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## M.W.A.K. Columbian, Vol. 3, No. 4

Mason-Walsh-Atkinson-Kier Co.

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# M.W.A.K. COLUMBIAN

SAFETY  
DEPARTMENT

MASON-WALSH-ATKINSON-KIER CO.  
BUILDERS OF COULEE DAM

MASON CITY  
WASHINGTON  
January 29, 1937

Safety Engineer

## STEEL BARS FACE CLOSING CHAPTER IN EARTH EXCAVATION HISTORY

Earth rolling up the east conveyer sets the last stage for the five earth excavation feeders on the job here. The stage is also set for a certain structure atop each feeder. This is the simple-looking grizzly or parallel bars used as screens for excavation material. Behind the bars is a story that belongs only to the Grand Coulee dam, however.

In the first place, earth removal from the damsite to a good dumping ground resulted in the selection of the natural scene at Rattlesnake canyon. The scene demanded earth transportation thought. A conveyer became the answer. The distribution of earth along the beginning of the conveyer belt required some kind of receiving and distributing unit, or feeder. The natural desire for both efficiency and speed brought in the use of several laterals or short conveyers leading to the surge (central) feeder. Basically, this is the arrangement now for the river area.

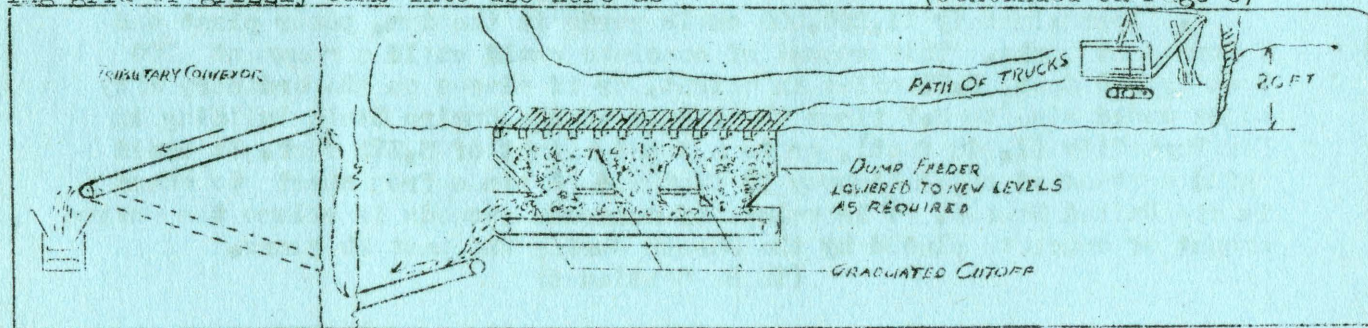
The feeder arrangement and its receiving grid or grizzly came into use here as

they now are to solve certain problems. A feeder unit would have to be suitable to handle mass material, feed steadily and be able to stand up under terrific use. It would have to be able to take all kinds of material from the earth both wet and dry.

Ordinarily on other jobs conditions are different, in amount of material to be handled and the kind, and with scenes quite different. Conveyerized projects are only a thing of recent years. Even today, in the building of dams, they are not entirely common. Usually when they are used for earth excavation, the earth is such that it could be fed directly through some kind of chute to the moving belt. In such a case a kind of screen system is unnecessary.

With conveyer requirements so much different here, the Company literally became pioneers in carrying the use of the conveyer and its attendant parts to changes. Earth excavation problems brought the feed-

(Continued on Page 5)



# QUESTIONS & ANSWERS

GRAND COULEE DAM--COLUMBIA BASIN PROJECT,  
as recorded in a pamphlet issued by the  
United States Department of the Interior,  
bureau of reclamation, dated Sept. 1, 1936.

## D A M:

Q. Where is this project located?

A. The Grand Coulee Dam, power plant and pumping plant is located at the mouth of the Grand Coulee on the Columbia River about 92 miles, by highway, west of Spokane. The lands to be irrigated lie on the east side of the Columbia River between Soap Lake and Pasco in what is known as the Big Bend country.

Q. What does the project include?

A. Construction of a dam, power plant and pumping plant on the Columbia River; a reservoir in Grand Coulee, main irrigation canals and water distribution system on the project lands.

Q. What are the purposes of this project?

A. The irrigation of land, power development, river regulation, and to a minor extent, flood control and improvement of navigation.

