



Figure 8. Japanese technicians struggle with an experimental balloon operation at the Sagami Arsenal in the spring of 1944.



Figure 9. Surface wind was the greatest detriment while filling the balloons and releasing them for flight.



Figure 17. Balloon launching complex at Otsu after the war. Note the shelter caves in the side of the hills and the sea in the background. (U.S. Army photograph, SC 284816)

Figure 18. The United States Army's First Cavalry Division, on maneuvers in occupied Japan on 22 April 1947, discovered these former balloon launching sites at Otsu. (U.S. Army photograph, SC 283906-S)





Figure 19. The seclusion of the hills aided as a windbreak when filling the balloons, as well as security from detection. (U.S. Army photograph, SC 283809-S)

Figure 20. These rail lines once brought the envelopes, munitions, and other supplies needed to operate the balloon offensive at Otsu. (U.S. Army photograph, SC 283910-S)



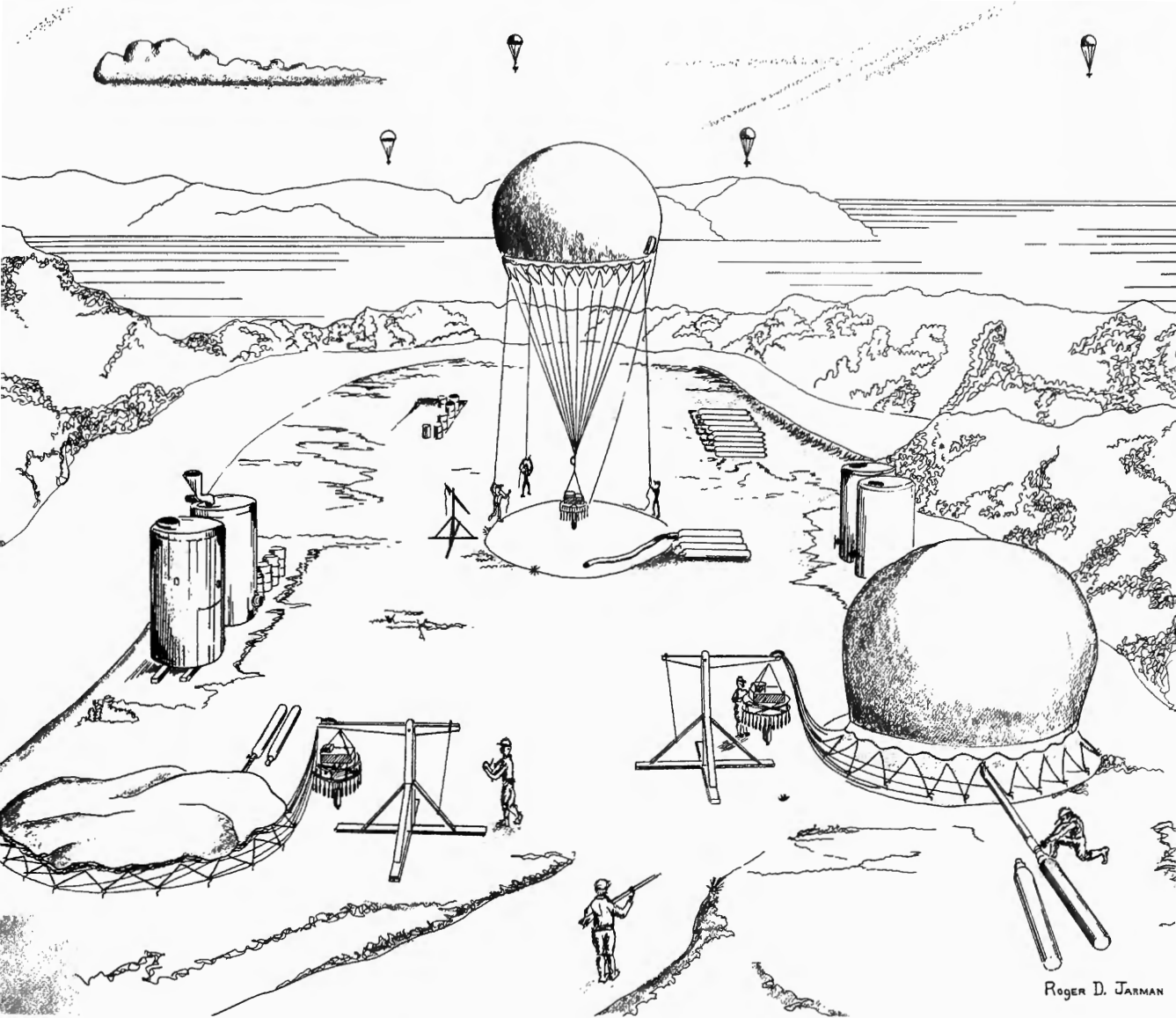


Figure 24. General view of one launch site with three pads in operation.

five pounds to a maximum of about seventy pounds, with the average about fifty pounds. Such variations in loading were apparent in recovered balloons. Typical maximum loading was one fifteen-kilogram high-explosive bomb or one twelve-kilogram incendiary along with four five-kilogram incendiary bombs.

It was on the birthday of a former ruler, Emperor Meiji—3 November 1944—at 0500 that the air assault of balloon bombs was officially begun against the continental United States. This attack could not have started at a more favorable time for the Japanese. The new season brought strong winds in the jet stream to propel the balloons. The American public was just becoming uneasy about the German V-2 rocket attacks against

England, with thoughts that extended ranges might have them falling on American cities. Kamikaze attacks in the Pacific created added fear in showing the extent to which the enemy might go with new weapon threats. Above all, the balloon bomb, as a new weapon system, could provide a much-needed morale boost for the Japanese people.

Mr. Teiji Takada, a former staff member of the Noborito Research Institute and one of the scientists on the Fu-Go Project recalled his thoughts of the mass launching of these balloons after his months and years of toil in developing this weapon system. "When the planning stages of the Fu-Go was over and a large-scale release was started, the bombardment by the United



Figure 27. Wind catches a recovered balloon like a parachute. Note the arrangement of the gores on the lower surface with the relief valve in place. Photo taken on 23 February 1945. (29907 AC)



Figure 28. Elaborate measures were sometimes taken in the recovery of these balloons for closer inspection. Here, Indians chop down a treed balloon which landed harmlessly on 29 March 1945 at Pyramid Lake, Nevada. (29906 AC)



Figure 30. A Lockheed P-38 Lightning is credited for bagging the first Japanese balloon over American territory. This occurred on 23 February 1945 near Calistoga, California. (A-103110)

Figure 31. After tracking a Japanese balloon from Redwood, Oregon, to central Nevada, one of the three Bell P-63 King Cobras was credited with the second kill on 22 March 1945. (71-1252)





Figure 32. Grumman F6F Hellcats had a field day in early April 1945 over the Aleutians when nine balloons were shot down. (A-47332)

Figure 33. Pilots spent many hours on cockpit alert waiting to be scrambled for balloon interceptions. Vought F4U Corsairs were used in large numbers, as were other types. (A-103981)



