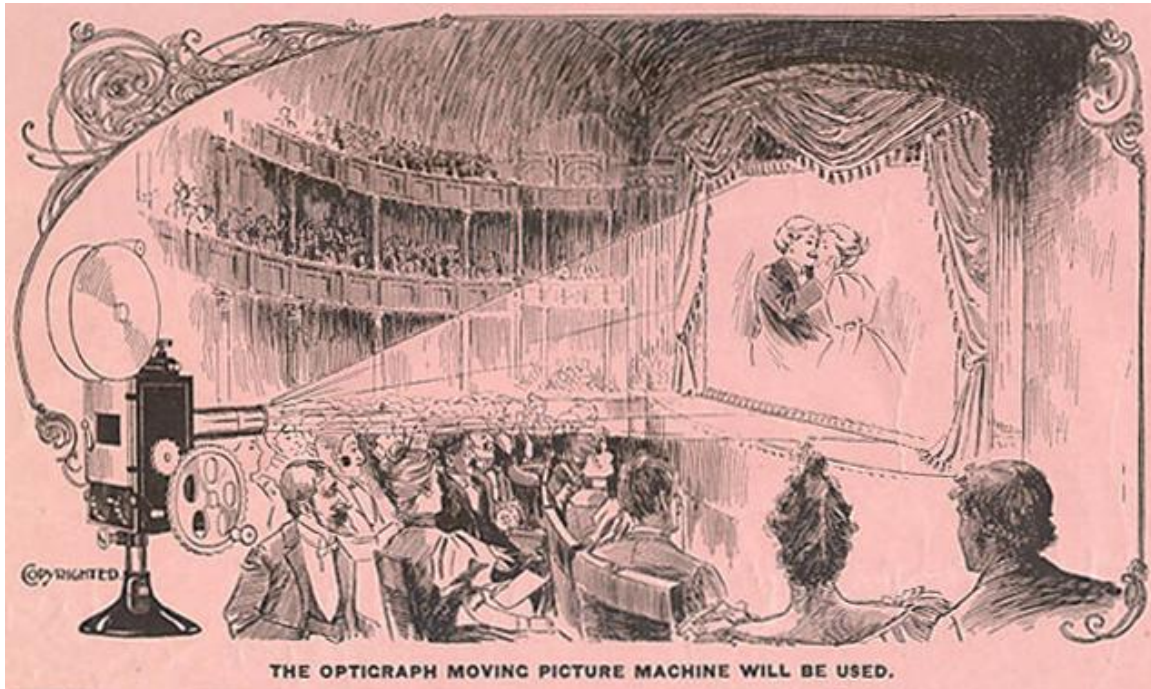
No. 21206 Stereopticon combined with this model, com-
plete with either Calcium Burner or Electric
Arc Lamp

54.00

FOR OUR FULL DESCRIPTION AND BINDING GUARANTEE ON
...THIS INSTRUMENT, SEE OPPOSITE PAGE....

Optigraph No. 2, 35 mm projector
Sears, Roebuck and Co.
Moving Pictures – Talking Machines Catalog
Courtesy Carey Williams

ENTERPRISE OPTICAL MFG. CO.
Optigraph No. 2



Section from an advertising poster that buyers of the Optigraph No. 2 could purchase to promote their business of their animated shows
Detail of the 1899 poster from following page in the Gardiakos collection.

ENTERPRISE OPTICAL MFG. CO.
Optigraph No. 2

A WONDERFUL ANIMATED
MOVING PICTURE
EXHIBITION

ILLUSTRATING THE HIGHEST ATTAINMENT IN THE ART OF PHOTOGRAPHY,
SHOWING LIFE-SIZE VIEWS OF LIFE AND MOTION

OLD & NEW PICTURES
Stereoscopic
Exhibition,
ILLUSTRATING

OUR NEW POSSESSIONS AND "FREE CUBA"

THE GREATEST INVENTION OF THE AGE
Animated Pictures
LIFE LIKE MOTION; LIFE SIZE.

THE WONDERFUL MOVING PICTURE MACHINE
WILL REPRESENT
Scenes and Incidents from the late War with Spain,
Railway Trains Going at Full Speed, Marching
Scenes, Comic Scenes, Bicycle Parades, etc.

**The Philippines, The Ladrones,
Hawaii and Porto Rico,**
ILLUSTRATED THROUGHOUT WITH
52 MAGNIFICENT VIEWS
PROJECTED FROM THE STEREOSCOPIC.
A Great Combination of Instructional Entertainment and Amusement!
MORE INFORMATION IN TWO HOURS' ENTERTAINMENT THAN IN MANY DAYS' READING.

A Most Interesting and Informative Lecture will be given describing our "New Possessions" BEAUTIFUL HAWAII, THE PHILIPPINES, the Treasure of the Emerald War, PORTO RICO, the Pearl of the Antilles, THE LADRONES, etc., together with some entirely New Scenes in the Island of Cuba. The natural resources are described for the instruction, development and civilization of these FRUITFUL AND BEAUTIFUL COUNTRIES which have lately been acquired by the United States.

THE VIEWS WILL BE ILLUMINATED By an electric light magnified by powerful lenses and projected onto an immense screen with 100 square feet of surface, making them so large that EVERYONE CAN SEE WHILE COMFORTABLY SEATED IN ANY PART OF THE HALL.

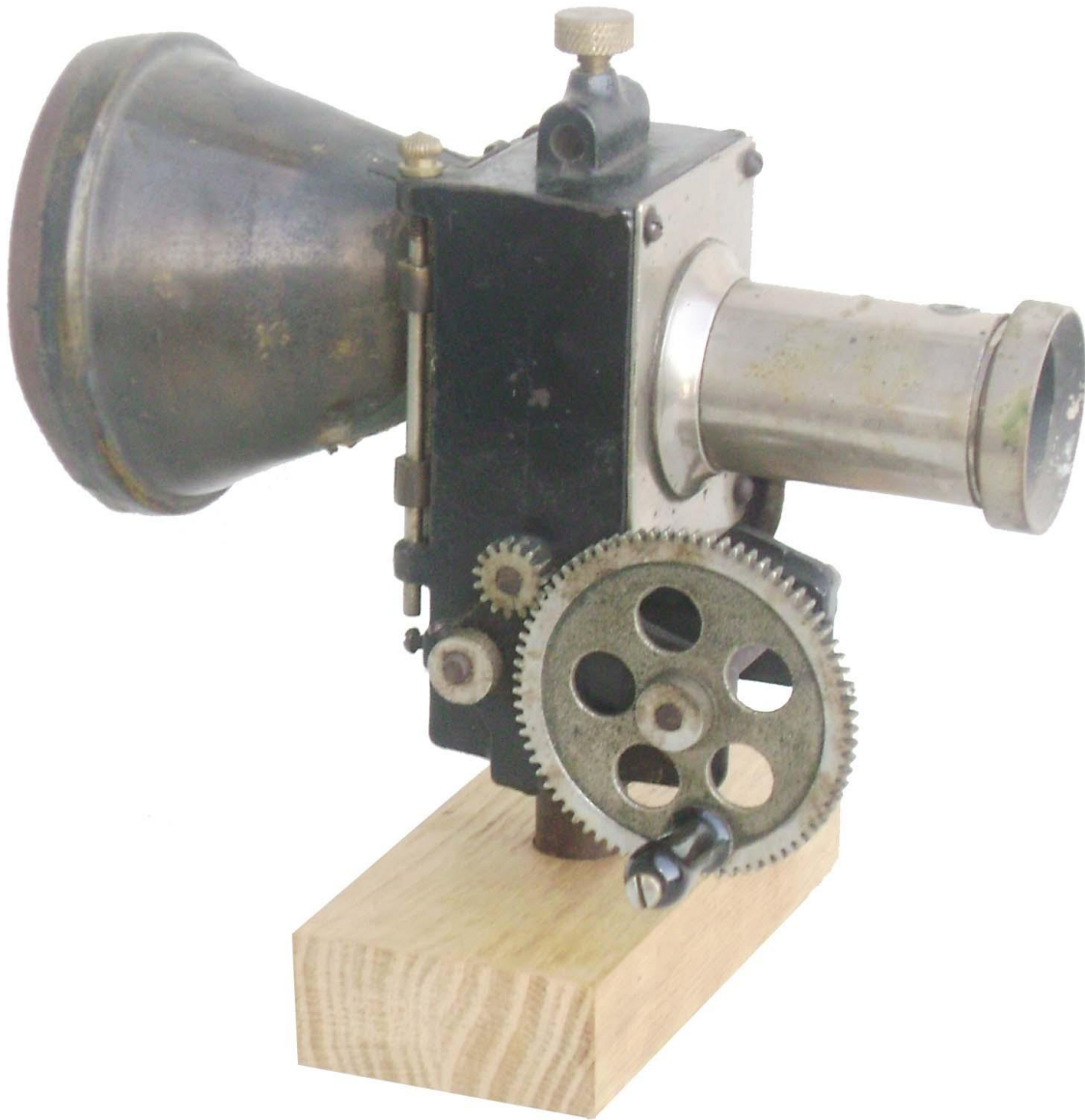
There has been a large amount of money spent in collecting authentic and reliable information in securing the

MAGNIFICENT PHOTOGRAPHIC VIEWS
WE PROMISE YOU A ROYAL ENTERTAINMENT. DON'T FAIL TO COME AND BRING YOUR FRIENDS.

The Lecture and Exhibition will be given at
PRICES OF ADMISSION: ADULTS _____ CENTS. CHILDREN _____ CENTS
Entertainment begins at 8 P. M.

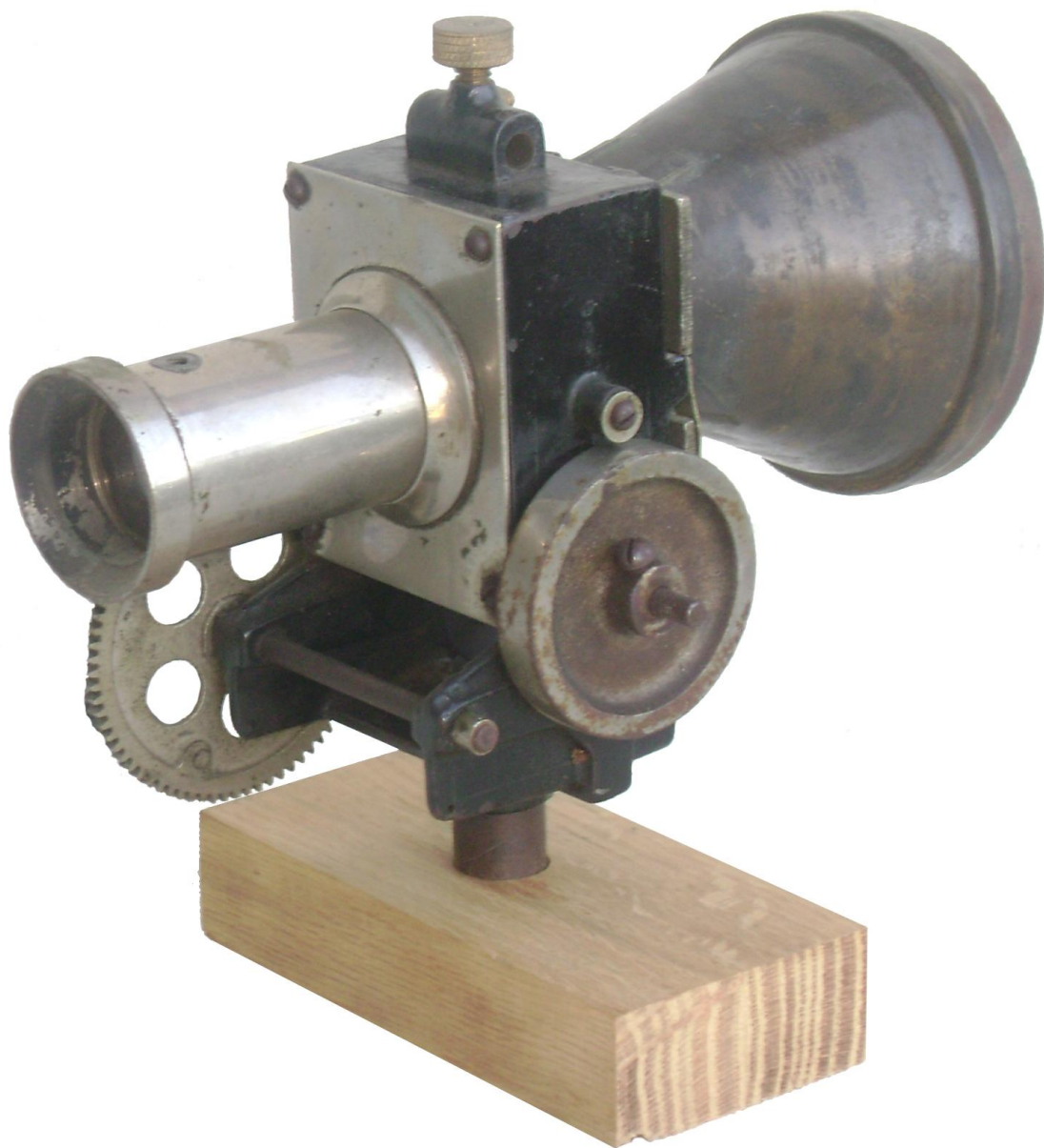
1899 Optigraph Poster, Soterios Gardiakos collection

