"LET THERE BE LIGHT"--ENOUGH

OF ILLUMINATION AND CAMERA PROBLEMS
FOR THE TAKING OF INDOOR BASKETBALL
MOTION PICTURES

by

DR. JAMES E. BLISS
Director of Cinema Laboratory
Western Reserve University

WITH THE COMPLIMENTS OF THE AUTHOR

TO THE MEMBERS OF THE

NATIONAL: COACHES ASSOCIATION

February, 1938

"LET THERE BE LIGHT"--ENOUGH

of Illumination and Camera

Problems for Indoor Basketball Coaching

Motion Picture Films

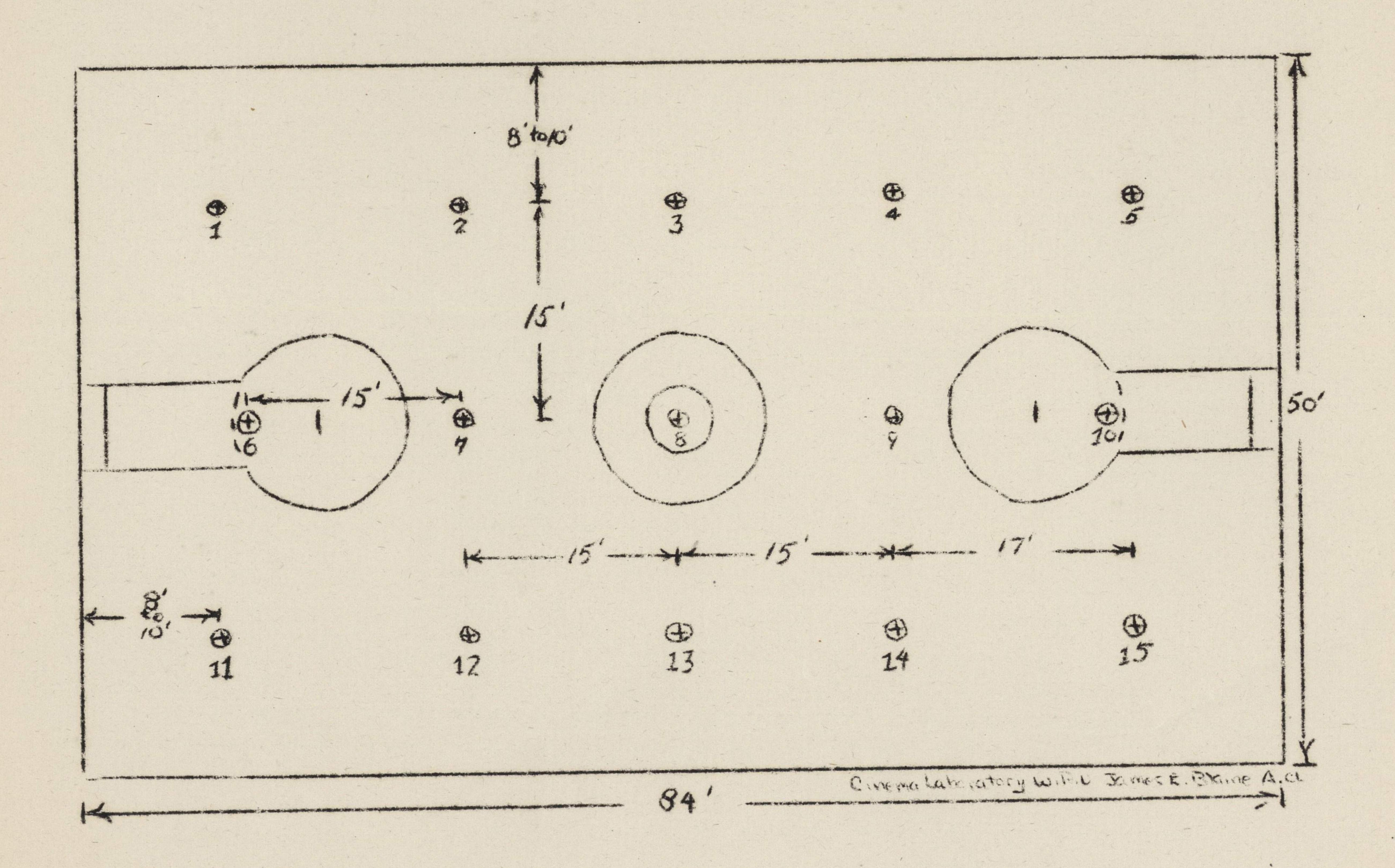
The problem of enough light is one of the greatest hurdles between the basket-ball coach and successful coaching motion pictures for his use. If sufficient photographic light is available over the court, the present day 16 mm. fast lenses and film emulsions will do the rest. Of course, the camera responsibility must rest in competent hards.

