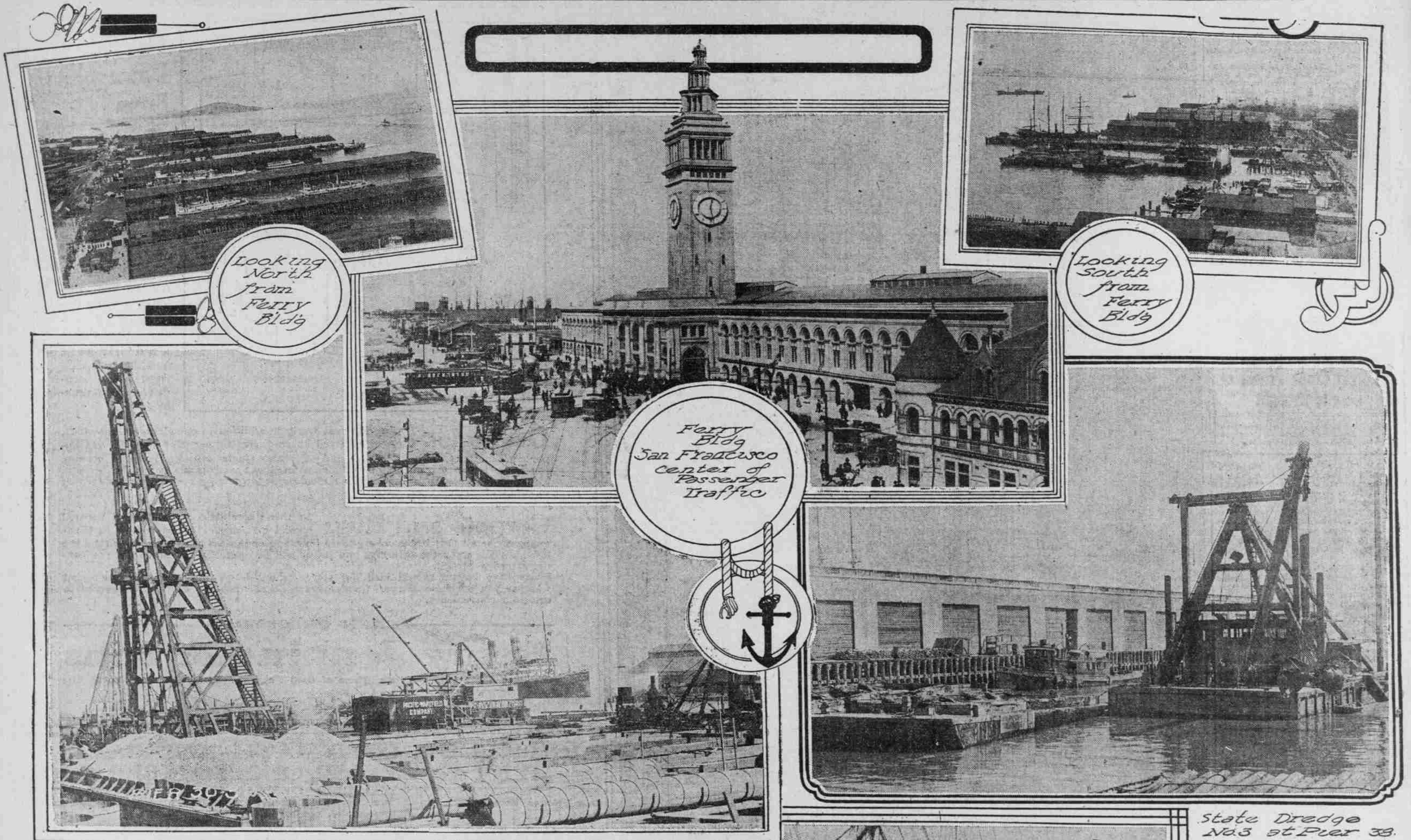


MILLIONS ARE BEING SPENT PREPARING FOR CANAL TRADE

San Francisco, Berkeley, Oakland, Richmond and Bay Harbor Centers in General Have Elaborate Systems of Modern Docks Under Way in Anticipation of Panama Traffic



Looking North from Ferry Bldg

Looking South from Ferry Bldg

Ferry Bldg San Francisco center of passenger traffic

State Dredge No. 3 at Pier 38

Pier 30 1852 - the heart of the waterfront of San Francisco

HOW SAN FRANCISCO BAY CITIES ARE PREPARING FOR CANAL OPENING.

San Francisco has a most elaborate system of concrete docks extending from the North Point to the South Basin, a distance of six miles, and is still building.