ENTERPRISE OPTICAL MFG. CO.
Optigraph No. 2



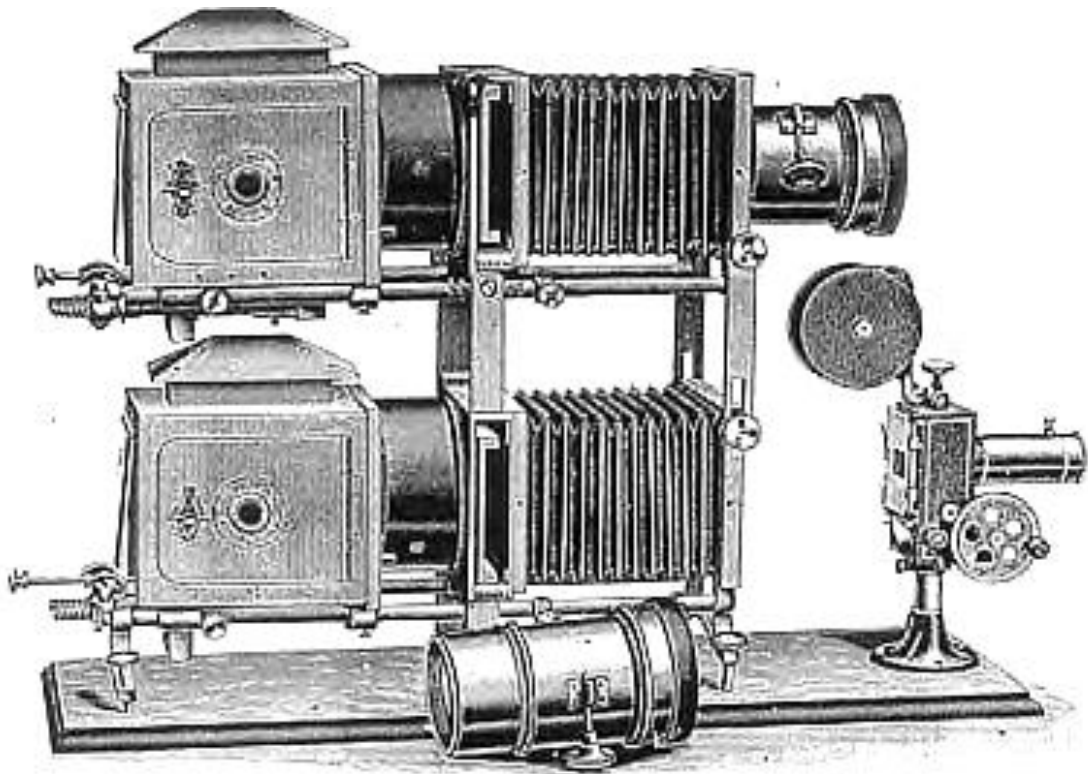
Optigraph model No. 2, 35mm projector 1899
Collection Soterios Gardiakos

ENTERPRISE OPTICAL MFG. CO.
Optigraph No. 2



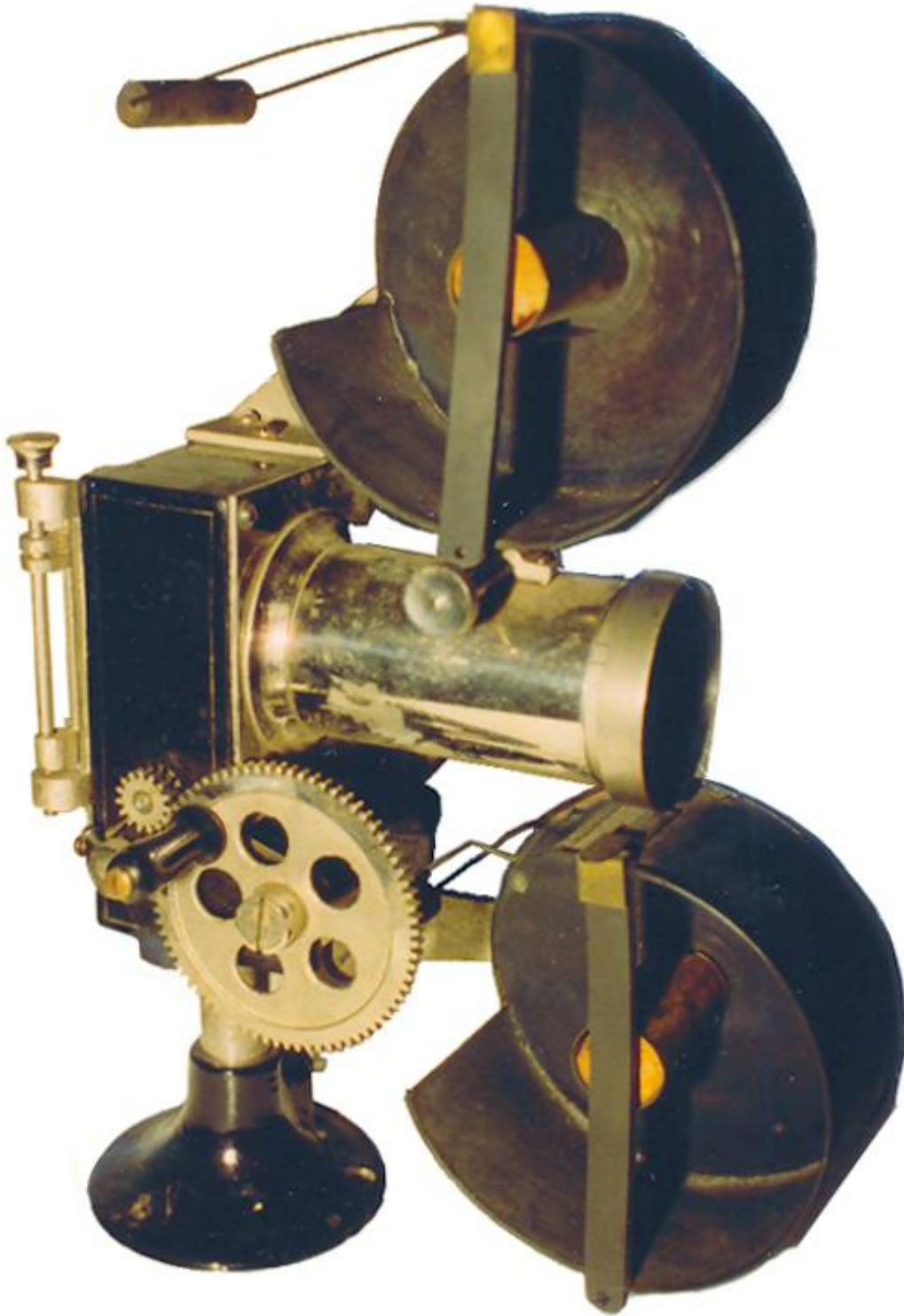
Optigraph model No. 2, 35mm projector 1899
Collection Soterios Gardiakos

ENTERPRISE OPTICAL MFG. CO.
Optigraph No. 2



Optigraph No. 2, 35 mm projector made in 1899.
OPTIGRAPH CATALOG, No Date.

ENTERPRISE OPTICAL MFG. CO.
Optigraph No. 2



Optigraph No. 2, 35 mm projector, made in 1899.
Carey Williams collection.

ENTERPRISE OPTICAL MFG. CO.
Optigraph No. 2

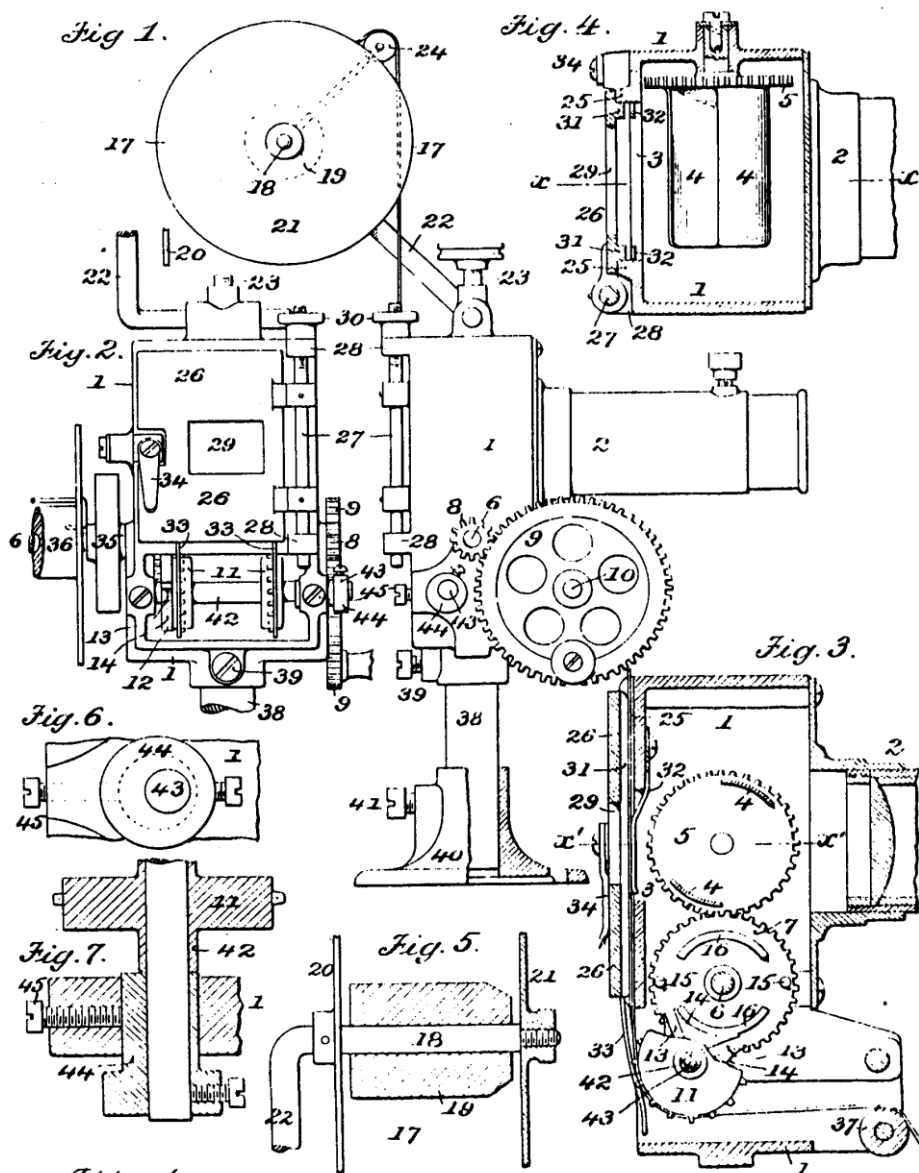
No. 628,413.

Patented July 4, 1899.

F. McMILLAN & A. C. ROEBUCK.
KINETOSCOPIC APPARATUS.

(Application filed Feb. 25, 1898.)

(No Model.)



Attest:

James Cavallini
W. H. Holmes.

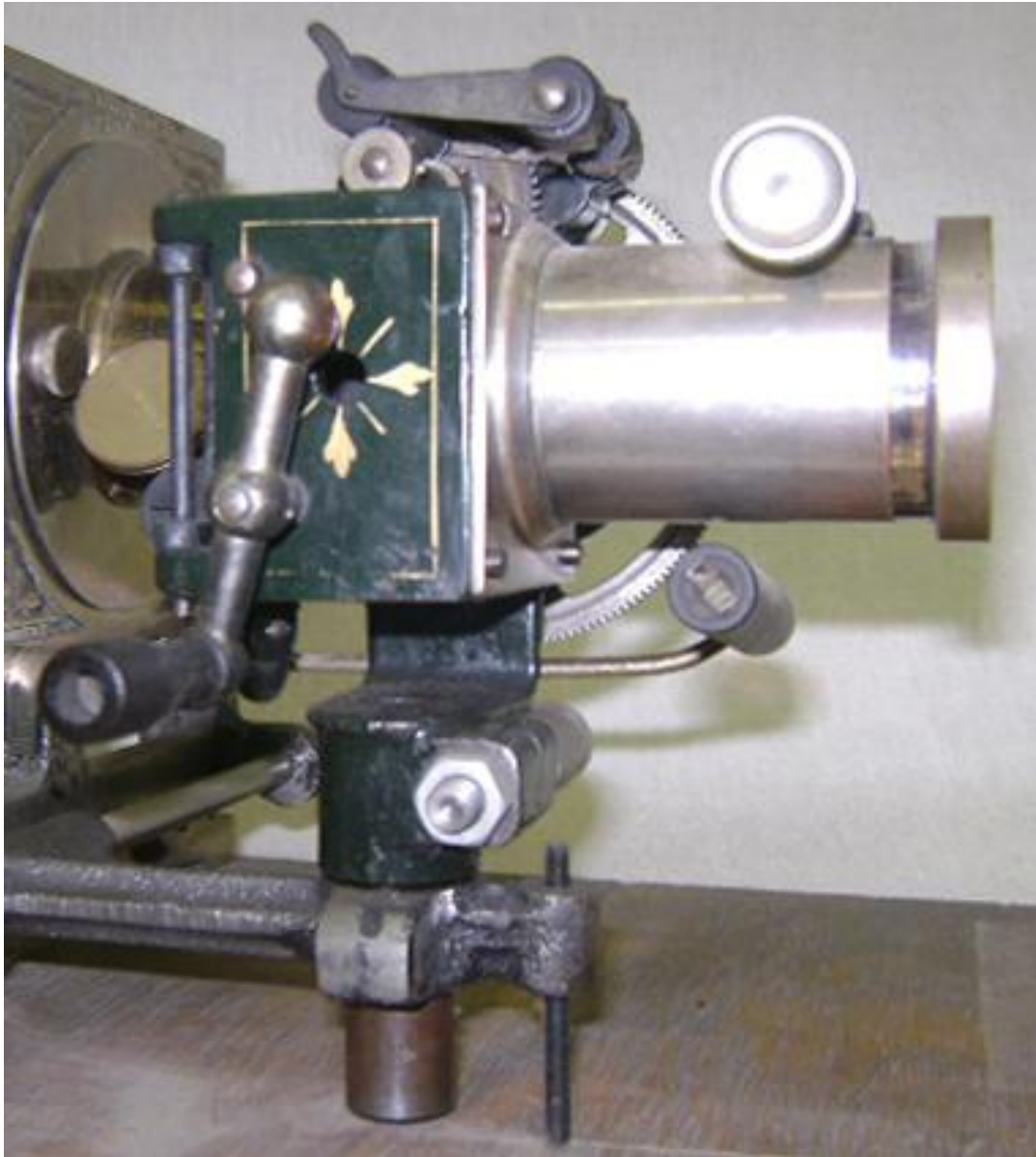
Inventors:

