



FROZEN CONTROLS

by FRANK RICHARDSON PIERCE

“Rusty” Wade makes a momentous decision and leaps into space forty thousand feet above the earth.

AS “RUSTY” WADE BROUGHT the Air Musher to a three-point landing on Boeing Field, he breathed a sigh of relief. An ambulance was waiting. He leaped to the ground and motioned the stretcher bearers to the plane.

“The patient stood the trip down from Alaska,” Rusty said, “it’s now up to you!”

Rusty appeared to be on the verge of exhaustion. Behind him lay another adventure—common enough in the North. It was the story of a man, crushed by a boulder, at a remote mine. Rusty had managed to find the mine after fifteen hours’ constant flying in his Sea Scout. He had carried the injured man to Gold Poke and there made a transfer to his cabined *Air Musher* because of its greater comfort and cruising radius. Without stopping for rest he had then flown to Seattle.

“There’s a bunch of newspaper photographers and reporters waiting for you, Mr. Wade,” the ambulance driver remarked. “They’ve published a lot about your race with death and now they want a picture of you and your story.”

“Heck!” Rusty groaned. “I don’t mind telling them the story of some gold stampede or adventure at sea with a plane, but when it comes to helping out some poor cuss—that’s different. I’m no hero, you know.”

But newspaper men have a method of winning out. In the midst of the transfer from plane to ambulance, cameras clicked. In a few brief words—mighty brief—Rusty gave details of the flight.

He admitted he was sleepy, but not too sleepy to take in a couple of photoplays in Seattle’s theater district. With that he was off, knowing the *Air Musher* would be well serviced by personal friends among the mechanics at the field.

Having declined a half dozen offers to ride uptown, Rusty was legging it for the street car when a familiar figure passed.

“Hey!” Rusty cracked out a combined greeting and command to halt. “What’s the idea of giving a fellow the cold shoulder, Steve? What’s your big hurry, anyway?”

Steve Branleigh stopped. “Oh, hello, Rusty. I—I—didn’t see you.” He appeared uneasy, as if seeking to avoid the lanky Alaskan pilot.

“If you don’t pay more attention to your surroundings than that,” Rusty predicted good-naturedly, “you’re due for a crash.”

Steve flushed and shot Rusty a queer look. “Had something on my mind, I guess,” he blurted. “See you brought that injured man down safely? Where you heading for?”

“Street car, Steve!”

“Why don’t you grab a taxi?”

“Well,” Rusty explained, with a slight flush on his face, “we don’t have street cars in Alaska and I get a thrill out of them. S’long!”

Rusty swung on toward the car line. “Queer about Steve Branleigh,” he muttered, “mighty queer. He acts like a man who’d either lost his nerve, turned yellow, or both.”

AS RUSTY passed through the field gate a car came to an abrupt stop with a screaming of brakes. A hearty voice called out: “Rusty Wade, you air tramp, Heaven sent you to me! Pile in here while we talk things over. This is one time you’re not going take off on a street car. Briefly, Rusty, the plot’s this—”

“Before you start in on whatever it is,” Rusty interrupted, “suppose you tell me what’s wrong with Steve Branleigh?”

Rusty’s friend, Channing Conrad, the owner of the hearty voice, shot him a quick look. “What do you know about Steve?” he demanded. “Has the story of Steve’s downfall reached Alaska?”

“No,” Rusty answered; “didn’t know that he had had a downfall, but he acted queer when we met just now. He claimed he didn’t see me, but I’m sure he saw me and tried to pass me up.”

“He probably did, Rusty,” Channing Conrad answered. “Steve’s yellow.”

“Bunk!” snorted, Rusty with his usual loyalty to a friend. “Steve’s made his mistakes, but he’s as game as they make ’em.”

“I used to think so,” Conrad returned as they drove

rapidly through the Georgetown district, “and it cost me a new plane—the *ECX2*.”

Rusty whistled in amazement. There were few better aircraft designers in the country than Channing Conrad. He was usually two hops ahead of the field. With the *ECX2*, Rusty knew that Conrad had hoped to break all existing altitude records. And so Steve had cracked up Conrad’s pet plane? “How did it happen, Chan?” Rusty inquired. He still did not believe Steve was yellow.