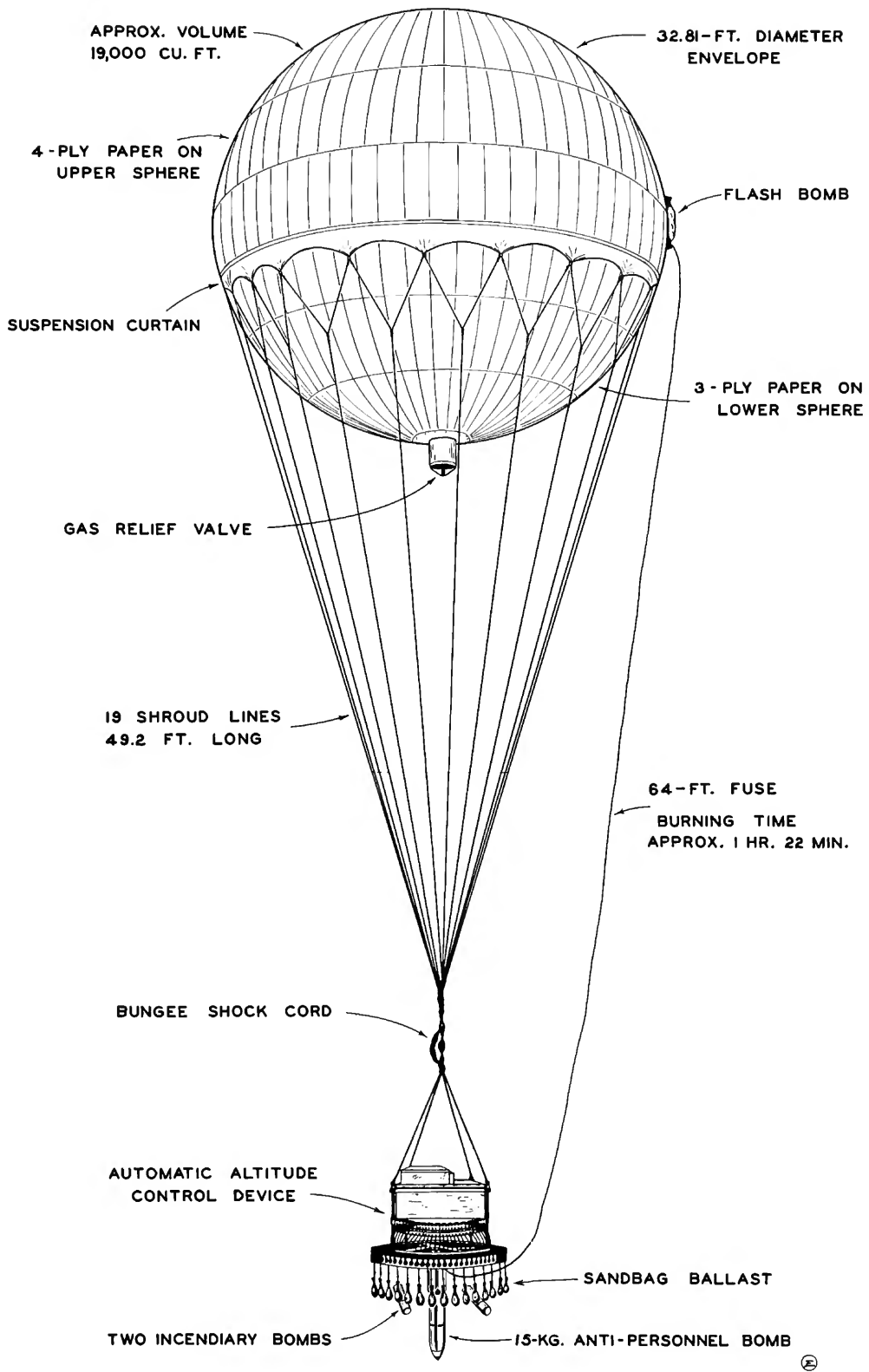


Figure 39. General arrangement of Japanese paper bombing balloon.

