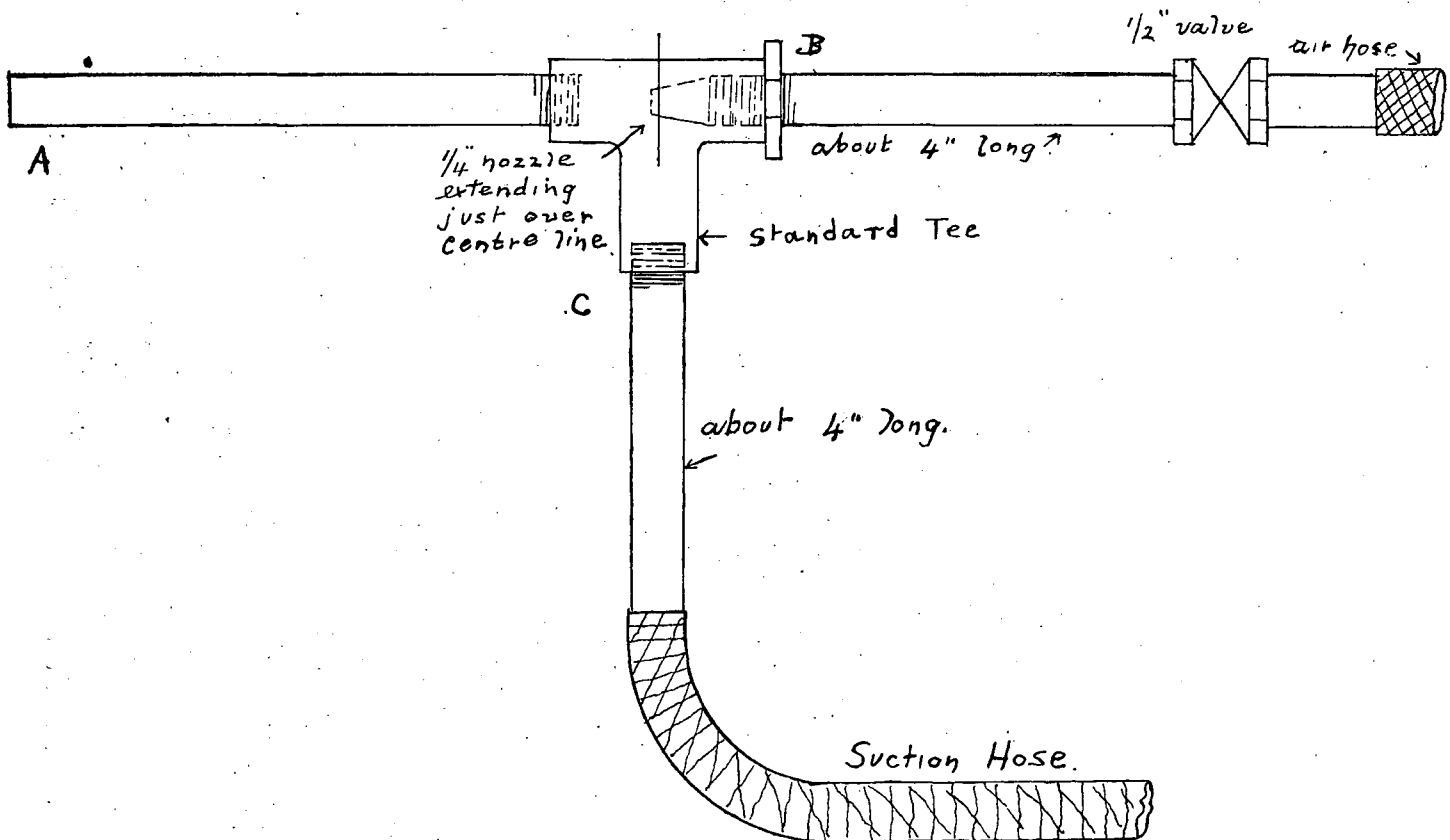


The Use of the Sand Blast for Cleaning Operations in the Mill

By J. E. Bihl.



Mr. J. E. Bihl read the following paper on the above subject:—

While the use of the Sand Blast is not a new departure in the engineering world, so far as we know, it has not been in general use in South African Sugar Mills for cleaning machinery during the off-crop. It, therefore, seems worth while directing the attention of the Members of this Association to the immense saving in time and labour that has resulted from its use at Darnall. Over and above these advantages the thoroughness with which the work is executed is incomparably

greater than that attained by the old methods of chipping and scraping.

The sketch shows the instrument used for directing the sand on to the work. It is made from scrap material and consists of a $\frac{1}{2}$ in. tee piece into one end of which is fitted a piece of $\frac{1}{2}$ in. piping closed at one end so as to form a $\frac{1}{4}$ in. nozzle. This nozzle is screwed into the tee until the point just projects past the centre of the tee and then locked with the lock-bolt "B." On the other end of the nozzle is fitted a $\frac{1}{2}$ in. valve to which is attached a flexible hose conveying the compressed air to the nozzle.

On the other end is fitted a piece of piping "A" of any length desired through which the sand is delivered on to the work. The sand is sucked up the hose as shown at "C." The length of hose used at Darnall was 11 feet, which gave the operator sufficient freedom to apply the sand.

Two boys operate the blast—the one directs the sand on to the machinery to be cleaned, the other attends to the sand feed. The pressure of the air used in blast ranges from 80 to 100 lbs., and owing to dust and flying particles from the blast it is necessary to provide the boys with masks which protect their lungs and eyes.

To clean pipes, tanks, angle irons, oily parts of machinery, etc., beach sand is best on account of its sharpness and comparative freedom from dust. When less coarse work has to be cleaned, such as

average brass work, fine river sand which has been passed through a sieve is best. While for fine brass work clay soil, pulverised, dried and sifted, does such work well.

One or two instances of the saving in labour and time are given to show what can be effected. To chip and scrape a 30in. centrifugal basket took a boy $2\frac{1}{2}$ days; using the sand blast the two boys can clean five baskets a day. In two days one boy chips and scrapes the casing of the basket, but four can be done by sand blasting per day. The pelton wheels of the centrifugals when done by hand only amount to four a day, but this number is doubled when sand blasted and, as stated above, the cleaning is far more thorough. One blow-down valve per day was all a boy could hand clean, but twelve are easily and beautifully cleaned by the sand blast.

Chairman: Can this be applied for cleaning long tubes such as in juice heaters?

Mr. Bihl: No, I am afraid it cannot be used for that.

