

IN THE DISTRICT COURT OF THE UNITED STATES
FOR THE NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION

PHOEBUS CORPORATION and
RAYOLITE RANGE COMPANY,
Plaintiffs,

-vs-

IN EQUITY

FORD AMUSEMENT DEVICES, INC.,
H. E. SCHAYER and NATHAN
E. SQUIRE,
Defendants.

No. 15,014

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PROCEEDINGS had and testimony taken before his
Honor, Charles E. Woodward, one of the Judges of said court,
in his court room in the Federal Building, at Chicago, Illi-
nois, commencing on Wednesday, May 27, 1936, at 10:00 o'clock,
a. m.

PRESENT: NORMAN S. PARKER, ESQUIRE,
FRANCIS W. PARKER, JR., ESQUIRE,
representing the plaintiffs;

CLARENCE E. THREEEDY, ESQUIRE,
representing the defendants.

WHEREUPON the following proceedings were had:

OPENING STATEMENT BY MR. PARKER

I would like first, if the Court please, to file a stipulation signed by the parties, to the effect that the title interest is in the plaintiff, Rayolite Rifle Range Company, and Phoebus Corporation is the exclusive licensee.

THE COURT: Let the stipulation be filed.

MR. PARKER: When this bill was originally filed, your Honor, we filed on two patents. On inspection of the defendant's structure, one of the patents, on the electric gun itself, appears not to have been infringed, and we informed Mr. Threedy, counsel for defendants, that we would not rely on any of the claims of the first of the two patents.

I gave notice that at the hearing we would move to dismiss without prejudice as to Patent No. 2,007,082; without prejudice to bring suit in the event that defendant at some later time infringes this patent. There is now no controversy on that patent, as it is not infringed. Also, we are moving to amend our bill of complaint, to omit reference to that particular patent.

I gave notice that we would make these two motions.

THE COURT: Have you a written order?

MR. PARKER: The motion clerk has a blank for signature.

THE COURT: Have you examined the order?

MR. THREEEDY: I have not examined the order, but I have an objection to the motion to dismiss this bill of complaint as to the patent in question without prejudice, for these reasons:

On January 15th this court entered a temporary restraining order, restraining these defendants from displaying their device at a show held at the Sherman Hotel.

THE COURT: Including the gun?

MR. THREEEDY: Including the gun.

THE COURT: You would be entitled to damages.

MR. THREEEDY: That is true. We have this situation though: The dismissal of the bill of complaint as to that one patent without prejudice may tend to lessen the question of defendants' recourse to damages.

THE COURT: Put something in the order to protect you.

MR. THREEEDY: I am willing to do that if counsel is willing to concede that.

MR. PARKER: We will agree on an order together, then.

THE COURT: Very well.

MR. PARKER: Mr. Threedy agreed to give us a wiring diagram of defendant's structure. We have no stipulation on it. I

FIRST NATIONAL BANK BUILDING, CHICAGO
ALICE M. RANKIN, COURT STENOGRAPHER
TELEPHONE CENTRAL 5908

have the original blue print which we are using as Plaintiffs' Exhibit 34.

I presume you are willing to stipulate that this is the blue print you supplied counsel for plaintiff?

MR. THREEEDY: Yes, that is all stipulated.

MR. PARKER: You will stipulate that this particular diagram, Plaintiffs' Exhibit 34, is the blue print you supplied us?

MR. THREEEDY: Yes.

MR. PARKER: I would like to hand your Honor a copy of the patent in suit.

THE COURT: Yes.

MR. PARKER: Another copy is offered to the reporter to be marked Plaintiffs' Exhibit 12, Patent in Suit.

This is a patent infringement suit, submitted on bill and answer, in which only one patent now is involved.

THE COURT: Wait a moment. You say it is submitted on bill and answer. Are you taking any testimony?

MR. PARKER: We are taking testimony. Our witnesses will all be examined in open court, as the parties stipulated that neither side would take any depositions.

I would like to point out that only one patent is involved. Of this patent, claims 1, 2, 10 and 11 only are

relied upon.

THE COURT: Claims 1, 2, 10 and 11?

MR. PARKER: That is right.

The structure of the patent is in manufacture and use.

Plaintiffs had manufactured target rifle ranges falling within the terms of this patent in the early part of 1935. They have had such machines in use ever since and are having them manufactured for them and are operating them in this area. Their manufacturing source and licensee, the J. P. Seeburg Corporation, is selling machines. They are entitled to sell throughout all the United States except the States of Illinois, Indiana, Michigan and Wisconsin. These are States which the plaintiff has reserved as States in which they will operate machines themselves. There are now out some fifty or sixty of these machines and they are being turned out at the rate of four a day, which will be stepped up to ten a day. The machines which are in use are exceedingly successful.

The gross taking number of coins found in the box averages better than five dollars a day for the machines now being manufactured.

The machines manufactured by Seeburg are superior to the original machines, but some of the original ones are still

in use.

To state generally what the device is and to what the invention of the patent is directed, this is a target rifle range in which a rifle or gun which looks like an ordinary rifle, is used to shoot a bullet of light.

A mechanism is employed so that the operator or the marksman pulls a trigger and shortly thereafter, almost instantaneously, a flash of light is directed along a straight path in the direction in which he aims the gun. The target which is provided is a moving target in which the moving target structure supports one or more photoelectric cells. It is a characteristic of a photoelectric cell, such, for example, as a selenium cell, to change its electric resistance, or in some other way modify its electric effect when a flash of light impinges on it.

In this case the photoelectric cell is employed to sound a signal when a hit is recorded. A signal results in the sounding of a gong or some audible signal to the effect that a hit has been made, and also it causes the fall of a drop, which may simulate a bird or animal. In other words, when the target moves the marksman sees a bird or rabbit, whatever it is, passing across his vision. He sights his gun and shoots at this moving, running rabbit or flying bird. If

his marksmanship is adequate and he scores a hit on the photo-electric cell, then the target falls forward and he has scored a kill, and also a chime sounds, so there is no doubt he has made a hit.

The defendant's device follows so closely that of plaintiff's that when I describe defendant's machine I am also describing plaintiff's machine. No characteristic so far mentioned is absent from defendant's machine.

The purpose of these machines is to bring in an income through the coin operating machine.

Each machine includes, in a mechanical sense, three main parts. There is the housing or cabinet with a light-per-vous front, a glass pane. The part that is seen has some scenery to represent a marsh or a hillside or any other scenery appropriate to an out-of-door shooting gallery.

In this cabinet is a moving structure, including a motor. The motor causes the movement of any suitable target structure. The individual target numbers include these animal or bird simulating drops as mentioned.

Before the operator puts in a coin the machine is dead. That is to say, in plaintiff's machine and in defendant's machine, in normal operation, after the gun shoots and finishes the ten shots, the machine stops running and another

coin has to be inserted before it starts again.

The score record mechanism is on plaintiff's also. Behind a pane is a series of eleven electric lights. In front of each light is a number indicating from zero to ten.

These machines are permitted ten shots for a nickel and a perfect score is ten shots. If at each one of the trigger pulls the marksmanship has been correct, the machine goes dead with the light left at ten. The light may be anywhere from zero to any intermediate figure, if there are any misses.

Then the next marksman who wishes to try his luck or skill puts a nickel in the coin slot which is in the shooting stand, which is the second element of the mechanical side of the structure, and he pushes the switch in that closes the various circuits, which I need not go into in detail about.

In both plaintiff's machine and defendant's machine, when the gun control switch is closed, the motor rotates and moves the targets.

At the same time the shot counter mechanism which permits the user to have his ten shots, is returned to the zero position in both machines, and the score counter is also returned to zero position, so the machine is ready to shoot.

Then the user takes the gun, which is the third of these mechanical elements, the three being connected to each

other by flexible cables, including conductive connections; and the user aims the rifle at the moving target, the bird or animal, and when he is satisfied of his aim he pulls the trigger.

Assume that he misses. The trigger pull causes two main results. In the first place, a thud is sounded in the machine to indicate a hit. The next and more important effect is that a solenoid is operated in both machines to advance the shot counter structure one step. In other words, by means which differ somewhat in the two devices but which operate in substantially the same way to obtain the same effect.

Each trigger pull uses up one of the permitted ten shots. If the marksman is sufficiently fortunate and able to score a hit, in addition to this actuation of the shot limit means, other results ensue.

The impingement of the light on the photoelectric cell closes a relay in response to the photoelectric cell amplifier in the cabinet, which both parties use. The closing of this relay closes other circuits which perform three functions in both machines, plaintiff's and defendant's. In the first place the duck drop holding mechanism, which holds the duck or rabbit in upright position, is released and the duck or rabbit falls forward by gravity to indicate a hit.

In the second place, the score counter solenoid or electric magnet or equivalent member is advanced and a shift is made in the scoring circuit so that the zero light goes out and the number one is illuminated. That is the same in both machines.

In both machines a supplementary circuit is energized and sounds a gong or bell to indicate the hit.

Whether the operator scores a hit or not, at the end of ten trigger pulls he has completed his string of shots and the machine goes dead. The motor ceases to rotate and the target ceases to move and he cannot shoot any more. The light source in the gun is closed or broken.

As to the four claims relied upon by plaintiffs herein, claims 1, 10 and 11 precisely read in terms upon defendant's structure, without any necessity of recourse to the doctrine of equivalents.

As to claim 2, there is a substitution which has been made which I would like to point out, as we respectfully submit that the departure is merely a colorable attempt to avoid the strict terms of the claim, while taking everything that the claim covers.

In plaintiff's device, as pointed out in claim 2, when the trigger is pulled two circuits, or rather two func-

tions are performed.

In the first place, the circuit in the gun light bulb is closed. And in the second place, that circuit is broken so that at each trigger pull the bulb in the gun, which is the source of light, is flashed on for a brief interval.

In the defendant's device, when the coin is inserted in the switch and when the operator is starting his ten shots, the light source in the gun is thus energized and it stays energized until ten trigger pulls have been had.

The defendant gets his flash of light by using a mechanical connection or trip between the trigger and a shutter which masks the light source so that shutter is instantaneously flapped down and then released, and meanwhile, the light is directed at the target.

The function, of course, is the same, or the combination, the advantages of the combination are all appropriated by the defendant, and we submit that this is a very fair equivalent of what plaintiff shows, particularly as in one of the prior art patents relied upon by defendants, which they will no doubt put in, a patent to Doucet, a patent which was issued some years before the patent in suit, these two functions, namely, the employment of a shutter to control a light flash, and the instantaneous flashing on and off of a bulb, are de-

scribed as equivalents in the body of this earlier patent.

In other words, when Griffith filed his application and got his patents, and thereafter when the defendant set out to copy the machine made by plaintiff under the Griffith patent, it was already recognized that in flashing guns the shutter and the instantaneous make and break of a circuit for the bulb were equivalent. Using one thing as equivalent for another to obtain the same result does not, we submit, free the defendants from the result of their appropriation of the combination as a whole.

In connection with claim 2 and also with the other claims, I would like to emphasize that what the patentee claims was not any circuit, or any particular circuit, not claiming electrical circuits, they are old, and naturally enough, photoelectric cells are old, as the file wrapper shows.

It is even old, as the file wrapper shows, to employ guns which shoot flashes of light. What we claim and say is new, is an electric target range in which a particular combination of elements is employed to obtain a certain sequence of results. The defendants have taken precisely the same group of features, characteristics, functions and parts. They have modified the circuits somewhat, modified the shapes of the parts somewhat, but plaintiff is not claiming any particu-

lar electrical circuit. None of the claims relied upon are stated in terms of limited or specific electrical circuits.

The invention to which this claim is directed is more specific than a circuit in one sense, and broader in another. It is different. It is the broad combination of a gun which shoots a bullet of light and a moving target, preferably in combination with a photoelectric cell, in such fashion that when the photoelectric cell is struck the target drop, in the form of an animal, falls, and the various other steps in the claims take place.