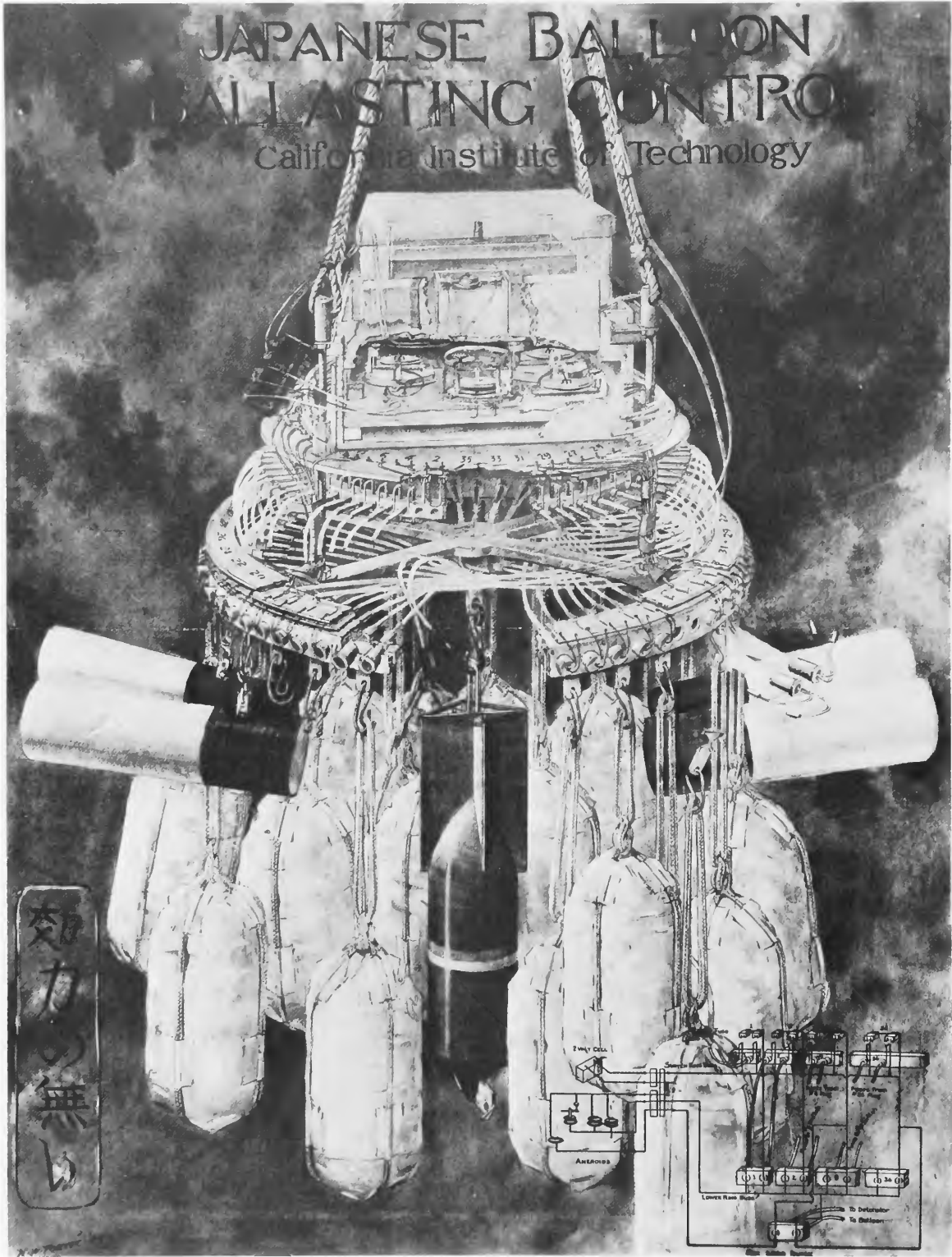
