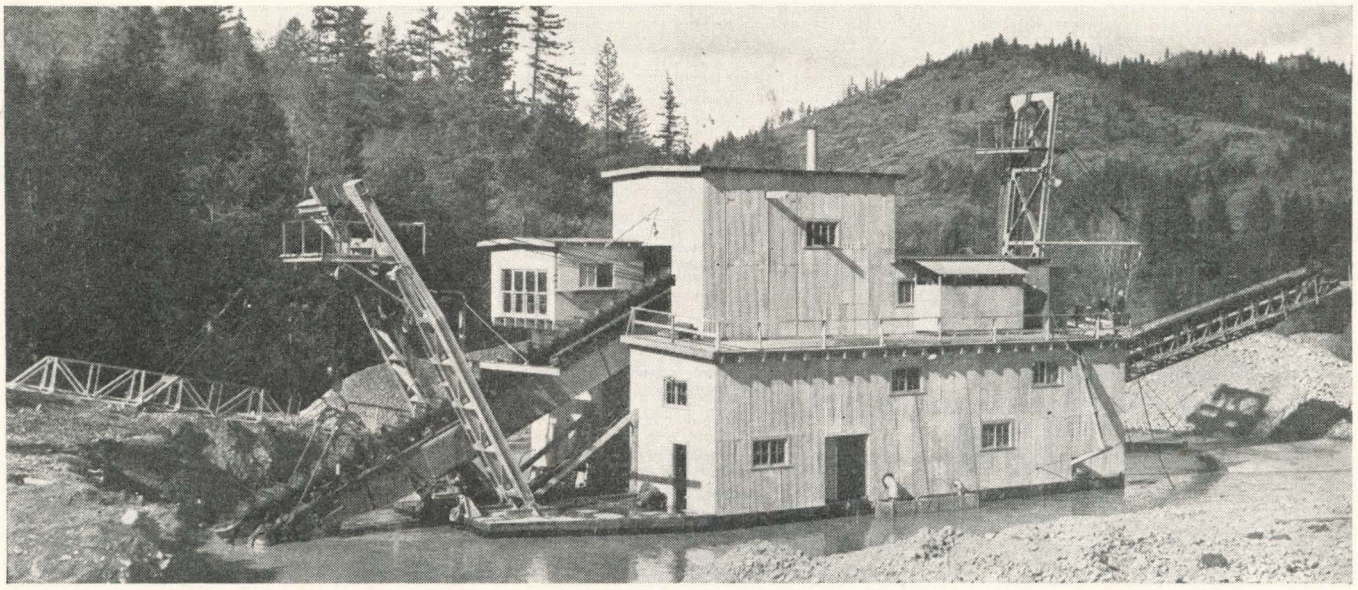
Gold Hill

CONFIDENTIAL

Mr. J. B. Murphy stated that they plan on building a six-foot boat, on ground already tested, about 15 miles from present operation, some time in August, 1940. This is not for publication. There has been no cleanup as yet, but after about 6 weeks, or April 1st, we may have recovery values.

The Dredging Company are very cooperative, and desire to do anything within reason to assist anyone. "They have no secrets". No stock is for sale and they have no reason for concealing anything. (Except the information in the above paragraph, for obvious reasons.) Members of this Department have a standing invitation to visit the property and dredge and will be shown every courtesy. Cleanup time is Friday, and Department staff are invited to witness any clean-up and retorting.



Murphy – Murray

Gold Dredging in Southern Oregon

SMOOTHLY combining three proven methods of gold-saving in a modern manner, a 3½-cu. ft. Washington Iron Works dredge went to work in February for the Murphy-Murray Dredging Co. on Foots Creek, near Rogue River, Ore.

The first clean-up, Feb. 23, was "highly satisfactory" and convinced the owners that the gold-saving system, as well as the boat as a whole, left nothing to be desired.

"She's a grand little boat—a digging fool," said J. B. (Bruce) Murray, a member of the company of which George E. Murphy is president, and Harry B. Murphy, secretary-treasurer. The Murphy brothers are veteran Idaho gold dredgers. Mr. Murray has spent the past five years on the ground, testing and proving the Foots Creek show and assembling the necessary property. The company figures about eight years of dredging on the creek.

Foots Creek has been yielding off-and-on since the early days of the Rogue River district. The lower reaches were dredged some years ago, and there has been some hydraulicking in the vicinity where the Murphy-Murray dredge started work.

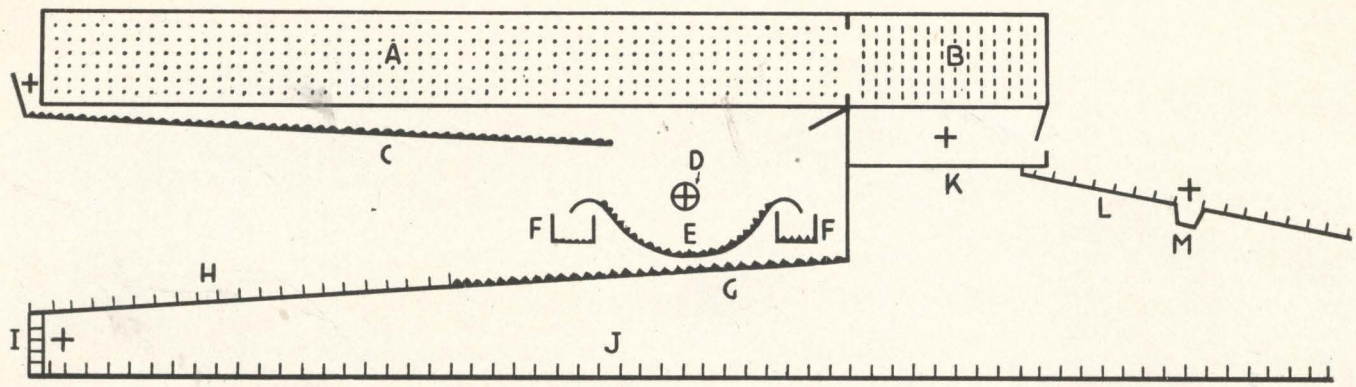
The creek crosses the Pacific Highway from the south about half way between Grants Pass and Medford, and the dredge started working a couple of miles above its confluence with the Rogue. The boat will work up one fork of the creek for about 2.5 miles and will then be dismantled and reassembled some distance below where dredging was initiated last month, working up an easterly fork of the stream.

