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Victory Labor-Management Production Committees of Butte, Anaconda and Great Falls

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This is a view of the main hoist room at the Leonard Mine, with the generator at the left and the double drum hoist at the right. You can see the engineer on the stand at the extreme right.

Our mines have not only main hoists but also auxiliary or "chippie" hoists. This is the "chippie" hoist at the Mt. Con Mine. Note overhead crane and operator in upper righthand corner.

This is the Belmont hoist room, with headframe at left. The three structures between are "idler towers" which carry the cable from the hoist room to the sheave wheels at the top of the headframe.

One of the veteran engineers is Dan Vivian who has been at the Mt. View main hoist since 1906.

Thomas Carrig is one of the engineers at the Belmont and we show him here at the main hoist.
Hoisting men and rock has not always been done by such modern methods as are used today. Human hands used to wind up loads by windlass. Later the horse-whim was used, as shown above. By moving in a constant circle the horse raised or lowered the bucket. This is an old Butte view.

**THE HOISTS**

**HOISTING** is the term applied to the operation of raising and lowering the products of the mines, men and supplies from one level to another through the shaft. Just think of an elevator in a tall city building, loading and discharging passengers at the various floors, and you will have the picture clearly. Only in mining, many more elements than people are raised and lowered. The engine used for this operation is called a hoist.

Any miner can tell you and almost anyone associated with the mining industry is aware that there is a great responsibility placed upon hoisting equipment in the mining industry. The lives of men depend upon the efficient operation of a hoist and upon the engineer who controls it. Equally, the production of copper and other metals essential to the successful end of the war depend upon the skill and speed with which the rock, far underground, is raised to the surface.

At most of the mines in Butte, there is a main hoist which works chiefly at hoisting ore. The auxiliary or “chippie” hoist is used principally for moving men, mine supplies and the transfer of waste. It is easy to see that any great interruption of service of either one of these units may seriously hamper the operation of the mine, and greatly curtail if not entirely stop production. It is simple, then, to understand that the dependability of mine hoisting equipment is of the greatest importance.

At all the mines in Butte, the shafts are vertical and range from a working depth of about 800 feet to about 4100 feet. The deepest mine in Butte reaches down to the 4500-foot level, although the levels below the 4100 have not been developed for mining as yet.

A hoist is said to operate in balance when an empty skip or cage is lowered at the same time that a loaded cage or skip is raised. All the main or ore hoists are double drum or balance operated hoists.

This is the way it operates in simple terms: In effect, one side is lowered because of its weight and the other side is raised because of the lack of it. If you have ten silver dollars in one hand and only one silver dollar in the other, the tendency of the hand with the ten silver dollars is to drop while the tendency of the other hand is to raise. Only in hoisting all movement is completely under the control of the hoisting engineer.

Most of the auxiliary hoists are single, drum or unbalanced operated hoists.

There are various types of hoists; generally speaking, those in Butte can be classified according to the source of drive power, the type of drum, the number of drums and the type of drive. The sources of drive power are steam, air or electricity. The drums can be either reeled drums, which use flat rope for cable, or cylindrical drums which use round cable. There can be either single or double drums, and there are two types of drive—direct drive or geared drive.

At one time all the hoists at Butte were driven by steam, but these have been gradually replaced until at present there is only one left—the Emma surface hoist.

During the period between 1910 and 1914, a large number of steam hoists were converted to air. Some of these, in turn, have been replaced by the more efficient electrical units.

Air hoists still operate at the East Colusa, West Colusa, Rarus, Tramway, St. Lawrence, Mt. View, High Ore, Steward and the Original. Electric hoists are installed at the following mines: Elm Orlu, Badger, Mt. Con, Anselmo, Orphan Girl, Moonlight, Travonia, Belmont and Leonard. A new installation is now going in at the Lexington.

Let’s go along and have a look.
Here is the picture story of the birth of a hoist room. These pictures, borrowed from Anaconda Company files, show how the Belmont hoist was installed, beginning in January, 1927. The hoist room itself is virtually complete and the big job now is to bring in the huge hoists and generators so that the mine can go into operation. These are the double drum hoists at the end of the room—they have just been unloaded.

Here at the left is a close-up view of the "stand" at the Belmont hoist. This was taken just about a month later than the picture shown above. The double drum hoist is in place, the indicator panel (with the arrows) was set up and the job was proceeding. At the right we get a longer range view of the hoist, with the generators in the foreground. Just in front of the hoists is the open panel through which the cables will go.

At the left, above, we have a close-up of the "chippie" at the Belmont taken at about the same time as the preceding picture. This is a single drum and as shown here was nearing completion. At the right, we see the main hoist as it reached its final stages. If you will glance back at the bottom picture at the left page 2 you will see how the hoisting operation looks from outside the hoist room at this same mine.
THE ENGINEERS

The undisputed king of the hoist is the engineer. In his hands rests the safety of men, machinery and materials. The engineer must, and does, know the operation of all his equipment, even though he rarely sees it, for the skips and cages are in constant operation far out of his sight. He must be an expert, and he always is.