Since experiments are sometimes costly, a lighting plan that will bring results may be of value. From the experiences of Coach Roy Clifford and myself in experimenting in basketball filming at Western Reserve University, we have evolved two lighting plans that will produce satisfactory 16 mm. motion pictures with any of the following films:— AGFA Superpan, DUPONT Superior Panchromatic Negative, or EASTMAN Supersensitive Panchromatic 16 mm. motion picture emulsions. It is also desirable to have either an f 1.5 or f 1.9, one inch (25 mm.) camera lens. The f 2.5 lens may get good pictures too, but it is better to have the faster lens speed available.

Basketball floor sizes may vary from the 40' x 60' as a minimum, to the extreme of 50' x 95'. For this presentation, a lighting plan suited to a court of 50' x 84' will be discussed.

A total of fifteen floodlights should be used, although we have had good results with thirteen. Reflectors that will give enough light throw are the aluminum Alzak Benjamin, intermediate spread, "satin" or "sand" finish, deep bowl type. Their mogul sockets will allow the use of 2000 Watt frosted bulbs in each. The 1500 Watt frosted bulb is not Asatis factory as the 2000, and should not be considered as an alternate.

If the #4 Photoflood, photographic bulbs are substituted for the regular Mazdas, two 115/32 Volt--2KVA--air cooled transformers should be used in the circuit. These transformers on a 16 circuit toggle switch panel that has also two 60 ampere



two pole, double throw dead front switches, will make it possible to burn these Photoflood bulbs at half voltage during practice periods and between halves to prolong the life of the bulbs. The average burning life—at full line voltage—of these flood bulbs is about ten hours.

These #4 Photoflood bulbs will give a Watt output of 2500--500 Watts more than the regular 2000 Watt Mazdas. This extra candle power source may enable the cameraman to use semi-slow motion film speed of 24 frames/second or even 32 frames/second for better coaching analysis.

The reflectors should be twenty feet from the floor to the bulb. They may be placed at 25' height but the light loss from this extra 5' is not desirable. If the reflectors are 18', as they are in the Western Reserve gymnasium, heavy duty guards should be used over them. There will be a slight loss from the use of these guards. At the 20' height, the reflectors will not interfere with the average shots at the basket.

With baske thall floor illumination of this type, we have been able to "shoot" coaching films very satisfactorily at the normal or 16 frames/second camera speed. The lenses we use are the 1", f 1.9 in focusing mount. I say "lenses" for we have sometimes used more than one camera to cover a game.

The lights should be in three rows of five each along the length of the floor. The string that runs along the side lines should be in from the boundary lines from 8 to 10 feet, (Fig. 1--1-2-3-4-5, 11-12-13-14-15) and spaced as nearly to 15° apart as is possible, starting with the ones in the center of the lines. However, the lights in the corners, that is, those closest to the end boundaries, should be ten feet from the side and end lines. (Fig. 1--1-5-11-15). One reflector should be directly over the center ring (#8), with one on either side in a mid-line 15° toward each end (lights #7-9). One light should be placed over each basket area just above the inside end of the full lanes. (lights #6-10). These will not interfere with the players when attempting foul shots or "free throws".

This light placement will give enough overlap of illumination so that there will be no distracting floor shadows from the players. The outside "spill" of light will include a short photographic distance beyond the boundary lines. We

have heard no objection from teams playing in Cleveland under this much light. In addition to good photographic illumination, the spectators can see the game much better.

Where the cost of reflector replacement may be prohibitive, very satisfactory film results are possible if the ordinary gymna sium bulbs are replaced by the #2 Thatoflood bulbs. Each lamp gives about 1500 Watts of light, and if there are fifteen or more fixtures over the floor, 16 frame/second movies may be taken with a fast lens. Since these bulbs have a life of about 6 hours, a transformer system to burn them at 60 volts when camera light is not necessary, will add to their life. In this way, two full games may be played safely without danger of bulbs burning out. This suggestion may enable the athletic department with a very modest budget to have coaching films for little cost.