A good deal of the ground to be dredged is virgin, tests in some areas indicating values as high as $2.50 per yard. Even the old hydraulic tailings showed good pay, about 35c per yard.

There are numerous elements of interest in the Murphy-Murray dredge, but the three-phase gold-saving system probably rates first attention. However, before going into a detailed description of the system, let's take a preliminary look at the primary factors by which the material is brought to the gold-recovering elements.

The dredge is electric-powered with 67 buckets of 3½ cu. ft. capacity on the line, which digs to 20 ft. below water level and dumps 30 buckets per minute. The trommel screen is 27 ft. over all, with 18 ft. of actual

Bruce Murray, vice president of the Murphy-Murray Dredging Co., left, with Gerald Frink, president of the Washington Iron Works, middle, and Harold C. Young, dredgemaster.



SECTIONAL FLOW SHEET OF MURPHY-MURRAY GOLD RECOVERY SYSTEM

Trommel screen shown with round hole sections designated by A; nugget slot section by B; the primary amalgamation sluice C runs all screen undersize into the oscillating pan E, which is suspended from the hollow trunnion D. Overflow from the oscillating pan flows into boil boxes F, and then into amalgamation sluice G. The distributor sluice is H and the short side sluices I. The tail sluice is J. Material passing the nugget section of the trommel screen falls into a boil box K, from which it flows to a riffled sluice L. Auxiliary water is introduced at all points marked +, including the trunnion of the oscillating pan.

screen surface, and is 60 in. in diameter. The first 12 ft. of the screen has ⅜-in. tapered holes, the next 3 ft. has ½-in. holes and the last 3 ft. carries nugget slots, 1 by 1½ in. Slope of the screen is 1¾ in. per foot.

Material passing the ⅜ and ½-in. section of the screen is caught on a sluice 60 in. wide and sloping with the screen toward the stern of the boat. The entire bottom of this sluice, which replaces the usual distributor, consists of amalgamation plates under expanded metal, which protects the quick from abrasion and at the same time provides minute riffles.

Overflow from the amalgamation sluice runs into an oscillating bowl or pan which is a segment of a cylinder. It is 48 in. from lip-to-lip, 60 in. from end to end, and 10 in. deep. The pan rocks on a trunnion set at right angles to the screen. Rocking motion is provided through eccentrics and linkage driven by a 3-hp. Westinghouse gearmotor. Linkage is adjustable to permit regulation of the motion at the lip of the pan between 1 and 2 in. Rate of oscillation is 60 per minute.

The rocking bowl is lined with amalgamation plates under expanded metal, with a quantity of free quicksilver in the bottom of the bowl. Beside the mechanical motion of the bowl, violent boiling action is set up by streams of water introduced through the 4-in. hollow trunion, as well as by the plunging run-off from the main amalgamation sluice.

Overflow from the bowl pours over either lip into boil boxes 10 in. wide and 60 in. long and lined with amalgamation plates under expanded metal. These boil boxes serve to distribute the material to a sluice 60 in. wide and sloping forward. For about 10 ft. of its length—from the after boil box, under the rocking bowl and for about 4 ft. beyond the forward boil box—this sluice also is composed of amalgamation plates under expanded metal.

The sluice is then parted into four 15-in. sluices with 1¼-in. steel Hungarian riffles. Two of these turn to either hand as short side sluices, where they are again parted into four tail sluices, each with a quicksilver trap. These tail sluices run aft and finally discharge into the pond. Side and tail sluices are all fitted with Hungarian riffles. Slope of all sluices is 1⅜ in. per foot.

Inasmuch as a good deal of nugget gold occurs in the Foots Creek ground, the Murphy-Murray boat is fitted with a special recovery system for coarse gold and nuggets. As has been mentioned, the last 3 ft. of the trommel screen carries nugget slots. Material passing this section does not go into the oscillating pan, but drops into a separate boil box, from which it overflows into special nugget sluices running to either hand of the boat. Each carries a nugget trap into which auxiliary water is introduced to maintain "live" action. Each nugget sluice is riffled and runs athwartship, discharging into the tail sluices.

The gold-saving system on the Murphy-Murray dredge is similar to that used on the Murphy Brothers' boat in the Boise Basin, Idaho. The new dredge, adapting this system, was designed by Peter Anderson, Washington Iron Works engineer in charge of dredge design.