The City of Richmond, the new manufacturing locality on the east shore of the bay, has started improvements which will cost \$11,500,000.

Oakland has already authorized a bond issue to the extent of \$2,300,000, and probably will issue more. The Government has also spent several million in Oakland improvements.

Berkeley, the college town, has a pier, two miles long, at which the South Pacific traders unload their wares and it will soon consider the making of a great inner harbor.

All these works are of the latest design, one mass of concrete.

also digging a deep basin surrounded by a stone quay at which the smaller traders may unload their wares. The mud and sand excavated is being used in filling some of the adjacent low ground.

The wooden docks are rapidly being replaced by more modern ones, equipped with the latest loading devices.

Hamburg has long been quoted as the city presenting the best shipping facilities. Engineers in charge, who have made a study of the work in foreign lands, say that the San Francisco facilities will, if anything, even surpass those of other lands.

The work proposed includes the Goat Island project and the building of further terminal facilities. Should Goat Island be refused them, the San Francisco engineers will begin their search elsewhere.

Oakland's greatest feat is the construction of an immense inner harbor on the west front of the city. This means the excavation of two square miles of tide land to the depth required for the passage of modern ships. Enough of this work has been done to enable the handling of the biggest ships afloat and the work is progressing night and day.

Portland Problem Similar.

Oakland's present harbor confronts them with a problem very much like that of Portland. It extends for several miles on the north side of the Estuary, the narrow inlet or canal which lies between Oakland and Alameda. This is about the width of the Williamette River, but very much shallower.

The docks there are placed along the river, without slips. Oakland has undertaken the task of modernizing the old front and building more new docks.

In all this work not a piece of wood is placed in the water, as the construction is all too heavy to be replaced every few years by new.

The first step is about completed. It is a solid wall of concrete, 29 feet wide at the bottom and tapering to an 18-inch curb at the top. It is 40 feet high, which will make a depth of 30 feet at low tide. The present unit is 2000 feet long.

This quay was constructed 200 feet in from the original shore line. As soon as all work is completed the dredges will start filling the land back of it with the mud removed to the channel in front. The Government's channel has a width of 800 feet at the point, which will make the total part navigable to merchant men over 700 feet.

This wall is the start of one which will eventually extend to the main bay, along the pier of the Western Pacific Railroad.

Many of the companies which have their works along the estuary are co-operating with the city and the Government in making the waterfront as solid and well built as modern construction prescribes. Such wooden docks as at present form the waterfront of Portland have been relegated to the discard long ago.

In the lower harbor near the different railway piers, extensive operations are being carried on by both the city and the railroads. Just inside the bay line stands the Livingstone pier, a concrete wharf of the most modern construction. The appropriation for that piece of work was \$175,000.

The greatest part of the money

raised for improving the shipping facilities of Oakland has been spent on what is locally known as the Key Route Basin project.

This broad flat is for the most part above water at low tide and never covered by more than four or five feet of water. What is termed the harbor line was formerly about 1 1/2 miles out toward San Francisco.

The first step was the construction of several miles of bulkhead. Then dredges were hired, which pumped out the silt and made factory sites behind the bulkheads. One main channel was dug, wide enough to handle the biggest steamers in the freight business. Inside is a large basin where they may be easily handled on their own steam.

The present appropriation only provides for the building of the retaining wall and the filling of the land behind it. However, the plan which the city is

building on calls for the construction of a string of the most modern wharves all along its miles of waterfront.

To date 400 acres of the land have been filled high enough to allow the building of different manufacturing plants. One of the largest steel mills on the Pacific Coast is now growing on the land of the east shore basin.

Both the Southern Pacific and the Santa Fe Railroads have acquired grants from the city of Oakland which

allow them to improve the frontage surrounding them. The Santa Fe Railroad owns 1500 feet of land on the estuary, and has plans under way which will cost very near a million to carry to completion.

The biggest job of all has been tackled by the thriving manufacturing city of Richmond, in Contra Costa County, to the north of Berkeley, on the east shore. This city is the scene of the Standard Oil Company's largest

refining plant, the Dupont Powder Works, the Metropolitan Match Company, the Pullman Car Company, and shops of several railroads.

It also has a great works and boasts of the greatest number of varied industries, all on a large scale. Many of the shipping companies of the metropolis across the bay now come over to Richmond to meet the transcontinental trains, instead of standing the heavy haul around or over the bay.

\$18,500,000 Plans Drawn Up.