Q. What will the project cost?

A. Dam and power plant \$178,790,000; irrigation system \$197,841,000.

Q. How high is the dam?

A. Maximum height above the lowest point of bedrock will be about 550 feet. The dam will raise the water surface of the river 355 feet.

Q. How does this height compare with other dams?

A. Grand Coulee Dam will be the second highest dam in the world. Boulder Dam is the highest, 727 feet; next after Grand Coulee is the Chambon Dam in France, which is 450 feet in height, and next is the 417-foot Owyhee Dam in eastern Oregon completed by the Bureau of Reclamation in 1932.

Q. What type is Grand Coulee Dam?

A. The concrete, straight-gravity type in which the water load is carried by gravity action.

Q. What is the length along the crest?

A. Approximately 4,200 feet.

Q. What are the widths up and down the stream?

A. About 500 feet at the base and 30 feet at the top.

Q. What is the maximum water pressure at the base of the dam?

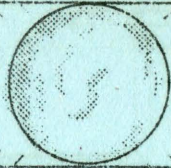
A. 34,000 pounds per square foot.

Q. What is the volume of concrete masonry?

A. Approximately 11,250,000 cubic yards in the dam, power plant and appurtenant works. This amount of concrete would build a monument 100 feet by 100 feet, 5.75 miles in height, or if placed on the ordinary city block would rise to 2.7 times the height of the Empire State Building in New York City (1,248 feet), or to a total height of 3,375 feet. It would build a standard paved highway 16 feet wide 2 times from coast to coast in the United States. This volume of concrete exceeds in volume the entire amount of concrete placed by the Bureau during the past 30 years.

(To Be Continued)

FROM THE  
CRYSTAL BALL



A YEAR AGO

BOB JENKS performing a coup de maitre on skates, an acrobatic exhibition that shivered concrete and ice and brought a change in shape and color for one-half of somebody's features-----

DAVE SLEE, "Caesar had his ambitions too."-----

CURLY GOLE and KEITH PATTERSON posing for their picture-----

LEE CLAYTOR talking on present conditions.-----

VIRGIL HAMBLIN and KEN BYE bearing California sunshine all over the landscape-----

DAVE STALKER boosting the President's ball-----

R. R. TECHMEIER afraid to go home?-----

BALDY AKER enacting a Volez & Yolanda performance-----

BILL PEARSON--"Did you ever hear this one?-----

Ralph Stout and Bud Nash talking radio-----

George Simonsen looking down a dry pipe-----

POSTMASTER WALKER behind the bars-----

JOHNNIE ATER with his leather cup-----

JOE COZZETTI BUZZING AROUND-----

JIM WEBER singing "Sonia" on skates-----

SAFE WORKMEN--THERE'S ALWAYS A SHORTAGE OF THEM-----

CLAYTON LINDBERG--: "Hello, sis."-----

GENE KENWORTHY becoming the re-incarnation of Dead-Eye Dick-----

JACK SKITTRALL tuning in Pittsburgh-----

ALBERT SANDHOP digging out a water pipe-----

R. F. MASSIE making dates-----

JAMESON and RENFROE settling a ping-pong score-----

FLORENCE REINNER interested in vital statistics-----

HAROLD VAN GUNDY and DOROTHY KAESER inclined to disagree slightly-----

THOR TORKLESON shaking hands with something that's gone-----

A. L. REED soberly advising Morris (Lethair) Schultz-----

K. L. PARKER insisting that you've got him wrong--he's never been a major-----

W. KOEHLER leaving his horse at the barrier-----

HARRY FELDHAHN still grinning, now and then, at an incinerator-----

IF YOU'VE HAD AN ACCIDENT, DON'T REPEAT--

IF YOU'VE NEVER HAD AN ACCIDENT, LOOK OUT.