Gerald Frink, president of the Washington Iron Works, explains the theory and function of the system thus:

"Placer gold occurs in various forms, each of which needs a different method of recovery. There is fine gold; what is called 'rusty' or 'coated' gold; and coarse gold or nuggets. The proportion of these classifications varies in different ground, but almost every placer has all three types, and on Foots Creek this appears to be the case very definitely.

"The gold recovery system, therefore, is designed to save all gold, regardless of the character of the particles.

"For example, in the first step the fine gold is amalgamated on the plates, of which there are approximately 100 sq. ft., the amalgam being protected from abrasion by the expanded metal.

"Secondly, the rusty gold, which resists amalgamation in its native state, is polished in the oscillating bowl, where it is churned about by water in violent motion, and at the same time scrubbed and scoured by the material grinding about in the bowl. Amalgamation plates and free quicksilver are provided for the amalgamation of the polished gold, both in the oscillating bowl, the boil boxes and on the sluice by which the material leaves these devices.

"Third, riffled sluices of conventional type are provided to catch any gold which may have passed the plates and bowl; and special sluices drawing from the lower end of the screen are placed to catch nuggets too large to be taken through the

openings in the main portion of the screen.

"Another element in the system lies in the placing of the sluices, all of which are in fore-and-aft position, with the exception of the short side sluices by which direction of flow is reversed. In operation, a dredge does not rock materially from side to side. It pitches fore-and-aft, which does not affect the efficiency of longitudinal sluices as much as it does those running athwartship. The maximum pitching which may be expected in this dredge will alter the grade of the sluices only ⅛ in. per foot".

The Murphy-Murray dredge was manufactured entirely in the plant of the Washington Iron Works at Seattle, excepting only the electrical equipment, pumps, valves and troughing and return rollers on the stacker, and such items as wire rope, pipe, nuts, bolts, etc.

The electrical equipment is all of Westinghouse manufacture, with the exception of one 10-hp. motor. All motors are 440v, 3-phase, 60-cycle, and of splash-proof construction.

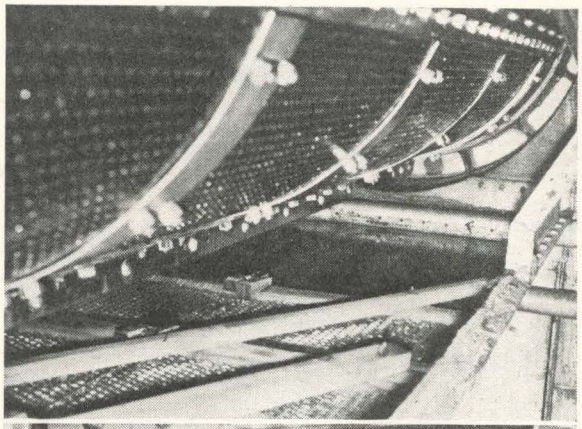
The dredge's pumps were designed and built by the Bingham Pump Co. of Portland. The main pump is a 10 by 12 centrifugal, delivering 4,000 g.p.m. at 50-ft. head. It is driven at 880 r.p.m. by a 75-hp. Westinghouse constant speed motor. This pump delivers water to the main screen through an 8-in. pipe with 10 nozzles of 1¼-in., spaced to discharge above the retard rings, and two rows of ⅜-in. nozzles. The pipe to the bowl trunnion is 4 in. and there are 2-in. pipes discharging auxiliary water to the tail sluices, nugget sluices, traps, and other elements of the gold-saving system. Valves are Walworth and Crane.

The auxiliary pump is also a Bingham, direct connected to a 10-hp. General Electric motor and turning 1,750 r.p.m. to deliver 300 g.p.m. at 75-ft. head. This pump is for general service and cleanup duty.

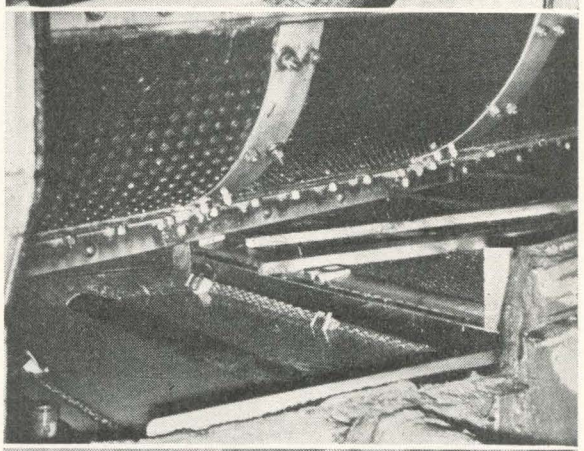
There are a number of reasons why the Bingham Pumps were chosen for installation on this dredge. The main pump is a Bingham Type SVD Dredge Pump, which is particularly designed and adapted for handling muddy, dirty water containing fine abrasives.

The design of the pump is such that the end cover can be readily and easily removed so as to expose the interior of the volute and the impeller for inspection and removal of any weeds, bark or other foreign matter that might perchance get through the screen and collect in the pump. Because of this design, this inspection can be effected without the necessity of disturbing the suction or discharge piping.

