Nova Scotia this reduction of workmen has largely concentrated upon the actual miners and producers of coal, as would naturally happen, because the producing class at a colliery—by a process of natural selection—includes the men most fitted by physique and mentality for military service. This withdrawal of the most efficient members of the working forces has not been peculiar to Nova Scotia, but is a noticeable feature throughout all the coalfields of North America.

Under these circumstances of labor shortage, of a selected character, the obvious remedy for the unbalanced conditions which it has brought about is the concentration of the remaining workmen in the collieries best equipped to give the greatest production of coal. The most noteworthy feature of the existing labor situation at the collieries is the inefficiency of operation brought about by the unbalancing of the forces referred to, and concentration is the remedy.

Not only is concentration desirable from the point of view of productive efficiency at the collieries, but it is also necessary to conserve the transportation factor. The fewer the points from which transportation is required and the greater the tonnage which can be moved from these points, the less will be the call upon the motive power of the railways and upon shipping.

In view of the insistent calls of the Army for more and still more men, it appears quite hopeless to look for any large increase of coal production arising from the provision of additional employees, and, as in the case of the fuel itself, we must make the best of the man power we have.

Production of Coal is of Vital Importance.

The coal operators are fully alive to the necessity of increasing production where it can be achieved by the use of mechanical devices, and the labor shortage has already brought forth mechanical devices which will play an increasingly important part in the future development of the coal industry. Unfortunately, this avenue of possible increase of coal production is restricted by the difficulty of obtaining delivery of machinery, so for the present the only way by which coal production can be stimulated is that every man employed in the industry—no matter what his position—shall work to the full extent of his ability.

Our chief incentive to hard work should be the knowledge—and here you will pardon me if I repeat my statement of last year—that, "no single department of the machinery of modern warfare can move or act without coal." Those of us who help in one way or another in the production of coal are privileged in that we are able by our personal endeavors to help or hinder in the prosecution of the War. In view of the critical condition of military affairs at a time when we are approaching the end of the fourth year of the struggle, I believe I voice the feelings of us all when I say that we need no further spur.

The metalliferous mining of the Nicola District, British Columbia, is improving. A railway is being built to the Canada Copper Company's property on Copper Mountain, near Princeton, B.C., and a concentrator is being installed.

The Voigt's Group of Copper Claims, Copper Mountain, have been bonded by the Canadian Mining, Smelting and Power Co., and soon will become one of British Columbia's producers.

CORRESPONDENCE.

Bore Hole Drilling.

Editor Canadian Mining Journal:

Sir,—In reading over the articles by Mr. Hitchcock, Mr. Harrington and Mr. Stone, on the merits of the various diamond drill core-barrels, it is rather surprising to note that the return water principle is discussed as if it were something new and better than the standard barrels. Mr. Harrington, who is well known to most of us in the diamond drilling business, is thoroughly qualified to give an opinion on the subject, as he has had a world of experience in drilling under widely varying conditions. He seems to have voiced the opinion generally held by drillmen; in saying that when conditions are such that it is desirable to use a double tube barrel, the ball bearing barrel without the return water feature is unquestionably the best. This barrel fulfills all the requirements of an efficient double tube barrel and the same cannot be said of any other type.

The double tube barrel was designed primarily to protect core from the washing effect of moving water. This is by far the most important consideration in double tube barrel design. The next most important improvement is the provision for preventing the rotation of the inner tube, thus eliminating the vibration and friction against the core and preserving it in the best possible shape. This, as has been explained, is accomplished by suspending the inner tube on ball bearings. In formations that are difficult to core, and where the maximum core recovery is of utmost importance, no other type can compare with it. It is true this is the most expensive barrel on the market; but Mr. Stone's statement that it is short lived is contrary to the writer's experience. Due to the almost entire absence of friction on the inside, there is little wear except on the outer barrel. The outside wear is probably less than on the other types, because of less grinding of core with the consequent wear from cuttings. In soft formation the regular practice for the past few years has been to dispense entirely with the single tube barrel and run only the double tube, because of the increased progress that can be made. A double tube barrel under such conditions will run a year or more, which is as much as any barrel will do.

The rigid type return water barrel, which Mr. Stone states is as good or almost as good as the barrel described above, fails to fulfill the two important functions of a double tube barrel in that it does not protect the core from moving water and does not protect it from friction or vibration. It probably would be better described as a modification of the single tube rather than a double tube, as the only difference in the action on the core is that the water flows upward around the core instead of downward. The friction remains the same as in the single tube.

While this barrel does not give the results that a regular double tube barrel does, it has some advantages when used in broken formation. When the single tube barrel is used, while the upward flow of water will wash away soft core, it will tend to loosen broken particles of core that become bound in the barrel and better progress can be made. It would seem that a barrel possessing this advantage would be used extensively in the Lake Superior district, where the rock is hard and more drills are used than in any other section of the world. The reason why it is not more extensively used, is because the return water feature is considered dangerous by contractors and drillmen in that section. Drillmen must be constantly on their guard against getting