The combined service record of the hoisting engineers can stand up against any service record in any company or industry in the country. It is by no means uncommon to find an engineer who has worked on the Hill thirty-five, forty, forty-five or even fifty years. The old-time engineer will tell you jokingly that anyone with less than twenty years' experience is a greenhorn in the business.

Let us, just for the sake of proving it, rattle off the names of twenty men who have been engineers for more than twenty-five years: Con Murphy, Harry Symons, Bruce Wilson, Barry O'Leary, Joseph M. Creighton, Albert Jackson, Dan McCarthy, Con Murphy (another Con), Edward B. Tibbetts, John Brosnahan, John Gilbert, Paul McDonald, Tim J. Harrington, James Cadigan, Daniel Vivian, Ed T. O'Leary, Frank Warren, Herbert E. Brown, William Lyons and John Carkeek.

The engineers are all members of Engineers Local No. 83 of the International Union of Mine, Mill and Smelter Workers, CIO. But the local dates back far beyond the memories of many of us. A Society of Engineers, which was more of an educational society, was formed many years ago. The men paid fifty cents a month dues and obtained a charter from the old Western Federation of Miners in 1899. Later they joined the IUMM&SW to which the group still belongs. On the last page we invite you to get acquainted with many of the members of the union, shown at one of their recent union meetings.

The Engineers, as you have gathered, are well staffed with old-timers. A typical old-timer is John Gilbert who has been a member of the Engineers Union for forty years and is one of its oldest members. He has worked since he was sixteen years old, for roughly forty-five years, and he taught engineering at the Business College for more than ten years. More than one hundred fifty engineers on the Hill were his students, in addition to those in many other parts of the state. Then there are the two Con Murphys, the Bill Buckleys, the Bunny Sheas and many others you will meet in later pages.

A hoisting engineer starts as an apprentice engineer or oiler and works his apprenticeship to obtain a second-class license. After three years' experience and examination he can become a first-class engineer. It's a long grind but they're experts when they finish.

Get acquainted with Harold O'Neil, engineer at the Anselmo, who started when he was sixteen years old. This is a pretty typical sort of engineer—they can sit or stand at their work equally well. Harold's pals at the Anselmo said his picture reminded them of President Roosevelt.
Here, at the left, is John McNulty of the Leonard, an engineer since 1918, who has been thirty-six years with the Company. The Leonard is the Hill's newest hoist. At the right is Victor Greenwood of the Travonia, on the Hill since 1914, and an engineer since 1923.

**THE MEN AT THE CONTROLS**

At the left is old-timer Dan McCarthy operating the auxiliary at the Steward. Note the indicator marks on edge of drum in foreground which help Dan in "spotting" the cage. That's Ed Lowery at the right operating the auxiliary at the Mt. View. The buzzers at his left are for signals.

That's Alvin (Bunny) Shea on the stand of the "chippie" at the Mt. Con. He has been an engineer since 1918 and was a member of the famous old Central Club. At the right, John Rae, standing, checks with John Howell at the Orphan Girl. John is on his thirty-fourth year.

*HOISTING IN BUTTE*
Bill Collins, above, is an engineer at the St. Lawrence and has been with the Company thirty-two years, always an engineer. His son Bruce is an engineer at the Tramway. At the Leonard we see engineer John McNulty and oiler Clarence Fagin, in the picture to the right.

If you look hard, you can see Con Murphy of the High Ore at the controls. Con has been at the High Ore since 1910, working on this air hoist. At the right another old-timer, Frank Hindley, is shown at the controls at the Original. Frank operates as a swing man from the Steward.

Above is William (Bill) Buckley, engineer at the Badger main hoist. Bill has been an engineer since 1916 and put in twenty-one years at other mines before coming to the Badger. His father is an engineer, too. At the right are Joseph Boyle and Victor Greenwood at the Travonia.
It was hard to get a shot of Pete Doyle, engineer at the Mt. Con—you can hardly see him on the stand. Pete has been an engineer since 1936, but oiled on the Hill since 1915. In the foreground at the Con’s electric main hoist is James Taylor, oiler for the main and “chippie” hoists.

Here is a trio of engineer veterans whose combined service with the Company totals one hundred thirty-two years. Believe it or not, there are two Con Murphys and both have over forty-five years’ service to their credit. Here at the left is Engineer Murphy at the High Ore controls. The Ore’s Con Murphy has been with the Company since 1899 and has been an engineer since 1910. The center picture shows James Cadigan at the main hoist of the East Colusa. Jim has been in service thirty-eight years and has been an engineer over thirty years. At the right is the Emma’s Con Murphy, in service since 1897 and an engineer since 1902. These fine men are typical of the engineers of Butte.
The tremendous generator at the Anselmo calls for plenty of oil and your editors caught Walter Backa, shown above at the left, just as he was going off shift but persuaded him to go back and pose with his generator. At the right Paul McDonald is oiling the governor of the Lilly safety at the Mt. View. This safety device checks overspeed on the hoists. On these pages we want to make you acquainted with the oilers.