W. E. KIER first contributor for Ohio river flood relief-----

-----Suspend work operations for five minutes (Jan. 29) as a mark of respect for Dr. Elwood Mead, whose funeral services were being held in the east. Dr. Mead was commissioner of the federal bureau of reclamation.-----

-----All bedrock blocks for block 40 have received concrete.-----

-----Add 150-foot conveyor extension in Brett pit.-----

-----Conveyor excavation on east side proper ends at 4 o'clock today.-----

-----FIRST AID SHOULD BE YOUR FIRST THOUGHT AFTER INJURY.-----

-----Announce plans to line five sections of the west side slide area shaft with concrete-----

Begin driving timber piling into river around gravel plant pump house to break water away from the house-----

ODDS ENDS

-----A radical innovation in caisson work was demonstrated and proved successful in building the foundations for the new Federal building in New York city. Instead of using the familiar compressed air system for the caissons, an entirely new method was devised whereby the steel cylinders equipped with saw-tooth edges, bored their way to rock through 65 to 70 feet of clay, sand, and boulders-----

-----The figure 3,500,000 has been given as the number employed by the Works Progress administration (WPA)-----

-----The white pelican appears to be marked for extinction-----

-----WHAT COULD BE MORE IMPORTANT IN LIFE THAN HOLDING ONTO IT AS LONG AS POSSIBLE?-----

-----The quickest flash of lightning was measured as taking sixty-nine millionths of a second to travel 3.5 miles-----

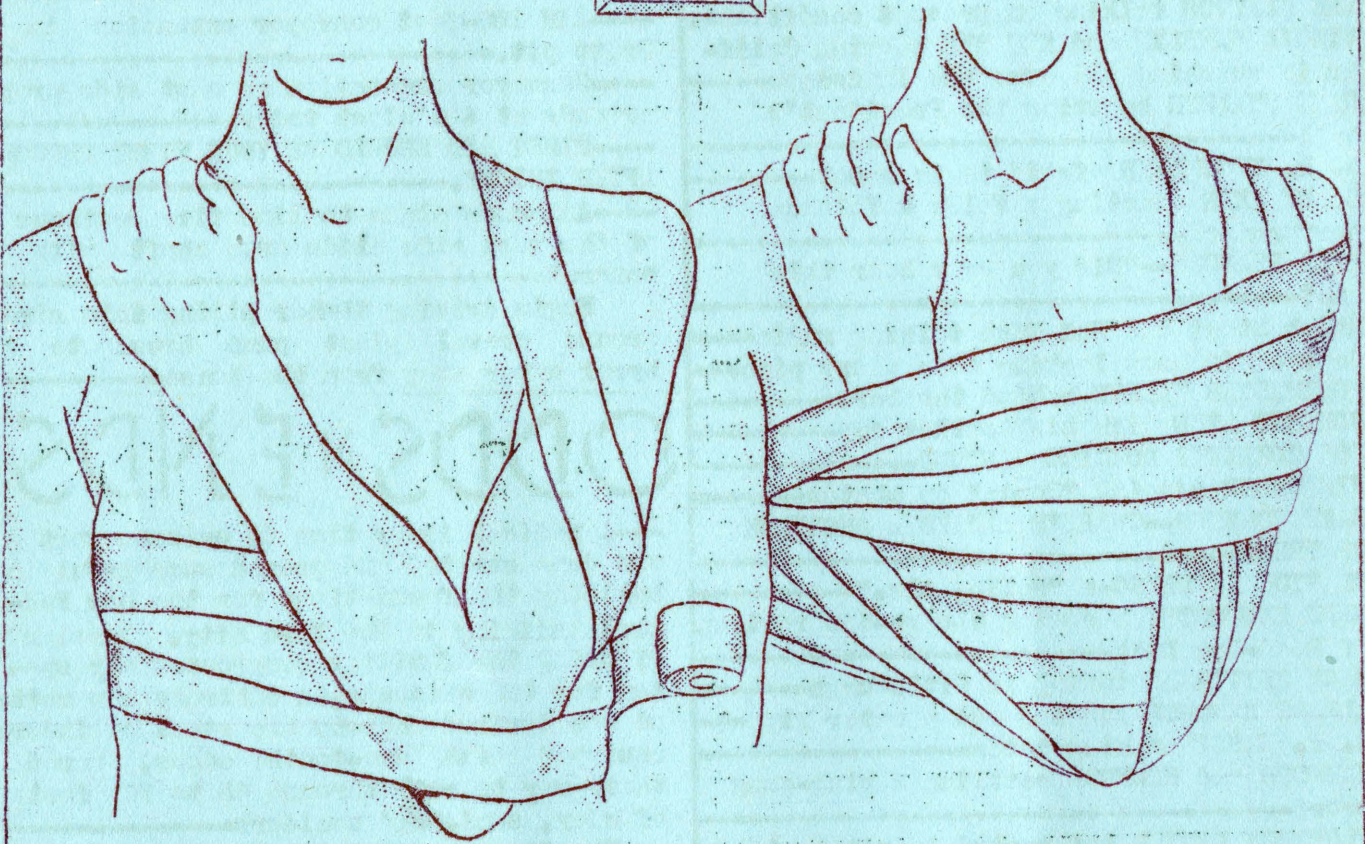
-----The distance of the moon from the earth varies from 221,243 to 252,715 miles-----