As to the background of plaintiff's relationship with defendants, plaintiff's machines were put out in rather small numbers because the plaintiff was not financially strong, but they did make a series, an initial series of ten or twelve machines, followed by a number of other machines in 1935, and installed them in Chicago in several places, including Harding's restaurant on Madison Street. A certain man named Carter saw, or attempted to see, this machine at Harding's in the winter or late spring of 1935. At that place he met a certain Morris Froelich, who was at that time in the employ of plaintiff. Froelich was in charge of the machine during the coin-operated machines convention that year. He was interested in the machine and looked it over very thoroughly. Froelich

showed him the machine and he left his card.

Some weeks later Froelich turned up and said he would like to make this machine as it was not patented. At that time it had not been patented. The patent had been applied for but had not yet been granted.

Froelich got someone named Pullman interested with him and they formed a corporation, the Electrical Gun Company of Illinois, and they made one machine.

Carter, in making this machine called in an ex-employee of his, who was at that time working for Utah Radio Company. This man was named Squire and he is a defendant in this case, and associated with the Ford Amusement Devices, the corporate defendant. Carter called in Squire and explained what he wanted him to do, to develop a machine having substantially all the functions of plaintiff's machine. In order to make things clear, he not only made some sketches but took Squire himself personally over to see this plaintiff's machine at the Harding restaurant and worked over it with him.

Then Squire and Carter and the various other people in his organization produced this one machine, which has gone into the beyond, as these machines have a habit of disappearing. This machine is lost, but we have photographs of it and Mr. Carter's mind is perfectly clear on the details. This first

machine passed out of the picture, but that is the machine on which Squire, the defendant, cut his teeth.

Then the second infringer, Electric Eye Devices, who are defendants in another case in this court, before your Honor, Electric Eye Devices put out catalogs, and they look enough like the original Carter machine to be the same machine.

Morris Froelich was the original source of these difficulties and was also associated with this Electric Eye Devices Company. They have been sued and we understand that Mr. Squire also was in some degree associated with or working with the Electric Eye Devices Company.

In November of last year, a scant month or two before this present suit was filed, the Ford Amusement Devices was incorporated as an Illinois corporation and started out. They built, we do not know how many machines, but one of their machines is now in the court room.

It is very significant that there is a close family resemblance between this original Carter machine, this intermediate machine and this final Ford machine which we have before us.

Strangely enough, Mr. Froelich, who has made plaintiff so much trouble, had had some sort of connection with the Ford Amusement Devices. He was employed by or was associated

with them. He was in contact with them, at least.

In other words, this whole sequence of infringements comes down without a break from this original inspection by Carter with Froelich of the plaintiff's machine, this calling by Carter of Squire to help him make a machine and the intermediate Electric Eye infringement.

So far as any outward appearance is concerned and as far as its operation is concerned, there may be differences but they are not great.

As to the individual claims, I do not want to talk much of them or take much of your time in my opening statement on that because I will have this claim read in detail on some of the exhibits which we are introducing to make the details of defendant's device graphic.

I would like to read one of the claims of the patent in suit.

Claim 1 calls for a shooting gallery, which, of course, both parties have.

THE COURT: Unless it is necessary to complete your record, I think you had better wait to go into the details.

MR. PARKER: We will leave that to the application of the claims in detail in connection with the circuit of defendant's machine.

OPENING STATEMENT BY MR. THREEEDY

May it please the Court and my worthy opponent, Mr. Parker, my name is Mr. Threeedy and I represent the defendants in this cause of action.

Out of courtesy to Mr. Parker, and with no desire on my part to interrupt his train of thought during his opening statement to the Court, I made no attempt to object to statements he made that I thought were not proper for an opening statement.

I am going to ask your Honor, and I know your Honor, in justice to the parties to this cause will grant that request, to disregard such statements that counsel has made to the Court as to what the defendant's device consists of, how it operates, and such charges of alleged intentional infringements or conspiracies. Those are facts, and others mentioned during his opening statement, which these defendants call on the plaintiff strictly to prove.

As your Honor was informed, the bill of complaint is predicated upon the infringement by the defendants of United States Letters Patent granted on January 2, 1935, to one Griffith on an alleged invention, on a shooting gallery. This

patent bears the number 2,007,083.

The bill of complaint, in addition to charging these defendants with infringement of the patent mentioned, also charges these defendants with having entered into a so-called conspiracy to infringe the patent in suit.

To this bill of complaint these defendants have filed their answer.

THE COURT: That is the Ford Amusement Company?

MR. THREEEDY: Squire and Schayer.

I am not certain what document you have.

THE COURT: It is marked, "Answer of Defendants Ford Amusement Company, Inc., H. E. Schayer and Nathan E. Squire."

MR. THREEEDY: That is correct, your Honor.

I would like to address the Court first upon that part of the bill which charges the defendants with conspiracy.

As I stated, as Mr. Parker has informed the Court, the bill of complaint is based upon a charge of infringement. This is not an action for damages resulting from a civil conspiracy.

We will establish to the satisfaction of your Honor, that in order to constitute a civil conspiracy the purpose to be effected by it must be unlawful in its nature or in the means to be employed for its accomplishment. These defendants

will therefore establish that in producing, perfecting, designing and developing the device alleged to infringe the patent in suit, they did not commit any unlawful act in so doing.

Our defenses to the charges laid in the bill of complaint with reference to the patent are divided into two main classes.

First, our defense of non-infringement.

Second, the invalidity of claims 1, 2, 10 and 11 in issue.

This main defense, namely, non-infringement, we divide into two sub-defenses.

First, non-infringement upon the grounds of lack of identity of means and function for accomplishing the result of the device sought to infringe.

Second, non-infringement upon the grounds of omission of an essential element of the combination of each of the claims in issue.

Under the first sub-defense it will be the defendants' contention, and they will establish to the satisfaction of the Court, that while they may concede, not that defendants do so, that they have produced a shooting gallery accomplishing the same result as the shooting gallery of the

patent in suit, they have produced that shooting gallery and they accomplished that result by means of a combination which is not the equivalent of the patent in suit in either means or function.

May I make a passing observation that an equivalent has been consistently held that in comparing two things to ascertain whether one is the equivalent of the other, it has been consistently held that the result accomplished must be accomplished in the same or substantially the same way by the same or substantially the same means by the same or substantially the same operation.

We will establish to the satisfaction of the Court that there is a lack of identity of means in function between the combination expressed in each of the claims in issue and that of the defendant's device.

These defendants will also establish that where a device accomplishes a result by a combination of elements functioning in a manner different from the combination of the elements expressed in each of the claims in issue, such a device cannot and does not infringe the claims in issue even though the patent in suit could be said to be a pioneer patent.

In reference to the second sub-defense, we will es-

tablish to the satisfaction of the Court that the defendants' device does not embody the combination of the claims in issue nor have these defendants in the manufacture of their device substituted an equivalent combination for the combination of the patent in suit.

In reference to this second sub-defense we will establish to the satisfaction of your Honor that the authorities have consistently held that the omission of an essential element of a combination patent nullifies the charge of infringement in the absence of a substitute for the element thus omitted.

Now with reference to our second main defense, namely, invalidity, we divide that defense into two sub-defenses.

First, invalidity of claims 1, 10 and 11 for violation of Section 4888 of the Revised Patent Statutes, which requires of an applicant that he particularly point out and distinctly claim the part, improvement or combination which he claims as his invention.

Second, that in view of the prior art which we will place before your Honor, there is no invention in the combination defined in the claims in issue.

As to this first sub-defense under the second main

defense of invalidity, we will establish conclusively that claims 1, 10 and 11 are misdescriptive and inconsistent with the disclosure of the drawings and specification of the patent in suit, and therefore the defense of invalidity on this ground.

We will also show under this first defense of invalidity that even the plaintiff in the production of its commercial device, does not follow the teachings of the patent in suit.

With reference to the second sub-defense of the defense of invalidity, we will conclusively establish to the satisfaction of the court that each and every element of the combination expressed in each of the claims in issue is and was well known in the art prior to any alleged conception by the patentee, and that a skilled mechanic, with knowledge of the prior art before him, could produce the combination as expressed in each claim in issue without the exercise of the inventive faculty.

We assume in this connection that your Honor will be told that the fact that each element of the combination of a claim of a patent is old, will not invalidate the claims of that patent. While these defendants take no issue with that proposition of law, we will establish that the authorities

are consistent with the proposition that while it is an established principle of patent law that the fact that each element of a combination of a patent is old will not invalidate the claims of that patent, yet it is equally the law and equally well established that there must have been invention in the combination and that the defendant, in order to establish that there is no invention in the combination, may resort to the prior art; and when so looking to the prior art it is not necessary that he find all the instrumentalities of the combination in a single publication or prior device to establish the want of invention in the combination.

Finally, these defendants most respectfully ask your Honor to bear in mind during the course of this trial the following rule, which has been consistently held to be the law of the land, that the respective results of a machine or manufacture covered by a claim of a patent and a machine or manufacture alleged to infringe, do not furnish a criterion by which to decide the question of infringement; that the results may be identical, while the things which produce them are substantially different, and that any person may accomplish the result performed by the patented claim without infringing the patent if he uses means substantially different from those of the patent. To hold the contrary of this rule would be to retard

and not to promote the progress of the useful arts.

With this rule in mind, these defendants are ready to proceed and establish the defenses which I have heretofore reiterated.

THEREUPON the plaintiffs, to maintain the issues on their behalf, introduced the following evidence, to wit:

MR. PARKER: May it please the Court, I would like to offer first some of these things which are stipulated.

I have already offered, out of place, the patent in suit as Plaintiffs' Exhibit 12. I would like to reoffer it now, to be so marked by the reporter.

THE COURT: It may be admitted.

(The exhibit was so marked)

MR. PARKER: I offer as Plaintiffs' Exhibit 34 the original blue print submitted to counsel for plaintiffs by counsel for defendants and marked "Wiring Diagram of Ford Amusement Devices."

THE COURT: Any objection?

MR. THREEEDY: No objection.

THE COURT: Let it be admitted.

(The exhibit was so marked)

MR. PARKER: I would like to offer a certified copy of the file wrapper of the patent in suit No. 2,007,083, to be marked Plaintiffs' Exhibit 6.

MR. THREEEDY: No objection, your Honor.

THE COURT: Let it be admitted.

(The exhibit was so marked)

MR. PARKER: I have certified copies, certified by the Secretary of State of Illinois, of the Articles of Incorporation of the Ford Amusement Devices, Incorporated, defendants herein, which I would like to offer as Plaintiffs' Exhibit 24.

THE COURT: It may be admitted.

(The exhibit was so marked)

MR. PARKER: I offer certified copy of the Articles of Incorporation of Electric Eye Devices, Inc., as Plaintiffs' Exhibit 23.

MR. THREEEDY: That is objected to, your Honor, as not being material to the issues before the court.

THE COURT: The Electric Eye Devices is not a party to this case?

MR. PARKER: Not parties, but we have contended that the activities of some of the individuals themselves were associated with Electric Eye Devices Company. I do not see how the

introduction of this certified copy can in any way damage the defendants, and if we fail to prove our allegation, it is just so much paper in the record.

THE COURT: I cannot see the materiality of that.

MR. PARKER: One of the material features of it is that Froelich, whom we allege to have been the initiator of this whole series of infringements, was one of the incorporators, as well as Charles W. Griffith, our patentee, who left our employment. Those two men are incorporators.

THE COURT: That is in the other case.

MR. PARKER: We have another case against them, but some of my witnesses will testify that Froelich was the instigator of this infringement in the first place. If we cannot establish that point, then the defendant will not be damaged, and if we can, this paper is of significance and a help to us.

THE COURT: Do you persist in your objection?

MR. TREEDY: Yes, your Honor.

THE COURT: I will sustain the objection.

MR. PARKER: I would like to offer certified copy of the Articles of Incorporation of the Electric Gun Corporation of America. This is offered because Mr. Carter, one of our witnesses, is one of the organizers of this company, and it establishes the date of his activities.

MR. THREEDY: I make the same objection, if the Court please.