F. McMillan & A. C. Roebuck,
by Robert Burns Att'y.

Optigraph No.2, Patent 628, 413, applied February 25, 1898, issued July 4, 1899

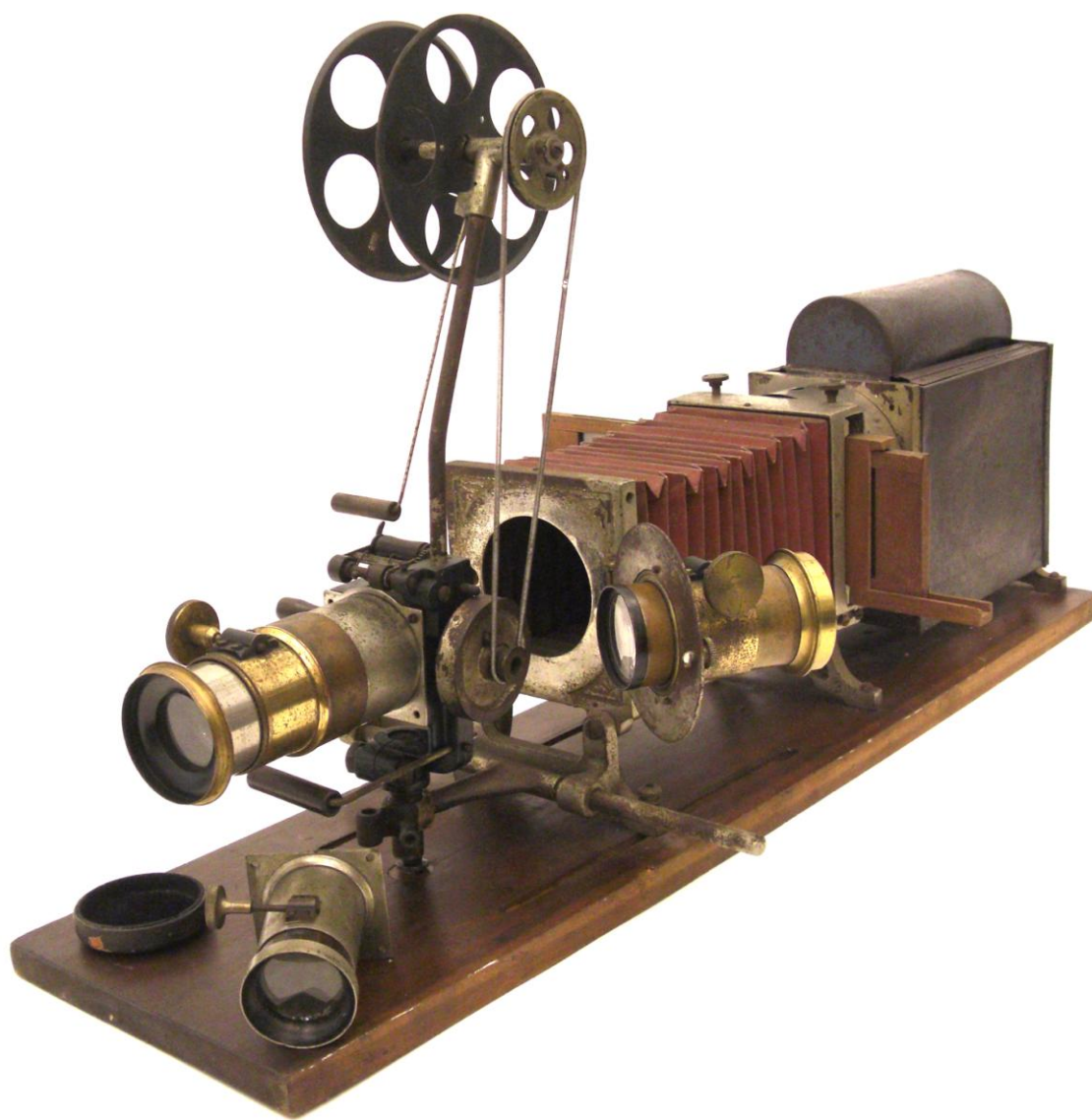
OPTIGRAPH No. 3

ENTERPRISE OPTICAL MFG. CO.
Optigraph No. 3



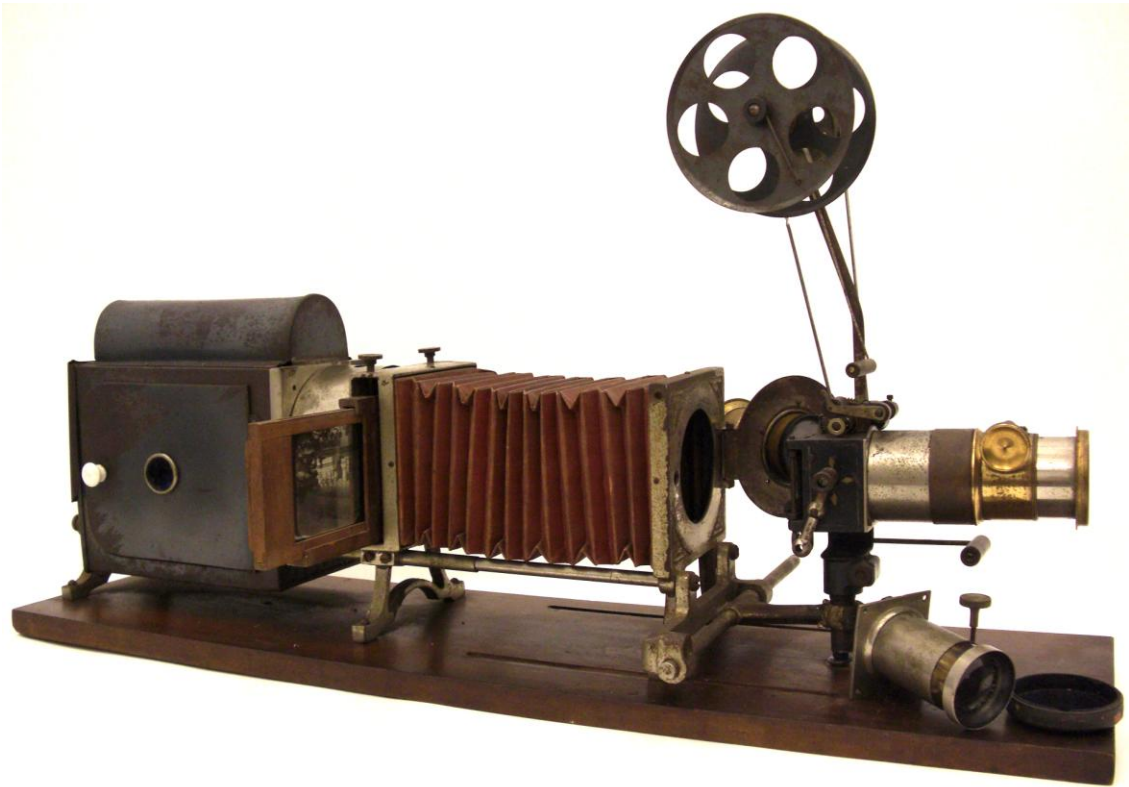
Optigraph No. 3, 35mm projector head 1900
Collection Soterios Gardiakos

ENTERPRISE OPTICAL MFG. CO.
Optigraph No. 3



Optigraph No. 3, 35 mm projector, 1900
Erkki Huhtamo collection

ENTERPRISE OPTICAL MFG. CO.
Optigraph No. 3

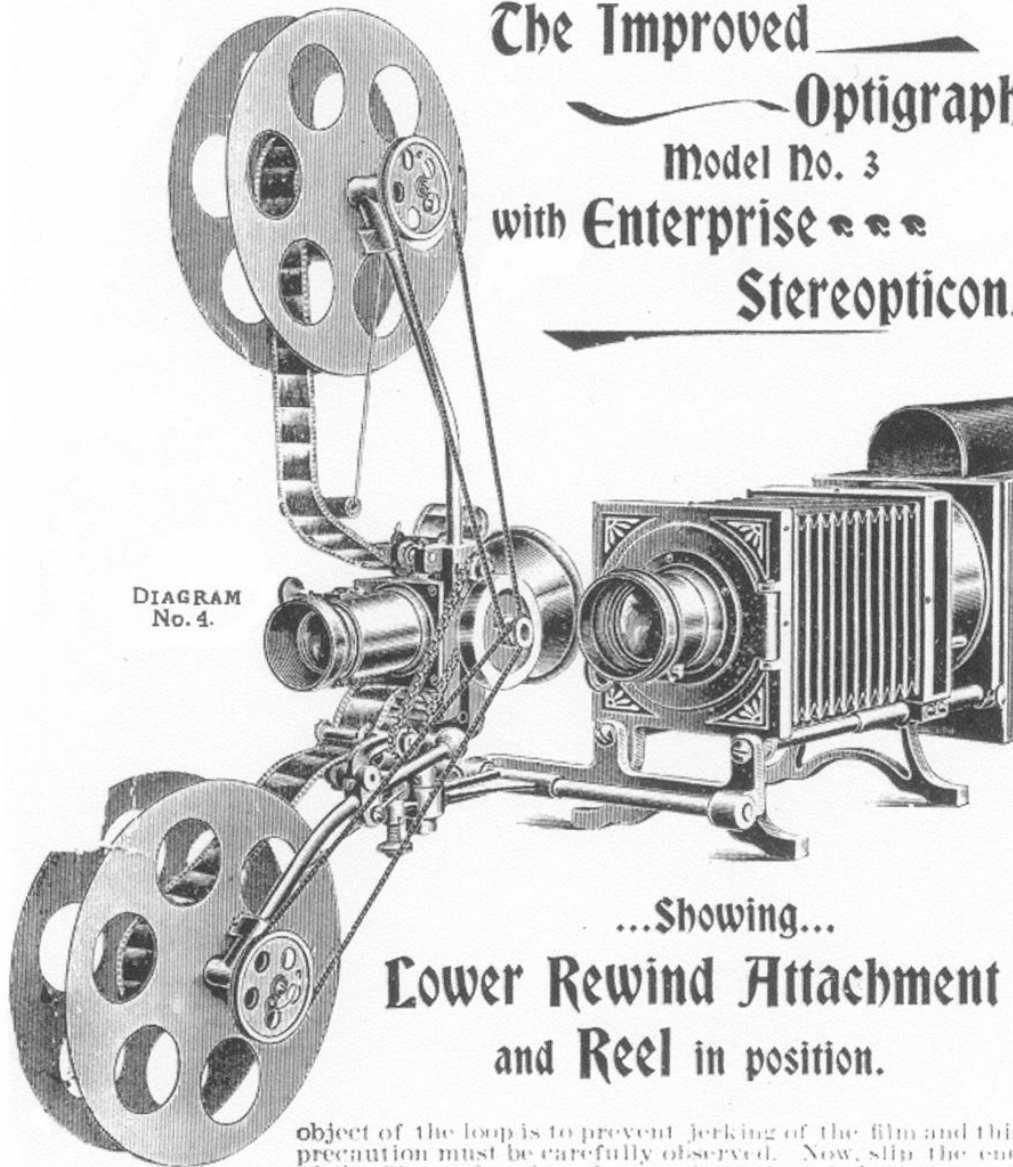


Optigraph No. 3, 35 mm projector, 1900
Erkki Huhtamo collection

ENTERPRISE OPTICAL CO.
Optigraph No. 3

THE REWIND ATTACHMENT.

The Improved
Optigraph
 Model No. 3
 with Enterprise
Stereopticon.



...Showing...

**Lower Rewind Attachment
 and Reel in position.**

object of the loop is to prevent jerking of the film and this precaution must be carefully observed. Now, slip the end of the film under the wire on the roller of the lower reel and you are ready to operate.

Always be careful that there is a good loop of film between both the upper and lower feeding sprockets and the main sprocket wheel on the inside of the Motion Picture Machine. If this is not carefully observed the jerking of the film is liable to tear it.

PRICE.

Lower Rewind Attachment with two Reels (one for 100 feet and one for 500 feet) extra Sprocket Wheel and Chain. \$7.50
 Extra Reel for 1200 feet of film, 1.75

Optigraph No. 3, 35 mm projector, made in 1900.
 OPTIGRAPH CATALOG, NO DATE.

ENTERPRISE OPTICAL MFG. CO.
Optigraph No. 3

The "Improved Optigraph" model no. 3 Motion Picture Machine.