Camera technique is important. The best motion pictures of any kind are those that have a steady background and the minimum of camera movement—even in sports filming. To achieve this result, a steady tripod with a smoothly acting panorama head is necessary for camera support. DO NOT USE THE CAMERA "FREE HAND".

A distance from the floor that will allow the lens to include just about half of the floor area is very desirable. This position should be in the balcony or from a high place to prevent a jumble of players from obscuring the play. Shoot down on the game. The distance necessary to include half the floor will call for a lens setting at the INFINITY or the 50' mark,—or half way between the two. When filming at an aperture of fl.9, the depth of field at the INFINITY setting will give good focus from 44' to INFINITY and at the 50' mark, good focus from 23' to INFINITY. The fl.5 lens will have similar depths of field.

We found the best position for the camera to be just about opposite one or the other foul or "free throw" lines. This will minimize the camera swing necessary to follow the plays from one basket to the other, since the lens takes in half the floor area. The camera will have to move in an arc of from 30 to 45 degrees, whereas a center camera position would mean a swing of close to 90 degrees from basket to basket. It is not necessary to move the camera for every pass or movement

of the players. Let the play get beyond the center of the camera field somewhat and then bring it into the lens area with a smooth swing. Avoid the dizzy jerks to right and left as the ball is feinted or short passes are made.

There are few sports other than basketball that offer such continuous, uninterrupted action, with little time for the cameraman to rewind his spring motor without missing some of the play. Since most cameras carry 100° of film, a reloading is necessary after about 4 minutes of filming. The answer is:-use two cameramen with two cameras. When #1 cameraman finishes his first film, #2 starts his roll.

#2 completes the second hundred feet of film, #1 carries on with the third hundred,--and so on through the game. The intervals between shooting will allow for reloading. The popular 50° magazine loading motion picture cameras make this doubling unnecessary, but the spring drives require frequent rewinding. The Ginema Laboratory camera is one of the advanced 16 mm. models with interchangeable film chambers, so that with an assistant to reload the chambers, one tripod set up is all that is necessary. Even the agh the spring drive will run 32° of film at a winding, often in the "no tip-off" game, the spring has run down before a score has been made. The ideal camera equipment is the motor driven type with external 400°

A very satisfactory game analysis that will be quite complete may be made with 8 rolls (800') of film. Some coaches prefer to use less footage by "spotting" his film, part at the start of the game and some during the various periods of play.

film chambers, -- enough film to cover an entire half of a game continuously.

It is our hope that this "illuminating advice" and camera counsel may enourage other basketball mentors throughout the country to make motion picture
analyses of their team's play. By these studies they may perfect their boys in one
of the most fascinating and popular of the American sports--Basketball.

Dr. James E. Bliss
Assistant Professor of Prosthetics
School of Dentistry

Director, Cinema Laboratory

WESTERN RESERVE UNIVERSITY

February, 1938

IS BASKETBALL TOU STRENUOUS?

Introduction

Much has been written about the strenuousness of the game of basketball. Many statements have been made about the deleterious effects of this intense game upon the players. All of these statements have come to the attention of the writer were based on opinion and not upon any facts that were experimentally or scientifically determined.

Because of the crescendo of these charges in recent years, the writer set about to find out just how strenuous basketball really was. He knew, of course, that in 1924 and 1925 Dr. James Naismith¹, the inventor of the game, had studied by urino-analysis the effects of the game upon high school boys during strenuous tournament play. He found, with two exceptions, no evidence whatever of casts or sugar in the urine to indicate the tearing down of body tissues. There was no indication whatever of albumin or blood in the urine.

It is probably pertinent to remark at this point that Dr. T. A.

Storey made similar examinations of college basketball players at the

College of the City of New York. His findings were diametrically opposite to those of Dr. Naismith. As a result of further investigations on his part he has concluded that while there is undoubtedly some significance to the presence or absence of albumin, casts, blood, sugar in the urine, we do not at present have sufficient information to interpret these facts relative to fatigue from athletic competition.