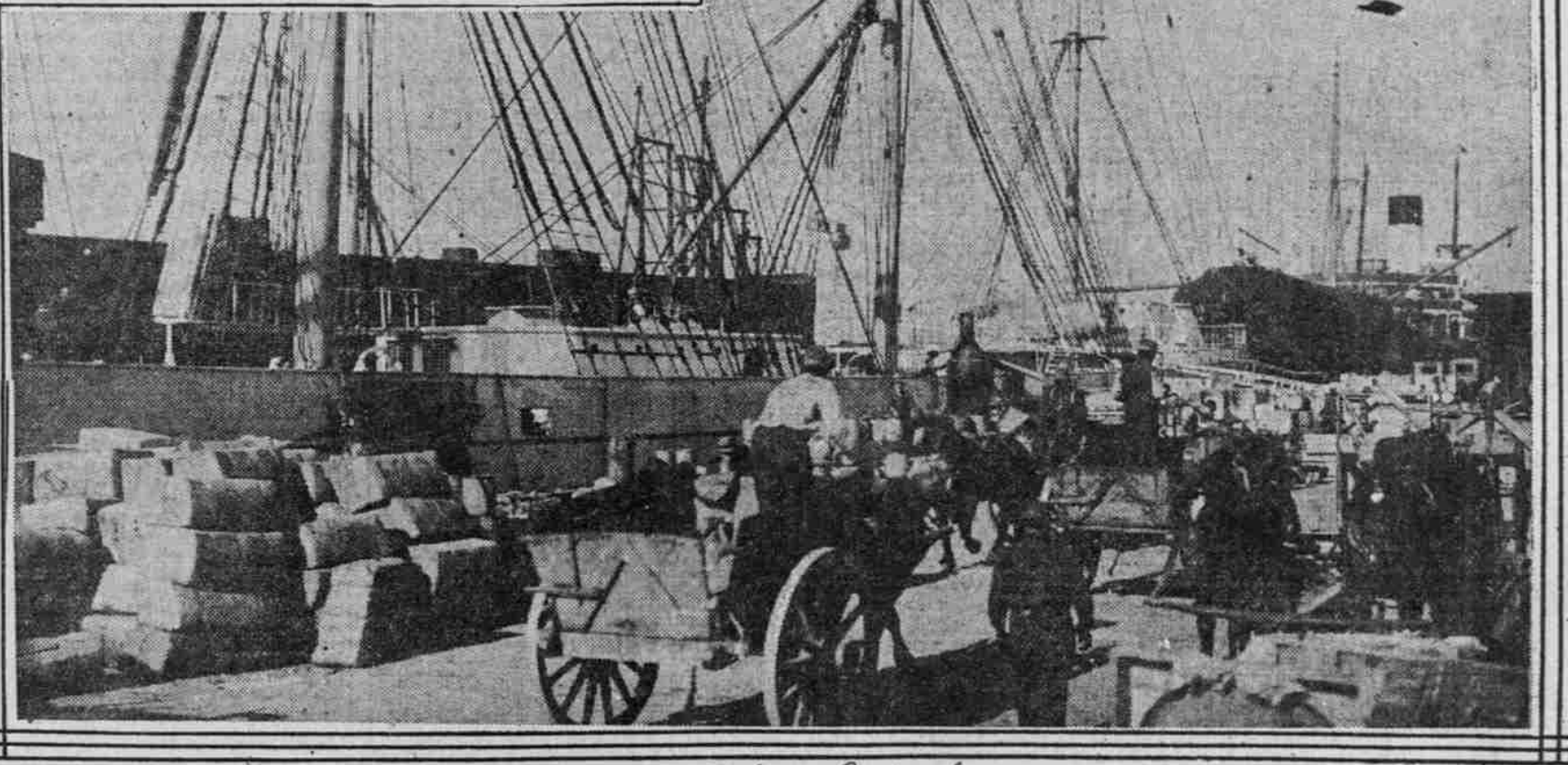
The plans drawn up call for the expenditure of \$18,500,000, but it will be several years before all this will be completed.

It has the same difficulty that confronts all the East Shore cities, in having to reach out to deep water or else to bring the deep water in. Richmond has started on the latter, and has three large inner harbors proposed. Work on one has been in progress for some time, and will be finished long before the increased traffic of the Panama Canal starts to bring in the freight-laden boats from all the world.

In all this work, the style which San Francisco has started will be followed. In San Francisco Bay the life which destroys all wooden piers is even more destructive than in other salt-water harbors.

This has brought about some entirely new methods of construction. From top to bottom the latest docks are all steel and concrete, and are more bridges than wharves. The deep sediment and loose sand of the bottom of the bay makes sinking piers for the heavy upper work a difficult matter.