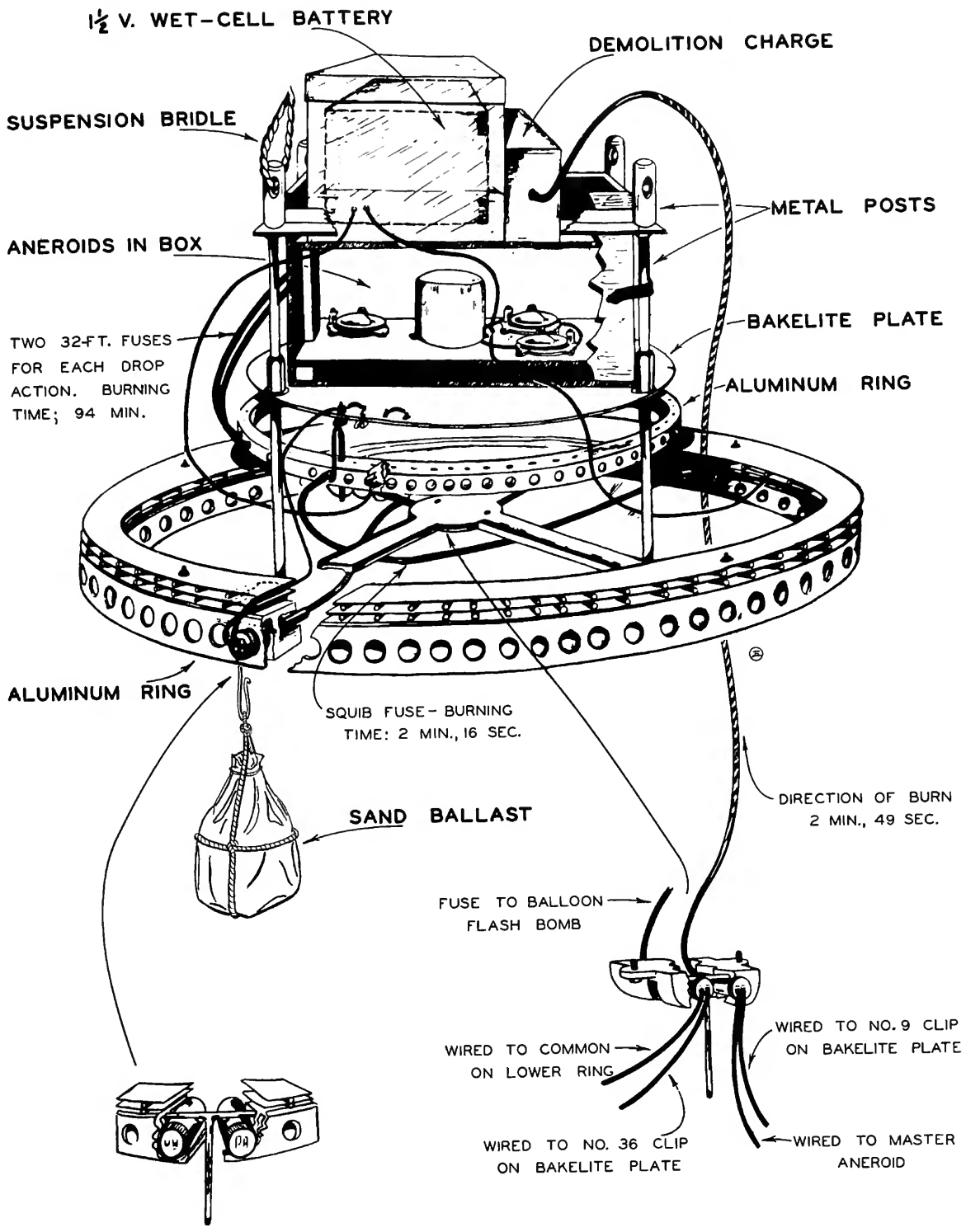