Look up Dr. Novsmithis second initials sent to g. Bum

Naismith, J.N., "Effects of Basketball on High School Students" Spaulding's Official Basketball Guide, 1925-26 Page 10

The following study does not tell whether basketball is too strenuous or not, but it does give a relative idea of how tiring the game may be. On the theory² that there is a direct relationship between the strenuousness of the activity and the time required for the pulse to return to its normal rate after the activity, tests were run on track men and basketball players.

Seven 440 yard runners were used to run a 440 yard dash. A pace was set so fhat they all ran their 440 in less than one minute. Ten basketball players were used to play regulation basketball games. In order to remove the influence of the factors of training, condition and efficiency in each activity, the best varsity material available was used in each case. A world's record holder in the 440 was used while the basketball players were the ten best Stanford University varsity players. They were all college men.

For purposes of uniformity, each contestant followed the same routine before and after his activity. Each athlete was tested at the same time of day and each ate at the same time before exercising. Before the activity the contestant was required to lie on a cot. Pulse readings were taken at intervals of five minutes until two successive readings were the same. After the activity the athletes went immediately to their cots to rest until their pulses returned to the resting state, the same as before the exercise began. The time elapsed between the finish of the activity and the recovery of the pulse to its resting state was taken as

Physiology Vol 27 (1911) Page 446

as an indication of the strenuousness of the activity.

The intensity of the 440 yard run could be controlled by setting a definite pace. Conditions here then were somewhat constant. The intensity of basketball games varies considerably even though the same two teams are competing. In order to get average conditions several regulation games were played and the players tested after each game.

Since the players who ran the 440 were not the same as those who played basketball, some means of equating their rates of recovery was necessary. This was accomplished by requiring each athlete to do the same exercise and then to measure the time for recovery of each. This exercise consisted of running for two minutes at the rate of fifteen feet per second, three steps per second, (pace set by a metronome), pulling a revolving drum about a circle 44 feet g inches in diameter. By taking the time of recovery of any one of the athletes for this standard exercise, the rate of all the others could be equated to this one. Likewise, the recovery of an athlete from the 440 yard dash could be expressed in definite relation to the recovery of a player from a basketball game.

On this basis, it was found that the average time for recovery after a basketball game was 56.15 minutes, while the average time for recovery after running a 440 yard dash in less than one minute was 80.5 minutes. The range of scores for recovery of the basketball players was from 109.38 minutes to 23.32 minutes. The range for the

440 yard runners was from 118.13 minutes to 44.37 minutes. The results are based on twenty-six tests of basketball players and seven 440 men.

These tests in no way indicate whether basketball is too strenuous a game or not. They do, however, show that on the average it takes half again as long to recover after running a 440 as it does after playing a basketball game. It follows then, that the 440 is a more intense activity than a basketball game. The 440 is, of course, a continuous activity and because of its high intensity causes an oxygen debt to build up rapidly. A basketball game, on the other hand, is of varying intensity and has been found to have from 100 to 130 interruptions³. It would seem logical to conclude, therefore, from the foregoing, that if our present game of basketball is too strenuous then certainly there is even more reason to question the wisdom of permitting boys to run a 440. Certainly more conclusive evidence is necessary before either activity may be condemned.

Dean, Everett, Baseball Coach, University of Indiana.

RECOMMENDATIONS OF THE NATIONAL ASSOCIATION OF BASKETBALL COACHES

(Presented by W. S. Chandler)

Rule 2, Section 2. Partial extension of the end lines.

Extend the middle portion of the end lines by drawing an are with a radius of 24 feet with the center at the outer edges of the foul circle where it intersects the long axis of the court. This arc shall act as an extension of the end line and shall terminate where the arc intersects the present end line. (Carried 27-7)

Rule 8, Section 8(Note). Ten second rule.

It is recommended that the interpretation of the center court line violations as stated in the rules for 1937 is preferable to the interpretation as stated in the rules for 1938. (Carried 48-3)

Rule 11, Section 2. Length of time-outs.

That charged time-outs may consume two minutes. (Carried 71-1)

Rule 11, Section 4. Number of time-outs per team per game.

That each team shall be granted five charged time-outs during a game.

Rule 14 and 15, Penalties.

When a free throw is awarded to a team it may choose to take possession of the ball out of bounds at the center line rather than attempt the free throw. In each case the foul shall be charged against the offender. (Carried 37-0)

Rule 14, Section 12. Three second rule.