**Positively
the Best
and Most
CONVENIENT
Motion
Picture
Machine
Made.**

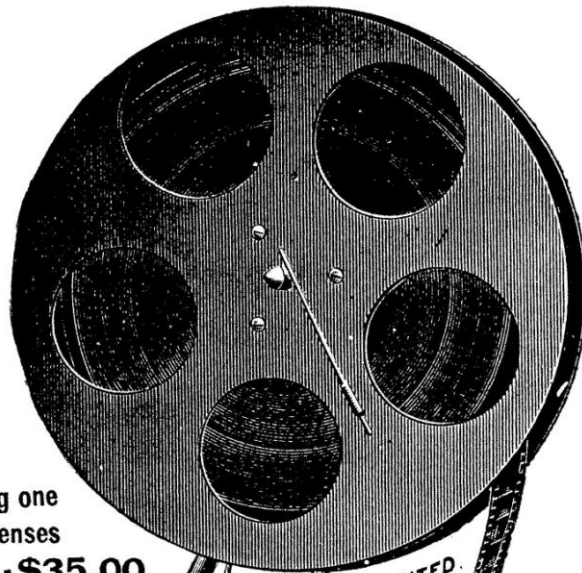
*PROJECTS A
SHARP,
CLEAR AND
REMARKABLY
STEADY
PICTURE UP TO
30 FEET IN
DIAMETER*

Price, including one
set of Large Lenses
and two Reels, - **\$35.00**

Extra Lenses, either
Wide, Medium, or
Narrow Angle, - **\$8.00**

The
Optigraph
is used by
Many
Exhibitors
who
Advertise
it Under a
Different
Name...

Diagram No 1

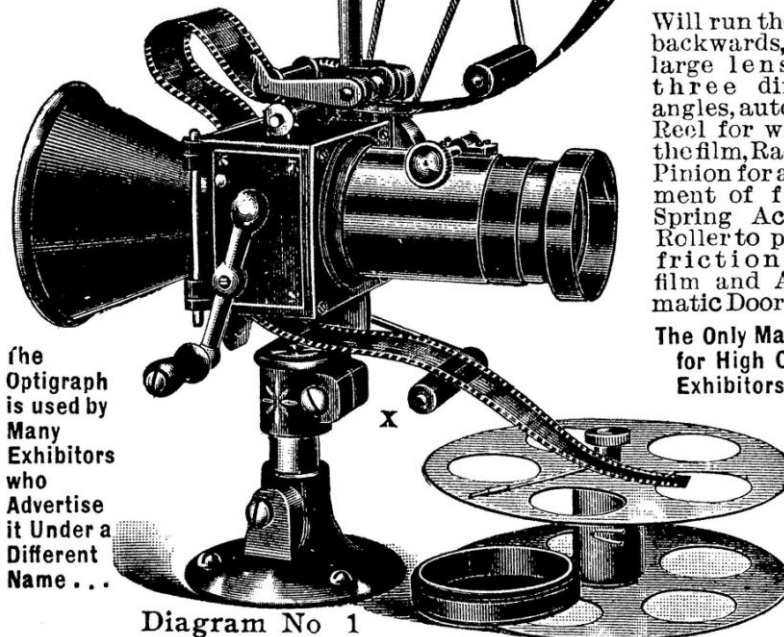


PATENTED
in the
United States
and
England.

**New
Large Size
Lenses.**

Will run the films
backwards, uses
large lenses of
three different
angles, automatic
Reel for winding
the film, Rack and
Pinion for adjust-
ment of focus,
Spring Actuated
Roller to prevent
friction on the
film and Auto-
matic Door Catch.

**The Only Machine
for High Class
Exhibitors.**



Optigraph No. 3, 35 mm projector, made in 1900
OPTIGRAPH CATALOG, NO DATE.

ENTERPRISE OPTICAL CO.
Optigraph No. 3

No. 706,113.

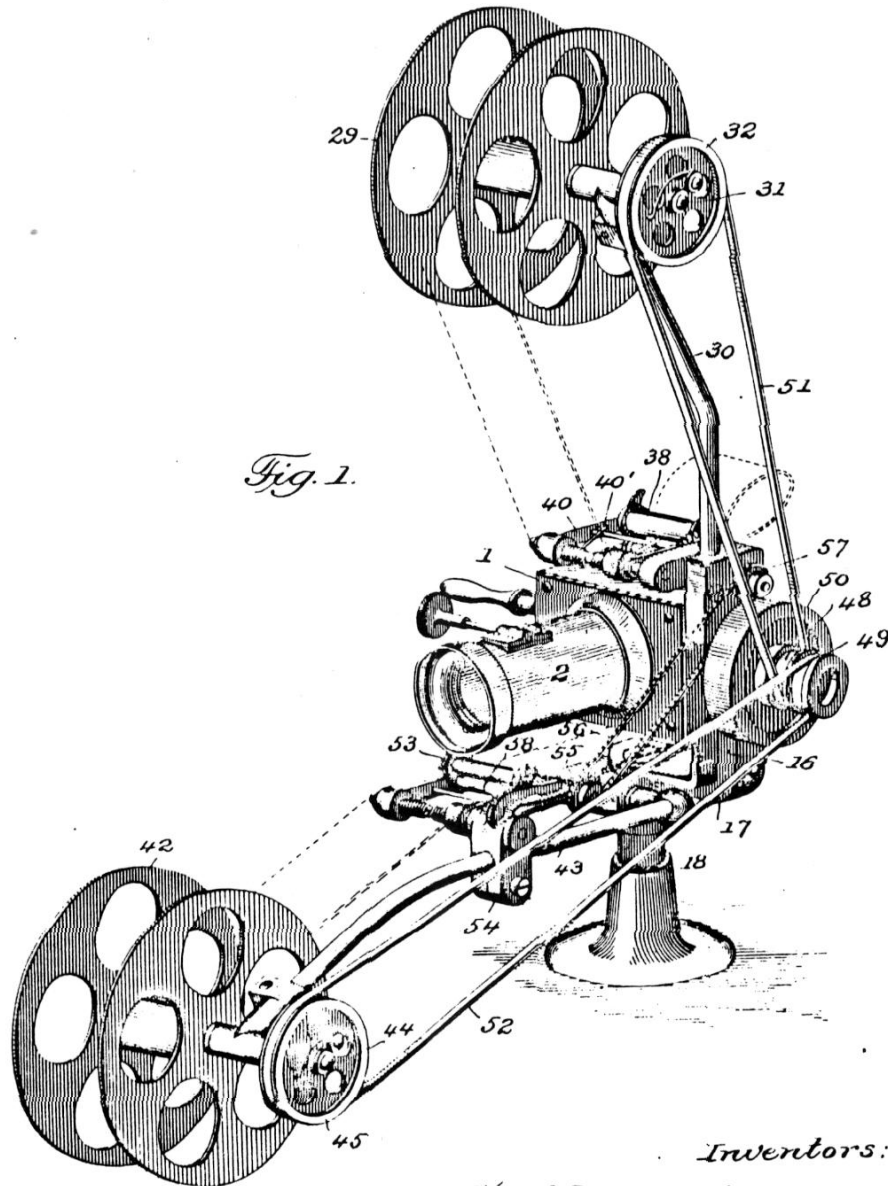
Patented Aug. 5, 1902.

A. C. ROEBUCK & F. McMILLAN.
KINETOGRAPHIC APPARATUS.

(Application filed Mar. 23, 1900.)

(No Model.)

3 Sheets—Sheet 1.



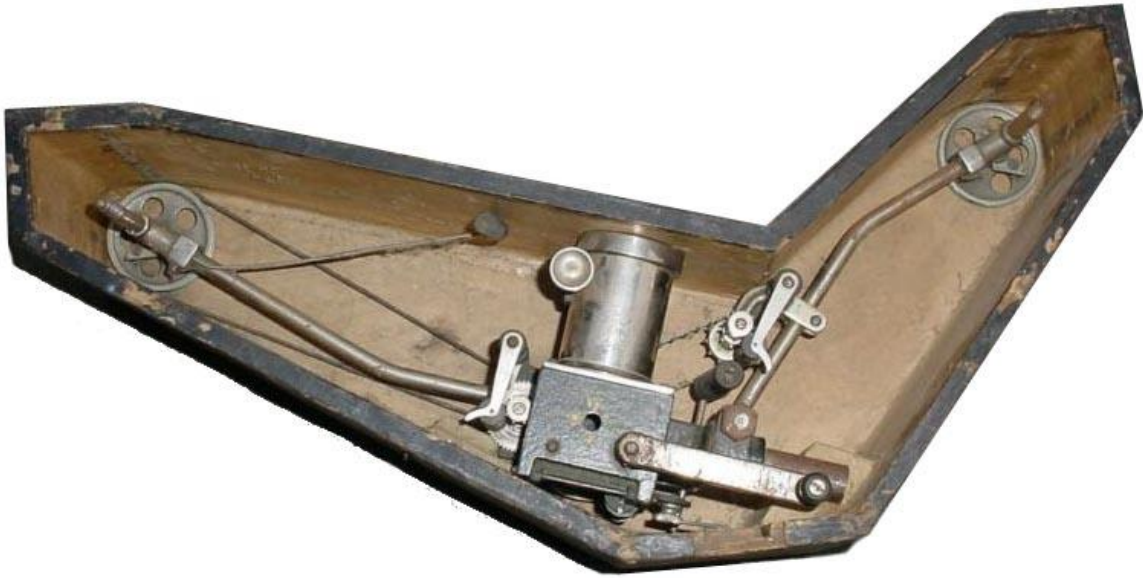
Attest:
John Enders, Jr.
H. A. Nott

Inventors:
Ulrich C. Roebuck & Frank M. Millan

By *Robert Burns*
Attorney.

Optigraph No. 3, Patent 706,113, applied March 23, 1900, issued July 4, 1900

ENTERPRISE OPTICAL CO.
Optigraph No. 3



Case for the Optigraph No. 3, Paul Chmielews collection

OPTIGRAPH No. 3¹/₂

ENTERPRISE OPTICAL MFG. CO.
Optigraph No. 3½

CHICAGO PROJECTING Co.,

....THE OPTIGRAPH....
No. 3½ Motion Picture Mechanism

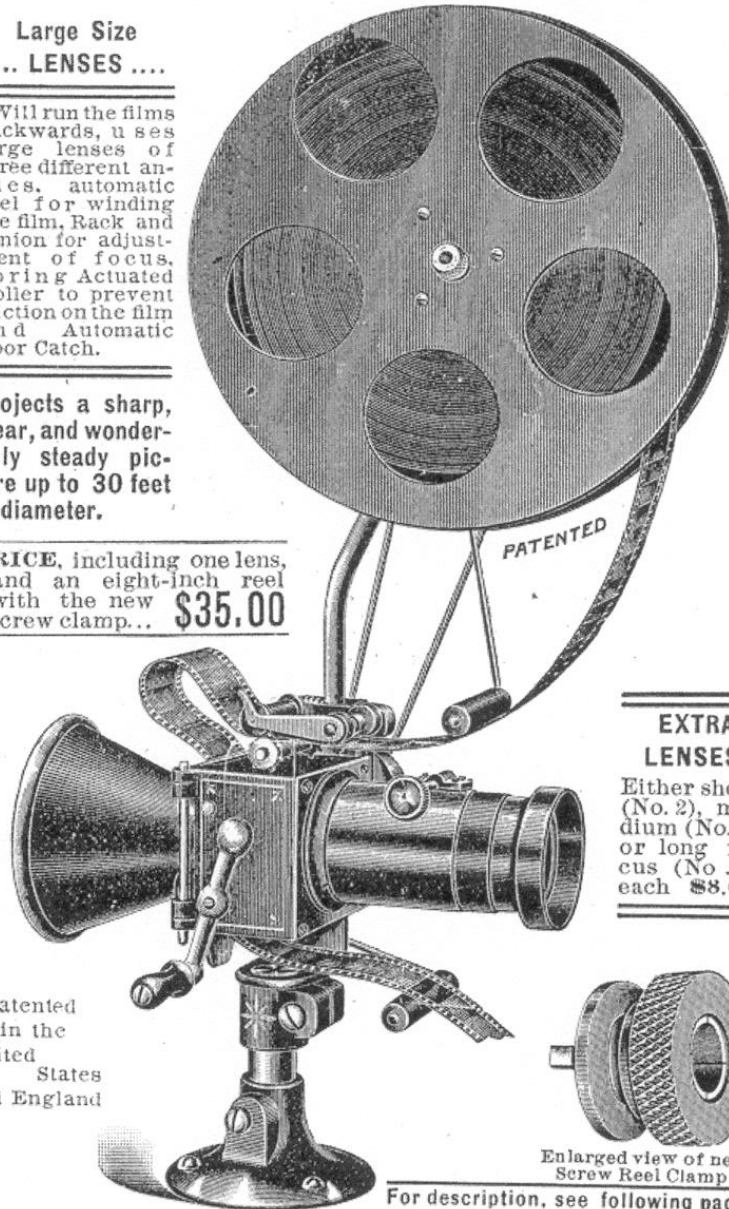
Large Size
..... LENSES

Will run the films backwards, uses large lenses of three different angles, automatic reel for winding the film, Rack and Pinion for adjustment of focus, Spring Actuated Roller to prevent friction on the film and Automatic Door Catch.

Projects a sharp, clear, and wonderfully steady picture up to 30 feet in diameter.