“As you know, I expected great things of the *ECX2*. Steve was my test pilot. We tested it out at thirty-five thousand feet; made some adjustments, then started out for the altitude record. What happened up there, far beyond the vision of those on earth, will never be known. Steve disappeared into the blue and we waited. Four hours later he was on the wire. He had a queer yarn about the controls freezing so he could not descend. He claimed he went so high he passed out, and the next thing he knew was falling. Unable to gain control of the plane, he jumped; the chute opened and he came down near Tolt. The plane was found later in a mountain lake. It was fished out and the controls were found in perfect condition. But get this, the throttle was wide open and the supercharger controls in the extreme forward position—indicating he had never shut off. He claims the controls froze in this position. But the wreckage indicated otherwise.”

“Mighty queer,” Rusty admitted, “mighty queer, but, still I’ve seen old Steve under fire too many times. I don’t believe he’s yellow. There’s some answer to it.”

“Steve can’t give it; nor any one else I’ve met so far. Since then Steve’s kept out of the picture—he’s through. He avoids his former friends and they are just as well pleased that he does. And that brings me to you, Rusty.”

“Shoot!”

“Ever hear of the Mott Shaw Foundation?”

“An organization devoted to star gazing, isn’t it?” Rusty answered.

“Yes! That’s one way of putting it. It is the leading foundation of its kind. I have been dickering with them to photograph the coming eclipse of the sun at an elevation of forty thousand feet. Every manufacturer in the country is after the job. The plane that turns the trick is made. I had the inside track until Steve blew things. If we’d have established an altitude record it would have been a cinch. Now—well I’ve an outside chance. You can help, Rusty.”

“How?”

“By agreeing to be one of the two men at the controls if we get the job!” Rusty was eager to return North, and so he hesitated. “It’ll mean fame, Rusty,” Channing Conrad urged.

“Fame’s a fleeting thing,” Rusty said thoughtfully, “and it don’t interest me. I’d rather make a new friend than have a wagon load of fame.”

“I don’t see how you can make a new friend,” the other answered, “but you can sure help out an old friend. I can’t fly her myself that high—bum heart. How about it, Rusty? Photographs of the sun’s eclipse at that altitude are important. You’ll be doing mankind a real service.”

“I’ll think about it,” Rusty promised. “There are other pilots who can turn the trick as well, or better than I can.”

“Huh,” Conrad grunted. “You’re used to below-zero flying and you understand aerial photography. You did a bunch of it in Alaska.”

“I’ll let you know,” Rusty promised. He did not attend any theaters that night. Instead he got Steve Branleigh into a corner and heard his story first hand. Steve spoke haltingly at first, his voice tense with emotion and his eyes downcast.

“You’re the first bird who’s acted as if he halfway believed me,” Steve blurted, then the story came, what there was of it, and there was not much. In the extreme forward position the controls appeared to freeze. “And she climbed because she couldn’t do anything else,” Steve concluded, “and then my oxygen got low and I passed out.”

He paused and pressed his fingers against his eyes as if trying to visualize what had happened during the unconscious period. “Then I came to. My safety strap was holding me. I tried to crawl back into the plane. My arms were too numb. I next cut loose and the chute opened. Came down in the timber back of Tolt.”

“Why didn’t you jump before you passed out?” Rusty asked.

“Naturally I had to stick to the ship,” Steve answered quietly.

“Naturally,” Rusty agreed.

THE following day Rusty managed to dodge Conrad for nearly an hour, then the designer ran him to earth. “Been looking everywhere for you, Rusty. Got a wire from the Foundation people. If you’ll go up they’ll give my plane its big chance. What do you say?”

“I’ll go!”

“Three rousing cheers!” yelled Conrad.

“Just a moment,” Rusty said, “you haven’t heard my terms.”

“Make any old terms you want to,” Conrad answered recklessly. “With you in command, the job’s done.”

“No, it isn’t! We don’t know what’s going to happen above forty thousand feet elevation. Now, listen; my terms are these: I pick my own partner in this flight.”

“Of course. Any man you say. Got some one in mind?”