A player without the ball may remain in that half of the free throw circle which is nearer to the center of the court without violation being called. If he is in this area with the ball in his possession the present three second rule applies.

Otherwise the present three second rule in all of its applications is acceptable. (Carried 87-0)

REPORT FROM CHARTERED BOARDS OF OFFICIALS. Dr. John Brown reporting for Mr. Bolster.

- 1-2. Seems to be very much divided; in fact of an even basis, because of the vast majority of the courts played on there is not sufficient area to allow four feet behind the backboard, and were the baskets to be extended to a greater distance than now extended on some of these courts, it would cause considerable disadvantage.
- 8-1. It is most heartily recommended that the college games be played in quarters, same as the high school games, and under B of this question it is recommended that the intermissions be two minutes.
- 8-5. There has been some criticism of the speed of the game for the high school boys. Some people feel that some revision should be made in either having the official handle the ball after the field goal having been scored, or an extended time limit be placed on putting the ball in play from out of bounds on the end line.
- 8-5. The majority are of the opinion that the Rules should remain as is, and the 3 restraining circles not to be considered.

If the Rules are continued on their present basis, with but few minor changes, it will materially assist in the further development of basketball from a public standpoint, from a coaching standpoint, and from officiating standpoint.

NATIONAL FEDERATION REPORT by A. J. Bergstrom

- 1-2. Legalize end line markings which are four feet behind the basket for those who desire to use such markings.
- 1-2. That on courts less than optimum size the front court be 42 feet long instead of 40 feet.
- 4-1. Legalize the 29-inch ball for junior high school play with the possibility of legalizing it for high school use in 1939.
- 5-3. That no sanction of the captain be required for substitutions.
- 6-11. Require that a team be notified when it has had five time-outs. Thereafter, no technical foul should be awarded because of the failure of an official to make proper notification.
- 6-12. That the management of basketball games furnish signals which can be heard distinctly above crowd noise.
- 9-3. Continue the use of the "sudden death" method of deciding overtime games but make it applicable to the first overtime and also declare a winner at the end of three minutes even though only one point has been scored.
 - 8-5. Recommend that the official handle the ball after a basket. (Minority group)
 - 9-3. Award ball at start of any overtime to the team which had possession at end of time.
 - 12-2. Make the six-foot jump rule apply to the end lines as well as the sidelines.
 - We heartily endorse the following:
 - 1. We are convinced that the rule relative to screening is entirely satisfactory as it is and that any trouble with blocking is caused entirely by a lack of enforcement of contact rules. We therefore recommend that no change be made in the screening rule.
 - 2. That no change be made in the three second rule.
 - We would like to propose that the committee investigate the possibilities in:
 - 1. Take time out for jump balls and out of bounds balls and shorten the quarters to compensate.
 - 2. Cut 10 inches from the bettem of the backboard and a like amount from the other borders.
 - 3. Since personal fouls are now being called for very minor infractions, allow a player five fouls before disqualifying him.

Report of Questionnaire Committee

The committee directed attention to various phases of the vote and recommendations on the basis of the vote favorable consideration of questions 9, 10 and 11(b).

They also recommend that college games in quarters be sanctioned if by mutual consent and that an attempt be made to help the diving situation.

Univ. of Kansas Daily Pub., Lawrence, Kansas.

This Newspaper
Is Published Each Morning
By and For Students of
Purdue University

Purdue

Boilermaker Netter

TUESDAY

February 8, 1938 Lafayette, Indiana VOL. 49 No. 105

s Sit One Out, 23-13

	W	L	Pts	Op
PURDUE	5	1	231	194
N'western	5	1	206	195
Michigan	4	2	202	176
Ohio State	4	3	269	234
Wisconsin	3	3	240	219
Minnesota	3	3	196	189
Indiana	3	4	273	282
Iowa	2	4	210	234
Illinois	2	5	253	283
Chicago	0	5	158	232

Last Night's Results

PURDUE, 23; Illinois, 13. Indiana, 47; Wisconsin, 44. Ohio State, 36; Chicago, 34. Minnesota, 28; Iowa, 26.

