

By JOHN SHOREY

It all started legendary centuries ago when Narcissus leaned over a pool of water and observed his reflected image for the first time. The fascination of being able to see himself as others saw him led to some serious thinking.

So it seems that the urge to see ourselves as others see us has always evidenced itself in man's makeup. This, no doubt, was a factor which led to the invention of the first box camera. Photography, as a popular hobby, dates back to the introduction of that plain box with the hole in the front that required no focusing, no shutter fidgeting, and no special skill to operate. Then at the close of the 19th century the so-called Armat machine projected the first flickers in the City of New York. Since then all the wonders of the universe have been set in motion. It has only been in the last 25 or 30 years, however, that the movie camera has developed to the extent of taking action pictures in slow motion in order that we might see what actually takes place when an object moves at a high rate of speed.

Before the advent of this specific type of movie camera, we depended entirely up-



Sam Snead pours power into a shot.



John Shorey

on the unsure method of visual observation. With this high speed camera many things were found that the human eye had never seen. And since the eye is selective it missed what only a camera can see.

Movies Analyze Swing

For instance, the many old ideas of hitting a golf ball have been entirely disproven. In our first generation of American golfers, such stars as Johnny McDermott, Fred McLeod, and Gil Nichols believed that the downward motion of the



Camera catches Hogan at impact.

club originated with a "throw" of the clubhead involving the initial use of the hands and wrists.

Obviously capable as they were they promulgated this doctrine, yet at the same time hit the ball with their hands in the same manner the star golfer does today. Could they have observed their wrist action in slow-motion they would have seen, when at the top of the back swing, that the left hip made the initial move—not the hands. The left arm would appear to be pulling on the hands and the club; the wrist action would be delayed until the hands were approximately opposite the wrist. Also, do you recall that the slowmotion pictures showed Bobby Jones well up on both toes at the impact?

Today, thanks to the low-cost home movie equipment, we not only can study the swing of the top-notch golfer, but what I think to be of much more importance, we can see ourselves in action. Thus, many teaching problems can be solved. However,



Movie shows Nelson's compactness . . .

this method is not a cure-all. Like every shiny, new gift, sensory devices may dazzle one into all kinds of wishful thinking. Visual materials must be understood in their relationship to teaching as a whole and to the learning process as a whole. Unless the instructor grasps this relationship, he can scarcely expect to make intelligent or fruitful use of this technique.

It is a common belief that photography, next to printing, has become the greatest of all educational factors. If this medium, through which the most adequate learning is fostered, is so effective, why not make it a part of our teaching method? Those of us who have used this type of instruction realize its value. Inasmuch as the pupil's mind is impressed much more by seeing than by hearing, this method of teaching makes for a surer grasp and realization of significant errors often misinterpreted through the verbal imagery the pro endeavors to create.

Football Use of Movies

It was in my freshman year at college that I first learned the importance of the movie camera in relation to visual instruction. Jim Pixlie, my old football coach, knowing that I was "camera-happy," and also a permanent fixture on the bench, gave me a less hazardous job than trying to upset a 250 pound fullback on the loose. My mission was taking 16 mm. movies of the players in action. Eagerly I went for this because my 135 pounds, which was only a practice dummy anyway, was once and for all time out of danger. Also I was thoroughly convinced that the men on the squad could improve their method of play by carefully watching and studying their actions in slow-motion, half slow-motion and normal speeds.

This, without question, improved that football team. That was the year they upset Auburn 19 to 7. Incidentally, "Tuffy" Leemans, the former New York Giant's great backfield man, was on that 1931 George Washington university squad; Bob Considine wrote the sport column for the university paper, and Al Jolson's son was a cheer leader.

Many people are frightened away from this fascinating field of pictorial instruction because they believe a moving picture camera to be a complicated device, and that a series of complex and intricate accessories are essential. This is not the



... and hip rotation.

case. A great deal of good and serious work can be accomplished with simple and ordinary photographic devices. As in any other specialized branch of photography, it is neither the expense nor the design of the equipment that counts—it is the intelligence with which the materials on hand are used. Some of the best results are often obtained with the simplest equipment. Simplicity of materials and operation are the best guides to obtain effective results.

Anyone can project the finished picture on the screen, but some careful thought must go into the making of this film, and also as to the type of camera and film needed for this specific purpose. First of all, the essential equipment must be purchased, and secondly, a definite method of handling it must be learned.

Movie Equipment for Pro

Before purchasing your materials you must definitely know your needs. Other-

wise you may come out of the camera shop with enough gadgets to set up another studio in Hollywood. It is only natural that the photographic salesman will endeavor to sell you everything from a series of filters to a telephoto lens.