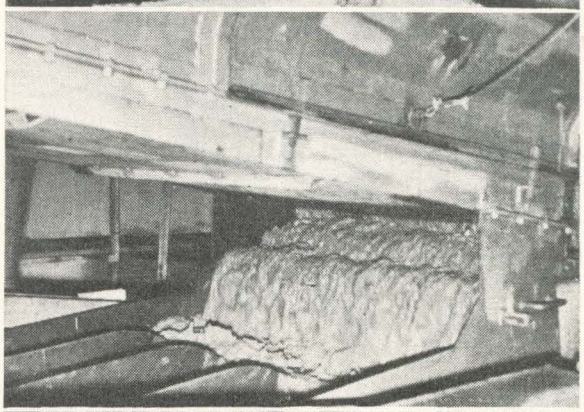
The pump is provided with a special type impeller which has no shroud on the suction side. This design facilitates the entrance of water to the suction of the pump, increasing the operating efficiency, and also permits the impeller to be adjusted so as to compensate for wear. As wear takes place, either on the face of the impeller or the suction liner plate, the entire bearing cylinder, shaft, and the impeller can be moved axially to close up the gap caused by the



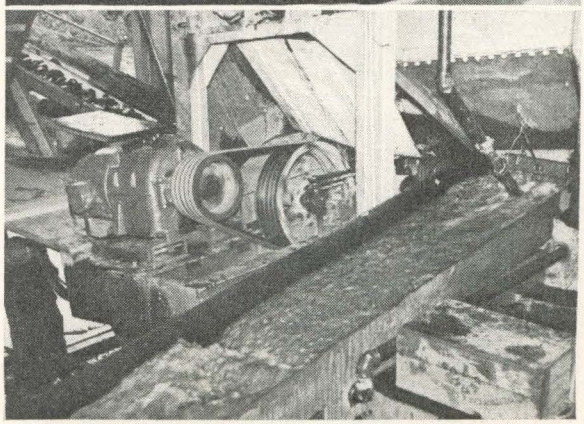
Looking up the primary amalgation sluice under the screen. Note the header pipe in the background for introducing auxiliary water and the expanded metal protecting the amalgamation plates from abrasion. This picture was taken the day before the first clean-up. The light colored marking on the expanded metal is amalgam.



The oscillating bowl, seen during the between-shift shut-down. Note the perforated trunnion on which the bowl rocks, and through which auxiliary water is provided.



Looking under the primary almagation sluice toward the oscillating bowl. in operation. Material can be seen pouring from the sluice into the bowl, then out of the bowl into the boil box, and finally overflowing onto amalgamation plates before entering the distributor, which is equipped with riffles.



The screen drive and one of the two nugget sluices. Drive is a 25-hp. Westinghouse gearmotor. Note that auxiliary water is introduced at the head of the sluice and also at the nugget trap in the center foreground. Stacker is in the upper left corner and a workman in the lower left.

metal loss due to abrasion. This axial adjustment is easily accomplished by means of the take-up and back-off screw mounted directly on the cartridge type ball bearing housing at the drive end of the pump.

The ordinary method of using a key seat fastening for the impeller is not used in the Bingham Pump. Instead, the impeller is threaded on the shaft by means of a reverse thread which holds it tightly in position, yet allows the impeller to be easily removed.

One of the handiest time-savers incorporated in the SVD is a "Tell-Tale" pipe which enables the operator to determine when liners are worn through without going to the trouble of opening up the pump for visual inspection.

To resist the abrasive effects of the dredge pond water, the volute case, liners and impeller are all manufactured of special high grade abrasive-resistant alloys, in which all parts subject to wear were made extra heavy to insure the pump a long life.

The pump is provided with both back and front, easily replaceable liner plates. The front liner plate is bolted to the cover plate and is removed with the cover plate. These liner plates protect the volute from abrasion at the most vital points.

Radial ribs cast on the stuffing box side of the impeller shroud develop a pressure between the impeller shroud and back liner to oppose the pressure developed by the impeller. This action greatly reduces the pressure on the stuffing box which every dredgeman knows can be a constant source of trouble.

The pump is provided with a special abrasive-resistant alloy sleeve through the stuffing box. This sleeve not only has a long life, but when it is necessary to replace it because of abrasion, the replacement can be easily effected.

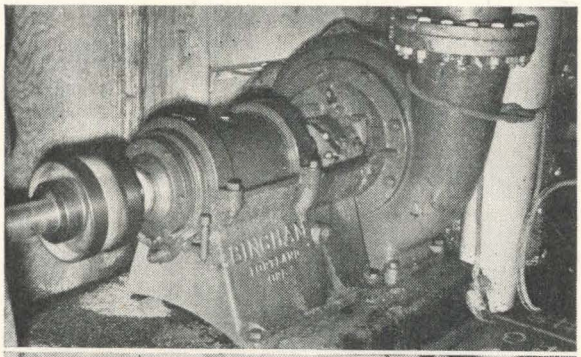
Two sets of double-row ball bearings housed in a special dirt and dust-proof cartridge type bearing cylinder are lubricated automatically from an oil reservoir cast integral with the bearing cylinder.

The shaft on which the impeller is mounted is manufactured of special high grade shafting and is furnished in a size considerably in excess of the standard requirements for a pump. This over-size shaft eliminates any possibility of a broken shaft due to base distortion or excessive horsepower requirements due to pumping dredge pond water of high specific gravity.