THE COURT: Sustained.

MR. PARKER: I would like to call to the stand Mr. Schnellhardt.

THE COURT: Is there more than one witness for plaintiff?

MR. PARKER: Yes, your Honor.

THE COURT: We will have them sworn at this time.

(Six witnesses were sworn by the clerk)

WILLIAM L. SCHNELLHARDT,
called as a witness on behalf of the plaintiffs, having been
first duly sworn, testified as follows:

DIRECT-EXAMINATION

By Mr. Parker:

Q Please state your full name.

A William L. Schnellhardt.

Q What is your present occupation?

A I am a draftsman.

THE COURT: What is that?

A Patent draftsman.

THE COURT: I didn't get that.

MR. PARKER: Patent Office draftsman.

THE COURT: With whom are you now employed?

A Parker & Carter.

MR. PARKER: Q For how long have you been employed by Parker & Carter?

A Twelve years.

Q I hand you a paper marked Plaintiffs' Exhibit 30, and I hand you also a blue print marked Plaintiffs' Exhibit 34. Please state the relationship between the two.

A The Exhibit 30 is a photostat of the blue print, an exact copy.

Q I notice certain markings on Plaintiffs' Exhibit 30 in ink. Will you please state if you know who put them on?

A Yes. I put them on myself.

Q Under whose direction?

A Under Mr. Parker's direction.

Q Norman Parker?

A Under Mr. Norman Parker's direction.

Q I hand you Plaintiffs' Exhibits 31, 32 and 33, respectively, and ask you to compare them in their relationship to the blue print, Plaintiffs' Exhibit 34.

A Exhibits 31, 32 and 33 are exact copies of the blue print.

Q State, if you know, who put these ink marks on these various exhibits.

A I myself did it.

Q What ones?

A Nos. 31, 32 and 33.

Q Under whose direction?

A Under Mr. Norman Parker's.

THE COURT: These ink marks photographed on Exhibit 34?

A Not colored.

THE COURT: Then Exhibit 34 is not a photograph of -- I don't understand this.

MR. PARKER: I can clarify this. These four exhibits are photostats of this blue print, somewhat enlarged in scale, and on the photostats some of the circuits have been additionally drawn in by colored lines, which simply followed the original lines of the photostat and did not add anything to it. Some of the lines and parts have been given identifying symbols to make it easy for the witness or Court to follow these traced circuits and identify them in relation to whatever discussion is made of these exhibits. The basis of each of these exhibits is an enlarged photostat of the blue print submitted by counsel for defendant to counsel for plaintiffs and filed herein as Plaintiffs' Exhibit 34.

THE COURT: All right. Proceed.

MR. PARKER: These exhibits are offered in evidence and the reporter is requested to mark them, respectively, Plaintiffs'

Exhibit 31, Defendant's Device, Results of Operation of Trigger Pull; Plaintiffs' Exhibit 32, Defendant's Device, Results of Hit; Plaintiffs' Exhibit 33, Defendant's Device; Plaintiffs' Exhibit 30, Defendant's Device, Results of Coin Switch Closure.

MR. THREEDY: Are you offering them?

MR. PARKER: These are offered in evidence. I have copies for you which I will be glad to let you have. Do you want to look these over?

MR. THREEDY: Yes, Your Honor, may I have a moment to look them over?

THE COURT: Yes.

MR. THREEDY: If the Court please, these defendants object to the introduction in evidence of Plaintiffs' Exhibits 31, 30, 32 and 33, for this reason: We have a stipulation in which plaintiff agreed, in consideration of certain things that the defendant agreed to do, to furnish these defendants with copies of drawings that would be used at this hearing.

Plaintiffs' Exhibit 34 is the print we furnished to plaintiff. These drawings have not been furnished to us. We have had no opportunity to examine them and we therefore object for that reason to the introduction of these exhibits.

MR. PARKER: The stipulation mentioned, or the record, did

not so recite. It simply stated that our draftsman should be given opportunity to make drawings of the defendant's machine and that these drawings would be submitted to the defendants in advance of the trial. These are not made from defendant's machine. These are illustrative diagrams made on the basis of a blue print furnished by defendant, and there is no reason why they should be excluded.

THE COURT: Why not put your basic document in evidence? As I understand it, these are intended to be explanatory.

MR. PARKER: Of the blue prints, yes. But in case an appeal is taken by either side, having diagrams of this kind before the Court of Appeals would very much assist in understanding and following the case.

THE COURT: If he persists in his objection, I shall have to put you on formal proof.

MR. THREEEDY: I persist in the objection, your Honor.

THE COURT: Sustained.

MR. PARKER: Do I understand the Court correctly, that I can use these as explanatory by putting on witnesses to point out wherein --

THE COURT: I am not ruling on that. You will have to make your formal proof and I will rule on it as they are put in.

MR. PARKER: As the objections are raised by defendant?

THE COURT: Yes.

MR. PARKER: Q I hand you a drawing marked Plaintiffs' Exhibit 35, illustrating a section of defendant's gun and trigger switch mechanism. Can you state who made this drawing?

A I made this drawing myself.

Q You made it from what?

A I made it from the gun which was shown to me out at the factory of the Ford Amusement Company.

MR. PARKER: This drawing is offered in evidence as Plaintiffs' Exhibit 35 and the reporter is requested so to mark it.

MR. THREEEDY: If the Court please, this is a photostat of a drawing which counsel served on me in accordance with our stipulation. However, it contains certain lettering that was not on the drawing furnished me by Mr. Parker.

I do not want to seem unreasonable or arbitrary, but I would like to make this objection, that we have no objection to the drawing going in, provided the plaintiff proves the statements appearing in the lettering on the drawing.

MR. PARKER: No objection to that, your Honor.

THE COURT: In other words, you are objecting to it at this stage of the proceeding because of want of preliminary proof?

MR. THREEEDY: That is right.

THE COURT: Sustained.

MR. PARKER: As I understand opposing counsel, he does not object to the admission of this patent as long as we are put on proof.

MR. THREEEDY: I said I did not object to the drawing going in as furnished to counsel.

THE COURT: In other words, you have not made your sufficient preliminary proof.

MR. THREEEDY: That is my objection.

MR. PARKER: Q I hand you a drawing marked Plaintiffs' Exhibit 36 and ask you to state, if you can, who made it.

A I made this drawing, Exhibit 36. I made it from the machine which I seen out in the factory at the Ford Amusement Company.

Q Did you personally examine the machine?

A I did. I made sketches of it at that time. I made the drawings at the office.

Q What opportunities did you have to examine this machine; in other words, how long were you there and where did you inspect it?

A It was at the Ford Amusement Company and I had access to the rear of the machine. In fact, it was a machine partially disassembled, and that is where I made those drawings.

Q Referring to the drawing and the part marked "Target

Drop Solenoid," did you see the machine operated?

A I did.

Q Did you see that solenoid operated?

A I did.

Q Can you state how it operated, what function it performed so far as you could observe?

A This solenoid actuated the plunger and released a holding mechanism and the duck or target ratchet drop.

Q You saw that structure operated that way?

A I did.

Q Did you have opportunity to see yourself personally all of the features shown on this drawing?

A I did.

Q You observed them and examined them?

A Yes, except certain details which were shown on the blue print which I could not examine.

Q Did you see the photoelectric amplifier marked in the drawing here as II?

A Yes, I did see the amplifier, but I did not examine the mechanism.

Q Did you observe the motor?

A Yes, I did.

Q When did the motor rotate?

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A The motor rotated when the coin was inserted for actuation of the whole mechanism.

MR. THREEEDY: May I ask counsel if we could have a print of the drawing while he is examining the witness?

THE COURT: We will suspend for a few moments, gentlemen.

(A short recess was taken)

THE COURT: Proceed.

MR. PARKER: Q With reference to this drawing marked Plaintiffs' Exhibit 36, you personally saw the motor operated and rotating the target structure, you say?

A I did.

Q There is marked on this drawing a circular member here indicated as I. Will you tell me what that is?

A This is the photoelectric cell.

Q You saw the photoelectric cell in use?

A I did see it, mounted on the arm.

Q What happened when a coin was inserted in the switch, as you mentioned a little while ago?

A When the coin was inserted the motor started to rotate the arms and the targets.

Q In what position were these target members marked III when the machine began to rotate?

Schnellhardt-direct

A I really did not take any notice of that.

Q Were they upright or flat?

A I do not recall, exactly. I believe they were upright.

Q Standing erect?

A Yes, sir.

Q Did you see anyone shoot the gun at that time?

A Yes, I did. I shot the gun myself.

Q You shot the gun yourself. When you shot the gun were these targets marked III upright or flat?

A I remember now; they were upright.

Q When you saw it they were upright?

A Yes.

Q Did the number III mask the photoelectric cell I, or could you see the cell?

A I could see the aperture in the target through which the photoelectric cell was visible.

Q When you were shooting the gun, was the target structure as a whole moving or quiet?

A The target structure was moving.

Q Did you succeed in hitting the photoelectric cell?

A I did.

Q What happened when you hit it?

A The target dropped and the bell or chime was struck.

Schnellhardt-direct

Q Did you see the chime that struck, did you see the chime itself?

A Not while I was shooting, but from the rear of the cabinet.

Q Can you point it out on this drawing?

A It was this box on Exhibit 36.

Q How was that box marked on the drawing?

A It is marked "Chime," to indicate a hit.

Q You heard that chime?

A I did.

Q At what time?

A When the target dropped.

Q Did you say that you were standing behind the target when other people were shooting at it?

A No, I did not; not while they were shooting at it.

Q Did you see the motor V in rotation or only when it was quiet?

A I seen the motor when it was quiet and when it was rotating the targets.

Q I notice running down from the photoelectric cell I a pair of what appear to be wires. Can you tell me what those are?

A Those are the wires connecting to the photoelectric cell.

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Q Where do they run to?

A Rings; contact rings.

Q Where are the contact rings?

A The contact rings are illustrated in dotted lines.

Q Any marking to indicate them on the drawings?

A Yes, there is a marking, "Contacts Moving with Targets."

Q That indicates the rings you have just mentioned?

A Yes.

Q How are those rings indicated, do the lines extend down from the cell I?

A I could not see the exact construction, but the wires seem to be leading right to the different rings.

Q Right to the rings?

A Yes.

Q What was the function of these contact rings, could you tell, do you know?

A The function was to supply electric current to the photoelectric cells.

Q How was that circuit indicated? Did you see the rest of the circuits? What continued from the rings, in other words?

A There were two contact arms making contact with the rings from which led wires to the photoelectric amplifier.

Q Did you see those contacts?

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A I did.

Q Wires leading to the amplifier?

A I did.

Q Were you allowed to see the interior of the amplifier?

A The amplifier was covered up, but I did not look inside.

Q I hand you again a blue print marked Plaintiffs' Exhibit 34, and ask you to point out on that blue print, if you can, the amplifier.

A The amplifier is indicated here (pointing).

THE COURT: That does not get in the record.

MR. PARKER: This is in the record.

THE COURT: I mean "indicated here."

MR. PARKER: Say at the lower right hand corner.

A At the lower right hand corner, and it is marked "Amplifier."

Q Can you point out the photoelectric cell on this blue print furnished by defendants?

A The photoelectric cell is indicated at the right hand upper corner of the blue print.

Q Is it marked?

A It is marked "Photo Cell."

Q Can you trace on the blue print from the photoelectric cell any conductive connections with the amplifier?

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A There are two lines indicated for the wires which lead to segments on the print.

Q You have not told where on the blue print these are indicated. Please either mark with numerals or letters, or else describe on what part of the print these occur.

A The wires from the photoelectric cell are at the right hand side of the blue print and they are marked 1 and 2.

Q These segments that you have mentioned, please mark them 3 and 4.

A (Witness does as requested.)

Q Can you relate these segments to anything shown on the drawing, Plaintiffs' Exhibit 36, about which you have been testifying?

A On Exhibit 36 the segments 3 and 4 indicated in -- one of them is indicated in dotted lines.

Q How is it described?