Those of us who are familiar with movie devices will agree that any standard 16 mm. camera with at least three speeds and an f/3.5 lens will serve the purpose. A camera, such as the Cinklox model 35 can be purchased for approximately \$75.00. The projector is of little value unless it is equipped with a device to stop the film on the screen in order that a certain slowmotion strip can be analyzed. The Keystone 160-16 mm. has this feature and can be purchased at Willoughleys in New York for \$119.50.

In addition to our camera and projector we must purchase a screen. This will not be in excess of \$15.00. Another one of our problems is choosing the proper film. As many of our shots will be taken in slowmotion, it is absolutely necessary that we use a fast film such as Eastman Super XX or its equivalent. This type of film captures the image quickly, giving us a clear, sharp, detailed picture. The cost of this film ranges from \$4 to \$6 per 100 ft.

If a slower film is used the subject will be blurred. Of course the slower film should be used when taking the picture at normal speeds. The professional photographer prefers to put speed in the lens, but we amateurs will find it safer and more economical to buy the film with the speed already there.

After you have familiarized yourself with your camera, you will find that 25 feet is sufficient to make a series of pictures of your pupil. It is best to take the first few shots at normal speeds so that the subject can see his swing as it actually is; then take the slow-motion shots at all angles—front, rear, and right and left side. You should know the number of waggles the pupil makes before you start the camera. There is no use wasting film on the preliminaries that lead up to the actual stroke.

Before taking the picture, be sure your subject is standing between the camera and some stationary object such as a tree,

EVERYBODY LEARNS TO PLAY GOLF



Alex McKay noticed at Holston Hills GC, Knoxville, that there were too many non-golfers in the families of the club's members. Other pros will see that too as they observe the number of women who play cards and eat at the club but who don't play golf, and the number of non-golfing youngsters brought out to the club for meals.

So Alex has made a big thing of his free class lessons for women and children. After they know enough about the game to be eager to play Alex gets paid off for the free lesson time in the sale of equipment. He starts them with good open sets of clubs so the first cost won't discourage them or have them putting the bite too strong on Daddy. post, or house, so as to determine any improper movements of the head or body. And, too, should you be inclined to be a little more technical, you can make chalk lines on the ground with a lime marker which will indicate the actual arc of the club-head on its backward and forward motion. Experimenting with inexpensive film will, of course, save the beginner a lot of high-priced film in the long run.

For Slow Motion Analysis

It must be remembered that when taking your picture in slow-motion the film races through your camera 64 frames per second, which is four times the normal speed. Therefore, the lens must be opened one to two full stops to prevent underexposure. At this speed the camera approaches the slow-motion so often seen in the theatrical sport subjects. "Approaches" is used advisably, since professional slow-motion pictures are made with special cameras, and at somewhat higher speeds than most amateur cameras will operate. Yet, even 64 frames actually stretches one action second into four visual seconds, and is adequate for nearly all, if not all, the amateur requirements.

After you have finished the task of making the pictures of your pupil's swing, and the processing has been completed and ready for projection it would be wise to view these films yourself before showing them publicly. Should you have a few bad shots they can be cut out with your \$6.50 splicer. Also, while doing this you may, if you think it necessary, supplement a slowmotion of Nelson or Hogan by way of comparison.

You will find that there are not so many problems in this type of photography. It can be simplified by studying the photography magazines and books on the subject, but most of all by experience with a dash of common sense and intelligence. Remember, all the necessary equipment for your visual instruction has been mentioned in this article. Of course as time goes by and you become a par photographer, then you can add to your equipment—increased knowledge necessitates additional devices.

The possibilities of the professional golfer being a good amateur photographer are almost endless. He can develop his own technique, create interest, and actually prove the statement that the picture, if used properly, is superior to the spoken word. In exercising his initiative the professional golfer has advanced a step up the ladder in his profession.

National Caddie Championship, Columbus, O., Aug. 23-27

Sponsored by newspapers, golf associations, city recreation depts., private golf clubs and individuals all over the U.S., the Third Annual National Caddie Championship gets under way Aug. 23 at the Ohio State University golf course, Columbus, O. Winner of the tournament will receive a four-year scholarship (\$1,500) to any school of his choice. The runner-up will receive a suitable award and a two-year scholarship (\$750). Merchandise awards will be given to other winners.

To be eligible, entrants must be bona fide caddies under 18 and approved by the golf professional at his home club. There is no entry fee and entertainment and partial expenses are provided by the National Caddie Assn. Entry blanks must be obtained from E. Hugh Davis, Executive Director, N.C.A., Room 232, City Hall, Columbus, O.



Some of the Minnesota pros and peddlers gather outside Cooke Hall, University of Minnesota, between sessions of the Minnesota PGA's annual spring business clinic.