Here are three busy oilers. At the left is George (Pug) La Branche, an oiler at the East Colusa, who works with Jim Cadigan. In the center picture we managed to get a shot of John F. Buck, oiler at the Badger main hoist. He is oiling the take-off drive to the Lilly safety. There at the right is Sid Hoar, oiler at the Emma, filling an oil cup on the Emma surface hoist. The Emma is a steam hoist and still uses flat rope.

Snapped from the stand of the High Ore air hoist is Clyde Steer, oiler. Note the controls in foreground and indicator panels on either side. At right is Owen Smith, oiler at the Rarus, turning up a grease cup on a drum bushing at the main hoist. Figures on drum help "spot" the cage.
MINING methods are constantly improving. Technical minds are always at the job of trying to develop a better method for doing the same thing. Probably nowhere is that more true than in the case of dumping ore and waste. It is the job of the miner to get out the rock, it is the job of the engineer to get it to the surface for disposal.

One of the more recent developments in raising ore and waste to the surface is the "bottom dump" skip. Two types are shown in the pictures below. At the left you see a "chippie" skip used for transferring waste between levels—that's a man cage above it. Normally these skips are unloaded below the surface manually. The angled bottom is released and the waste slides out (in earlier methods, solid bottom skips were used and had to be completely inverted).

At the right is a view of the more modern bottom dump skip in use at the Rarus mine. Two skips are shown with two cages above. These are ore skips, used for hoisting ore to the surface and they dump automatically.

At the left is an unusual shot from outside the hoist room at the High Ore. This air hoist uses flat cable, which you can see reaching from the hoist itself to the gallows frame. And at the right is the scene enacted many times daily at many mines—miners coming to the surface. This group had just come to the surface at the Emma and we spotted them on the sheets while we got their picture. These are typical of the thousands of miners the engineers raise and lower daily.
THE JUICE

The job of maintenance falls to the electricians who work in close harmony with the engineers. During the rounds your editors made of the hoists at the many mines we visited, we came across not only engineers but electricians and machinists and other craftsmen who work together with them.

At the Lexington a new main hoist is being installed and we got pictures of a number of the electricians putting this complex piece of machinery in running order. They are replacing the old Lexington hoist, shown on this page, which is soon to be dismantled. One of the big panel boards is at the Leonard and we show you a view of that also on this page. And we have a glimpse too of the electronic or automatic signal system but that's another story.
THEY GIVE YOU A LIFT

ENGINEERS Union Local 83 is one of the oldest unions in the northwest. It commands the respect not only of other union organizations but also of those not affiliated with organized labor. The headquarters of this local are in the hall of the Butte Miners’ Union. Each Thursday night the men assemble in the union hall to transact union business and Copper Commando, in preparing this issue, was extended a cordial invitation by the officers of the Engineers Union to visit the hall on meeting night and take the pictures we requested.

The large picture at the top is a view of part of the local membership gathered for the union meeting. The small picture at the right shows the officers of Engineers Union Local 83. Seated from left to right in the small picture (you may see the same men in the large picture at the top) is Financial Secretary, Henry Young; next to him is John Cavanaugh, President; then, John Riley, Recording Secretary, and at the right, seated, is Harry Oates, Vice President. Standing left to right are Jack Barry, Acting Conductor; Con Murphy, Trustee; Owen McNally, Organizer for the IUMMGSW, and Leo Schapiro, Warden.

And that winds up our visit to the Engineers. We ought to let you know that the mine on the front cover is the Badger, although most of you will have guessed it. The two figures shown on the front cover are John Gilbert of the West Colusa.

COPPER COMMANDO was established at the recommendation of the War Department with the concurrence of the War Production Board. Its editors are Bob Newcomb and Marg Sammons; its safety editor is John L. Boardman; its chief photographer is Al Cusdorf; its staff photographer is Les Bishop. Its Editorial Board consists of: Denis McCarthy, CIO; John F. Bird, AFL; Ed Renuard, ACM; from Butte; Dan Byrne, CIO; Joe Marick, AFL; C. A. Lemmon, ACM, from Anaconda; Jack Clark, CIO; Herb Donaldson, AFL, and E. S. Bardwell, ACM; from Great Falls. COPPER COMMANDO is mailed to the home of every employee of ACM in the four locations—if you are not receiving your copy advise COPPER COMMANDO at 112 Hamilton Street, Butte, or better still, drop in and tell us. This is Vol. 3, No. 20.