PRICE, including one lens, and an eight-inch reel with the new screw clamp... **\$35.00**

Patented
in the
United
States
and England



**EXTRA
LENSES**

Either short (No. 2), medium (No. 1) or long focus (No. 3), each **\$8.00**

Enlarged view of new
Screw Reel Clamp
 For description, see following page

16

Optigraph No. 3½, 35 mm projector
 OPTIGRAPH CATALOG, No Date.

ENTERPRISE OPTICAL MFG. CO.
Optigraph No. 3½

Optigraph No. 3½, and the Enterprise Stereopticon

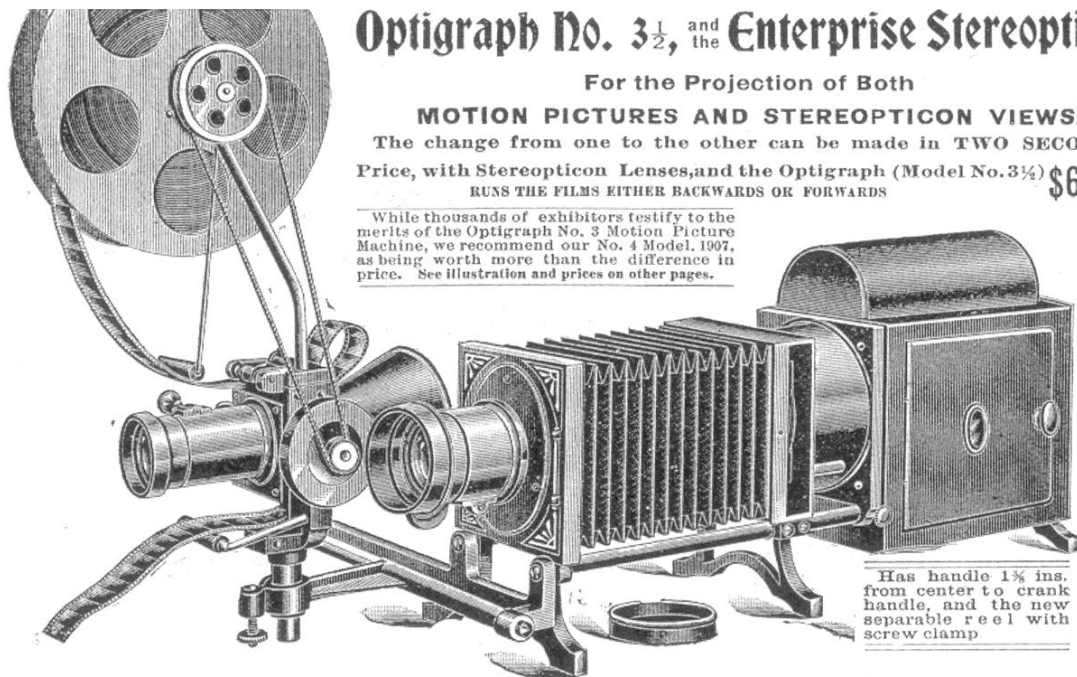
For the Projection of Both
MOTION PICTURES AND STEREOPTICON VIEWS.

The change from one to the other can be made in **TWO SECONDS**

Price, with Stereopticon Lenses, and the Optigraph (Model No. 3½) **\$64.00**

RUNS THE FILMS EITHER BACKWARDS OR FORWARDS

While thousands of exhibitors testify to the merits of the Optigraph No. 3 Motion Picture Machine, we recommend our No. 4 Model, 1907, as being worth more than the difference in price. See illustration and prices on other pages.



Has handle 1½ ins. from center to crank handle, and the new separable reel with screw clamp

Patented in the United States and England.

Optigraph No. 3½, 35 mm projector
 OPTIGRAPH CATALOG, No Date.

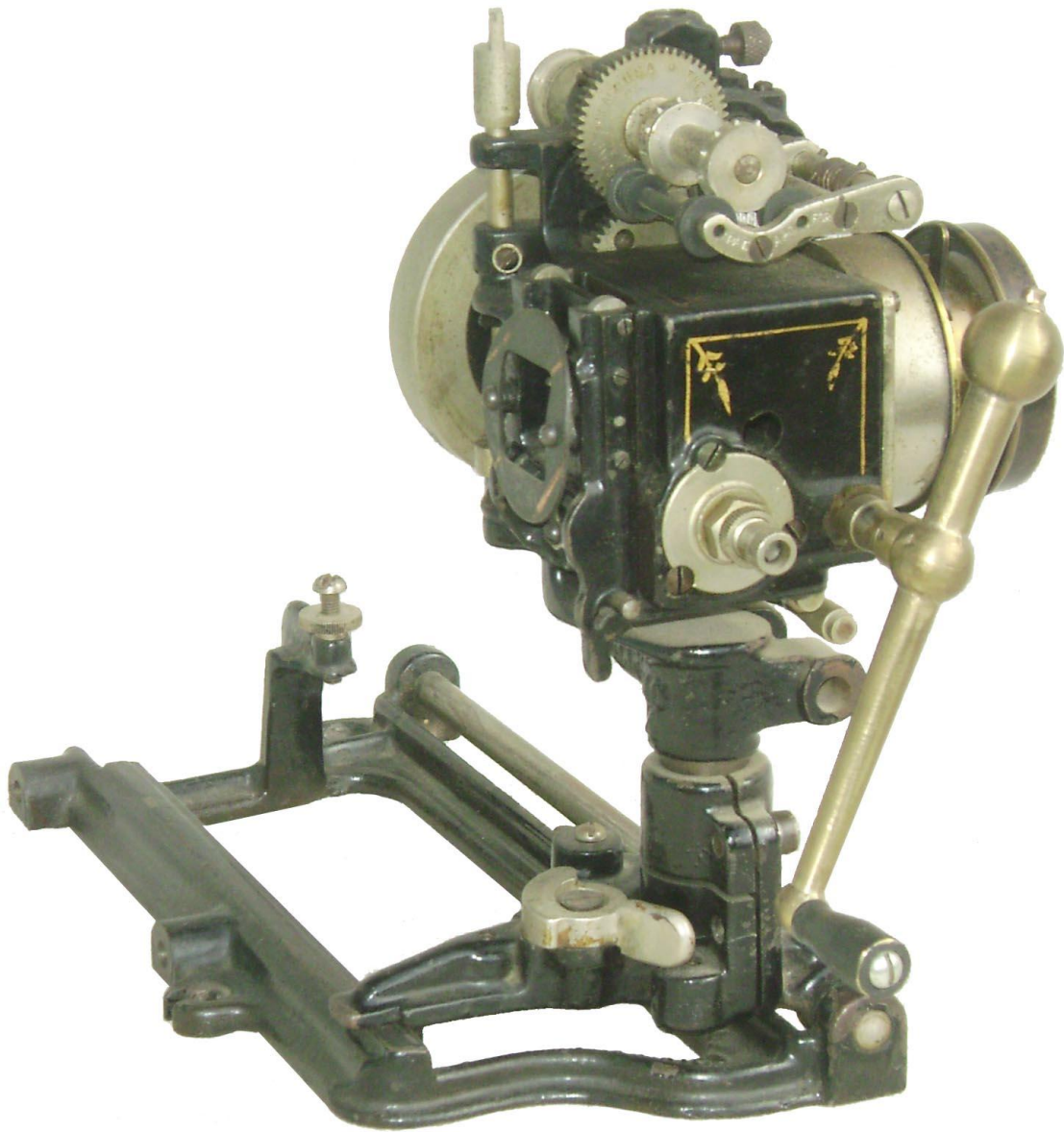
OPTIGRAPH No. 4

ENTERPRISE OPTICAL MFG. CO.
Optigraph No. 4



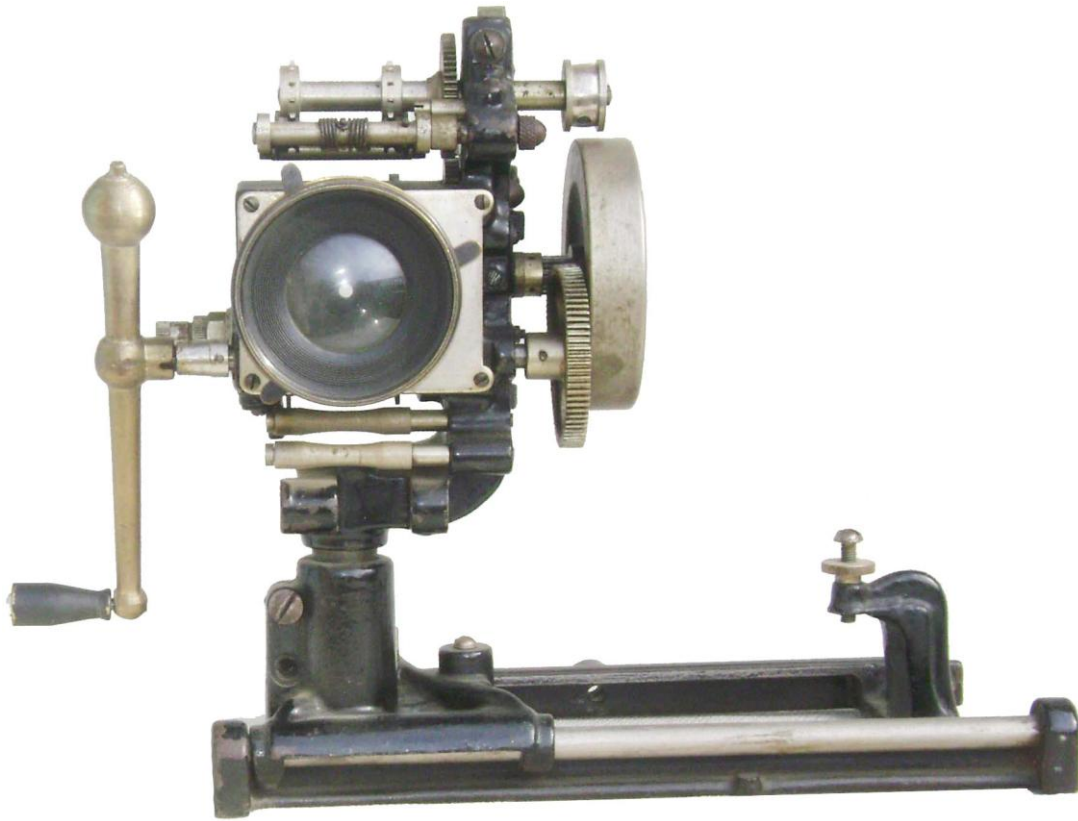
Optigraph No. 4, 35mm projector 1906
Collection Soterios Gardiakos

ENTERPRISE OPTICAL MFG. CO.
Optigraph No. 4



Optigraph No. 4, 35mm projector 1906
Collection Soterios Gardiakos

ENTERPRISE OPTICAL MFG. CO.
Optigraph No. 4



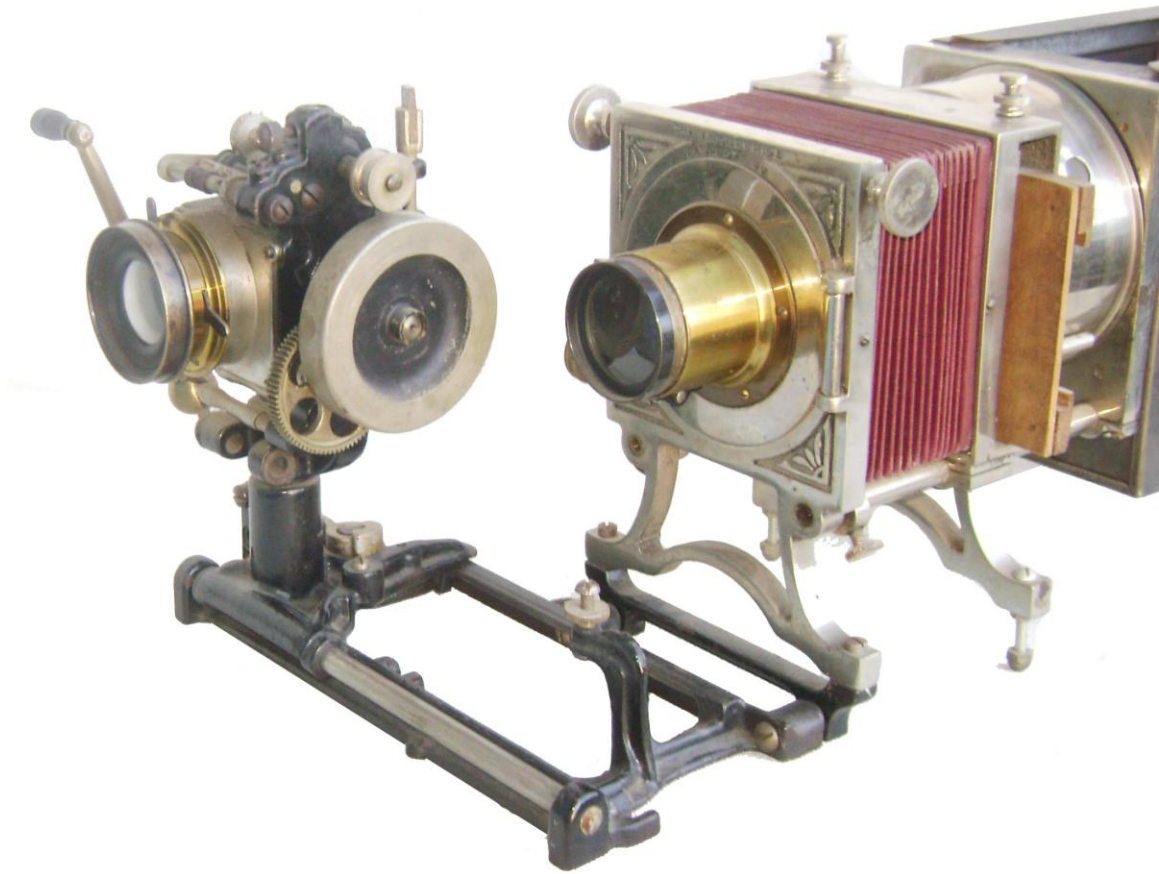
Optigraph No. 4, 35mm projector 1906
Collection Soterios Gardiakos