Big Ten Standings Op Purdue Settles Score With Fighting Illini Five

Purdue's netmen last night avenged their defeat at the hands of the Illini earlier in the season by beating the Orange and Blue, 23-13, in one of the strangest encounters ever witnessed in the Fieldhouse. With only one minute gone in the second half and the score at 20-11, the Boilermakers put on a 14 minute stall that kept the capacity crowd of 8,500 howling for action.

Illinois was handicapped by the loss of two of their regulars, Bou- makers pulled up and brought the dreau and Dehner, but they played score to eight all, and in the last Boilermaker Netters a defensive game that was difficult for Purdue to cope with. Dehner's | four baskets and two free throws | (Continued from page 1) lead in the Big Ten individual scoring race was well protected by his teammates, as they held Jewell Young, second place contender in the conference point race, to two total of seven points.

Start Stall

The big stall started right after the second period commenced. With the score at 18-9, Dickinson and Nisbet each sunk a basket. Then Malaska got the ball and he and Anderson proceeded to take life easy tors' scoring. Standing just inside the center line they tossed the ball leisurely back and forth or else just held it. At one point Pat lay down on the floor to rest for a few moments. Ostensibly, the purpose of this time-wasting was to draw out the two tall Illini, Lasater and Hapac, so that the shorter Purdue forwards could get at the basket.

game it looked like Illinois had the hibition of plain and fancy shootedge. Anderson and Young started ing. Standing on the free throw the scoring with a basket and a free line, he dropped in shots one-handed throw, respectively, but Illinois while standing on one foot, while came back with a free toss by Hand- | facing away from the basket, kneellon, and a bucket and two charities ing, and lying down. His blindfold by Hapac to put Illinois ahead, 5-3.

couple of minutes they dropped in while Illinois was scoring only one charity toss to bring the score to 18-9 at the half.

Young Leads Scoring

Since the playing time was cut baskets and three free throws for a | down by the "super-stall" to about j three-quarters of the regular length game, no one stood out particularly in scoring. Young led both teams with seven points, and Sines and Anderson tied for second with five apiece. Nisbet racked up two baskets for four points to lead the visi-

> The sportsmanship of the crowd was excellent throughout the game. Several times the crowd applauded heartily when an Illinois player made a good play. Over 200 fans came from Urbana on a special train to see the fracas.

Hetzel Performs

During the intermission Wilfred Hetzel, nationally famous free-In the first few minutes of the throw artist, gave the crowd an ex-

(Continued on page 3)

shots brought a big applause from the crowd.

The box score	follows:		
Illinois (13)	В.	F.	P.
Hapac, f		2	2
Nisbet, f		0	1
Lasater, c		1	1
Frank, g	0	0	2
Davies, g	0	0	1
Handlon, g	0	2	3
		_	_
Totals	4	5	10
Purdue (23)	В.	F.	P.
Young, f	2	3	0
Sines, f		1	0
Hutt, f	1	0	0
Anderson, c	2	1	2
Malaska, g		0	1
Beretta, g		0	2
Dickinson, g		0	0
Totals	2	5	10

SPORTS ROUNDUP

- by EDDIE BRIETZ

New York, Feb. 23. (A)—Nathan Mann is a good strong kid, but if he lasts longer than six rounds tonight Joe Louis will have gone back plenty . . . Edward F. Rozmarynoski, trainer of the Marquette athletic team is a good sport . . . When on the road with his charges he always earns votes of thanks from hotel clerks by invariably registering as "Rosy" . . . Ellsworth Vines and Fred Perry are making plenty of dough for themselves, but how about their backers? . . . Prof. Billy McCarney, the suave New York fight manager, is shaking hands with himself for getting \$15,000 as Steve Dudas' share for that tune-up with Max Schmeling.

The big town seems to go in for first sackers . . . A few Broadway has turned out are Lou Gehrig of the Yankees: Hank Greenberg, of the Tigers; Buddy Hassett of the Dodgers and Frank McCormick of the Reds . . . Keep your eyes peeled on a basketball player named Don Timmerman on the Wisconsin squad next season . . . He stands 6:10 and can go to town when he gets warmed up . . . Sonja Henie banked almost \$500,000 last year ... Joe Gould will cut in on 25 per cent of all Tommy Farr's earnings except the dough he gets from writing for a British newspaper syndicate... Fillum producers just won't let Maxie Rosenbloom fight for acting in the movies.

