

THREE SECONDS FROM DEATH!

POPULAR MECHANICS

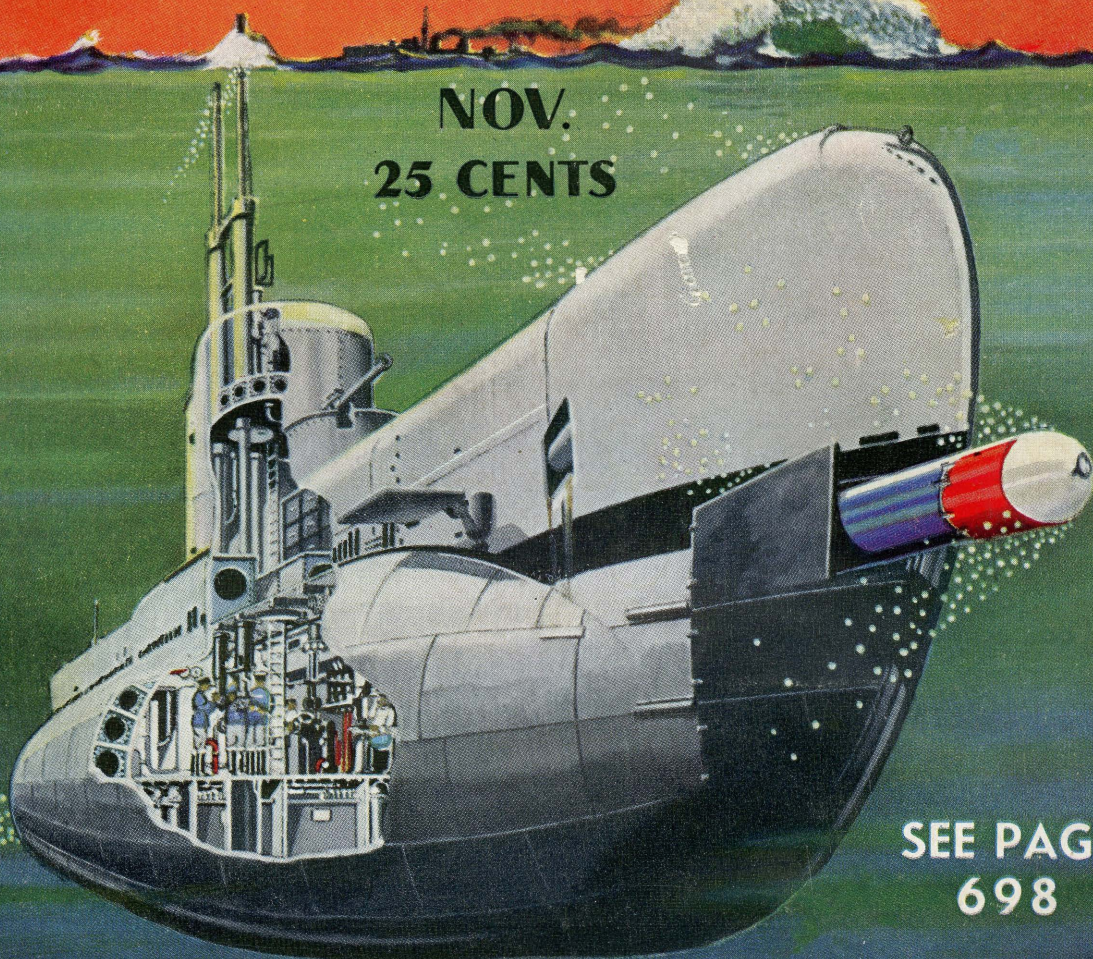
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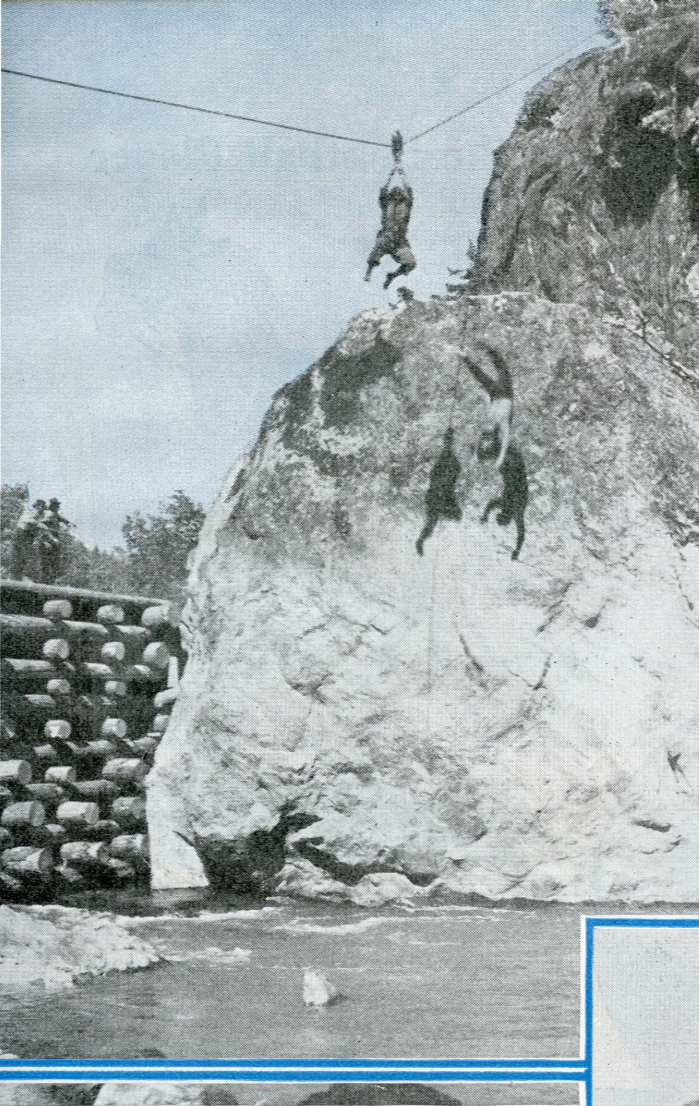
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DON'T PITY THE POOR ESKIMO