A It is described as "Contacts Moving with Targets."

Q I notice in Plaintiffs' Exhibit 34 merely segments are shown. Does this suggest that the members in question were merely segments of rings, or is this merely diagrammatic?

A This is merely diagrammatic, I believe.

Q Can you point out on Plaintiffs' Exhibit 34 the equivalent of the fixed contacts about which you testified? If so, please

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mark them 5 and 6.

A Yes, I can identify them and will mark them 5 and 6.

Q Please state where the circuit continues from these fixed contacts 5 and 6.

A The circuit continues through lines 7 and 8 to the amplifier.

Q Can you find this amplifier in Plaintiffs' Exhibit 36? If so, please point out the number or description applied to it there.

A The amplifier in Exhibit 36 is marked by II and is lettered "Photoelectric Amplifier."

Q Can you find on Plaintiffs' Exhibit 34 the equivalent of the target drop solenoid marked III⁴?

A The solenoid marked III⁴ is the solenoid which I mark likewise.

Q Can you point out on Plaintiffs' Exhibit 34 the equivalent or the corresponding structure for the chime which you testified about in connection with Plaintiffs' Exhibit 36? If so, please do so.

MR. THREEDY: If the Court please, I object to that question on account of the use of the term "equivalent."

THE COURT: I presume that is a conclusion.

MR. THREEDY: That is right.

THE COURT: Sustained.

MR. PARKER: Can you find on Plaintiffs' Exhibit 34 any structure or means for sounding the chime when the photoelectric cell is struck by a flash of light? If so, please point it out and mark it "Chime."

A The chime is adjacent the target drop solenoid and I shall mark it 9.

Q Can you find on Plaintiffs' Exhibit 34 any motor indicated? If so, please point it out and mark it "M."

A The motor is in the circuit and it is marked "Motor" on the blue prints and I shall put the letter M on it adjacent the motor, having a lead line leading to it.

Q When the photoelectric cell of Plaintiffs' Exhibit 34 is struck by a flash of light, can you tell from tracing the circuit what mechanisms, features or circuits are actuated? If so, please mention them.

A When the photoelectric cell is actuated by a ray of light the amplifier actuates a relay which I shall mark R, which closes the switch, which in turn closes the circuit through a second relay which I shall mark R', which also closes the switch contacts. By means of the switch contact of the relay R' the circuits are closed through the target drop solenoid through a transformer associated with the chime indicated by 9.

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and also through a solenoid which is associated with the score counter.

Q Mark that S.

A Which I shall mark S.

Q What is the function of the solenoid S?

A The function of the solenoid S was to advance an arm or a switch which is illustrated at the left hand lower corner of the blue print.

Q Give it a letter.

A Which I shall letter S'.

Q When the solenoid S is actuated, what happens to the arm S'?

A When the solenoid is actuated the arm S' moves one step, which completes a circuit through an indicating light.

Q Mark that L.

A (Witness does as requested)

Q How many of these lights are shown in Plaintiffs' Exhibit 34?

A There are eleven lights shown on the blue print.

Q When the coin is inserted in the coin switch and the device is ready for shooting in the condition in which you shot it at the Ford plant, which of these lights is illuminated?

A When the coin was inserted the light indicated by the

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symbol O was lit.

Q Will you point that out and mark it zero on this drawing, Plaintiffs' Exhibit 34.

A The blue print does not illustrate exactly which position this arm would be in, but I assume it is in the position indicated, which would be the lamp I was indicating by the letter O.

Q Can you point out the source of energy in this blue print?

A The source of energy is near the center of the blue print, and is marked "Source of Energy" on the blue print and also, "110 Volt Input."

Q I notice just above the words "Source of Energy," an open switch. Please state whether not that switch is open in the normal use of the device.

A In the normal use of the device the switch would be closed. Otherwise, there would be no connection between the source of energy --

Q You mean, the switch must be closed before operation?

A Yes.

Q Did you see any switch similar to this in the Ford Devices plant?

A No, I cannot recall that I did.

Q In order to count the number of shots taken, was any means used which you were able to see, to limit the number of

shots that could be taken for one coin insertion?

A Yes, there was a device on the machine which limited the number of shots to ten.

Q How do you know that?

A I fired the gun and after ten shots it stopped, the machine stopped rotating.

Q Can you find on Plaintiffs' Exhibit 34 any means for limiting the number of shots or counting the number of shots?

A These are shown on the blue prints which are surrounded by a dotted line and which are marked on the blue print "Shot Counter."

Q I notice in the lower part of this block or housing marked "Shot Counter," a double switch. Will you please tell me what that switch is, what it controls.

A That double switch controls the motor circuit and also the circuit through the shot counter solenoid and further, the circuits through the score counter solenoid, the target drop solenoid and the chime.

Q When the switches are in the position in which they are shown on the blue print, with the two pairs of contacts apparently open or broken, what part of the machine is used in actuation, if any?

A All the moving parts seem to be still when the switch is

open.

Q Please give the upper pair of contacts and the lower pair of contacts some identification so we can follow them in the further questions.

A I shall mark the upper two contacts 10 and the lower contacts 11.

Q When the upper contacts are closed, that is to say, when the contacts 10 are closed to complete a circuit, please state what is the function of the circuit. In other words, trace the circuit closed by the closing of the upper two contacts 10.

A There are several electrical circuits partially closed by the switch 10. The circuit is not completed until either the photoelectric cell is energized or the trigger switch is actuated.

Q I notice a transformer which I will mark T. Please relate this transformer, if you can, to the shot counter switch which you have been discussing.

A When the switch 10 is closed the circuit is established through the transformer marked T, which energizes the light in the gun in the upper left hand corner of the blue print.

Q Am I correct in understanding that when the points or switches 10 are broken or separated that the light in the gun is then not illuminated?

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A That is right.

Q Can you trace any relationship between the motor M and the lower switch contacts 11?

A Yes. When the switch 11 is closed a circuit through the motor is completed.

Q Completed with what?

A It is completed from the power lines, from one of which leads a switch to the motor, from the motor a wire continues to the lower switch member illustrated on the blue print, and from the upper switch member 11 on the blue print a wire continues to the other line of the power source.

Q I notice above the switches 10 and 11 a showing apparently of a solenoid, which I will mark S-2. Will you please tell me, if you can, what the function of this solenoid is.

A The solenoid actuated a ratchet which controlled a cam, which in turn actuated the switch which is marked 10 and 11.

Q Can you tell me what actuates the solenoid S-2?

A The solenoid S-2 is actuated by means of the trigger switch, which I shall mark 12. It is shown at the left hand upper corner of the blue print.

Q You mean when the trigger is pulled the solenoid S-2 is actuated?

A Yes, it is.

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Q What does it do when it is actuated?

A When it is actuated it rotates by means of a mechanism of a shaft upon which a cam was positioned and after the solenoid S-2 was actuated ten times this cam permitted the switch 10 and 11 to open.

Q You mean the operation of the solenoid S-2 is controlled by switches 10 and 11?

A Yes.

Q What, after that, is done to put the machine back in service?

A You put in a coin.

Q Will you point out the coin switch in this diagram, Plaintiffs' Exhibit 34?

A The coin switch I will indicate by the numeral 13, which is illustrated as surrounded by a gun stand shown in dotted lines.

Q When the coin is inserted and the coin switch is closed, what happens?

A When the coin switch is closed the motor starts to rotate and -- No. When the coin was inserted the electric circuit is established through the reset magnets, which I shall identify by the numerals 14 and 15.

Q Referring first to the reset magnet 14, can you tell me

Q What does it do when it is actuated?

A When it is actuated it rotates by means of a mechanism of a shaft upon which a cam was positioned and after the solenoid S-2 was actuated ten times this cam permitted the switch 10 and 11 to open.

Q You mean the operation of the solenoid S-2 is controlled by switches 10 and 11?

A Yes.

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Q When the coin is inserted and the coin switch is closed, what happens?

A When the coin switch is closed the motor starts to rotate and -- No. When the coin was inserted the electric circuit is established through the reset magnets, which I shall identify by the numerals 14 and 15.

Q Referring first to the reset magnet 14, can you tell me

Q What does it do when it is actuated?

A When it is actuated it rotates by means of a mechanism of a shaft upon which a cam was positioned and after the solenoid S-2 was actuated ten times this cam permitted the switch 10 and 11 to open.

Q You mean the operation of the solenoid S-2 is controlled by switches 10 and 11?

A Yes.

Q What, after that, is done to put the machine back in service?

A You put in a coin.

Q Will you point out the coin switch in this diagram, Plaintiffs' Exhibit 34?

A The coin switch 1 will indicate by the numeral 13, which is illustrated as surrounded by a gun stand shown in dotted lines.

Q When the coin is inserted and the coin switch is closed, what happens?

A When the coin switch is closed the motor starts to rotate and -- No. When the coin was inserted the electric circuit is established through the reset magnets, which I shall identify by the numerals 14 and 15.

Q Referring first to the reset magnet 14, can you tell me

Q What does it do when it is actuated?

A When it is actuated it rotates by means of a mechanism of a shaft upon which a cam was positioned and after the solenoid S-2 was actuated ten times this cam permitted the switch 10 and 11 to open.

Q You mean the operation of the solenoid S-2 is controlled by switches 10 and 11?

A Yes.

Q What, after that, is done to put the machine back in service?

A You put in a coin.

Q Will you point out the coin switch in this diagram, Plaintiffs' Exhibit 34?

A The coin switch I will indicate by the numeral 13, which is illustrated as surrounded by a gun stand shown in dotted lines.

Q When the coin is inserted and the coin switch is closed, what happens?

A When the coin switch is closed the motor starts to rotate and -- No. When the coin was inserted the electric circuit is established through the reset magnets, which I shall identify by the numerals 14 and 15.

Q Referring first to the reset magnet 14, can you tell me

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what happens when it is excited, that is to say, when a circuit is closed through it?

A When the relay 14 was excited, the shot counter mechanism was returned to its initial position, to its starting position, and the switch members 10 and 11 were closed, thus completing their various circuits.

Q That happens when the coin is inserted, did you say?

A When the coin is inserted.

Q And the coin switch closed?

A And the coin switch closed.

Q What happens when the coin is inserted and the coin switch closed, what happens to the magnet you have marked 15?

A The magnet 15 returns the score counter mechanism to initial position and the score counter switch arm, which is marked S' on the blue print, is returned to the position to light the indicating lamp zero.

Q Assuming that the user has inserted the coin and closed the coin switch and the reset magnets have operated as you have said, is the machine then ready to shoot?

A Yes, the machine is now ready to shoot. The motor is running and the light in the gun is illuminated.

Q When the machine is ready to shoot after this coin actuation, assume that the marksman aims the gun and pulls the

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trigger but does not score a hit, leaving out the effect of the hit for the time being and simply concentrating on the result of the trigger pull, what happens?

A When he pulls the trigger the mechanical shutter is opened.

Q The mechanical what?

A Shutter.

Q Shutter?

A In the gun, which I shall mark 16. The shot counter solenoid is then actuated and the thud sounder is actuated. The thud sounder I shall mark 17 on the blue print.

Q What is the connection between the shutter 16 and the trigger mechanism 12? Refer, if you wish, to Plaintiffs' Exhibit 35, so marked but not yet admitted.

A The means for actuating the shutter are not shown in detail and as a matter of fact, were not described to me in detail, so I have only illustrated them diagrammatically, but when the trigger is pulled the shutter is momentarily opened to permit a flash of light to project from the gun barrel.

Q I note on the drawing Plaintiffs' Exhibit 35, the statement "Shutter Tripped for an Instant when Trigger Is Pulled to Release Light Flash." Have you any comment on that?

A This is the action which took place when the trigger was

pulled.

Q Did you yourself examine the gun?

A I had a gun which was apart, which I examined.

Q Could you see or could you not, on that gun, that when the trigger was pulled the shutter was momentarily tripped?

A Yes, I did see that it was momentarily released.

Q Where did you see this gun?

A At the factory of the Ford Amusement Company, I saw the gun.