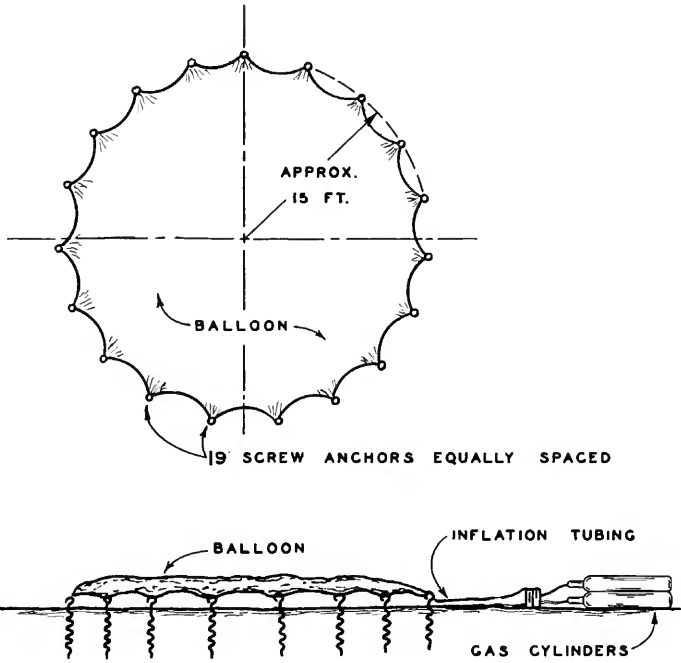
Figure 69. Minutely detailed, exploded-view drawing prepared in 1945 shows the workings of the ballast and ordnance-dropping mechanism. (A 37180D)