-----Presidents of the United States who had no sons or daughters were Washington, Madison, Jackson, Polk, Buchanan and Harding. Buchanan has been the only unmarried president in the history of the country-----



FIRST STEP

FINISHED



BANDAGE FOR FRACTURE  
OF SHOULDER.

BANDAGE FOR SAME  
FINISHED

# FIRST AID INSTRUCTION

# GRIZZLIES

(Continued from Page 1)

or and its grizzly as a solution.

The big problem was how to take care of earth spotted with boulders. If huge granite pieces passed through a feeder, they might severely damage the receiving mechanism of the feeder, the rollers of the conveyor might suffer and above all, large rocks would slash the 60-inch conveyor belt to bits. Time and equipment loss would be serious.

Railroads rails spaced about 24 inches apart became the first grizzly. They admitted boulders that were too large. Another step was to devise a grid that could be inclined about 35 degrees for the boulders to slide off and be picked up. These were too slow. At one time power shovels dumped through a grizzly into trucks. Finally a flat grizzly was installed over each feeder.

This was the grizzly of today, first placed above its feeder two years ago last Christmas. In keeping with the ruggedness of the 65-ton feeder itself, the grizzly was built for heavy duty. It screened off boulders too large for the conveyor belt. It was resistant enough to allow the largest caterpillars equipped with dozers to push granite masses off the top of feeders; and it took the battering with good grace.

It made possible a further feat, something "not in the books." The fact that there was clay below first overburden was a known fact, but it was not known that the clay would hold in hard masses like rock, too large to be handled by the conveyor, the feeder and the grizzlies. The particular type of heavy grizzly, however, made possible the crushing of hard clay right on through the grids. This was done by a bulldozer passing over the clay. Thus did the heavy duty grizzly solve two problems.

A grizzly is built of 12-inch channel steel (35 pound) with a 5/8 inch plate

welded along the outside and tapering downward. The one inch taper is from  $3\frac{1}{2}$  to  $2\frac{1}{2}$  inches. The reason for the taper is that if material could pass through a smaller top opening there should be less chance of the dirt clogging up the grizzly openings.

A grizzly is made in five sections, each eight feet long and nine feet wide. The working width is seven feet and the opening between bars 13 inches.

The huge apron feeders are sunk below the floor of successive excavation cuts, encased in timbering and earth fill so that trucks and buggies can dump through the grill on top. Each has a receiving hopper beneath the grizzly. The hopper contains graduated cut-off gates to regulate withdrawal of material in correct amount from each of three compartments. This division is made by shields formed of crossbeams over the feeder box.

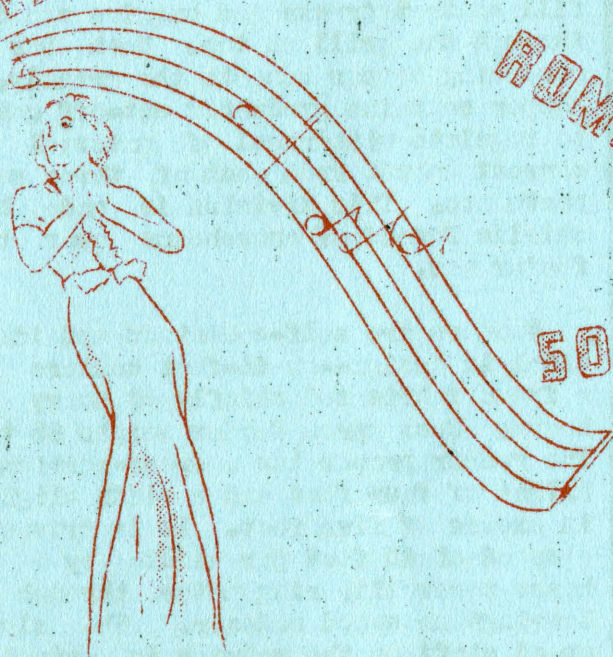
Feeders are self-contained and identical in design--on 46-foot centers with a frame fabricated chiefly of heavy I-beams. Each apron feeder weighs 65 tons. The feeder proper has a cross-sectional height of four feet and a width slightly in excess of five feet. It is driven at a speed of 40 feet per minute by a 50 horse power slip ring motor through a herringbone speed reducer. The slow speed shaft on the reducer is extended out on both sides and connected through couplings to permit use of a double chain drive to the head shaft. The hub, or central feeder, is of the same design except that it is on 29-foot centers and driven at twice the speed in order to regulate the amount of excavation and to keep up with the amount of excavation coming in from several of the apron feeders. Working at capacity any two of the tributary feeders would keep the main line conveyor filled, as each has a capacity of 1500 cubic yards loose measure per hour. Actually, however, material can be dumped into two, or three, or all four of the tributary feeders, depending on the rate of delivery to them. This peak use of feeders will be seen in the river area at a later date.