Q I notice on Plaintiffs' Exhibit 35, the statement "Gun Lamp Lighted When Coin Is Inserted." Have you any comment on that statement?

A The gun was lighted as soon as the coin was inserted. Of course, I could not see the lamp in the barrel. It was closed in and I had to take the word of the people who told me the construction of the gun.

Q If you assume that the wiring diagram, Plaintiffs' Exhibit 34, is correct, and the structure of the wiring diagram was used with the gun shown in Plaintiffs' Exhibit 35, would or would it not be a correct statement to say that when the coin was inserted the gun lamp would be lighted?

A Yes, it is an exact statement. The light was illuminated when the coin was inserted in the coin slide.

Q I note in the lower diagram of Plaintiffs' Exhibit 35 a statement, "Switch Closed by Trigger Pull to Partially Complete Circuit for Actuation of Score Counter, Target Drop and Chime in Case Hit Is Scored." Can you point out the equivalent of the switch contact to which this statement is applied by the blue arrow?

MR. THREEEDY: I object to that question.

THE COURT: Sustained.

Q Can you point out on Plaintiffs' Exhibit 34 a pair of switch contacts which are closed by the trigger pull partially to complete the circuit shown on Plaintiffs' Exhibit 34 for actuation of the score counter, target drop and chime in case it is scored?

A Yes. This switch is illustrated adjacent the trigger marked 12, and I shall mark the switch 18.

Q I notice on the other pair, the lower pair of switches shown in the lower diagram, the lower pair of switch contacts shown in the lower diagram of the paper marked Plaintiffs' Exhibit 35, the statement applied to them "Trigger Pull Closes Switch for Shot Counter and Thud Sounder." Can you point out on Plaintiffs' Exhibit 34 a pair of switch contacts which are closed by the trigger pull and which control the shot counter and thud sounder?

A The switch referred to I shall mark 19 and it is illustrated at the upper left hand corner of the blue print.

MR. PARKER: If it please the Court, I would like to reoffer the paper marked Plaintiffs' Exhibit 35. This witness has identified every feature in it with relation to the stipulated blue print, Plaintiffs' Exhibit 34, and defendant certainly cannot be damaged by having this go in, especially as it is largely illustrative, merely to make it easy for the Court to follow the alleged reading of the claims on defendant's structure.

MR. THREEDY: What are the numbers?

MR. PARKER: I specified 34 and I am going to make the same offer of Exhibit 36.

MR. THREEDY: No. 35?

MR. PARKER: No. 35 and No. 36 for the time being.

MR. THREEDY: There will be no objection.

THE COURT: Plaintiffs' Exhibits 35 and 36 may be admitted.

(The exhibits were so marked)

MR. PARKER: Q I hand you a photostat marked Plaintiffs' Exhibit 30, on which you have testified you yourself traced out certain circuits in red ink and made certain descriptive markings. Will you please state the circuits in question?

MR. THREEDY: May we have copies of those drawings you are

referring to, please?

MR. PARKER: Surely. (Handing documents to counsel for defendants)

Q Plaintiffs' Exhibit 30, or the paper so marked, is described as "Defendant's Device, Result of Coin Switch Closure. You have testified that you made all the markings on this photostat in the first place. Will you please compare this actual photostat with the blue print, Plaintiffs' Exhibit 34, and state whether or not the photostat is a photostat of the actual exhibit blue print.

A The blue print is an exact copy. It is a photostatic enlargement of the blue print.

Q Will you please state whether or not as to the red lines you have applied, there is any variance from or addition to the circuits as shown on the blue print itself.

A There is no addition whatsoever. The red lines are put alongside the original lines as shown on the blue print.

Q Please state whether or not any parts or features of any kind have been added which are not shown in the blue print itself.

A There has nothing been added in, or any features.

Q I notice at the upper left hand corner the statement as applied to the gun, "Gun Lamp Illuminated." Taking this state-

Schnellhardt-direct

ment in connection with the caption of the sheet, "Results of Coin Switch Closure," what does this mean?

A When the switch was closed, the gun lamp was illuminated. In other words, the transformer, which is marked 3 on the blue print.

Q Will you put the same mark on Plaintiffs' Exhibit 30?

A When the transformer T was energized.

Q What happens when the transformer is energized?

A When the transformer is energized the gun lamp is illuminated.

THE COURT: I shall have to ask you to suspend now until two o'clock.

WHEREUPON a recess was taken until

2:00 o'clock p. m. of the same day.

Wednesday, May 27, 1936

2:00 o'clock p. m.

Court convened pursuant to recess.

PRESENT: Messrs. Norman S. Parker
Francis W. Parker, Jr.
Threedy

W I L L I A M L. S C H N E L L H A R D T

resumed the stand for further direct-examination by Mr. Norman Parker.

MR. PARKER: If the Court please, I wish again to offer in evidence Plaintiff's Exhibits 30, 31, 32 and 33, which were drawn by the witness, as the witness testifies, upon a photostat of Plaintiffs' Exhibit 34, which is stipulated to be a blue print furnished to Plaintiffs' counsel by defendants' counsel, and showing defendant's wiring diagram.

There has been a colloquy between counsel for the parties and I believe my understanding is correct that defendants' counsel is willing now to have these exhibits admitted.

MR. THREEDY: Only subject to my right to examine them for any inaccuracies.

THE COURT: Let them be admitted, subject to the conditions

stated.

(The exhibits were so marked)

MR. PARKER: Mark this photostat, a Ford Amusement circular, a circular put out by defendant, which defendants' counsel has told plaintiffs' counsel he is going to have admitted. I wish to offer this photostat of the circular as Plaintiffs' Exhibit 29.

THE COURT: Any objection?

MR. THREEEDY: No objection, if the Court please.

THE COURT: Let it be admitted.

MR. PARKER: The reporter is requested to mark it as shown.

(The exhibit was so marked)

Q I hand you a drawing, or a photostat of a drawing, marked Plaintiffs' Exhibit 36-A, and ask you to state whether or not you are familiar with this drawing?

A I made this drawing.

Q From what did you make it?

A I made it from a machine which I have seen over at the Ford Amusement.

Q You mean defendant's machine?

A Yes.

Q Will you please refer to the parts which are marked "Stationary Contacts." Are you familiar with or did you ob-

serve these parts?

A Yes, I did observe those parts.

Q Please state upon what they are mounted.

A They were mounted on an insulating strip.

Q I point to two rings marked "Moving Contacts." Did you personally see those moving contacts?

A Yes, I did.

Q Will you please state upon what they were mounted.

A They were mounted on an insulating collar or sleeve.

Q Upon what was this insulating collar or sleeve mounted?

A The insulating sleeve was mounted to rotate with the shaft, as far as I could observe.

Q In considering Plaintiffs' Exhibit 36-A, I hand you also a photostat of a drawing marked Plaintiffs' Exhibit 37, and if you wish to clarify any features of one drawing by reference to another, please do so. Can you find on Plaintiffs' Exhibit 37 the insulating collar you have mentioned?

A Yes, it is mounted upon this shaft.

Q Give the shaft a number

A I shall call the shaft 25.

Q Give the insulating collar a number.

A I shall call this insulating collar 26.

Q Please state whether or not the shaft 25 is rotated.

A Yes; the shaft 25 rotated.

Q Can you find in either Plaintiffs' Exhibit 37 or 36-A any means for rotating the shaft you have marked 25?

A The shaft was rotated by means of a worm and worm gear.

Q Mark that, please.

A These are marked 27 and 28. However, I did not see the mechanism inside of the housing, but that sketch is from a blue print which was shown to me.

Q Shown to you by whom?

A I could not tell the gentleman's name. I do not know him.

Q Where?

A At the Ford Amusement Company.

Q You mean an employe or someone at the Ford plant?

A Yes, sir; somebody at the Ford plant, but I do not know his name.

Q Did you see in the machine used any means at the Ford plant, any power means, for rotating the structure you have described for driving it?

A Yes; there was a motor for driving the structure.

Q Please point it out, if you can, on Plaintiffs' Exhibit 36-A.

A The motor is shown by V.

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Q The rings about which you have testified and which are shown as moving contacts in the lower diagram of Plaintiffs' Exhibit 36-A, please state whether or not these rings rotate with the shaft 25.

A The rings marked as moving contacts rotate with the shaft.

Q Please state whether or not the parts marked as stationary contacts in the lower diagram of Plaintiffs' Exhibit 36-A move with the shaft.

A The stationary contacts did not move at all.

Q Please state whether or not the wires or conductors which are shown as connected to the stationary contacts in the lower diagram on Plaintiff's Exhibit 36, please state to what they were connected in the machine.

A The two wires which were connected to the stationary contacts led to the amplifier.

Q You mean the amplifier shown in the upper diagram of Plaintiffs' Exhibit 36-A?

A Yes, the amplifier indicated by II.

Q Referring to Plaintiffs' Exhibit 37, I notice what appears to be an arm or extension extending upwardly from the axis of rotation of the shaft 25. Will you please tell me what that member is?

A That member was a rod for allowing the target to drop.

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Q No. I mean the outer member with the cross-hatched or sectional wall.

A Oh! The outer member was the arm which carried the targets and photoelectric cell.

MR. THREEDY: What arm are you referring to?

MR. PARKER: Q Give the arm a number, please.

A I call the arm 29.

MR. THREEDY: May I have the answer read?

(The last answer was read)

THE WITNESS: There were two arms on the structure.

MR. PARKER: Mark the second one 29, please.

(Witness does as requested)

Q Please state how these arms were connected to the shaft 25, which you have described as being rotated by the motor V.

A They were connected by, I believe, a sleeve. The exact details I could not get from the machine, but I took it from the blue print which I previously mentioned.

Q Please state whether or not these arms 29 rotated in unison with this central shaft 25.

A Yes. The arms 29 did rotate with the central shaft.

Q Please point out on Plaintiffs' Exhibit 37 the photoelectric cell, calling it by whatever number is given to it there.

A The photoelectric cell is indicated by I.

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Q I notice a member marked III. Will you please state what that member is, referring to Plaintiffs' Exhibit 37.

A The member is the target itself. In that case it was a rabbit.

Q What portion of the target is indicated by III?

A It would be the central portion.

Q No. I mean what is the relation between the member III and the portion of the structure upon which the photoelectric cell I is shown as mounted? In other words, what does the member III do?

A The member III was positioned in front of the photoelectric cell.

Q Please read the description appended to it at the top of Plaintiffs' Exhibit 37.

A It reads: "Apertured Target Drop."

Q Please state whether or not the member III drops during the operation of the target rifle range.

A The target drops when a hit is scored.

Q Please state what means are employed in order to permit the target to drop, the member III, I mean.

A The drop was mounted upon a --

MR. PARKER: Call it a hub, if you will.

A A hub, which was provided --

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MR. PARKER: Give it a number.

A I shall call the hub 30. The hub was provided with a slot into which the rod fitted to hold the target upright.

MR. PARKER: Give the rod a number.

A The target is marked III².

Q You said the target. Did you mean the rod?

A Yes, the rod.

Q What, normally, keeps the rod in the position in which it is shown in Plaintiffs' Exhibit 37?

A There is illustrated a spring which keeps the rod in position.

Q Can you find in Plaintiffs' Exhibit 37 any means for holding the rod III² following its target drop locking position in which it is shown?

A Yes, there is a rod within the hollow shaft, the rod indicated by 31.

Q Within what hollow shaft?

A Hollow shaft 25. The rod carried a U-shaped member at one end, which engaged the target drop holding rod indicated by III². The rod 31 was actuated by means of a link on the drop solenoid indicated by III⁴. The rod 31 is shown as pivoted.

Q At what point?

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A At the point indicated by 32.

Q Please state what happens when the target drop solenoid shown as III⁴ is energized.

A When the solenoid is energized the solenoid plunger is drawn inwardly into the solenoid and rocks the shaft.

Q What shaft?