ENTERPRISE OPTICAL MFG. CO.
Optigraph No. 4



Optigraph No. 4, 35mm projector 1906
Collection Soterios Gardiakos

ENTERPRISE OPTICAL MFG. CO.
Optigraph No. 4

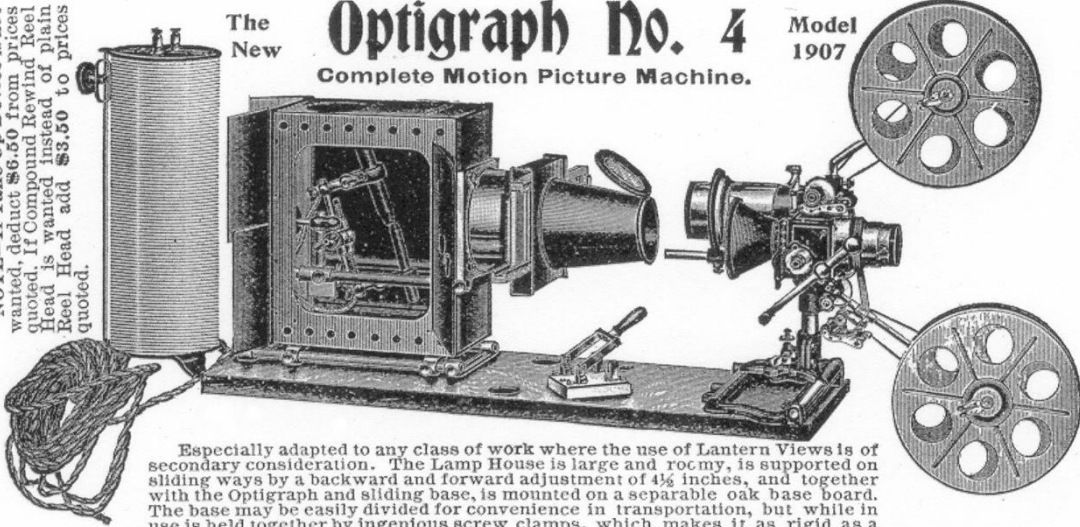


Optigraph No. 4, 35mm projector 1906
Collection Soterios Gardiakos

ENTERPRISE OPTICAL MFG. CO.
Optigraph No. 4

NOTE—If Take Up Device is not wanted, deduct \$6.50 from prices quoted. If Compound Rewind Reel Head is wanted instead of plain Reel Head add \$3.50 to prices quoted.

The New **Optigraph No. 4** Model 1907
Complete Motion Picture Machine.



30

Especially adapted to any class of work where the use of Lantern Views is of secondary consideration. The Lamp House is large and roomy, is supported on sliding ways by a backward and forward adjustment of 4½ inches, and together with the Optigraph and sliding base, is mounted on a separable oak base board. The base may be easily divided for convenience in transportation, but while in use is held together by ingenious screw clamps, which makes it as rigid as a solid board.

PRICES

<p>Complete Machine on Separable Oak Base, including Optigraph No. 4, Mechanism, 3 in. lens, Sliding Adjustable Lamp House, Condensing Lenses, Burner Support, Vise Grip Sliding Base, Bracket, Arm, Screw Ring, Adapting Ring, Take Up Device, Stereopticon, Objective Lens any focus in ¼ size mount, eight-inch Reel, Plain Reel Head, Arc Lamp, Rheostat, (52 to 110 volt), Knife switch and 30 feet of insulated wire...</p>	<p>\$75.00</p>
<p>Complete Machine, as above, with "Roco Special" No. 2 Calcium Jet and eight feet of rubber tubing, instead of Arc Lamp, Rheostat, Switch, Wire, etc.....</p>	<p>\$72.00</p>

Optigraph No. 4, 35 mm projector, 1906
 OPTIGRAPH CATALOG, no date

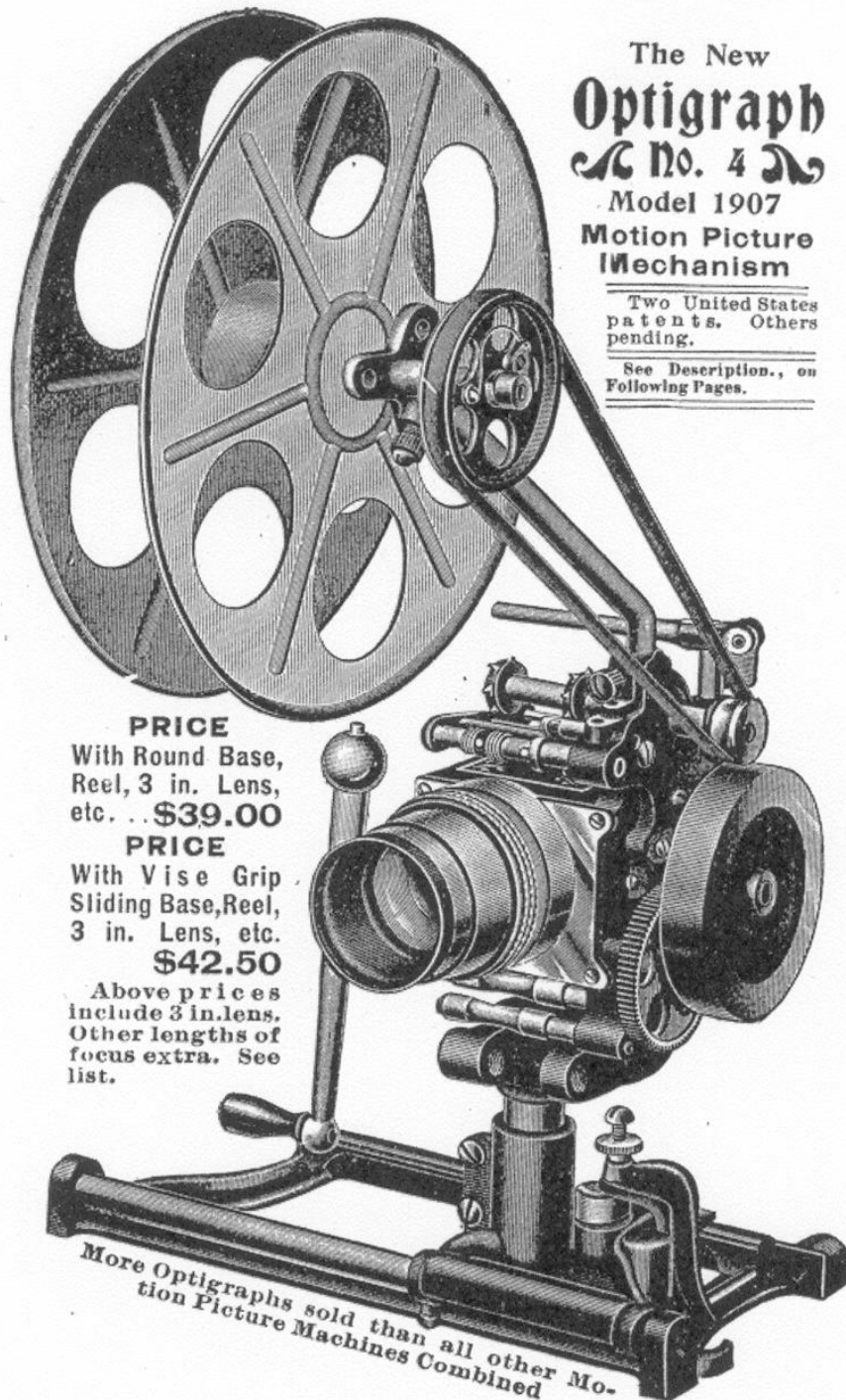
ENTERPRISE OPTICAL MFG. CO.
Optigraph No. 4

CHICAGO PROJECTING CO.,

The New
Optigraph
No. 4
Model 1907
Motion Picture
Mechanism

Two United States
patents. Others
pending.

See Description, on
Following Pages.



PRICE
With Round Base,
Reel, 3 in. Lens,
etc. ... **\$39.00**

PRICE
With Vise Grip
Sliding Base, Reel,
3 in. Lens, etc.
\$42.50

Above prices
include 3 in. lens.
Other lengths of
focus extra. See
list.

More Optigraphs sold than all other Mo-
tion Picture Machines Combined

20

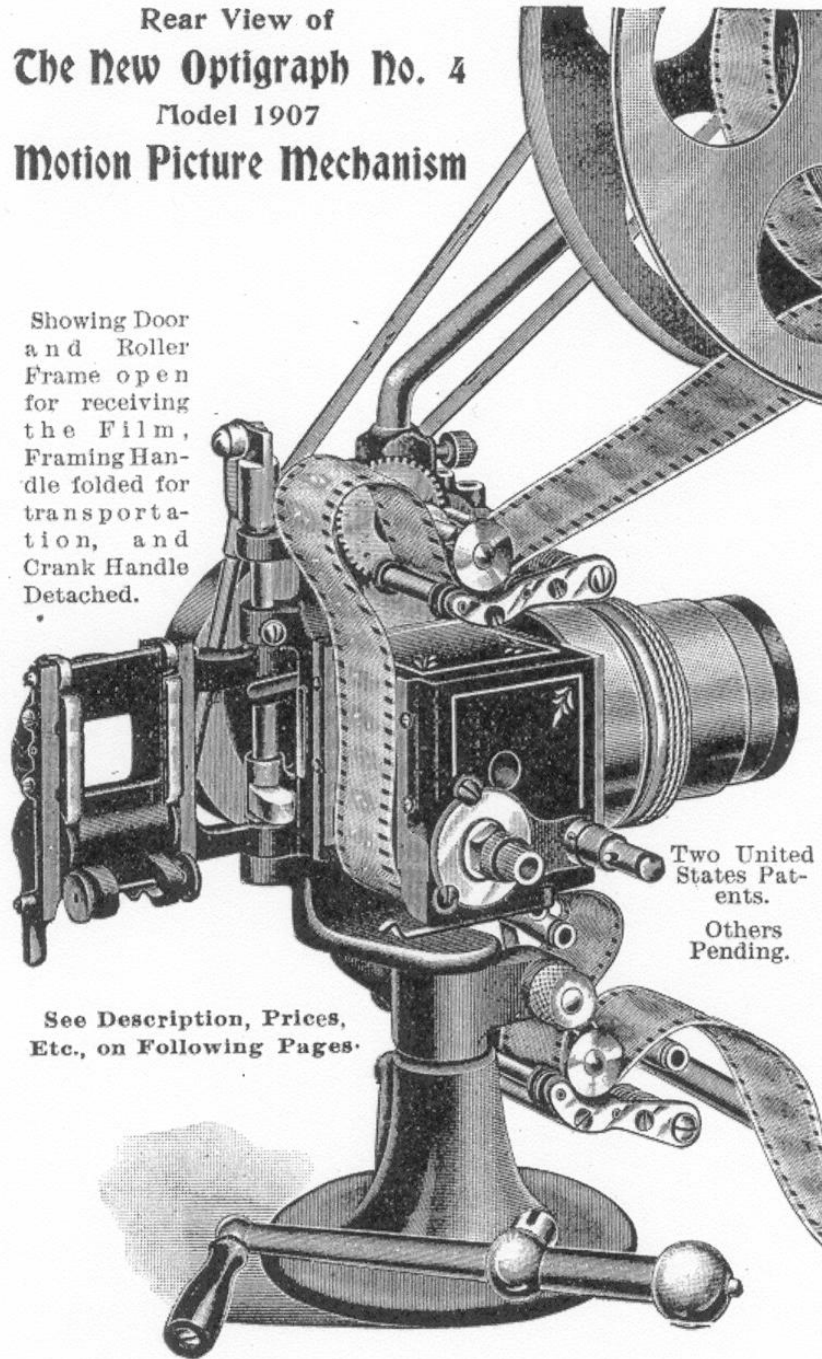
Optigraph No. 4, 35 mm projector, 1906
OPTIGRAPH CATALOG, No Date

ENTERPRISE OPTICAL MFG. CO.
Optigraph No. 4

CHICAGO PROJECTING CO.,

Rear View of
The New Optigraph No. 4
Model 1907
Motion Picture Mechanism

Showing Door
and Roller
Frame open
for receiving
the Film,
Framing Han-
dle folded for
transporta-
tion, and
Crank Handle
Detached.



Two United
States Pat-
ents.

Others
Pending.

See Description, Prices,
Etc., on Following Pages.