MASON CITY THEATRE FRI-SAT-SUN-MON—

# PENNIES FROM HEAVEN

MADGE EVANS  
EDITH FELLOWS

## Bing CROSBY



ROMANCE!

SONGS!

LAUGHS!



TUESDAY ONLY 9 P M

### PLAY MOVIE SWEEPSTAKES

FREE \$103<sup>00</sup> FREE

THREE BANK NOTES  
IN ONE

3 TIMES AS MANY  
CHANCES TO WIN

## DUMB STUNTS

The "dumb stunts", not at all uncommon, which shorten the lives of workmen do not just happen. They become a part of the habits of workmen because they are permitted.

Unsafe habits, dumb stunts, chance taking, thoughtless acts and violation of rules can be curbed and finally stopped, but it takes job training to do it. These irregularities are not accidents; they are the results of practice and are like the inertia which permits a heavy fly-wheel to continue turning after the power is shut off. A brake is required to stop the wheel quickly. The issuance of a rule is not sufficient to stop careless habits. Enforcement of that rule is the brake that will do the trick.

A machine can be developed to act with greater precision and sometimes to better effect than the hand of man, but not so with the brain. The power of thought is supreme and nothing can take its place.

Safety--the continuity of physical ability to work and earn can be had just to the extent that job training and the response to that training are recognized and utilized as creators of mental impulses, habitually followed until they become fixed and steady purposes of mind interpreted into action.

## SINK EAST SHAFTS

Exploration work on east bedrock is carried on through a shaft and a trench.

Down in the deep east hole a 5x7-foot shaft goes downward in block 69-A---down 24 feet by Tuesday. In 66-A the trench 20 feet long and five feet wide had gone 12 feet by the same time.

These cuts will later be concrete-filled after rock is inspected and taken care of.

-oOo-

## CARD OF THANKS

Mr. and Mrs. Earl Willett of Grand Coulee extend their appreciation for the thoughtfulness of friends in their bereavement in the loss of their six months-old-daughter, Josephine, Jan. 19.

-oOo-

WINNERS AT NELSON CITY THEATRE STEEP-stakes Tuesday-----

C. D. Hauser, first; W. Koehler, Second; Mrs. C. H. Smith, third.

-oOo-

THE TEAM WITH AN AMAZING RECORD, THE Peshastin Lumberjacks, will face the UTAK Oilers here Saturday night of next week as a part of a double-header.

-oOo-

Even, now.

The CCC's and Oilers' seconds are even. Monday the Oilers took game #4 27 to 34.

# THE PRESIDENT'S BALL

SATURDAY JAN. 30

SOUTH WING-MESS HALL

BENEFIT

FOR INFANTILE PARALYSIS VICTIMS IN THE STATE OF WASHINGTON AND FOR PRESIDENT ROOSEVELT'S WARM SPRINGS FOUNDATION, GEORGIA