“Yes, Steve Branleigh!”

“What! Steve Branleigh?”

“Steve Branleigh!” Rusty repeated firmly.

“That yellow dog! Listen, Rusty, friendship is a beautiful thing, but you run it into the ground at times. Because Steve’s your friend you’re willing to risk your life. Up there you’re going to need a man you can rely on, a man of experience.”

“Steve’s had the experience. He was up, old sport. And there’s another angle you’ve overlooked. Steve stuck to the ship that time—stuck long after many another man would have quit. He only quit when he had to. Don’t forget that!”

“So he says,” Conrad spoke with feeling. “He lost me my chance to establish a world’s altitude record. Blew it. Lost his head. He’ll never pilot another craft for me. He’s out, Rusty.”

“Then,” said Rusty, “the stuff’s off! I’m going back to Alaska and I’m going to take Steve along as a relief pilot.

My air business is growing. No hard feelings, old sport.”

A period of silence followed. Conrad shrugged his shoulders in a gesture of defeat. “Will you meet me halfway, Rusty, on this?”

“If it includes Steve, I will.”

“Then you’re to sit behind Steve and take the pictures. You’re to have a spanner ready, and if he turns yellow again you’re to let him have it and take the controls yourself—I’ll fit the ship with dual controls.”

“O.K., Channing!” Rusty returned. “Now I’ll break the news to Steve. He don’t know it yet!”

Channing Conrad watched Rusty swing down the street with long strides. “The nervy son of a gun,” he growled, “he knew I’d come to his terms. And why shouldn’t I? He’s taking the risk. But confound that man Branleigh.”

RUSTY found Steve alone. He usually was. His attitude was one of grim defiance these days. Steve did not smile as Rusty greeted him, but spoke first. “Hear

you're taking Conrad's special job up to shoot the eclipse."

"News travels fast."

"Conrad figured you couldn't resist, I suppose. You're a lucky dog, Rusty. But watch your step, old sport. Planes are made on the ground and conditions are different above forty thousand feet. There's nobody to tell you what to expect. It'll be a two-man job, so pick the other fellow with care. Your life will be in his hands, and his in yours."

"I've picked my man already," Rusty answered.

"Who?"

"You, Steve!"

"Me?" Steve swallowed hard, then set his jaws to control his emotion. Slowly the tears came from his eyes and slipped down his cheeks.

"Gad! Rusty. You did it for me. I know you. I only hope I can die for you some time."

"Suppose you live for me," Rusty suggested; "you wouldn't be much help to me dead."

Steve nodded. His mind was forty thousand feet or more in the air.

"One thing is certain," he said more to himself than to Rusty, "if that plane crashes, I crash with it." And Rusty knew that Steve was determined to live or die with the plane.

That afternoon the pair met Professor Bullard. The professor studied the heavens nights and slept daytimes. Almost reverently he opened a case containing the specially designed cameras for the work.

"It will be necessary for you to make several practice flights," he informed them, "in order that you may thoroughly understand the operation of the cameras. It is well that both of you learn in case—er—ah—one of you should pass out at the high altitude. So many things can happen when the air becomes thin."

"He's a comforting old bird," Rusty whispered to Steve.

"Yeah," Steve agreed grimly, "but he's right. I've been up there—I know."

"I want to impress on your minds, young gentlemen, that the pictures of the eclipse, if successful, are of more importance to the world than the lives of either or both of you. A soldier dying on the battlefield in a just cause could not possibly contribute more to his country than you two boys dying in an effort to obtain these photographs."

"I think we understand," Rusty replied as they prepared for the first test. As the professor moved

away, Rusty turned to Steve. "The old boy has got me in a mood where I'd like to get off in a corner and mutter about coffins and shrouds."

AGAIN practice led to perfection.

Two days before the eclipse even the professor was satisfied with the negatives they turned in. Fortunately for the professor's peace of mind, he did not hear the remarks among the pilots and mechanics gathered to watch the take-off on the great day. One of them summed it up:

"Rusty taking up that quitter. Huh! Either he's a fool or else he thinks he's as good as two men—and nobody ever accused Rusty of being conceited." Rusty and Steve looked more like monsters from some strange land than capable American pilots. The plane itself was of unusual construction. The wings were larger than the conventional high-ceilinged plane. Construction had been lightened until the craft was almost flimsy. Ounces would count as pounds at that high altitude. At low altitude it flew like a barn door.