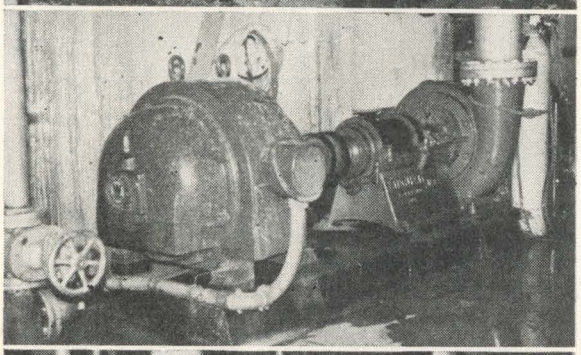
Even the base of the SVD is of special construction. Here a special welded steel box type base replaces the standard cast iron base. Through the use of steel a certain amount of flexibility is allowed, which so often is necessary for a pump mounted on a pontoon deck that is subject to varying strains and distortion.

In addition to the features just mentioned, the Bingham dredge pump is extremely efficient and its horsepower consumption is low.

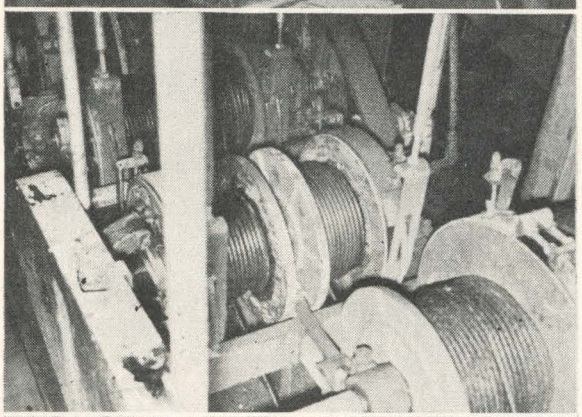
The overall length of the hull is 82 ft., with beam of 37 ft., 4 in. and depth of 6 ft., 1 in. It is composed of 23 pontoons which, as is typical in Washington Iron Works construction, are set with the long dimensions fore and aft. Pontoon plating is quarter-inch except in the wellway and at the stern, where it is $\frac{3}{8}$-in. Sides where pontoons are bolted together are $\frac{3}{16}$ in. Corner seams are formed by a 3 x 3 x $\frac{1}{4}$-in. angle, with the plates welded to the heel with a continuous weld. Pontoons are bolted together with $\frac{3}{4}$-in. bolts through corner and stiffener angles. Bolt holes are punched through plates and angles, then the interior of the hole is welded and the hole is drilled out again.



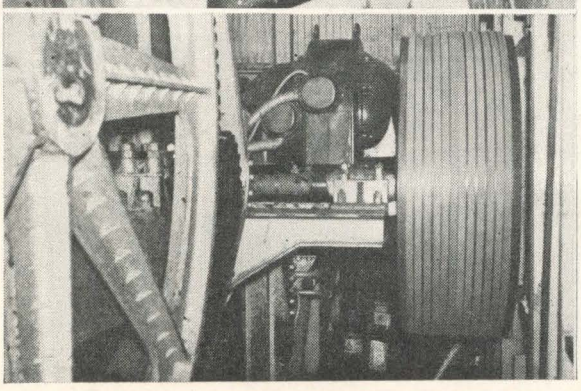
The main Bingham 10 by 12 dredge pump. Note the cartridge type ball bearing and the adjustment screw by which the impeller may be moved axially to take up wear.



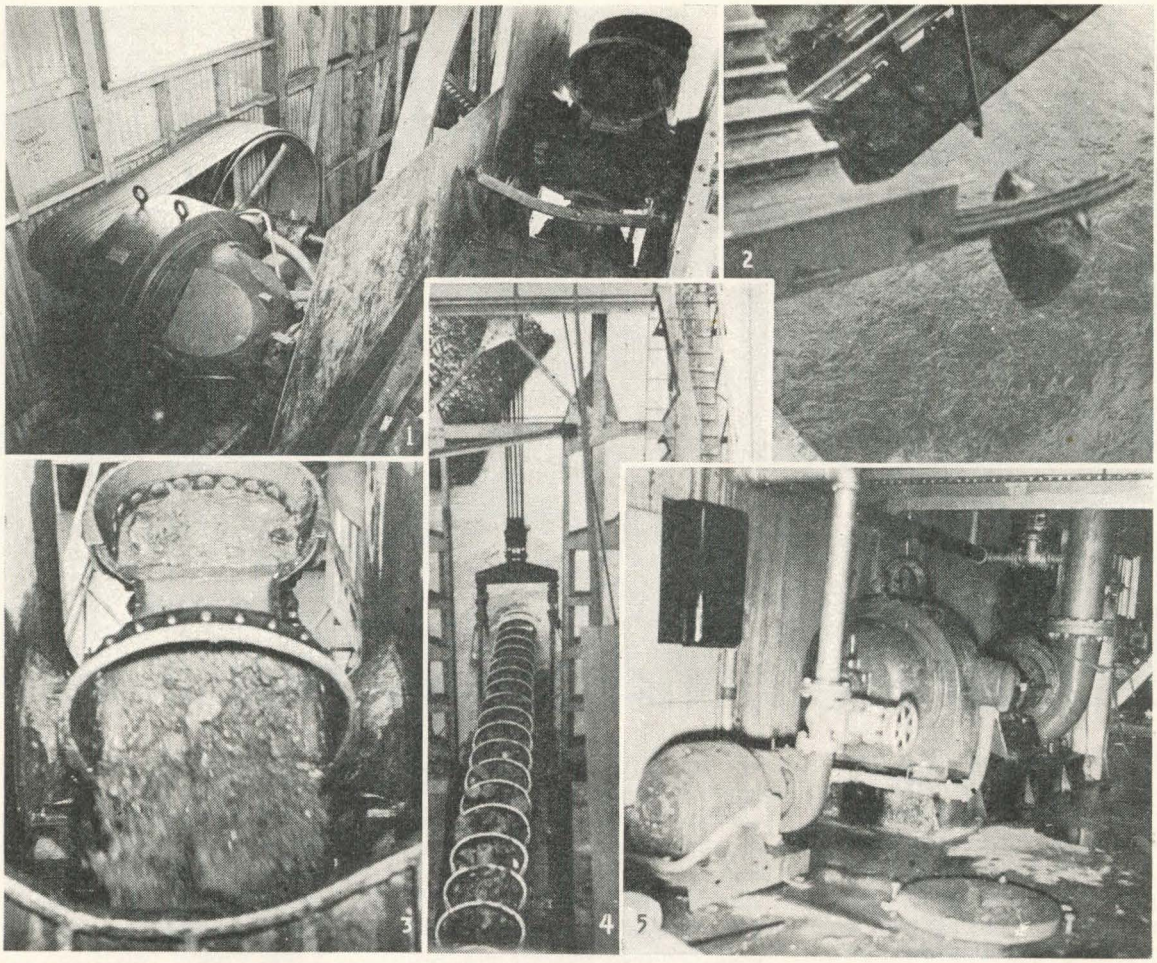
General view of the main Bingham dredge pump and the 75-hp. Westinghouse motor which powers it. Note the box-type welded steel base which permits a certain amount of flexibility in the event of the hull working. Valve at lower left is on discharge of auxiliary pump.