SPONSORED BY

ALL LOCAL CLUBS OF THE AREA, ALSO THE USBR AND CCC CAMP

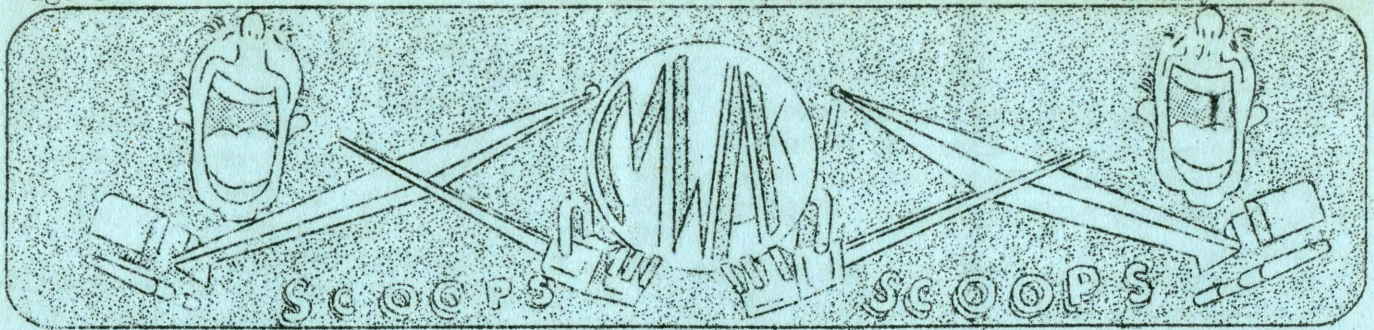
70 per cent of the proceeds remain in Washington, 30 goes to Georgia

TICKETS

PER COUPLE

ALLEN MAPES (Mason City post office) in charge of tickets.





They were sitting under the trees in the car, while the full moon shone down upon the snow-covered landscape.

"Darling," she cooed, "do you really love me?"

"Of course I do."

"Do--do you think of me night and day?" He hesitated for a while.

"Well, darling, to be frank with you, I do think of basketball sometimes."

-oOo-

NEVER TRUST A MAN WHO SAYS HE LIKES TO GET UP EARLY ON THESE COLD MORNINGS.

-oOo-

Hubby (feeling a twinge in the back while tuning in the radio): "I believe I'm getting lumbago."

Louise: "That's the use, dear? You won't be able to understand a word they say."

-oOo-

AFTER LISTENING TO THE POLITICIANS SPEIL WE LEARNED WHY THIS IS CALLED A LAND OF PROMISE.

-oOo-

"When you sold me this dog you said it would grow into a magnificent Russian wolfhound."

"Can I help it if the Five Year plan failed?"

-oOo-

ONE LOOK AT A WOMAN WHO SAYS, "IN ALL OUR MARRIED LIFE MY HUSBAND HAS NEVER GIVEN ME A CROSS WORD," WILL CONVINCe YOU SHE HAS A HUSBAND WHO USES GOOD JUDGMENT.

-oOo-

"I'll teach you to love my daughter," roared the irate father.

"I wish you would, sir, I'm not making much progress," replied Soren calmly.

"I want to insert a notice on the birth of my twins."

"Will you repeat it, sir?"

"Not if I can help it."

-oOo-

"Nowadays you can't trust anybody; the grocer gave me a bad quarter yesterday."

"Let's see it."

"I can't. I paid the milkman with it this morning."

-oOo-

IT IS THE GROWLING MAN WHO LIVES A DOG'S LIFE.

-oOo-

"Every time I kiss you it makes me a better man."

"Well, you needn't try to get to heaven in one evening."

-oOo-

ONE OF THE BEST THINGS YOU CAN DO TO PREVENT ACCIDENTS IS TO KEEP YOUR PLACE OF WORK CLEAN AND ORDERLY.

-oOo-

In this family there were several small children. Little Willie, age six, was taken in one morning to see his father, who happened to be laid up with influenza. Little Willie was very quiet, almost reverent, in the sickroom. When it was time for him to go, he went up to his father's bedside and said: "I bin good, ain't I, pop?"

His daddy: "Yes, son."

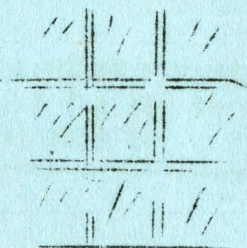
"Well, then, kin I see the baby?"

-oOo-

THE ONLY THING A HEATED ARGUMENT EVER PRODUCED IS COOLNESS.

-oOo-

AND LET IT BE REMEMBERED THAT EVEN THE HARDEST OF HARD-BOILED EGGS IS YELLOW INSIDE.



AREN'T YOU THE BIRD WHO KEPT GETTING IN FRONT OF ME ON THE HIGHWAY LAST SUNDAY?