A No. 31. In the position illustrated in Exhibit 37 it is clockwise. Consequently, the drop holding rod indicated by III² will be lowered out of engagement with the slot in the hub 30 and the target is permitted to drop. A spring and a counter-weight on the target drop permits it to do so.

Q Please number the spring and counter-weight.

A The counter-weight is indicated by 34, and the spring by 35.

Q With reference to Plaintiffs' Exhibit 34, defendant's blue print of defendant's wiring diagram, please point out under what circumstances the target drop solenoid III⁴ is energized to release the target drop?

A When the photoelectric cell is energized a current is set up by means of the amplifier. The relay marked R on the blue print is energized and closes the switch. A circuit is thus made through a relay marked R' on the blue print, which in turn, closes a switch. This closes the circuit through

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the target drop solenoid indicated by III⁴; also, through the chime indicated by 9, and also through the solenoid of the score counter indicated by the letter S on the blue print.

Q In other words, what happens to the target drop solenoid shown in plaintiffs' Exhibit 37 as III⁴ when the marksman hits the photoelectric cell shown in Plaintiffs' Exhibit 34 at the upper right corner with a flash of light?

A The solenoid thus energized releases the drop holding rod indicated by III² and permits the target to drop. There is a chime sounded and the score counter advances the switch indicated by S' one step and the following numeral of the score indicating counter is illuminated.

Q Referring to Plaintiffs' Exhibit 37, the fixed contacts shown and so marked, and the moving contacts shown and so marked, please point these contacts out if you can, on Plaintiffs' Exhibit 34, giving the same symbols which have been applied to them.

A The moving contacts are indicated by the numerals 3 and 4 while the stationary contacts are indicated by the numerals 5 and 6.

Q What is the function of these moving stationary contacts in relation to the circuit shown in the wiring diagram, Plaintiffs' Exhibit 34?

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A The moving and stationary contacts are employed for conveying the current set up in the photoelectric cell to be transmitted to the amplifier.

Q I hand you drawings marked Plaintiffs' Exhibits 38-A and 38-B, and ask you whether or not you are familiar with them?

A Yes, I am familiar with them. I made the drawings which are indicated by Exhibits 38-A and 38-B. They are copies from drawings which were handed to me by Mr. Norman S. Parker.

Q Please state whether or not you personally have seen the circuit shown in these drawings?

A Yes, I did see the circuit shown in the drawings in the machine, and in the machine which was only partially assembled.

Q You mean what machine?

A There was a second machine partially assembled.

Q Where?

A At the factory.

Q What factory?

A Ford Amusement Company.

Q I hand you a photostat of a drawing marked Plaintiffs' Exhibit 39. Please state to what this drawing refers or what it shows and relate it, if you can, to Plaintiffs' Exhibit 34.

A Exhibit 39 indicates the score indicating means illus-

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trated at the left hand lower corner of the blue print. The rotating switch arm is indicated on the blue print by the letter S'. I shall mark the rotating arm on Exhibit 39 with a like numeral.

MR. PARKER: The drawings to which the photostats of drawings relate, about which the witness has testified, are hereby offered in evidence, to be marked, respectively, Plaintiffs' Exhibits 36-A, Electrical Contacts between Photoelectric Cell and Amplifier; Plaintiffs' Exhibit 38-B, Defendant's Shot-Counting Mechanism; Plaintiffs' Exhibit 38-A, Defendant's Shot-Counting Mechanism; Plaintiffs' Exhibit 37, Axial Section of Defendant's Targets and Actuating Means, and Plaintiffs' Exhibit 39, Defendant's Score-Indicating Means.

THE COURT: Any objection?

MR. TREEDY: No objection, with the reservation heretofore made, your Honor.

THE COURT: Let them be admitted, under the conditions stated.

(The exhibits were so marked)

MR. PARKER: I want to ask a question based on Plaintiffs' Exhibits 30, 31, 32 and 33.

Here are duplicate copies of them.

Q Referring, for example, to Plaintiffs' Exhibit 32, the one that has the blue lines, please point out on this the

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photoelectric cell.

A The photoelectric cell is shown in the upper right hand corner and is indicated by I.

Q Please state whether or not this photoelectric cell is in the defendant's structure, as seen by you, mounted on a device or on a moving target?

A It was mounted on a moving target.

Q Please point out in Plaintiffs' Exhibit 32 the amplifier about which you have testified.

A The amplifier is illustrated diagrammatically in the right hand lower corner and is marked by II.

Q Can you point out any means connecting the cell and the amplifier?

A Yes, there are two lines C-15 and C-16 connecting the photoelectric cell with the moving contacts C-14 and C-17. The stationary contacts C-13 and C-18 are connected by the lines C-12 and C-19 with the amplifier.

Q Can you find any signal means in this structure which would be actuated by the current from the amplifier?

A The signal means actuated by the photoelectric cell and amplifier is the score-counting solenoid, the target drop solenoid indicated by III⁴ and the chime sounder indicated by III'.

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Q What power actually energizes the circuit for the target drop solenoid and the chime sounder and score counter, about which you have just testified?

A The source of energy which is indicated in the middle of the diagram at the bottom, marked "Source of Energy." That supplies the current for the three mentioned indicating means.

Q What is the function of the amplifier in causing this supply of current; how does it do it?

A The amplifier energizes the relay, which is marked R on the blue print.

Q Blue print Plaintiffs' Exhibit 34. Please so mark it here.

A (Witness does as requested) Which closes the cooperating switch, which closes a circuit through a second relay, marked R'.

Q What is the result of the closure of the switch controlled by the second relay R'?

A The second relay R' closes a cooperating switch and establishes a circuit through the score counter solenoid, the target of solenoid III⁴ and the chime sounder indicated by III'.

Q You mean that circuit through the outside source of energy is closed in response to the actuation of the relays con-

trolled by the amplifier?

A Yes, it is.

Q Can you find in Plaintiffs' Exhibit 32 any manually aimed gun for projecting a flash of light toward the target?

A Yes. The gun is illustrated diagrammatically at the upper left hand corner of the diagram.

Q How is it marked?

A It is marked IV.

Q Is there any light source in the gun?

A The light source is indicated by IV'.

Q What means are employed in order to permit or cause this light source IV' to direct a ray of light toward the photo-electric cell I?

A The shutter indicated by IV³ is momentarily opened to permit a ray of light.

Q What opens it?

A The trigger.

Q Give the number of the trigger.

A The trigger is diagrammatically indicated on the diagram by IV².

Q Do you find any driving motor on Plaintiffs' Exhibit 32 for moving or rotating the target?

A The motor is indicated by V. It also has the name "Motor"

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written upon it.

Q Can you point out, please, on Plaintiffs' Exhibit 32 the motor circuit? In other words, what is it that starts the motor running, what has to happen before the motor begins to rotate?

A The coin switch, which has to close first.

Q Trace the circuit, if you wish, on Plaintiffs' Exhibit 30.

A By inserting the coin the switch is closed and a circuit is established through the reset magnets to both the shot counter and the score counter.

Q How are these reset magnets marked on Plaintiffs' Exhibit 34?

A The shot counter reset magnet is indicated by 14.

Q Make the same mark, please, on Plaintiffs' Exhibit 30.

A And the reset magnet for the score counter is indicated by 15.

Q Please so mark it.

A (Witness does as requested) The reset magnets return both the shot counter and the score counter to their initial or starting positions.

Q What happens when that takes place?

A The shot counter mechanism closes the switch indicated by VI on Exhibit 30 and establishes a circuit through the

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motor, which is indicated on Plaintiffs' Exhibit 30, from the main power line a' to the line a-13, the motor V, and through the line a-14 of the switch IV, thence through the line a-15, the lines a-11, back to the other power line a-12. This completes the circuit through the motor and the motor starts to run.

Q Are there any actuating means for the shot counter or the shot limit switch shown in Plaintiffs' Exhibit 30? If so, please point them out, - actuating means for the shot counter switch. In other words, what is it that finally turns this switch off?

A There is a cam, which after the tenth shot, permits the switch to open.

Q No. I asked if there was anything on Plaintiffs' Exhibit 30 which operates the shot limit switch. You earlier testified about a solenoid S-2 in Plaintiffs' Exhibit 34. What is its function?

A The solenoid marked S-2 advances the mechanism one step each time it is energized.

Q Advances what mechanism?

A Well, the rotating --

Q Can you point it out on Plaintiffs' Exhibit 38-A?

A The ratchet wheel indicated by VI² and the cam indicated

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by VI³.

Q Did I understand you correctly as saying that the actuation of the solenoid that shows on Plaintiffs' Exhibit 38-A as VI' actuates the cam and the ratchet?

A Yes; one step each time it is actuated.

Q What happens when, let us say, ten trigger pulls have taken place in that mechanism?

A The upper switch member of the switch indicated by VI drops into a slot or notch of the cam VI³ and the switch is thus opened.

Q You mean that when the cam disk rotates to position the notch opposite the spring, the limit switch is opened?

A It is.

Q What actuates the solenoid shown at VI'? You may show that if you wish, on Plaintiff's Exhibit 34 or Exhibit 32.

A The solenoid indicated by VI' is actuated by the trigger switch indicated by 19 on Plaintiffs' Exhibit 34.

Q You mean, then, that the pull of the trigger and the associated switch is what actuates the solenoid VI?

A Yes, it does. Each time the trigger is operated the solenoid of the shot counter has advanced the mechanism one step.

Q Then the circuit for the solenoid VI¹ is controlled by this

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trigger switch about which you have testified?

A It is.

Q Will you point on Plaintiffs' Exhibit 37, the drop associated with the target?

A The drop is indicated by III.

Q Can you find any means on Plaintiffs' Exhibit 37 for releasably holding this drop normally in raised position?

A The target drop is normally held in position by the rod indicated by III².

Q Can you find any aperture in any part of the target?

A Yes, there is an aperture indicated by III³.

Q Can you find any light sensitive cell carried by the target?

A A light sensitive photoelectric cell is in alignment with the aperture on the target drop; the photoelectric cell is indicated by I.

Q Please state whether or not this photoelectric cell moves with the target structure.

A The photoelectric cell moves in unison with the target structure.

Q Please state what happens when a ray of light passes through the aperture A-3 and strikes the photoelectric cell I.

A The light striking the photoelectric cell I sets up a

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small current which is transmitted to the wires, the stationary and moving contacts on the shafts 25 to the amplifier, and by means of the previously described relays which are indicated by R and R' the target drop solenoid is energized, which withdraws the holding rod III² from the notch in the hub 30 on Plaintiffs' Exhibit 37 and the target drops by means of the spring 35 and the counter-weight 34.

Q Will you please point out on Plaintiffs' Exhibit 34, Defendant's Wiring Diagram, the gun.

A The gun is illustrated in the upper left hand corner of the wiring diagram.

Q Do you find any light source in this gun?

A The light source is also indicated.

Q Referring, for example, to Plaintiffs' Exhibit 30, where do you find the light source? How is it marked?

A It is indicated by IV'.

Q Do you find on Plaintiffs' Exhibit 30 any shot limiting means associated with the gun?

A The shot limiting means is indicated. It is marked "Shot Counter" on the photostat.

Q Please state whether or not these means are effective to de-energize the motor in response to a pre-determined number of operations of the trigger. If so, please point out how.

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A After a pre-determined number of shots, the switch indicated by VI is opened, and thus breaks the circuit through the motor.

Q Which takes place in response to what?

A (No response.)

MR. PARKER: I will change the question.

Q What actuates the shot limit switch finally to move it to closed or circuit-breaking position?

A The trigger switch operates the shot counter solenoid.

Q Please point to the trigger switch on Plaintiffs' Exhibit 31.

A The trigger switch is marked IV².

Q How many pulls of this trigger switch are necessary to de-energize the motor?

A In the machines I have seen it needed ten trigger pulls.

Q You yourself saw the machine?

A I did.

Q Did you take ten trigger pulls?

A I did.

Q What happened after the ten?

A After the tenth trigger pull the motor ceased to operate.

MR. PARKER: That is all.

THE COURT: Cross-examine.