The engineers have devised long tubes which are first sunk in the mud. When these reach hard soil, the mud and water is pumped and a large wooden inner tube is put inside the steel husk. When the desired foundation is reached the wooden tube is filled with concrete and the steel removed. The wooden tube is soon eaten off, but the concrete lasts forever. On these piers rest the trussed floors of the dock, a sheet of concrete and steel, 10 inches thick. The walls and roof of the wharf buildings are of sheet iron.



Scene Along Waterfront, San Francisco

of 5 months, almost a living skeleton, weighing but one-half pound more than it did at birth—it was all a matter of improper feeding. The child specialist was called upon and gave the mother much-needed advice. The child is now thriving.

One year ago, at one of the suburban Mothers' Clubs, a talk was made by one of the officers of the Council of Mothers City Circles. The president of the local circle knowing of a young mother who was in sore need of friendly and efficient counsel prevailed upon the little woman to bring her baby to the meeting. The speaker took the tiny infant in her arms, pointed out the cause of ailment, suggested a remedy. One of the prizes awarded at the recent contest held at the Multnomah Hotel was awarded to this baby. But for the timely advice, which was religiously followed, it is considered quite certain that the child would have been a victim to the infant ailment, with which it was afflicted.

Inquiries Are Numerous.

Not merely among the mothers of the city is the influence of the bureau felt, from all sections of this and other states come many letters of inquiry. "I have read all about your bureau in 'The Oregonian,'" writes one interested mother, "and I would like to have those leaflets on proper food for children, how to tell the story of life, and when

board and the "Father of Eugenics in Oregon," and a talk by Mrs. E. H. Tate on the work of the bureau. Refreshments were served and a considerable sum was raised to meet the expenses in connection with the local garden contest work.

Thus the work of the parents and the schools correlate.

BENEFITS OF BUREAU PROVED BY PARENTS

Mothers Consult Educational Department on Matters of Vital Importance to Babies' Welfare and Results Are Demonstrated.

BY BERTHA TAYLOR VOORHORST.

"MY husband he said, 'you just go down mit dot Parent's Education Bureau and see dose ladies dere, and see if dey can't help us mit dot leetle baby.'" This was the statement made by the mother of a child 9 months old, which did not thrive on the brand of patent milk in use. The nurse, after making inquiries, recommended orange juice or prune juice to be used alternately with cow's milk, allowing an hour and a half interval. "But I was afraid to use de cow's milk!" exclaimed the troubled mother. Her anxiety in this respect was relieved by the assurance that pure milk could be obtained from any of the dairies included in a list made up especially for mothers by members

of the Health Board and dairy inspectors.

The circular, including this list, has just been published and is distributed freely among the mothers at the Parents' Educational Bureau. After reading over the circular the mother fairly beamed: "Oh, I was glad to get dis, I will use de cow's milk now." Her attention was directed to the fact that the dairies topping the list charged 15 cents a bottle, due to the high quality of their product. "Oh, I do not care, I will buy de best milk for my baby now dat I know vere to get it, but I will not get it from de grocer."

Trivial Points Important.

This is only one of the many instances where the Parents' Bureau helps the mother in the little things, which seem so trivial and yet are so important.

Another mother brought in an infant

bodily education begins." An expectant mother writes for patterns and instructions how to prepare the practical layette, which is demonstrated at the bureau; another writes for literature bearing on child welfare.

One young mother frankly and eagerly told of her family experience, feeling that it might be of help to others, particularly how she and her husband became interested in Eugenics.

Parents Get Benefit.

During the early years of her married life her husband was careless in his habits, smoked and otherwise contributed to the deterioration of his physique. Upon the birth of the first child his feeble constitution impressed the parents with the necessity of building up their own general health if they wanted to have their children live. The father ceased the use of tobacco, slept out of doors, took plenty of exercise in the open air, and the result was all they anticipated, the second child was a splendid, normal, healthy offspring.

An example of the interest being created by the work of the Parents' Educational Bureau and the Eugenics movement was shown at the Clinton Kelly School one rainy night during the past week. Over 300 parents and about 200 children braved the elements to hear an address by O. M. Plummer, the newly elected member of the School

NEW MILLS PROJECTED

Deal for 250,000,000 Feet of Timber Consummated at Chehalis.

CHEHALIS, Wash., June 28.—(Special.)—The entire holdings of the Chehalis Lumber Company, located at Littell, four miles west of Chehalis, on the Chehalis & South Bend branch, have been sold, according to an announcement made today. About 250,000,000 feet of timber are included in the deal, but the price was not given out. The transfer was made to George Doyart and C. S. Gilchrist, but several others are interested.

It is proposed to incorporate at once and erect a shinglemill at Littell. If conditions justify, a big sawmill will be erected soon.