26

Optigraph No. 4, 35 mm projector, 1906
OPTIGRAPH CATALOG, No Date

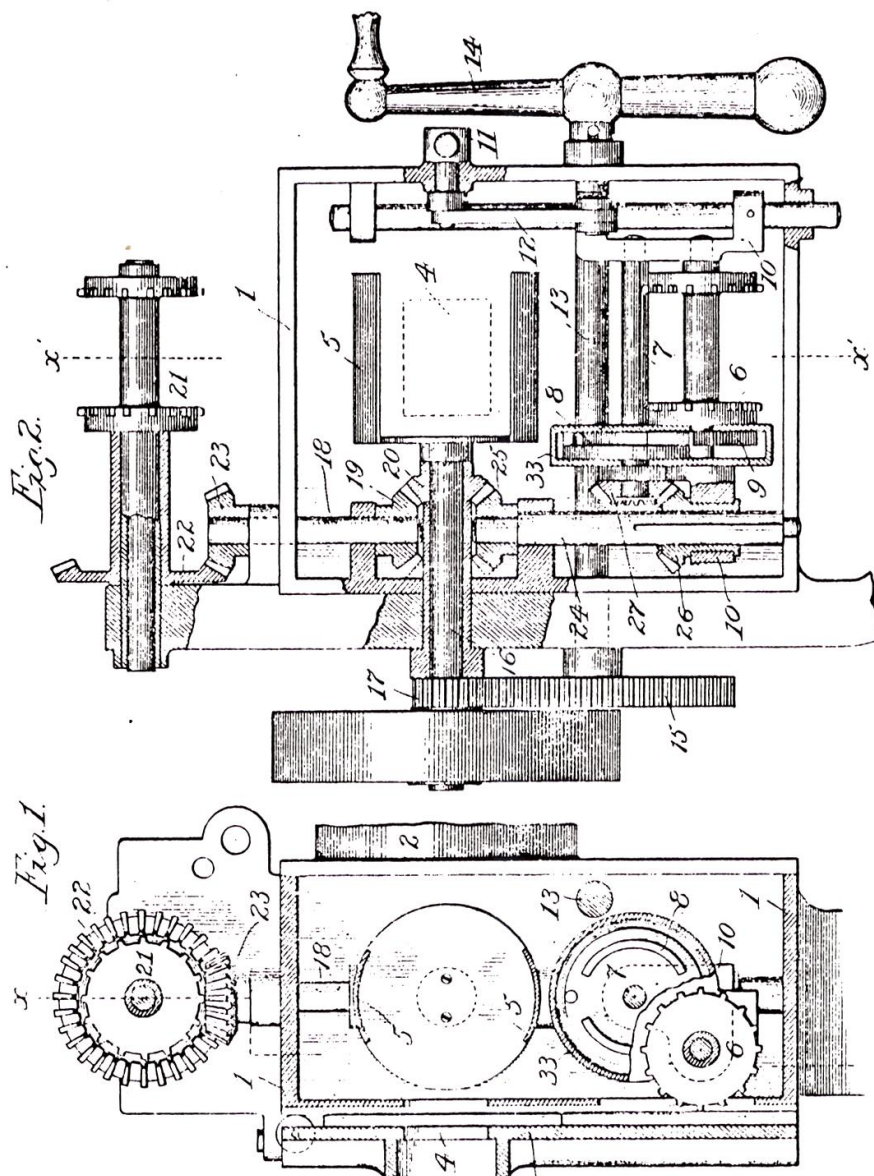
ENTERPRISE OPTICAL MFG. CO.
Optigraph No. 4

A. C. ROEBUCK.
KINETOSCOPE.

APPLICATION FILED AUG. 13, 1906.

955,477.

Patented Apr. 19, 1910.



Attest:
Henry M. Roe
Chas. H. Bull.

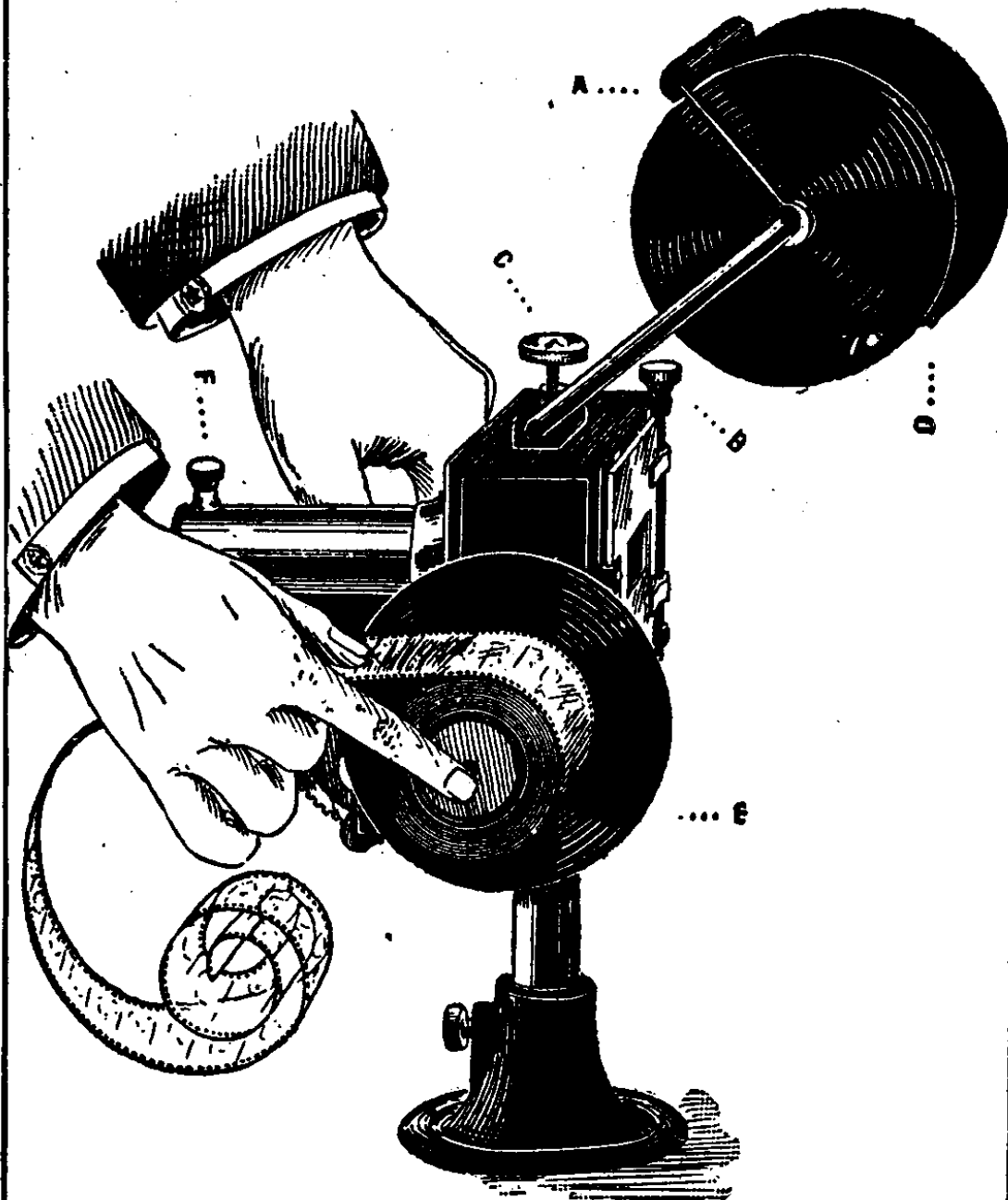
Inventor:
Alvah C. Roebuck.
by Robert Burns Attorney

Optigraph No. 4 Patent 955,477, filed August 13, 1906, issued April 19, 1910

OPTIGRAPH ACCESSORIES

OPTIGRAPH No. 2 FILM RE-WINDER

THE OPTIGRAPH MOVING PICTURE ATTACHMENT.



RE-WINDING THE FILM.

OPTIGRAPH LAMPHOUSE



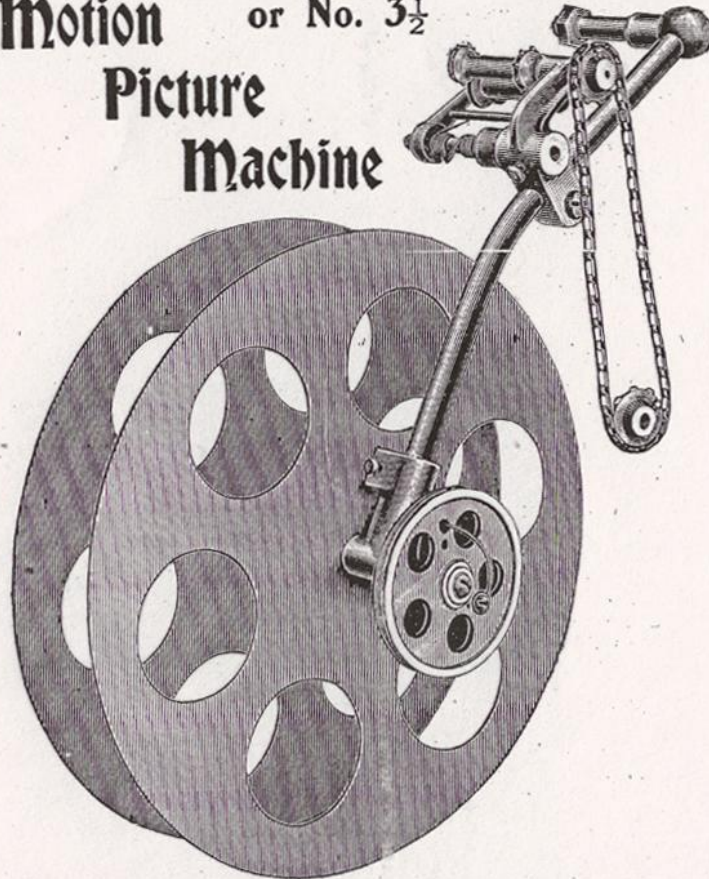
Optigraph lamp house, Collection Soterios Gardiakos

**OPTIGRAPH No. 3 or No 3½ LOWER
REWIND ATTACHMENT**

CHICAGO PROJECTING Co.,

Lower Rewind Attachment

For the "Optigraph" Model No. 3
Motion Picture Machine or No. 3½



This attachment was designed to fill the requirements of those who prefer to have their films wound up as they pass through the machine instead of running them into a bag, box or basket. It is constructed on the same plan as the upper reel, except that it has a feeding sprocket to relieve the strain from the intermittent motion of the main sprocket wheel. It also has a sprocket wheel which is to be attached to the shaft of the upper feeding sprocket wheel, and a chain for connecting the two.

This attachment may be attached to any No. 3 and 3½ improved Optigraph by simply removing the bolt which clamps the Optigraph to the upright post.

PRICE

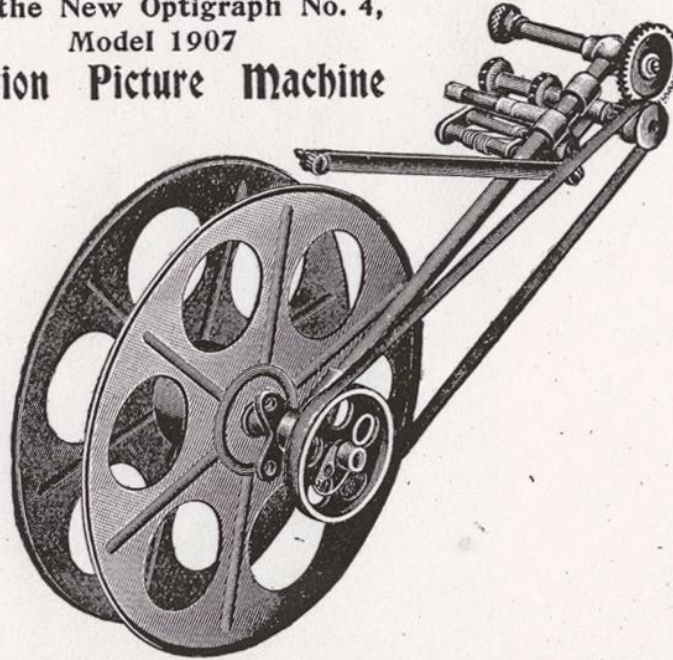
**Lower Rewind Attachment with two Reels, (one for 100 feet
and one for 500 feet), extra Sprocket Wheel and Chain.....\$7.50**
Extra Reel for 1,200 feet of film..... 1.50

OPTIGRAPH No. 4 TAKE UP ATTACHMENT

225 DEARBORN ST., CHICAGO, ILL.

.... No. 4 Take Up Attachment

For the New Optigraph No. 4,
Model 1907
Motion Picture Machine



This attachment was designed to fill the requirements of those who prefer to have their films rolled up on a reel as they pass through the machine instead of running them into a bag, box or other receptacle. It is constructed on the same plan as the upper reel, except that it has the feed sprocket on the reel arm instead of being on the body of the machine.

The No. 4 Take Up Attachment has a geared connection with the main part of the machine and is held in place by a bolt and thumb nut which form a part of the device. The geared connection is positive in its action and will not catch or bind as in chain-driven mechanisms. A metal strap attached by a thumb screw to the upper part of the main frame of the Optigraph serves as a rigid support and relieves the bolt of any unnecessary strain.

The attachment may be instantly attached or detached by the manipulation of two thumb screws.

This attachment is intended for use only with the No. 4 Optigraph and cannot be used with the No. 3½ Optigraph.

.. PRICE ..

The No. 4 Take Up Attachment, with belt and 8 inch reel....\$ 8.00

The reels used on the Take Up are the same as for the body of the machine.