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CROSS-EXAMINATION
By Mr. Threedy:

Q Mr. Schnellhardt, will you look at Plaintiffs' Exhibit 36.

A Yes.

Q Please advise the Court wherein, on that exhibit, you find a device illustrated which includes a target.

A The target is illustrated at III.

Q Advise the Court whether or not the target of Plaintiffs' Exhibit 36, which you have made reference to as being indicated by III, includes an aperture.

A Yes, it does include an aperture.

Q Is the aperture indicated by reference character on Plaintiff's Exhibit 36?

A Well, there are a number of dotted lines. One of them indicates the aperture.

Q Explain to the Court, with reference to the photoelectric cell of Plaintiffs' Exhibit 36, where the aperture that you speak of is located.

A It is right in alignment with the photoelectric cell marked I.

MR. THREEDY: If the Court please, I have here a photostat of Plaintiffs' Exhibit 34 and, with the Court's permission and

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with the permission of Mr. Parker, I would like to have the reporter mark this photostat for the purpose of identification and reference as Defendants' Exhibit 34, so we may distinguish it from the Plaintiffs' Exhibit 34.

THE COURT: Any objection?

MR. PARKER: No objection.

THE COURT: Very well.

(The photostat was so marked)

MR. THREEDY: Q Mr. Schnellhardt, will you take Defendants' Exhibit 34, and also take this yellow pencil that I hand you, and I will ask you first of all to indicate what this structure that I will indicate as S constitutes on Defendants' Exhibit 34.

A They constitute the chime.

Q What is the character of the device which you have made reference to by the reference character S on Defendants' Exhibit 34?

A The exact construction I do not know, but it just rang a chime.

Q Do you know whether it is a bell?

A I do not know.

Q You heard it give an audible sound, did you not?

A It sounded like a bell or something; I couldn't say for

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sure.

Q Did you hear something?

A I heard a report, some sound.

Q When did you hear that sound?

A When the target dropped.

Q What did that sound appear to you like?

A Well, a gong or a bell.

Q Is it not a fact, Mr. Schnellhardt, that the report that you heard was the report of a bell?

A Well, as I say, I did not take any special notice what kind of a report it was, only it was an audible sound when the target dropped.

Q Would you not be able to distinguish, Mr. Schnellhardt, a sound as being that of a hammer striking a bell?

A Well, the target drop made a sound, which in a way muffled the other noise or the bell, whatever it was.

Q Would you be willing to say to the Court that the device marked S on Defendants' Exhibit 34 is a signal means to indicate a hit when the flash of light impinges on the cell of the defendant's device?

A Yes, it would be a signal means.

Q Now, take the yellow pencil I previously handed to you and let us start from the signal means S of Defendants' Ex-

hibit 34. I will ask you to indicate the branch lead from the signal means in a direction to the right, having connection with the fourth line from the right hand side of Defendants' Exhibit 34. Mark that with an a.

A From this line here?

Q The line that is leading to the fourth line from the right hand side of Defendants' Exhibit 34, from the bell or signal means. I want you to mark it with an a.

A Shall I mark it in ink?

MR. THREEEDY: Yes, so it shows.

Q Now continue on with that lead to the lead that turns to the left from the right hand side of Defendants' Exhibit 34 and mark that b.

A (Witness does as requested)

Q That is right. Now indicate where b terminates in this direction from the right hand side of Defendants' Exhibit 34.

A It terminates here (indicating).

Q Indicate the lead that it terminates into by the letter c.

A (Witness does as requested)

Q Now the lead at the point c, where b terminates, extends upwardly, is that right, on Defendants' Exhibit 34?

A Yes.

Q Indicate that by the letter d.

A (Witness does as requested)

Q Now indicate where the lead d terminates on Defendants' Exhibit 34 by the letter e.

A (Witness does as requested)

Q The lead into which the lead e terminates returns to a switch; is that correct?

A Yes.

Q Indicate that switch by the letter f.

A (Witness does as requested)

Q And the lead from e to the switch by the letter g.

A (Witness does as requested)

Q Now indicate the lead leading away from the other side of the switch f by the reference character h.

A (Witness does as requested)

Q Now the lead h terminates into a lead extending vertically, I should say transversely, from top to bottom of Defendants' Exhibit 34; is that correct?

A Yes.

Q Indicate that lead by the letter j.

A (Witness does as requested)

Q No indicate the lead, that lead j of Defendants' Exhibit 34 terminates; indicate the lead.

A (Witness does as requested) What shall I mark it?

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MR. THREEEDY: Mark it k.

A (Witness does as requested)

Q Let us take the other side now, of the signal means S, and indicate the lead leading from that side of the signal means.

A I will mark it l.

Q Indicate the lead into which the lead l terminates.

A (Witness does as requested)

Q Follow it through the circuit until it terminates into another lead. Call that all the same.

MR. THREEEDY: He has indicated the last leads he speaks of by the letter m.

Q Now indicate the lead into which the lead m terminates.

A I will mark it n.

Q Now, Mr. Schnellhardt, looking at Defendants' Exhibit 34, am I correct in stating that the lead k and the lead n which you have indicated on Defendants' Exhibit 34, has its source of supply from a direct line of 110 volts?

A Yes.

Q It is indicated on Defendants' Exhibit 34?

A Yes, it is indicated there.

Q Now, by means of a pencil, using consecutive letters of the alphabet, advise the Court what instrumentalities are in-

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cluded in the circuit which you have just indicated on Defendants' Exhibit 34, and by the reference characters a to n, inclusive.

A The circuit goes from k to j through the line h, through the switch f to the line g, the intersecting point e, the line d, intersecting point c, along the line b, the line a, through the transformer of the chime, the line l, through the line m, to the other line n.

Q You are familiar with the diagram illustrated in Plaintiffs' Exhibit 34 and Defendants' Exhibit 34, are you not?

A Yes, I am.

Q What do you understand to be meant by the expression "a switch connected in series," or "a switch connected in parallel"?

A A switch connected in series just closes one line. Parallel means two connected to the same line, just a shunt connection. That is what is meant by parallel.

Q Will you please look at Defendants' Exhibit 34 and indicate or state what this instrument is that I indicate on Defendants' Exhibit 34 as m. State what that instrument is.

A It is indicated as being a relay or an electro-magnet.

Q Is there a switch mechanism associated or connected with or operated by the relay m?

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A It is indicated as actuating a switch.

Q Indicate the switch by the letter o.

A (Witness does as requested)

Q Now advise the Court whether or not that switch which you have indicated as o is connected in series or in parallel with the circuit which you have just traced out on Defendants' Exhibit 34 and indicated by the reference characters a to n, inclusive.

A This circuit would be in parallel with the other circuit.

Q By the other circuit you mean what?

A The one I have just described previously.

Q By the letters a to n, inclusive, on Defendants' Exhibit 34; is that correct?

A As a matter of fact, it is in a way a connection, but independent of the other one.

Q Explain to the Court just what you mean by that statement. When you say that what do you mean by it?

A The electric circuit through the photoelectric relay which is marked m is a connection between the power source, but it goes through the switch of the trigger. It is in parallel with the main power source.

Q What I am asking you, Mr. Schnellhardt, is this: Is the switch o on Defendants' Exhibit 34 in series or in parallel

with the circuit which you have traced on Defendants' Exhibit 34 and indicated by the reference characters a to n, inclusive?

A They are, in effect, in parallel with the main power line, only they have a common wire from the point c on.

Q Am I correct in saying the switch is incorporated only in one side of the circuit and is not shown across the circuit?

A Shown across which circuit?

Q You explained that you understood the term parallel?

A Yes.

Q Explain to the Court what you understand to be meant by that term.

A Parallel means connecting two -- Suppose two electric magnets across two power lines, which are independent from each other.

Q Is that a correct description of the switch of the relay m of Defendants' Exhibit 34?

A In relation to the chime?

Q The circuit.

A It is.

Q In relation to the signal means S?

A It is.

Q When you state it is, explain to the Court what you mean by that statement.

A I meant there are two separate circuits, one actuating this electro-magnet, which is on this line n, and a circuit in parallel that runs to the main power line of this chime.

Q In other words, according to your testimony just given, the relay m and its switch o are in a circuit different from the circuit which you have traced and indicated by the reference characters a to n, inclusive, on Defendants' Exhibit 34; is that correct?

A This is the circuit for the relay m, is operated by the amplifier and is in parallel. Well, it is just connected to the main power line, but has nothing to do with the circuit.

MR. THREEDY: Without meaning, if the Court please, to restrict the witness in his answers, may I have the Court's permission to ask the witness to answer the question yes or no, and then he can go into detail later.

THE COURT: Read the question to the witness.

(The question was read)

A Yes, that is correct.

Q Mr. Schnellhardt, will you take Plaintiffs' Exhibit 30 and advise the Court whether I am correct in making this statement: That when the coin switch indicated at a-4 is closed

the circuit is complete between the lamp IV' and the main source of supply indicated as the 110 volt input?

A The coin switch when it is closed establishes a circuit through the reset magnets 14 and 15, the score counter and shot counter. The shot counter, by the cam previously described, closes the switch indicated by VI, which establishes a circuit through the transformer on Plaintiffs' Exhibit 30, indicated as T. The circuit for closing the primary of the transformer T is through the switch which is indicated on Plaintiffs' Exhibit 30 by a-17 and a-18, which runs through the other power source line a-12 by the line a-11. When the transformer T is energized a circuit is established from the secondary winding of the transformer through a line a-19, through the gun lamp indicated by IV', through the line a-20. It is grounded to the gun structure IV, thence goes through the mercury switch as illustrated on the print, through the line a-21 to the secondary winding of the transformer T, and thus completes the circuit of the lamp.

Q Now, Mr. Schnellhardt, according to the testimony which you have just now given in answer to my previous question, am I correct in stating that your testimony explains how the circuit between the lamp in the gun, Plaintiffs' Exhibit 30, is completed with the source, the main source of supply, indi-

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cated as the 110 volt input; is that correct?

A It is completed through the transformer T.

Q I did not ask you how it was completed, and I am going to ask the reporter to read the question to you and, with the Court's permission, I will ask you to give a yes or no answer.

THE COURT: Just answer yes or no.

THE WITNESS: Please read the question.

(The second preceding question was read)

A Yes.

MR. THREEEDY: Q Now I will ask you to look at Plaintiffs' Exhibit 34 and advise the Court where the leads 7 and 8 indicated on Plaintiffs' Exhibit 34 go?

THE COURT: Referring now to the blue print?

MR. THREEEDY: Yes, referring to the blue print Plaintiffs' Exhibit 34.

THE WITNESS: What is the question?

THE COURT: Read the question.

(The question was read)

A The leads 7 and 8 go to the stationary contacts 5 and 6.

MR. THREEEDY: Q Will you answer the question with reference to the amplifier shown on the blue print Plaintiffs' Exhibit 34.

A The lines 7 and 8 lead into the amplifier.

Q Am I correct in stating that the amplifier has an input

and an output side; is that correct?

A Yes, it has.

Q Do the leads 7 and 8 go into the input or output side of the amplifier shown on blue print Plaintiffs' Exhibit 34?

A They are not indicated where they go to on the blue print.

Q Do you know?

A I do not know much about the amplifier which you are using. In fact, nothing was explained to me.

Q Then so far as you know, you do not know whether those leads go into the input side or the output side of the amplifier shown on Plaintiffs' Exhibit 34; is that correct?

A Well, there is no indication, only the lines 7 and 8 go to one of those power tubes.

Q I am asking you, Mr. Schnellhardt, whether you know.

A I do not.

Q Mr. Schnellhardt, I hand you Plaintiffs' Exhibit 37, and I will ask you to read to the Court the subject matter which you find in blue ink just above the shaft 25, having reference to contact numbers illustrated in Plaintiffs' Exhibit 37.

A "Fixed Contacts between Photoelectric Amplifier and Drop Holding Means."

Q From your understanding of the wiring diagram, Plaintiffs' Exhibit 34, state whether or not that is a correct

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statement.

A Mechanically, no; electrically, yes.