# CHURCH

# SPORTS

COMMUNITY CHURCH-The Rev. W. W. Sloan,  
Ph. D., pastor

9:45 a.m. Church school.  
11:00 a.m. Morning worship; subject,  
"God's Manifestations"  
11:00 a.m. Junior church.  
7:00 p.m. Three meetings---  
Junior high society.  
Senior high society.  
Vesper services, with continuation  
of series on "American Leaders"  
A new class for members of the Commu-  
nity Church guild will begin at 9:45 a.m.  
Sunday under the leadership of the presi-  
dent, Mrs. G. A. Warning.

CATHOLIC CHURCH-Father A. Farrelly, pastor  
On Sunday, Jan. 31, mass will be said  
in St. Benedict's church, Mason City, at  
9 a.m. and at 11 a.m. in Grand Coulee.  
Instructions for children will be given  
Saturday at 10 a.m.

CHURCH OF JESUS CHRIST OF LATTER DAY  
SAINTS--R. E. Nuttall, superintendent  
10:30 a.m. Sunday School.  
Mason City high school.

VISITORS WELCOME  
-oOo-

DON'T KID YOURSELF---  
THE SNOW ISN'T HELPING  
VISIBILITY, COLDS  
OR WALKING  
-oOo-

THE UNITED STATES  
Civil Service commis-  
sion announces open com-  
petitive examinations  
for junior patent exam-  
iner (\$2000 a year), e-  
levator mechanic  
(\$1680) and junior ob-  
server in meteorology  
(\$1440).

Inquire at post of-  
fice.

-oOo-

Sloping of the west  
diversion channel at  
the south end is nearly  
complete.

TONIGHT  
DOUBLE HEADER

Nespelem high vs. Mason City high  
First and second teams  
7:30 p.m. FRIDAY Government gym  
Admission 10 & 20¢

## HARLEM!

"Enough clowning to make Barnum and  
Bailey's show look like a carp meeting--"  
Bunny Leavitt, world's champion free  
thrower---

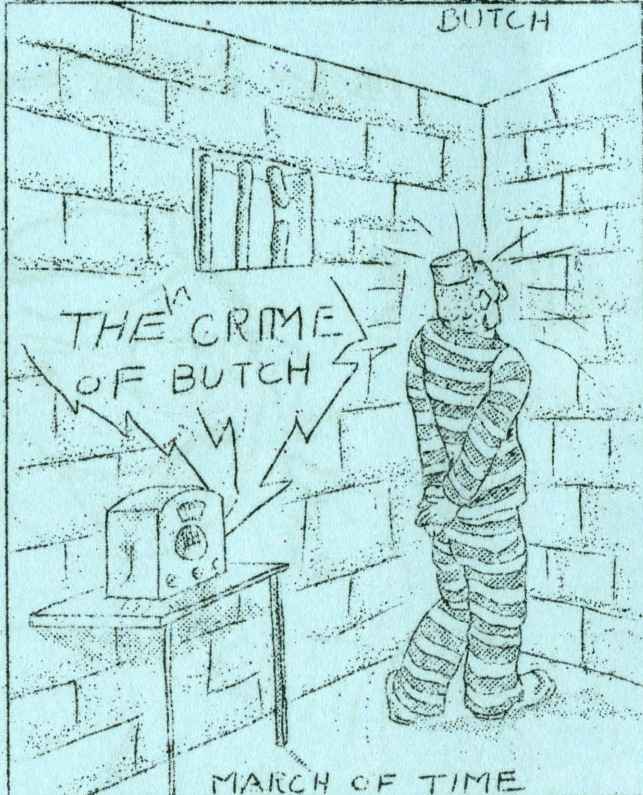
These are only two features of the  
Harlem Globe Trotters, dusky basketball  
team from the east, who face the USBR five  
Thursday night, Feb. 4, on the Government  
gym floor.

The Harlenites are a first-class bas-  
ketball club, usually able to score at  
will. Their entertainment antics, how-  
ever, compare with their ability to hand-  
le a basketball.

## COUGARS TRIUMPH

Honoring the team of his alma mater,  
W. A. Vallis of Grand Coulee brought his  
12-piece band to the  
Government gym last  
Monday night, and rep-  
resentatives of the  
U.S.C. varsity and for-  
mer freshman teams won  
over the Oilers 31 to  
27. The Cougar Cottage  
led at the half 15 to  
13.