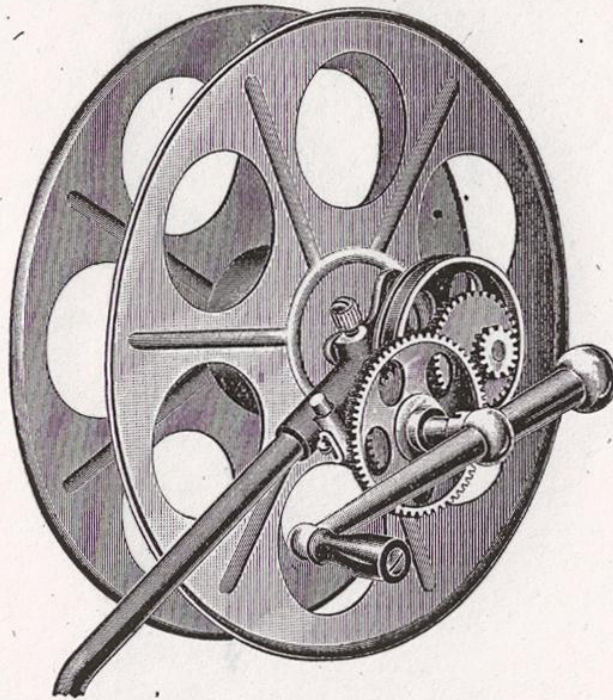
The No. 4 Take Up Attachment, with Compound Rewind Reel Head instead of plain Reel Head..... 11.50

Note: The compound rewind is intended to be used on the upper reel arm, but where the Optigraph has been ordered with plain reel head and it is desired to add both "Take Up" and the "Compound Rewind" they may be ordered in combination, then the two reel heads may be interchanged, placing the Compound Rewind on the top arm.

**OPTIGRAPH No. 4 COMPOUND
REWIND REEL HEAD**

CHICAGO PROJECTING Co.,

The Compound Rewind Reel Head



For the
New

OPTIGRAPH No. 4

Model
1907

The object of this attachment is to furnish a convenient means of rewinding the films after they have been run through the machine. This attachment is patented and possesses two very great advantages over anything ever devised for a similar purpose. First, it has two speeds, one which gives three revolutions of the reel to one of the handle and is used for winding short films and for the first half of long films of 800 to 1,000 feet or more. The other speed gives one revolution of the reel to one of the handle and is used for the last half of the long films.

The second improvement is, that instead of using a short handle as is customary on other rewinds that form a part of a motion picture machine, the main crank handle from the body of the machine is used which prevents fatigue even where the machine is in constant use as in "continuous show" motion picture work.

The handle may be quickly attached and detached by pressing a catch bolt.

....PRICE....

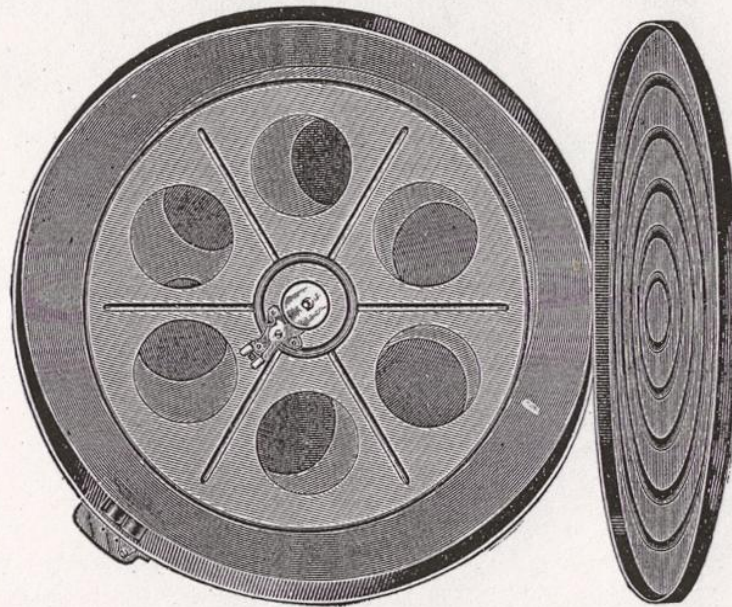
Compound Rewind Reel Head, without arm, or handle.....\$7.50

**OPTIGRAPH FIREPROOF MAGAZINES
FOR 1907**

225 DEARBORN ST., CHICAGO, ILL.

∴ Fireproof Magazines. ∴

Another Important Optigraph Improvement for 1907



The object of these magazines is to provide protection to the film while in use in case, through carelessness of the operator, the film should become ignited. The magazines are made of strong sheet metal, are spun to shape, corrugated to give strength, are neat and artistic in both finish and design. Being circular in form, they conform to the shape of the reels, hence there is no waste space, or superfluous weight, and they are much more artistic, also more convenient than if made square.

Each magazine is equipped with a "Trap" consisting of a pair of rollers through which the film passes to and from the machine. As these rollers are held in contact by spring tension, the film cannot burn beyond the point where it passes between them. The cover of the magazine is provided with spring catches to hold it in place.

The magazine is mounted on a metal spider which fits on to the reel head and is held in position by screws. But a few moments are required to attach or detach the magazines from the reel heads. The magazines are interchangeable with both the upper and lower reel heads.

∴ PRICES ∴

Fire-Proof Magazine, including screws, each.....\$ 8.00
Fire-Proof Magazines, including screws, per pair..... 15.00

PATENTS

MOTIOGRAPH

INC.

FOREMOST SINCE 1896

4431 WEST LAKE STREET • CHICAGO

December 22, 1941

Mr. G. W. Dunston
306 W. 33rd Street
Norfolk, Virginia

Dear Mr. Dunston:

The information you are asking for in your letter of November 4th is of such character that it means digging down into old records and therefore we were not able to answer your letter promptly. We have found some old patent lists and while these show a great number of applications having been filed with the government, the following are the only ones on which patents were issued -

Application Serial No. 331,258 filed Aug. 20, 1906
for slide changers

Patent Serial No. 998,305 issued 7/18/11

Application Serial No. 477,436 filed Feb. 11, 1909
for optical projection apparatus

Patent Serial No. 1,064,010 issued 6/10/13

Application Serial No. 491,310 filed Apr. 21, 1909
for optical projection apparatus

Patent Serial No. 1,060,128 issued 4/29/13

Application Serial No. 491,311 filed Apr. 21, 1909
for kinetoscopes

Patent Serial No. 1,055,492 issued 3/11/13

Application Serial No. 522,676 filed Oct. 14, 1909
for kinetoscopes safety shutters

Patent Serial No. 1,006,406 issued 10/17/11

Application Serial No. 563,438 filed May 25, 1910
for kinetoscopes

Patent Serial No. 1,037,325 issued 9/3/12

We find, also, the following information:

The following letters patent of the United States of America were granted to Alvah C. Roebuck of Chicago:

No. 786, 052 dated Mar. 28, 1905 for Lens Boxes for Stereopticons, etc.
No. 788,795 " May 2, 1905 " Lime Light Fixtures

12/22/41

No. 793,157 dated June 27, 1905 for Lime Light Mechanisms
 No. 820,441 " May 15, 1906 " Film Reeling Mechanisms
 No. 859,781 dated July 9, 1907 " Stands or Tripods
 No. 892,684 " July 7, 1908 " Separator Strips for Slide Racks
 No. 909,677 " Jan. 12, 1909 " Shutter Mechanisms
 No. 919,773 " Apr. 27, 1909 " Film Reeling Mechanisms
 No. 927,895 " July 13, 1909 " Kinetoscopes
 No. 939,634 " Nov. 9, 1909 " Kinetoscopes
 No. 955,477 " Apr. 19, 1910 " Kinetoscopes
 No. 961,536 " June 14, 1910 " Film Reeling Mechanisms
 No. 1,024,866 " Apr. 30, 1912 " Rewinding Mechanism

No. 656,749 dated Aug. 28, 1900 issued to Roebuck & McMillan
 No. 656,750 " " " " " "
 No. 772,673 " Oct. 18, 1904 " " " "
 No. 786,052 " Mar. 28, 1905 " " A. C. Roebuck
 No. 788,795 " May 2, 1905 " " "
 No. 793,157 " June 27, 1905 " " "
 No. 859,781 " July 9, 1907 " " "
 No. 892,684 " July 7, 1906 " " "
 No. 909,677 " Jan. 12, 1909 " " "
 No. 919,773 " Apr. 27, 1909 " " "
 No. 927,895 " July 13, 1909 " " "
 No. 939,634 " Nov. 9, 1909 " " "
 No. 961,536 " June 14, 1910 " " "

The above patents cover inventions on optical projection apparatus, such as moving picture machines, stereopticons, etc., developed and patents applied for prior to July 1, 1911.

Also:

No. 1,138,364 dated May 4, 1915 for Automatic Shutter
 No. 1,284,371 " Nov. 12, 1918 " Loop Take-up
 No. 1,277,482 " Sep. 3, 1918 " Universal Joint
 No. 1,282,293 " Oct. 22, 1918 " Condenser Mounting
 No. 1,293,553 " Feb. 4, 1919 " Angle Adjusting Mechanism

Also:

No. 528,413 dated July 4, 1899 for Kinetoscope apparatus (Roebuck & McMillan)
 No. 632,472 " Sept 5, 1899 " " " "
 No. 656,749 " Aug 28, 1900 " Gen. Apparatus for Vapo Lamps R & McM
 No. 706,113 " Aug 5, 1902 " Kinetoscope apparstus R & McM
 No. 772,673 " Oct. 18, 1904 " Carbureter R & McM
 No. 998,345 " Jul. 18, 1911 " Slide Changer Roebuck

We have culled this information from various old papers in our files. We have no way of knowing if this is a complete list of the patents issued to Mr. A. C. Roebuck, but you will admit it is an imposing list.

BOOKS AND MONOGRAPHS WRITTEN BY SOTERIOS GARDIAKOS

October 1, 2011

Relating to Movie Machinery

Cinematic Machinery Collection of Soterios Gardiakos, 2002, ISBN 0-9777537-3-5, August 25, 2011, 227 pages

A Warwick (Baucus & Maguire Ltd.) spoolbank Projector ca 1897 In the Collection of Soterios Gardiakos, Photographs by Katerina Nike Gardiakos. 2001, ISBN 0-9777537-0-0, June 1, 2008 49 pages

Pre 1900 American Made Movie Projectors. 2002. ISBN 0-9777537-4-3, June 30, 2011, 143 pages

A Compilation of Greek made Movie Projectors and other Cinematic Equipment. From information provided to Soterios Gardiakos by Nikos Theodosiou. 2002. ISBN 0-9777537-2-7, June 20, 2009, 60 pages

Kinematic Peephole Machines Using a Continuous Strip of Film or Paper, 2002 ISBN 0-9777537-5-1, June 22, 2010, 73 pages

LeRoy Projectors, An enigmatic pioneer in the quest to project motion pictures on the big screen. ISBN 0-9777537-7-8, July 17, 2008, 48 pages

Optigraph 35 mm projectors, August 23, 2008 , 49 pages

The Peerless Kinetograph made by Geo. A. Knaak Co., of Oshkosh Wis. U.S.A. and the Veriscope Projector, *An Inquiry into an enigma*, September 30, 2011, 33 pages.

A Prototype 35 mm Movie Projector in the Collection of Soterios Gardiakos Made by Carl J. Lang (Lang Manufacturing works) of Olean, New York, March 15, 2010, 56 pages

Peep Show Phantoscope ca 1904-1905 made by C. Francis Jenkins in the Collection of Soterios Gardiakos, November 22, 2010, 73 pages

Spoolbank Projectors, 2001. ISBN 0-9777537-1-9, June 31, 2010, 82 pages

Selig Polyscope Movie Projectors made by William N. Selig – a compilation, September 25 2011, 62 pages.

Cineograph movie projectors and some cameras Made by Siegmund Lubin 1896-1916 *A checklist*, October 25, 2011 62 pages

From the JENKINS PHANTOSCOPE to the ARMAT VITASCOPE
Chronologically arranged, June 25, 2011, 132 pages

Works in progress relating to movie machinery

A Possible Classification of Thomas Edison's Kinetoscopes, 2002, (Incomplete, work in progress)

35mm Movie Projectors, A work in progress with over 1,300 pages so far. (Dec. 2006)

Relating to Numismatics

The Coinage of Modern Greece, Crete, the Ionian Islands and Cyprus, Chicago, 1969, ISBN 0-916710-02-5, 96 pp, + 16 plates, hardbound

The Coins of Cyprus 1489-1571, Chicago, 1975, ISBN 0-916710-19-X, 32 pp, fully Illustrated, paper cover

A Catalogue of the Coins of Dalmatia et Albania 1410-1797. Chicago, 1970
ISBN 0-916710-67-x, 32 pp, illustrated, maps, tables, paper cover

The Coinages of Alexander the Great, S. Gardiakos Editor. ISBN 0-916710-82-3, 1,007 pp, +157 plates, hardbound in three volumes

Books on Soterios Gardiakos

The Sculptures of Soterios Gardiakos, (From the Bronze age to the Modern Age)
By Chryssafenika Gardiakos, Photographs by Brad Baskin and Katerina Nike Gardiakos.
September 1, 2011, ISBN 0-9777537-6-X. featuring 140 sculptures, 167 pages

Selections from the collection of Soterios and Irlanda Gardiakos, September 20, 2011, 218 pages

MY LIFE an illustrated photo album of me, my family and my friends, from the early twentieth century to the present. July 30, 2011, 389 pages

Site on Movie Machinery: <http://bioscope.biz/>

Site on Sculpture: <http://gardiakos.com/>

Email: [sgardiakos \(omit\) @aol.com](mailto:sgardiakos (omit) @aol.com)

**UNIGRAPHICS INC.
64 South Water Street
Aurora, Illinois 60505**