Q Explain that statement.

A The photoelectric cell acts as the drop holding means, which governs the drop holding means.

Q I understand the statement on Plaintiffs' Exhibit 37 reads thus: "Fixed Contacts between Photoelectric Amplifier and Drop Holding Means." I will ask you to look at Plaintiff's Exhibit 36 and point out on that exhibit, Plaintiffs' Exhibit 36, the contact elements corresponding to the contact elements on Plaintiffs' Exhibit 37, to which the lead lines are directed, from the statement that I just previously read to you appearing on Plaintiffs' Exhibit 37.

A The lead lines from the fixed contacts and the rotating contacts are indicated adjacent --

Q I want the contacts, Mr. Schnellhardt, just the contacts, the stationary contacts.

A The stationary contacts are indicated here, marked "Fixed Contacts."

Q Will you indicate the stationary contacts by the letter a?

A On this exhibit?

Q Yes.

A (Witness does as requested)

MR. PARKER: I would suggest that we be given an opportunity to get together and make sure that the markings made by the witness are correct.

MR. THREEEDY: Q Indicated as a on Plaintiffs' Exhibit 36?

A Fixed contacts.

Q Yes. Now indicate or state whether or not the photoelectric cell on Plaintiffs' Exhibit 36 is indicated by a reference character?

A It is indicated by I, photoelectric cell.

Q State whether or not Plaintiffs' Exhibit 36 has the amplifier indicated by a reference character.

A The amplifier is indicated by II.

Q Indicate on Plaintiffs' Exhibit 36 the electrical connection between the photoelectric cell amplifier indicated on Plaintiffs' Exhibit 36 by II, and the fixed contacts which you have indicated at a on Plaintiffs' Exhibit 36.

A There are two wires leading through the fixed contacts a, which in Plaintiffs' Exhibit 36 would be in alignment with each other, though only one shows on Plaintiffs' Exhibit 36, but they are illustrated in Plaintiffs' Exhibit 37.

Q Indicate those conductors by a reference character on Plaintiffs' Exhibit 36, also on Plaintiffs' Exhibit 37.

A By b.

Q Yes.

A Both b?

Q That is right.

A (Witness does as requested)

Q Looking at Plaintiffs' Exhibit 36, is it not a fact, Mr. Schnellhardt, that the conductors indicated at b connect the fixed contacts a with the photoelectric cell amplifier?

A Correct.

Q Indicate the connection between the photoelectric cell on Plaintiffs' Exhibit 36 by the reference character c in their connection with the movable contact element shown in Plaintiffs' Exhibit 36.

A (Witness does as requested)

Q What reference character did you use?

A c.

Q On Plaintiffs' Exhibit 36?

A c.

Q During your testimony on direct-examination, in one or two instances you made reference to the fact that some employee of the Ford Amusement Devices showed you a blue print.

A Yes.

Q So far as you are concerned, Mr. Schnellhardt, state

whether or not you know of your own knowledge whether or not the subject matter of the blue print disclosed to you was a correct illustration of the device of the defendant. Ford Amusement Devices?

A It seemed to be correct. Of course, I had no authority to disassemble the machine and investigate the parts.

Q In other words, you are assuming that they were correct?

A I assumed that they were correct.

Q But you could not state of your own knowledge that the subject matter of the blue prints was a correct illustration of the defendant's, Ford's, device; is that right?

A Only in part.

Q Only in part?

A Yes.

Q You do not know who this employè was of the defendant Ford Amusement Devices?

A No, I do not.

Q You do not?

A No.

Q Refer again to Plaintiffs' Exhibit 37 and advise the Court whether this statement in connection with the device shown in Plaintiffs' Exhibit 37 is or is not correct: That as long as the rod III² has its free end portion in engagement

with the disk to which the target III is connected, the target cannot be moved into a hit position?

A The statement, if the rod indicated by III² is in engagement with the hub 30?

Q With the notch or recess.

A Oh! I didn't hear that. Yes, that is correct. The target cannot be moved.

Q Therefore, in order for the target to move into the hit position, it is necessary that the free end of the rod indicated in Plaintiffs' Exhibit 37 by III², be disengaged from the notch in the disk carrying the target III; is that right?

A That is right.

Q Now, when the rod III² of Plaintiffs' Exhibit 37 is moved to disengage the free end of the rod from the recess of the disk carrying the target III, what moves the target III into hit position?

A The counter-weight indicated by 34 on Plaintiffs' Exhibit 34, and also the spring indicated by 35.

Q What moves the rod indicated in Plaintiffs' Exhibit 37 in a direction to disengage the free end thereof from the recess of the disk carrying the target indicated on Plaintiffs' Exhibit by III?

A The rod which is pivoted within the rotating shaft. The

Schnellhardt-cross

rod, of course, is actuated by the target drop solenoid.

MR. THREEDY: May I have the reporter read the answer, please?

(The answer was read)

Q That is the rod you have heretofore referred to as 31 in Plaintiffs' Exhibit 37; is that right?

A That is correct.

Q Now refer back to Plaintiffs' Exhibit 34 and advise the Court whether or not the shot limit switch is actuated by the shot counter illustrated in Plaintiffs' Exhibit 34?

A The shot counter solenoid S-2 opens the switch in the shot counter mechanism after the tenth shot is fired.

Q Then I am correct in stating that the shot counter controls the opening operation of the shot limit switch; is that right?

A Yes.

Q And that is for what purpose?

A It is for the purpose to de-energize the motor for running the target and the various circuits, like the lamp in the gun.

Q What controls the operation of the counter, the shot counter in Defendants' Exhibit 34?

A The shot counter is operated by the trigger pull.

Schnellhardt-cross

Q Then am I correct in this statement, Mr. Schnellhardt, that the shot limit switch is associated with the shot counter as shown in Plaintiffs' Exhibit 34?

A It is associated with the shot counter.

Q Referring to the lamp in Plaintiffs' Exhibit 30, indicated by IV', when the circuits are closed in a proper manner, is the lamp on continuously until the circuit is again broken?

A Yes, the lamp is on continuously.

MR. THREEDY: That is all, if the Court please.

THE COURT: Any redirect-examination?

MR. PARKER: Yes, your Honor.

REDIRECT-EXAMINATION

By Mr. Parker:

Q Referring to Plaintiff's Exhibit 34, does the circuit have a motor, including the shot limit switch?

A Yes, it does.

Q Referring to Plaintiffs' Exhibit 37, when a hit is scored is the drop III released?

A Yes, the drop indicated by III is released when a hit is scored.

Q When you were at the Ford plant what facilities were given you to examine the details or inside of the amplifier?

A The amplifier on the machine in operation was covered, so I could not see any details, and the machine which was partially assembled had the amplifier all assembled, but I had no authority to look underneath or examine anything beyond what was exhibited externally.

Q Do you mean they refused to allow you to look into the amplifier?

A I did not ask to do that.

Q Will you please tell me, in relation to Defendants' Exhibit 34, what is the function of the switch marked o?

A The function of the switch marked o is to close the circuit through the relay indicated by R'.

MR. PARKER: May I have the permission of the Court and opposing counsel, to apply that mark to Defendants' Exhibit 34?

MR. THREEEDY: You mean R?

MR. PARKER: This R'.

MR. THREEEDY: Yes; certainly.

MR. PARKER: Q Please mark it on Defendants' Exhibit 34.

A (Witness does as requested)

Q Am I right in my understanding from observation of Defendants' Exhibit 34, that the relay R' controls the switch in a line marked b?

A Yes, that is correct.

Q Please state the effect of the actuation of the relay R' in relation to the circuit which includes the line b.

A The switch actuated by the relay R' energizes the solenoid of the chime, the solenoid for the target drop and the solenoid for the score counter.

Q Can the circuit or circuits which actuate the score counter solenoid, the chime and the drop solenoid be actuated or closed and made operative without an actuation of the relay R'?

A No, they cannot.

Q Can the relay R' be actuated without a hit being scored upon the photoelectric cell?

A No, it cannot.

Q I mean, of course, in a normal operation of the device.

A Not in a normal operation of the device.

Q Then would you say when the marksman scores a hit on the cell the effect of this hit is to close the circuit through the score counter solenoid and the drop solenoid and the chime solenoid?

A Yes, that is correct.

Q In the use of the device what part is the marksman actually aiming at?

Schnellhardt-redirect

A The marksman aims at the aperture of the target drop.
The aperture is marked III².

Q You mean he is trying to miss the target drop III and go through the aperture?

A He aims to hit the aperture, to strike the photoelectric cell.

MR. PARKER: That is all.

MR. THREEDY: Just one or two questions.

RECROSS-EXAMINATION

By Mr. Threedy:

Q Mr. Schnellhardt, when you were at the defendant Ford Amusement Devices plant, you had free access to the device there shown to you, did you not?

A As far as I inquired, without going into all the details.

Q I am asking you if you had free access to the device there shown to you?

A I had free access to the parts which were disassembled there.

Q Did you have free access to the device which you have here testified to as having been seen by you at the plant of the defendant Ford Amusement Devices?

A I did, as far as I went into details.

Q No one interfered with you in examining that device, did they?

A Not the machine itself. I did, however, have some interference when I examined the gun mechanism.

Q You made a statement on redirect-examination to the effect that when the relay R' on Defendants' Exhibit 34 is energized the signal means is actuated; is that right?

A It is.

Q Did you state on redirect-examination that the signal means could not be actuated unless the relay R' was closed?

A Yes.

Q Is it not also a fact, then, Mr. Schnellhardt, that if there were no electrical source of supply to the circuit in which the signal means was incorporated, the operation of the relay R' would have no effect on the operation of the signal means; is that right?

A Of course, if there was no electrical connection there would be no means for actuating any signal means, but the print here shows the connection.

Q Beg pardon?

A The print here shows a connection, an electrical connection from the power source.

Q Mr. Schnellhardt, referring to Plaintiffs' Exhibit 34,

if you were manually to close the switch of relay m, would there be any source of energy from the relay m so as to actuate the signal means S indicated on Plaintiffs' Exhibit 34 and Defendants' Exhibit 34?

A It would not, unless a coin was first deposited so as to return the shot counter mechanism to starting position.

Q Why is it necessary to deposit a coin in order, first, to allow the signal means to become energized when the relay switch m and the relay R' are closed?

A Because the shot counter mechanism controls the switch which makes a connection with one side of the power line.

Q My original question to you was this, Mr. Schnellhardt: I asked you whether or not, when the relay m of Plaintiffs' Exhibit 34 was closed manually by you, would the energy from that relay actuate the signal means S shown in Defendants' Exhibit 34?

A Will you state that again, please?

MR. THREEEDY: Will you read the question to the witness, please?

(The question was read)

A The energy from the relay m has nothing to do with the other circuit.

MR. THREEEDY: That is all, if the Court please.

If the Court please, I want to offer in evidence, on behalf of the defendant, this Defendants' Exhibit 34 which the witness has been testifying about.

THE COURT: I suppose this is a patent case and we have all kinds of irregularities in patent cases.

MR. THREEEDY: That is true. I should have offered this before.

THE COURT: No, you should not have offered it before.

MR. THREEEDY: That is true. I will withdraw the offer. I did it so I wouldn't forget it.

THE COURT: I know. We have all sorts of irregularities in patent cases.

MR. PARKER: I have no objection to his putting it in now.

THE COURT: I don't care myself. A patent case is very confusing even by consent, when defendant's evidence is offered in the plaintiff's case.

MR. THREEEDY: I withdraw my offer, if your Honor please, reserving my right, of course, to offer it at the close of the plaintiff's case.

THE COURT: We have only about ten minutes more to go. Do you want to start with another witness now?

MR. PARKER: I prefer to start in the morning. I have a

witness who will take some time.

THE COURT: I will ask you to come back about 10:15. It will be about fifteen minutes after ten before we get to this case.

This court will be adjourned until 10:15 tomorrow morning.

WHEREUPON an adjournment was taken until
Thursday, May 28, 1936, at 10:15 o'clock a.m.