Rusty had resorted to an Eskimo trick and smeared his face and shoulders with seal oil as protection against the cold. Fur-lined flying suits, electrically heated; heavily padded helmets; electrically heated gloves; parachutes and oxygen masks on their nostrils and mouth.

Flights in sub-zero weather in the North had frosted Rusty's goggles so many times that he had designed an electrically heated pair. At high altitude the penalty for the removal of goggles is frosted eyeballs—agony.

As they were about to take off, Conrad climbed up and whispered final warning in Rusty's ear:

"Keep an eye on that fellow, Rusty. We don't want any more queer tales of frozen controls. It's up to you to redeem our failure to grab that altitude record. Two birds with one stone, old kid, the pictures and a new altitude record. No frozen controls and no alibis." "There's be no alibis," Rusty answered, "and that goes for both of us. S'long. Will see you later."

NOW at twenty-five thousand feet!" The words came from Steve by headphone to Rusty.

"Check!" Rusty answered. Thus far he had piloted the craft. "Take the controls, Steve. It's your job. I'm watching the cameras and the sun." The day was perfect. Far below lay the blue of Puget Sound, edged by the dark green of the forests. There was no sign of the eclipse. Rusty noted the throttle control and the

supercharger control were in the extreme forward position. They were climbing with the motor wide open.

In the next thousand feet climb, Rusty saw Steve gingerly test the controls. Finding they had not frozen he shook his head doubtfully. "Beats the deuce," he muttered, "maybe I went crazy up there—that time."

Rusty recalled his instructions. "If Steve loses his nerve, bang him over the head and bring the ship down." Then there were Professor Bullard's instructions: "The negatives are more important to mankind than your lives—give them first consideration."

"Forty thousand feet!"

The altitude was affecting them. Rusty found that his mind did not react as quickly to situations. His movements were slower and required greater effort. Almost in a daze he wondered if this condition had not been the cause of Steve's trouble. He glanced at the instrument board clock. Oh, yes! Now he remembered. He was to begin to operate the cameras now. Eclipses come on schedule time. Bullard had instructed him when to commence.

The motion-picture camera began to whine. The still camera began to click as the films were exposed at regular intervals.

"Rusty!"

The note of alarm in Steve's voice crashed against Rusty's ears and registered on a brain dulled by lack of atmospheric pressure.

"Rusty! The controls have frozen!"

"Yeah?" Rusty felt a stab of curiosity, not unmixed with worry. Then came a rush of satisfaction. His confidence in Steve was proven. Proven to him, but not to the thousands on the ground far below them.

"Yeah, Rusty!" Deadly cool was Steve, and Rusty thought, somewhat elated. "Wait'll the eclipse is over!"

The earth's shadow passed over the face of the sun, then on into space. The momentarily darkened world below them grew brighter, then once more sparkled. Rusty gripped the controls for the first time. "Take 'em and see if you can do anything with 'em! Or—am I balmy?" asked Steve.

"They're frozen!" Rusty answered through clenched teeth.

Almost viciously he fought back the daze stealing over him. It was maddening not to have his mind clear and quick. He was thinking lie did not care.

WITH the throttle in the extreme forward position and frozen, they were in the situation of being unable

to descend. Rusty turned to the supercharger. If he could cut this out they would at least stop climbing and perhaps he could figure it out. They were now within a hundred feet of the world's record.

"How about cutting the switches, Rusty?"

"No! With the motor off, the water in the water jackets will freeze. Freeze! Freeze!" He muttered the words. "Steve! I got it! What happened to you, has happened again. The extreme cold has shrunk the metal parts of the controls."

"That's it, Rusty!"

Man could build motors to function at low atmospheric pressure, but he could not, as yet, build himself to function perfectly. It was not to Steve's discredit that he failed to detect the cause. Man is inclined to share peril better with others than alone.