The winch on the Murphy-Murray dredge, which embodies design and construction principles proven in building hundreds of Washington logging engines.



View of the bucketline drive looking aft from a position abreast the 10-ft. bull gear. All gear teeth are machine cut from the solid blank. The 100-hp. Westinghouse motor drives the jackshaft through Gates V-belts.



This system prevents possible leakage between plating and stiffeners.

The dredge is coated throughout with "Ampcolead" metallic lead paint manufactured by the American Marine Paint Co. This paint, with its metallic lead composition, has proven of exceptional value in arduous dredge service.

Alloy steels are used extensively throughout the dredge. For instance, the buckets, bucket lips, ladder rollers, lower tumbler, screen plates, screen lifter bars, dump hopper liners, and other parts subjected to sever abrasion are of manganese steel. The upper tumbler, upper tumbler wear plates and screen drive spur gear are all of chrome - nickel - molybendum steel. The screen drive roller is of chrome-nickel steel. All shafts and all pinions are of forged nickel steel, while all gears are of alloy cast steel with the teeth cut from the solid blank. There are no cast or forged-tooth gears on the dredge, the effectiveness of the cut-gear construction being plainly evidenced by the quietness of operation.

The main bull gears on either end of the upper tumbler are 120 in. in diameter with 1¼-in. stub teeth and 7-in. face. The intermediate gears are 52-in. in diameter with 5½-in. face and 1¾-in. stub teeth.

1.—The 100-hp. Westinghouse motor driving the bucketline and the upper tumbler. Note the tilting grizzly just in front of the buckets and the rock chute in the right foreground. 2.—The discharge end of the rock chute with a boulder just going overboard off the after end of the dredge house. Note the rails projecting from the chute to keep rocks from kicking over and hitting the tail sluice. 3.—The buckets dump right in your face when you stand in the rock chute. In the immediate foreground is part of the grizzly, tilted up in waiting position. 4.—The 3½-ft. buckets come up out of the pond. There are 67 on the line, digging 20 ft. below water level, and dumping 30 per minute. 5.—The pump department with a Bingham auxiliary, driven by a General Electric motor in the foreground and the Bingham main dredge pump, a 10 by 12, 4,000 g.p.m. centrifugal, in the background. It is driven by a 75-hp. Westinghouse motor.

