

polishing ironwork connected with fire-grates and ranges. I examined the buff, and found it well put together, consisting of an iron centre with arms and rim, and then a wooden rim securely fixed to the iron rim, the emery belt being glued on the face of wood; diameter 2 feet, revolutions 2,000. It is not known exactly how the buff broke, but it is supposed that Harris dropped what he was polishing, or, through some momentary inattention on his part, the ironwork was whisked out of his hands. In either case the work must have become entangled in the buff, or, as it seemed to me, the iron flew out of his hands over the buff, one end being caught against a nut on one of the bolts projecting through the heavy wooden framework on which the buff is placed, the other end coming against the face of the buff, tearing away part of the wooden rim, some pieces of which were no doubt carried round with the velocity of the rim and striking the man as he sat immediately over the buff. As a general rule, the man is protected by a square block of wood, which is made movable; but for certain classes of work it has to be removed in order to allow of the work being carried on. After a careful examination of the different parts I can only come to the conclusion that it was a pure accident; and, furthermore, I cannot see that I could do anything to the machine to add to the further security of the man employed at the machine.

27th November, 1882, at the works of Messrs. Reid and Gray, agricultural implement makers, Dunedin: George Garrick, aged twenty-three, turner by trade, left arm carried away by the elbow. This accident was caused through the lacing of a belt while the machinery was in motion. The shafting stands about 12 feet from the ground, and the man, George Garrick, was standing on a ladder lacing his belt, the ladder being placed against the shafting. While so engaged the belt took a turn and caught the man by the left arm, twisting it round the shaft, and tearing the arm away by the elbow. In any case of this sort the only safe course is to have the machinery stopped, and the foreman informs me that strict orders have been given throughout the works that this should be done. This person, George Garrick, is now employed in the works, the arm having been amputated between the elbow and shoulder.

In concluding my report, I desire to make a few remarks relative to the work done. First of all, there were the accidents (three in number) which have been reported. Although all of a serious nature, there have been none fatal, and, of these three accidents, not one could have been prevented by any inspection. No. 2 I consider was entirely non-preventible. Nos. 1 and 3, in my opinion, were preventible with a due amount of care. But, in cases of this nature, the whole question lays with owners and persons in charge of machinery. Of course, a considerable amount of loss of time is incurred in a large shop when the machinery has to be stopped for the sake of a belt being taken off or put on, and the consequence is that attempts are made very often to repair and replace belts without due regard to the safety of the man who may happen to be employed thereat. The question arises whether the department could, or whether it might deem it advisable to, introduce any rules in regard to this. If you will refer back to my annual report for 1880-81, you will there find, in the case of Thomas Jeffries, who was killed on the 2nd February, 1881, that the jury, in returning their verdict at the inquest, added a rider to the effect that, in cases of shifting belting, two men ought to be employed instead of one; and there can be no doubt that in many cases this would be the means of preventing both loss of life and limb, which I must admit is, in a great number of cases, set at too low a value where time is money.

ACCIDENTS TO BOILERS.

The cases under this head number four. Nos. 2 and 3 were merely due to a want of care and knowledge of the composition used. Nos. 1 and 2 were caused through gross carelessness, and in the case of No. 1, especially, a man doing nothing else but attending the boilers. The same man had had charge of them for a considerable time previously. In this case, fortunately, he knew what was the cause; but, had the boiler exploded, it would never have been ascertained, but possibly put down to the Inspector not having made a proper examination; and in this matter I contend that all inspections ought to be thoroughly made. This involves time, and, if the Inspector has more than he can accomplish, there can be no doubt whatever that they (the boilers) will not get that attention they ought to.

Circular-saws: I had occasion during my last trip to Southland to condemn three circular saws, which were working in a dangerous state, having cracks in the centre extending from 7 inches to 9 inches. There were also two other cases of which I had received information, but by the time I had reached the mills they had been removed. In one case I examined the saw, and found a piece in the centre entirely apart from the body, remaining in merely by a dovetailed crack.

Repairs issued: The notices of repairs issued have not been of a serious nature, being in most cases slight. Several boilers I have also had extra stays put in, as the staying, in my opinion, was not sufficient for the pressure that the owners required.

Fencing: Full details will be found on page 24, and in no case have owners objected to anything that was required.

"The Inspection of Machinery Act, 1882:" With regard to the working of the Act of 1882, my experience of it since it came into force would lead me to form an opinion adverse to it, looking at it from a time-saving point of view. The additional amount of clerical work entailed in the monthly reports and issuing of schedules will, in my opinion, exceed that of 1875. But there is one important point which must not be overlooked—that is, the relieving the Inspectors from the receiving of fees, as, if it does not lessen the work, it places them in a much better position with regard to steam-users and owners of machinery.

I have now most respectfully to refer you to my annual reports for 1880-81, 1881-82, *re* the necessity of assistance for the proper carrying-out of the provisions of the Act; and I now again desire to bring this subject under your notice. On reference to this report, the number of new boilers introduced into this district for the year, and which have been sold, equals forty-four; so that it will readily be seen, with such a large percentage of increases every year, that it renders