Don't be surprised if Stub Allison comes up with another sweet football team at California next fall ... Alabama, which turns out football champions just like that, never had a ring champ until Arthur Fowler won the Southeastern conference featherweight title at New Orleans. . Trotting horses get but one haircut during the racing season ... So wrasslers are dumb, eh? . . . Well, Sam Arlich of the Michigan State squad is the smartest athlete in collitch . . . Every year he comes up with a straight "A" grade . . . Young Stribling's kid brother now stands five feet, ten inches and weighs 175 pounds but they still call him "baby."

Lou Gehrig made a big hit with coast sports writers and almost to a man they're backing him in his salary demands from the Yankees.

Big time pros are boosting Bobby Rosburg, 11-year-old San Francisco kid, as a real comer.

He tours almost any course in the low 80's... Jimmy Johnston, the erstwhile "boy bandit" of Eighth avenue, is in mourning because of

Don Budge's decision not to turn

ACADIA UNIVERSITY

DEPARTMENT OF PHYSICAL EDUCATION

W. T. OSBORNE, B.P.E., M.A.
DIRECTOR

WOLFVILLE, N. S.

February 9, 1938

Them lenny Danne

Mr. Oswald Tower Editor of the Basketball Guide Andover, Massachusetts

Dear Mr. Tower:

Following up our previous correspondence on the type of net used on our baskets here at Acadia, I am enclosing some pictures of the chain baskets for favorable consideration at the next meeting of the Rules Committee.

Yours sincerely,

Encs.

WTO/JWI

CHAIRMAN, L. W. St. JOHN Ohio State University, Columbus, Ohio VICE-CHAIRMAN, H. H. SALMON, JR. 40 Wall St., New York, N. Y.

SECRETARY, H. V. PORTER
11 So. LaSalle St., Chicago, Illinois

TREASURER, FLOYD A. ROWE Board of Education, Cleveland, Ohio

NATIONAL BASKETBALL COMMITTEE of the UNITED STATES AND CANADA

1938 ANNUAL QUESTIONNAIRE

This questi	ionnaire is s	ent annually	to representat	tive	basketball	men in	order th	at their	views	may be	presented	d at
the annual	meeting of	the National	Committee.	The	Committee	will be	grateful	if you	will che	ck these	answers	and
RETURN	THE QUES	TIONNAIRE	PROMPTLY	to.					(

The Committee Member or State Athletic Officer whose name appears above will send all replies received up to March 21st to H. V. Porter, 11 South LaSalle Street, Chicago, Illinois.

PART I. Concerning rule changes made last spring:

- NOTE: Vote yes or no on general principle involved. Suggestions for slight modifications may be made in Part III or on back of sheet.
- 1. Is game without center jump after goal satisfactory? Yes 32 No. 4
- 2. Is rule which legalized "face guarding" satisfactory? Yes. 36 No......
- 3. Is rule which eliminated jumps near sideline satisfactory? Yes. 34 No. 2

PART II. Concerning General Trend of Game:

- 5. Is game too fast for health of players?

 Yes. 8 No. 30.
- 7. At present offensive advantage is (1) about right 28 (2) too small. (3) too great.

PART III. Concerning Rules for 1938-9:

- 9. If (8) should not be adopted, should the 6 foot jump rule apply to end line as well as sideline?
- 10. Would you favor legalizing end lines four feet behind the backboard for those who have the space and inclination to use such markings?

- 11. Concerning Playing and Rest Periods:
 - a. All games (college, etc.) should be in quarters. Yes. 13 No. 24
 - b. Intermission between first two and last two quarters should be two minutes. Yes. 1.8....
 No......
- 12. Concerning rest period after field goals:
 - a. Present rule is satisfactory. Yes. 27...
 No...!.

NOTE: If answer to (a) is yes, do not check (b) below.

- 13. When a player on his knees or prostrate is in possession or control (as in diving) the ball should be blown dead as in held ball. Yes. 10.
- 15. Would you favor entirely removing the three-second lane limitation? Yes. // No. 26.
- 16. If any section of the rules needs improvement, give rule and section number.....
- 17. Reverse side may be used for comments.

QUESTIONNAIRE COMMITTEE

H. D. EDGREN

SAMUEL ROGERS

J. W. St. CLAIR

H. V. PORTER, CHAIRMAN

This questionnaire checked by.....

Location

37 returns 73 questionnaires sent