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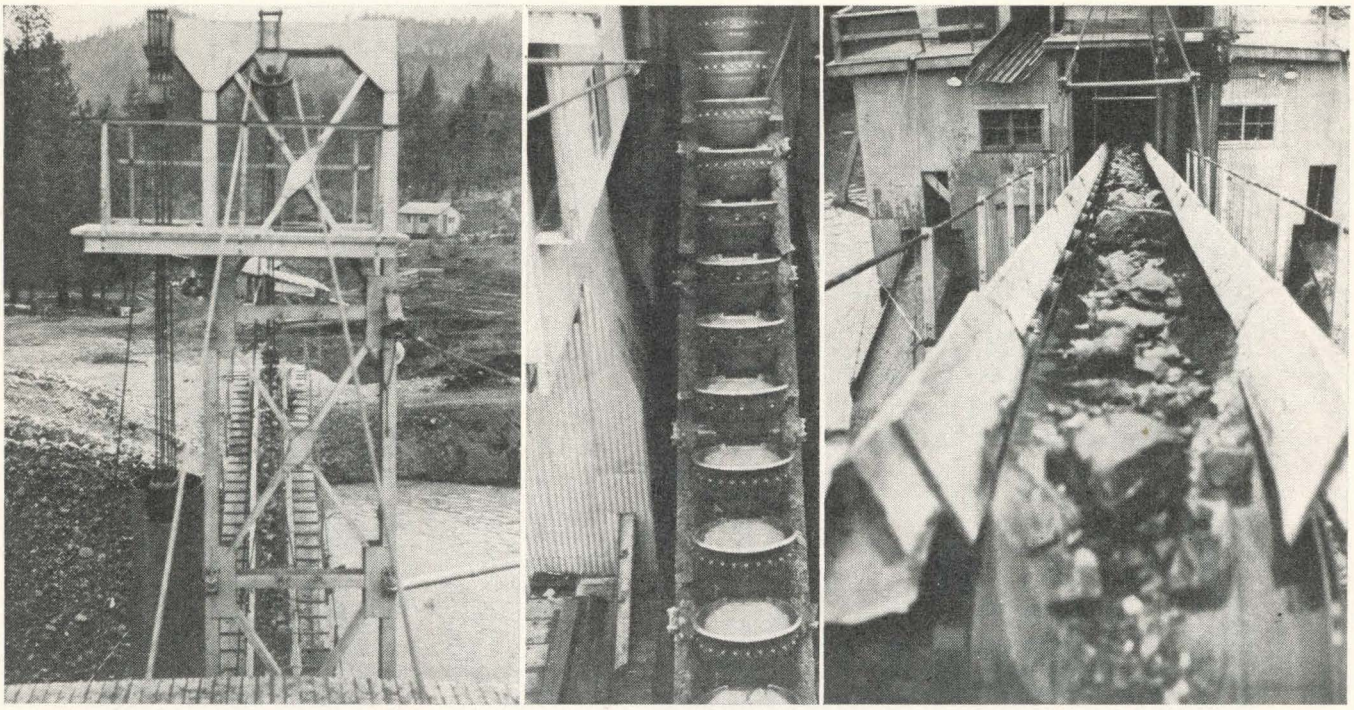
The upper tumbler is driven by a 100-hp., 700 r.p.m. wound rotor Westinghouse motor, connected to the shaft by a 12-strand V-belt. The tumbler itself makes 5 r.p.m.

The buckets of course are of manganese steel, of Washington Iron Works design and manufacture. While most of the buckets are of riveted-lip type, the line carries a number of the new Washington detachable-lip buckets, in which the ends of the lip are driven straight down into keyed groves in the bucket body. The lip is secured in front by bolts passing directly through both the lip and the body of the bucket. There are no functional projections on the body to be worn or broken off and thus to force discarding of the bucket.

An interesting feature of the dredge is the provision made for by-passing boulders. A grizzly, manually operated from the winch house, is installed at the head of a rock chute on the top deck of the boat. When the winchman sees a large boulder coming up in the bucket, he drops the grizzly into position where the buckets dump through it. The grizzly catches the boulder and slips it onto the chute. A bell calls a deckman, who returns the grizzly to its cocked position and easily bars the boulder down the rock chute, which is lined with greased rails, and off the boat into the pond at the stern.



On the left, the stern gantry. Note the cylindrical spud, which combines easy swinging with great strength; and that the catwalk runs entirely around the stacker. Middle—Four of the new Washington Iron Works detachable-lip buckets are seen near the middle of this section of the bucketline. Plate glass in the overhanging portion of the winch house permits the winchman to look directly down on the bucketline. Right—looking down the stacker from its outer end. The belt is from the American Rubber Manufacturing Co., and has a reinforcing strip down the middle, visible where the belt runs over the drive pulley in the foreground. Note the end of the rock chute projecting from the house at the upper left center.

The winch is the product of a company which has made literally hundreds of similar machines for logging equipment. There are seven drums. The front drum handles the ladder hoist and is mounted on an independent shaft. The winch is driven by a 30-hp. wound rotor Westinghouse gearmotor with reversing control and 50 per cent speed reduction resistors. The three front drums, including the ladder hoist and bow swing drums, may be operated independently of the rear drums, which handle the spud, stacker hoist and stern swing. Drum clutches are 27-in. asbestos-lined internal expanding.

Line speed on the bow swing drums with 200 ft. of wire on the spool is 30 ft. per minute, and on the ladder hoist 60 ft. per minute, giving a hoisting speed on the end of the ladder of 10 ft. per minute.

Ladder hoist cable is ⅞-in., with ¾-in. on the other winch drums.

A separate 3-hp. Westinghouse gearmotor with right-angle Link-Belt speed reducer handles the gangplank hoist.

The stacker is 70 ft. between pulley centers. It is provided with Link-Belt troughing and return idlers and carries a 28-in., 6-ply, 32-oz. rubber conveyor belt manufactured by the American Rubber Manufacturing Co. The middle of the belt carries a 5/16-in. wearing strip 5/16-in. high. Pulleys are 30-in. in diameter.

The drive installation on the stacker is unusual, the 10-hp. Westinghouse 70 r.p.m. constant speed high starting torque gearmotor being located between the runs of the belt behind the drive pulley.

The spud is 40 ft. in length, of cylindrical construction, with angles welded on to provide a flat surface in the spud keepers.

Dredgemaster is Harold C. Young, who has a long record of operations, principally in Idaho. The three winchmen are John Ryan, Bedford Biles and William Wisecup. Walter Reynolds is electrician and Howard Gunn is welder.

Welding equipment on the vessel includes a General Electric portable welder furnished by J. E. Haseltine & Co., Portland, and an oxy-acetylene outfit.

The boat generally operates on a swing 120 ft. on the arc, making a forward step of 4½ to 5 ft. Bedrock is dug to the depth of the fracturing, which generally is not great. In virgin ground values are found from the surface down, making it pay to run all overburden through the dredge.