BUTCH



Sparked by Klumb,  
varsity football end,  
and Fix and Mason, Var-  
sity basketballers, the  
Cottage turned in a  
close and fast-checking  
game coupled with fast  
passing.

Illness prevented  
the appearance of God-  
dard, Terry and Kasch,  
noted athletes.

A second game will  
be played here Feb. 15.

# Googles



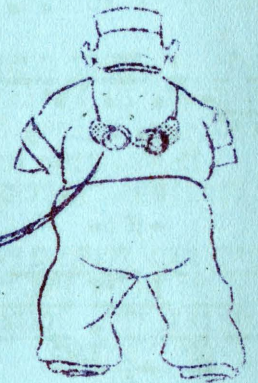
*they don't  
help HERE*



*nor HERE*



*nor HERE*



*but*

**OH MIN!**

*how they do*

*help HERE*



# weai' 'em

# AROUND THE DAM

## HELP FLOOD VICTIMS

As a result of the desire of men from the camp, a central scene was located Wednesday for donations to be sent to victims and refugees of the disaster along the Ohio and Mississippi rivers.

Contributions are made and recorded at the rental library desk of the Coulee Trading company with Mrs. Rachel Whitehouse. Donations of any size are welcome.

Contributions will be sent through proper channels to the flooded areas.

-oOo-

## WILL ADD TWO FEEDERS

Fifteen thousand yards of earth went up the east conveyor from the river bottom in the three 7-hour shifts Tuesday. With only two tributary feeders placed, this is a good average. Work will begin on the addition of two more feeders early next week.

Nearly a score of trucks and wagons are carrying to the two feeders in use.

The snow, however, has been causing some difficulty in truck bottoms and conveyor rollers.

-oOo-

## COULEE DAM SEES HIGHEST SNOW

The white blanket over the area becomes the thickest blanket of its kind since active operations here on the Grand Coulee dam.

Three inches of snow fell Wednesday night to reach a depth at 8 a.m. Thursday of 11½ inches.

Charles Osborne, for more than 50 years a resident of the area, remarks that the amount of snow is "unusual." Usually little snow falls along the river here.

-oOo-

NOT THAT IT HAD MORE OF A REST THAN IN a long time, shay #5, which operates from Electric City to the dam site, left for Hillyard, near Spokane, for a complete overhauling.

-oOo-

PLEASE RETURN ALL LIFE VESTS NOT IN USE TO THE SAFETY DEPARTMENT, WHERE YOU ARE NO LONGER RESPONSIBLE FOR THEM. VESTS CAN AGAIN BE CHECKED OUT WHEN NEEDED.

-oOo-

Crib erection on the downstream cofferdam added swing shift work Monday and has continued throughout the week.

## BORN---at the Mason City hospital

Jan. 26, to Mr. and Mrs. Harry Davis of Coulee Heights, a daughter.

Jan. 27, to Mr. and Mrs. Delbert Irons of Elmore Heights, a son.

-oOo-

## SCRAPER SETS OUT TO SCRAPE

Something new moved down into the excavation area Wednesday.

This was a welded plate steel scraper on the end of 'dozer arms of a caterpillar. The arms lead from the shafts of the cat and are 20 feet long. They are raised and lowered by cables from the block and drum of the cat.

The scraper is to remove sticking material from the bottom of dump trucks.

The cat performs the scraping by moving back and forth.

-oOo-

## WEST LOW TRESTLE NOT THE SAME

Decking is gone, steel is going, and only the bents of the west low trestle are remaining. The one whirley is seeing to that.

Bents will not be removed until power house blocks have all water pumped out so that all steel in bents can be taken out.

-oOo-

BEGINNERS ON SKATES AT THE MASON CITY RINK SHOULD AVOID CROWDS, BECAUSE ALL SKATERS ARE ENDANGERED. USE DAYLIGHT HOURS.

-oOo-

-oOo-

The east conveyor began operations after 4 o'clock last Friday. The second feeder was in operation two days later.

COULEE TRADING

CO

FRI.

SPECIALS

SAT.

NATIONAL LAMB WEEK

SPRING LEGS LAMB..... 24¢#

SPRING SHLD LAMB..... 21¢#

SHANKLESS PICNICS..... 19¢#

A REAL TREAT

MELROSE SLICED BACON... 39¢#

WE SELL QUALITY  
MEATS ONLY

MEAT

DEPT