THREE

of the stunt men. He has been called by Warner Brothers to do two stunts for \$1,200 in the picture, "The Valley of the Giants." Each stunt will take about a minute and will be flashed on the screen for a few seconds. One is a cable swing and a bump, the other a "Brodie," or fall.

In a fight scene, where a lumber crew attacks the guards and blows up a dam, Cliff's job is to "bump" a guard stationed on top of a big boulder at the water's edge. To accomplish this, a cable is stretched from the top of a rock to the ground at the far side of the river, passing about eight feet above the rock on which the guard is standing.



A spectacular leap with Cliff Lyons, Hollywood stunt man, in the saddle. Top, "bumping" man from boulder requires perfect timing

THERE are seventeen men and six women in Hollywood who live entirely by seconds, seldom being more than a count of three from disaster while working. Among the highest paid individuals in the world per employed minute, they are seen daily by millions, yet are unknown except to friends and fellow workers.

This little group composes the "stunters" of the movies. Their job is to manufacture thrills—to cash in on hairbreadth escapes.

In their work, a second generally spells the difference between safety and tragedy. "Timing" is their religion. They work entirely by count, a count that becomes almost subconscious with them, but which, if they forget it, may mean death.

Let's go on location with Cliff Lyons, one

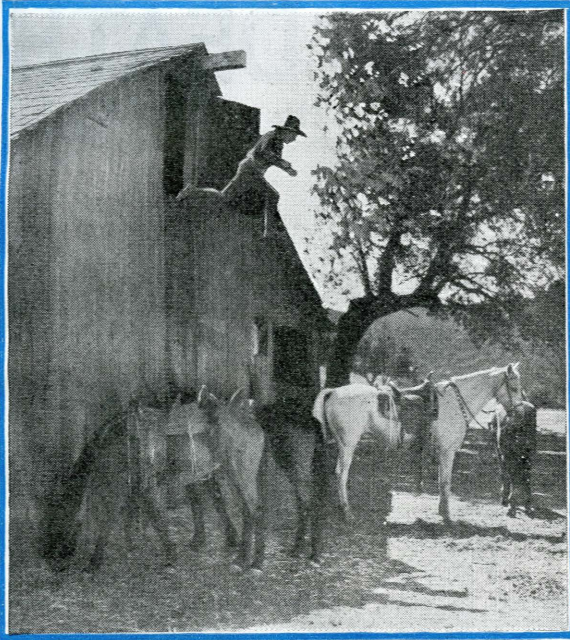
SECONDS *from* DEATH



Traveling by pulley, Cliff is to sweep down from the larger rock, dump the guard into the river and continue across the water. But what will happen when Lyons reaches the end of his improvised speedway? Traveling down a forty-five degree angle he has every prospect of reaching the ground at eighty to ninety miles an hour. That is where the special effects department of the studio comes in.