Auxiliary equipment used ashore includes a Northwest 1½-yd. dragline, which is converted on occasion to a dipper shovel; and a "Caterpillar" D7 tractor with a LeTourneau cable-controlled bulldozer. These machines were used in making roads and in digging the dredge pond, and also find ample employment about the operation. Considerable small timber will have to be removed ahead of the dredge and, as the flow of Foots Creek is never large, careful conservation of water supply is necessary at all times. The "Cat" maintains the wings of the dredge pond, pulls stumps and maintains a road to the dredge.

Texaco lubricants are employed throughout the operation, while wire rope used is of Roebling and Broderick & Bascom manufacture.

Electric power is secured from the California Oregon Power Co. by a special line from the Pacific Highway. Being only a very short distance off the main highway about half way between San Francisco and Portland, the Murphy-Murray operation is perhaps the most accessible bucketline dredge operation in the entire Pacific Northwest.

Put items on p. 3 + p. 4 in place of economics

MURPHY-MURRAY DREDGING CO. Gold Hill District Jackson County.

Owner: Murphy-Murray Dredging Company; Geo. E. Murphy, president; James Bruce ~~Murphy~~ Murray, vice-president; Harry B. Murphy, secretary-treasurer; Harold C. Young, dredge-master; Rogue River, Oregon.

Location: secs. 6, 7, 18, T. 37 S., R. 3 W., and secs. 1, 12, 13, T. 37 S., R. 4 W. Dredge built 3½ miles from mouth of Foots Cr., at forks of Left Fork of Left Fork and Right Fork of Left Fork.

Area: 1030 acres, containing 6,000,000 cubic yards of dredgable ground. 4 miles on Right Fork of Left Fork, and 1½ miles on Left Fork of Left Fork.

History: This operation will cancel the following placer properties:

Black Gold Channel placer
C. R. C. placer
Rogue River Gold Mining Company.

G Ground was tested by J. B. ~~Murphy~~ Murphy by a method of shafting over a period of 9½ months. Twenty men are employed in clearing, and operating; this number will be reduced to 15 in a short time. The dredge operates 3 shifts.

Development: Dredge construction started Dec. 17, 1939, and was built by Washington Iron Works of Seattle. Gravel goes into a trommel, then to a jig, and finally over riffles.

Equipment: Steel plontoon, all-electric, 5½ foot chassis, connected-bucket-line dredge, with 3½ foot buckets. Ladder digs to 20 foot depth, and for $15,000, digging depth can be increased. Stacker is 70 feet long. Spud is of a new "round" type. Trommel is 6 feet by 32½ feet. The boat will handle up to 4,000 yards daily. it contains a steam heating plant for thawing and for heating the dredge; fuel oil is stored in center plontoon. Boat is of the most modern construction.

Other equipment includes one D-7 caterpillar with bull-dozer; a 1½ yd Northwest dragline; a well equipped machine shop and tool house. Investment runs up to $200,000.

Mining Facilities: Complete water right for total creek flow, water right goes back to 1882. Dredge will operate during entire year.

Topography: Stream gulch for placering.

Geology: Bedrock is a medium hard slate, most of which can be handled readily by the bucket line. So far, bedrock has dug nicely. There are a few boulders up to 500 lbs. that are handled by the bucket-line and dumped over a rock chute on the boat. The ground overages 18 feet deep, with values scattered throughout this depth. The gold is coarse placer gold.

The locality of the present dredge operation is discussed by Parks & Swartley under the heading Black Gold Channel Mine:

"The Black Gold Channel mine (8 miles southwest of Gold Hill) is on the left fork of Foots Creek in sec. 12, T. 37 S., R. 4 W. It is leased at the present time. In the Bank is exposed about 15 feet of unstratified gravels, coarsest below, and containing boulders up to 18 inches in diameter. There is very little fine material; the boulders, which are almost all of greenstone, are subangular to fairly well rounded. The large boulders are handled by a ~~derrick~~ derrick. Two giants are used under a head of several hundred feet. The gravels are forced upward for 15 feet over an elevator, but the sluice takes the material 2½ feet above bedrock. The mine pit of the present workings has an area of 1½ acres. A large area down the stream has already been worked over. The bed rock is slate cut by dikes of greenstone. The strike of the slates is N. 10° E.; distinct joints run about N. 70° W. Numerous small veins are present, and have a general northeast-southwest direction. --- Kay, U. S. G. S. Bull. 380, p. 65, 1909"

Economics: It is estimated that there is a 7 year operation on 50¢ ground. The company is organized for 1000 shares, no par value; all stock is issued. Shareholders also control two dredges that are having successful operation in southern Idaho.

Informant: J. B. ~~Murphy~~ Murray and Harold C. Young, + R.C.T. 2/20/40
Report by: Ray C. Treasher. 2/20/40
Date: Feb. 20, 1940

State Department of Geology and Mineral Industries

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Portland, Oregon

MURPHY-MURRAY DREDGE

Gold Hill Area

June 18, 1941

The Murphy-Murray Dredge has acquired ground on Ditch Creek which is a tributary of Pleasant Creek. They began digging on Friday, June 13, about 7:00 p.m. in sec. 33, T. 34 S., R. 4 W. Mr. Young, the dredge master was very busy with details of keeping the dredge in operation and I was not able to get complete information from him on the ground that they expect to dig or what they are doing with the ground they had left on the left fork of Foots Creek.

Ray C. Treasher
Field Geologist