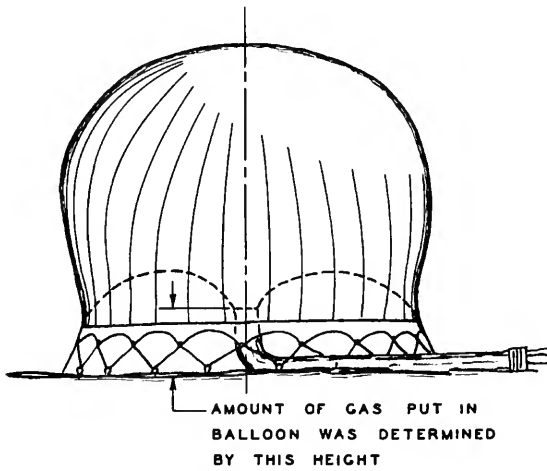
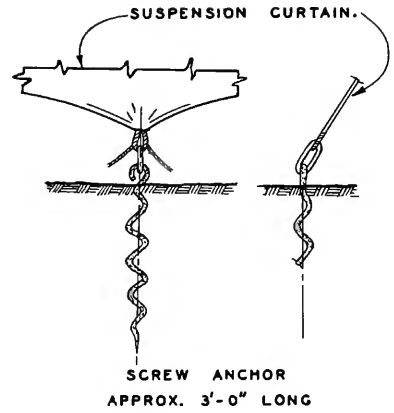
SINGLE RELEASE UNIT
ONE "T" BAR, TWO BLOWOUT PLUGS

CENTER MAIN BOMB RELEASE

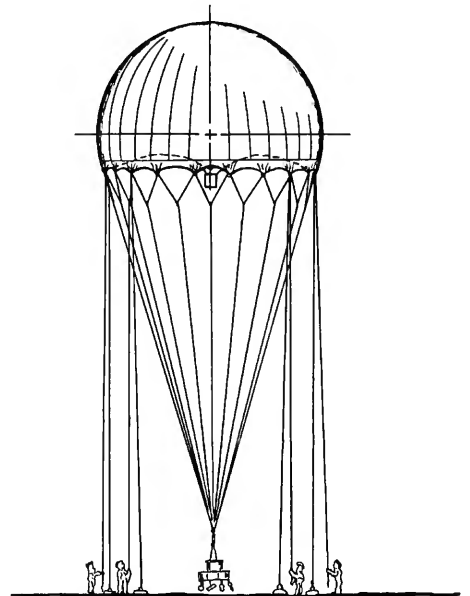
Figure 70. Automatic altitude-control device.



LAYOUT OF BALLOON FOR INFLATION



POSITION OF BALLOON WHEN INFLATED WITH GAS



POSITION OF BALLOON PRIOR TO LAUNCHING [Ⓢ]

Figure 81. Layout for anchoring and inflating bombing balloons for launching.