"I don't think there is anything a major studio won't do to protect stunt men," explains Lyons. "They will build any sort of gadget you want. A piano wire "hold-back" was attached to the pulley I was to ride, and wound around a drum with a brake on it. This wire could be unreel-

Ione Reed, motion-picture stunt girl, as she was attacked by an unruly lion and, bottom, wrapped in the trunk of an elephant



at any speed desired. And as a secondary safety, they spliced a heavy wire into the cable about fifteen feet from the ground. This wire slanted upward, so no matter how fast the pulley was traveling, the tension of the separated cables would bring it to a gradual stop."

But how about the fellow who was to be bumped? The script said the attacker was to kick him in the back with both feet. The speed of Cliff's descent, plus the force of a two-footed kick, could break his back. The answer is "timing," working by seconds and split seconds.

Three trial slides established the elapsed

count required to put Lyons over the spot where his victim was to stand. The same time, in counts, was used by the man on the rock to get himself ready to plunge into the water at the slightest touch. This permitted him, when Cliff called just before kicking, to relax and give way as the feet struck.

"Whether it's bulldogging steers, taking riders out of saddles, tipping stage coaches, doing plane stunts, crashing automobiles or going through a fist fight, timing is everything," says Lyons. "If one fellow gets out of time in a fast fight before the camera, somebody is going to get hurt—and half a second spells the difference between a smooth scene and a broken nose."

Leaping from trees and roofs into saddles and upon passing automobiles calls for split-second timing. Misjudging the position of

a horse by inches in such a leap is liable to end a "stunter's" career. Ione Reed, one of the best known stunt women, almost lost her life because a scene was not timed.

"The scene," she relates, "called for three of us to jump off a moving freight in the path of an oncoming passenger train. We were to run forward along the tops of the cars, climb down, jump off and scurry across the tracks in front of the approaching locomotive. Had we rehearsed and timed it, all would have been simple. But it looked too easy. And it would have been, if the two who jumped first had given me sufficient time. But they didn't and



Getting off the seat and on front axle just as wagon cracks up takes quick thinking and good muscles. Top, Cliff Lyons takes a short cut to land in the saddle

I had no time to climb down to the bottom step, but had to jump while half way up the side of the car I fell and rolled off the track. The locomotive was so close I felt the rush of the passing wheels.

"Another time, while doubling for Gracie Allen in a scene involving riding the back of a bear that is climbing a tree, a slip in timing gave me an embarrassing moment. The bear was going up the tree, after hot cakes the trainer was holding. I climbed on his back and the wire from my belt to the catwalk overhead was supposed to carry most of my weight. But the operator of my line wasn't in step with the bear, and soon my full weight was on his back. This interfered with his progress toward lunch and he turned to give me a nip.

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Top, a trusting stunt woman and an elephant. Bottom, left, stunt man doing dangerous fall. Center, a lion turns on a stunt performer. Right, a fall requiring perfect timing

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and without it the modern high compression engine would be impossible.

The chemist has also developed anti-oxidants for gasoline to inhibit the formation of gums which result in clogging the motor and fuel lines. But that is not all. Chemistry has, in effect, doubled our oil reserves as far as gasoline is concerned, because, by the operation known as "cracking," the amount of gasoline obtained from a given crude is double that formerly obtained by straight distillation. Furthermore, cracked gasoline has a higher octane rating, that is, less tendency to "knock," but it is less stable than straight-run gas unless refined by methods which tend to destroy its high octane value. Here the chemist has stepped into the picture again with stabilizing agents which, without influencing the good anti-knock properties of cracked gasoline, prevent the formation of gums which clog the fuel lines.

More recently, the chemist has given automobile owners improved lubricants and also what are known as extreme pressure lubricant bases which, when added to an oil or grease, make it possible for bearings and gears to withstand much higher pressure without actually touching and possibly "seizing." Extreme pressure lubricant bases have made possible the use of silent-action hypoid gears because the peculiar frictional forces in such gears would quickly squeeze out the film of any ordi-

nary oil, leaving the metal surfaces in direct contact.

Nor do the contributions of chemistry to your car stop with oils and fuels. Safety glass consists of two layers of glass welded together sandwichlike by an interlayer of cellulose plastic—a product of the chemist. Chemical research has produced the molded plastics for steering wheels, gear shifts and door-handle knobs, ash trays, cigar lighters, window trim and dash panels. Man-made fabrics have been developed by the chemist for the automobile industry—such things as tire covers, curtains, upholstery for open cars and trucks, fender welting, trunk and deck materials, cushions and tool bags. These man-made fabrics have been designed to stand all kinds of weather and wear on the road—demands which leather and ordinary cloths could not meet.

The acid in your battery, the anti-freeze solution in your radiator, the polish and cleaner you use on the finish—chemistry has developed them all.