Rusty growled at his slow-functioning brain. "We can't go on climbing forever," he muttered, "when the fuel runs out, we come down. And no way of flying to a landing field."

"Rusty! You'd better take to the chute and save yourself," came Steve's voice.

"Nothing doing, Steve. Two minds may see this through yet. The altitude is getting us both."

"Jump, Rusty! Remember the eclipse films!"

"I never did agree with Bullard that they were more important than human lives."

There was silence. Each man was thinking; wondering how to beat this strange situation.

"Look, Rusty, we're within reach of the world's record. Listen, Rusty. You gave me a break in taking me up. Give me another. Jump and there'll be that much less weight to carry. She'll break the record. After that—well, old kid, there won't be so much weight to help tear off the wings if I dive earthward. And, Rusty, there'll be some one to tell the world I'm not—yellow. I tried to think I didn't care what the world thought; that I knew what I was, but I was only kidding myself. It hurt. I don't want cheers nor jeers in this life—I want the respect of my fellows."

"Steve! That argument wins. You get your break." Rusty stowed the film magazine in a case and belted it around his body. He reached over and punched Steve in the back.

"S'long, kid. See you later."

Then, jerking the headphone clear, Rusty dived into the thin atmosphere. No longer heated, his goggles glazed instantly. He pulled the rip cord and after an eternity felt the jerk as the chute opened.

Long he waited, then gingerly tested the temperature

with his bare hand. It was cold, but safe enough. He pulled back his goggles and looked about.

Seattle was below him, but he knew he would never land there. A breeze was carrying him northward. "I'll miss the Sound, though," he said with relief. Standing timber was bad enough to land in, but Puget Sound is worse at any season of the year.

He removed his helmet and listened briefly. The roar of the plane came steadily. Steve was climbing—climbing to glory or death.

A motor car saw the descending parachute and followed it from the Pacific Highway to a gravel road and finally came to a stop. Rusty Wade was just freeing himself from his flying suit.

"Get me to Boeing Field quick," he pleaded.

"I know all about you," the other answered; "you're either Wade or Branleigh?"

"I'm Wade. Branleigh is still up."

SOME one saw the speeding car and guessed the truth. As Rusty arrived at the field a thunder of applause greeted him.

"Have you got the films?" Bullard inquired.

"Yeah! And here they are. The rest of you people save your cheers for Steve Branleigh. His controls did freeze that other time. The extreme cold shrunk the metal." As silence swept through the gathering, he added. "And the man some of you call yellow is up there right now, with controls frozen in the extreme forward position—after a world's altitude record. And he's got it. But he hasn't come down yet."

Even as he finished speaking, the crowd heard something that the experienced flyers understood—the roar of a racing motor. Steve Branleigh had thrown the plane into a dive.

"The wings will never stand it," Conrad groaned.

"There he's cut off. Or—or—what? Rusty? What?" The designer turned to Rusty.

"He must be down pretty well or he wouldn't have cut off. He knows he'll freeze the water jackets if that motor is off too long. There he goes again."

The explosive roar of a motor, thrown wide open, came down.

For twenty minutes it continued. Then they saw him—diving with motor cut off, then climbing as the motor went on with that explosive roar.

Abruptly the thunder stopped. Steve slid down an invisible air trail that ended near the opposite end of the field. The plane struck, bounded high into air and struck again. It came to a crazy stop.

Conrad and the others led the crowd that swarmed around the machine. Steve Branleigh looked calmly down on the men who had condemned him.

"Your machine, Conrad, now has the altitude record." He wanted to push his way through them, as he had done in the past, and join Rusty Wade, standing alone—Rusty Wade, an ace pilot, who understood men.

But these men who had condemned him now wanted to square themselves. They weren't trying to alibi themselves out of it, but were admitting their error in loud voices.

And because he was one of them, Steve Branleigh grinned and told them to forget it. Over their heads Steve Branleigh shot Rusty Wade a grin of understanding. And that grin was Rusty's reward, for none knew better than he that a crowd's cheer is a fleeting thing, but the smile of a friend is lasting.

In a dark room a mile away, Professor Bullard smacked his lips with approval as object came distinctly forth on the film he was developing—objects the world needed as it sped along on wings.