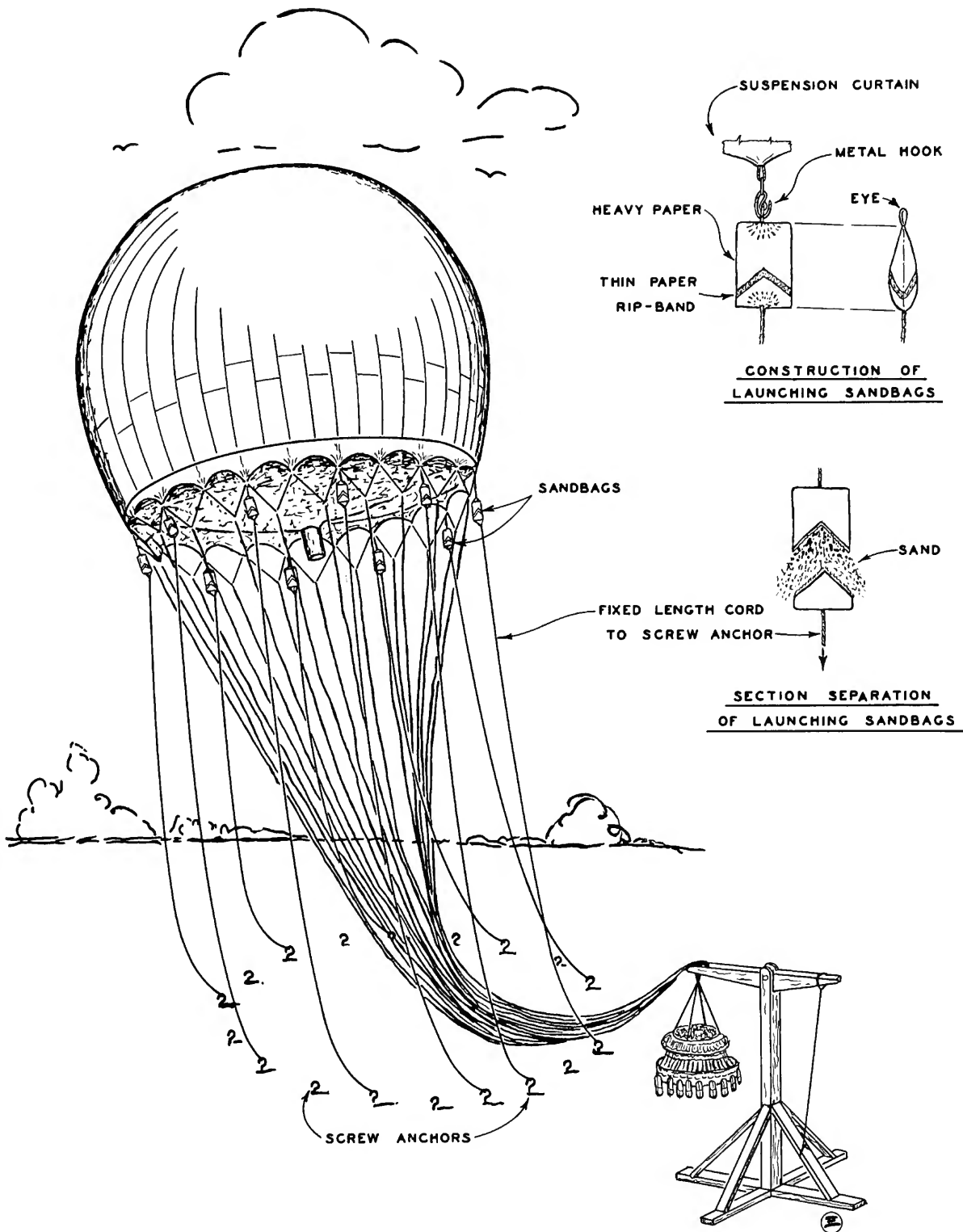


Figure 82. Method used for launching bombing balloons in winds above two and one-half miles per hour.