

The original bottom lining was first completely removed and the rock floor prepared to receive the waterproofing lining. The first steps consisted of the removal of the surface of the original concrete walls in order to have a suitable surface for the adhesion of the new lining. The floor was lined with a special four-inch thoroughly waterproofed concrete layer, placed so as to insure thorough adhesion to the rock floor. Sufficient forms were employed to complete two circles at a time, the bottom one being carried above the other at each stage of the work. The walls were then lined with a special three-inch thoroughly waterproofed concrete layer, placed so as to insure thorough adhesion to the original wall. It consisted of a 1:2:4 mixture, with a large percentage of hydrate of lime. Special precautions were taken to insure tightness at the footing of these walls. A thorough drainage system was arranged in order to prevent the possibility of inward water pressure during and subsequent to the operations. The work was completed in less than three months, the guaranteed time. As it stands to-day, it is equal in all essential respects to an entire reconstruction. Tests have been conducted since its completion, and will be continued during the next nine months. The contractors were under a guarantee of a maximum leakage of not over fifteen gallons per hour. They were successful in keeping it under ten gallons, which is much under the guarantee. The contractors, Messrs. Merrill & Allen, have evidently taken every precaution, and have once more demonstrated the fact that concrete well built, with every attention to workmanship and used with discretion, offers no ground for the criticisms of those opposed to the use of this material.

APPLIED STATICS

(Continued from Page 638.)

From either of the last two Vector Polygons it is seen that both the forces BD and CA act against the pin. This places the members BD and CA, respectively, in compression, the magnitudes of the stresses being found from the magnitudes of the lines BD and CA (Fig. 90).

The stresses in the members DF and CE may be found by constructing the Vector Polygons for the points ACE and BDF, respectively, as shown in Figs. 92 and 94.

(These polygons will be shown next week.)

COMING MEETINGS.

- Montana Society of Engineers.**—January 6-8. Annual meeting at Butte, Mont. Secretary, Clinton H. Moore, Butte.
- American Association for the Advancement of Science.**—December 27. Annual meeting at Boston, Mass. Secretary, L. O. Howard, Smithsonian Institution, Washington, D.C.
- American Society of Agricultural Engineers.**—December 28-29. Annual meeting at Ames, Iowa. Secretary, L. W. Chase, University of Nebraska, Lincoln, Neb.
- Association of American Portland Cement Manufacturers.**—December 14-15. Annual meeting at New York City. Secretary, Percy H. Wilson, Land Title Building, Philadelphia.

ENGINEERING SOCIETIES.

- CANADIAN SOCIETY OF CIVIL ENGINEERS.**—413 Dorchester Street West, Montreal. President, George A. Mountain; Secretary, Professor C. H. McLeod.
- QUEBEC BRANCH.**—Chairman, L. A. Vallee; Secretary, Hugh O'Donnell, P.O. Box 115, Quebec. Meetings held twice a month at Room 40, City Hall.

TORONTO BRANCH—

96 King Street West, Toronto. Chairman, J. G. G. Kerry; Secretary, E. A. James, 62 Church Street, Toronto. Meet last Thursday of the month.

MANITOBA BRANCH—

Chairman, H. N. Ruttan; Secretary, E. Brydone Jack. Meets first and third Fridays of each month, October to April, in University of Manitoba, Winnipeg.

VANCOUVER BRANCH—

Chairman, Geo. H. Webster; Secretary, H. K. Dutcher, 40-41 Flack Block, Vancouver. Meets in Engineering Department, University College.

OTTAWA BRANCH—

Chairman, W. J. Stewart, Ottawa; S. J. Chapleau, Resident Engineer's Office, Department of Public Works.

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CANADIAN MINING INSTITUTE.—Windsor Hotel, Montreal. President, W. G. Miller, Toronto; Secretary, H. Mortimer-Lamb, Montreal.

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CENTRAL RAILWAY AND ENGINEERING CLUB.—Toronto, President, C. A. Jefferis; Secretary, C. L. Worth, 409 Union Station. Meets third Tuesday each month except June, July, August.

DOMINION LAND SURVEYORS.—Ottawa, Ont. Secretary, T. Nash.

EDMONTON ENGINEERING SOCIETY.—President, Dr. Martin Murphy; Secretary, B. F. Mitchell, City Engineer's Office, Edmonton, Alberta.

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AMERICAN SOCIETY OF ENGINEERING-CONTRACTORS.—President, George W. Jackson, contractor, Chicago; Secretary, Daniel J. Hauer, Park Row Building, New York.

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