The automobile has been described as a chemical factory on wheels, a factory which takes gasoline, the raw product, and converts it into power to move the rear wheels. But the modern car is more than a chemical factory on wheels. It is an outstanding example of chemical magic, a product of chemical research from bumper to bumper

Three Seconds from Death

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I let go and fell backward, expecting to be brought up by the wire. But the man above was out of step and I hit the stage floor with a jolt."

Letting a stunt man work out every detail of his "action" is an unwritten law in a studio, and failing to keep in time in such instances is unforgivable. Lyons once was called upon to drive north on a road paralleling a double-track railroad. He was to race a passenger train, also going north, and beat it to the crossing. Immediately after he crossed in front of this train, another train, traveling south, was to pass the north-bound train at the crossing.

Cliff and the director worked out the timing and rehearsed it with the trains. But an assistant director decided that if

the engineer from the south stepped his speed from twenty to thirty miles an hour, it would still give Lyons time to beat him and would make the race look better

He probably thought Lyons would just step on the gas. But to get his timing right, the stunt man traveled by watch and speedometer—not by keeping his eyes on the train. So instead of beating the train, he tied it. He made the turn to cross the tracks when he saw the engine bearing down.

With a whirl of his wheel, he headed down the railroad—between the two tracks. But now he was driving toward the south-bound train, less than 300 feet away. To jump one way would put him

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under the wheels of the train by his side. To jump the other would hurl him in the path of the approaching train. To stay in the car would be suicide.

"Grab a car window," Lyons yelled to a companion, who was doubling for a girl in the picture. "Get out of this!"

He held the bouncing automobile beside the train while his companion pulled himself out of danger. Then it was Cliff's turn. How he got from under that wheel, smashed a closed window of the railway car and jerked himself out of that trap, he doesn't know yet. But his feet left the seat of the automobile just as the trains met. There was a grinding crash—and the two trains rolled the light car between them.

That was perhaps the most spectacular stunt ever filmed, and would have been worth much to the studio—except for one



Timing of the leap from the horse to the wagon is all important in this scene

thing. When they saw the car between the trains and coming their way, director, assistant director and camera crew ran. The camera was smashed and not an inch of the film was salvaged. The whole thing was a total loss because of interference. Such interference, however, doesn't crop up once in a thousand stunts.

In the runaway scene in, "In Old Chicago," where the father of the O'Learys is killed, Fox built a complicated device that pulled the pins to release the tongue from the wagon, and send the horses away, dragging Cliff after them. Ordinarily a tongue is released when wooden pins that hold it are broken by driving the wagon into a bump. Fox, however, devised a gun-like release in which a dynamite cartridge exploded and threw a lever which automatically pulled the pins.

"All I had to do," boasted Lyons, "was to touch a button and the whole thing was set off electrically. They even made a light steel sliding plate that fastened along my chest and stomach, so I could be dragged along the ground without injury."

"Unexpected quirks in the disposition of animals are the most dangerous elements in our calling," Ione Reed says. "Nobody ever knows exactly what an animal is going to do. And that goes for the meekest old saddle horse in Hollywood. The time a trained lion turned on me, ripped my leather coat, nipped me and then pulled me down with him, I faced no worse possibilities than when my gentle little pinto suddenly went cold-jawed and started to smash me against some big rocks. In the first case, the trainer reached us before the lion started chewing. In the other, when my pinto was headed, apparently crazy, straight for two enormous boulders, nothing but good luck saved me. Just as he reached the rocks he wheeled, whirling me from the saddle. Somehow, I was able to ward myself off the rock and bounce back in the saddle again.

"But if you want a really interesting story, ask Cliff about the haircut he got when he bulldogged the steer."

"Oh, that," Cliff grinned. "Because it was done on a stage, the steer was pretty wild and we didn't have much room to prance about. So when I threw him, I found myself on the ground in front of him, with the side of the arena about four inches behind me. He was down, but I didn't have room to twist him off his knees. Also I didn't have room to jump back.

"I called to the men on the stage to take him when I let go. But when I released his horns he began hooking. So I flattened out, trying to burrow into the dirt on the floor. Then I saw the steer twist down and whisk a piece of paper off the floor. He could certainly use those horns.

"I flattened closer to the floor and closed my eyes as I saw his head twist again. I felt a little sting on my ear and something brush my hair. How long I lay there, with him over me, I don't know. But finally they got him away. A bit of skin was taken off my ear and a rough path was cut through my hair above the ear. The hair wasn't pulled out, it was cut—ragged and uneven, but cut."