

ACCIDENT ALERT

Safety with truss presses

Recently a serious accident occurred involving a truss press falling from its gantry and injuring a worker's leg.

The machine

A truss press is a machine that is used to press nail plates on to timber trusses. They are normally suspended on an overhead gantry which allows them to be moved on an XY axis basis. The truss press is suspended from the gantry by a clevis with a locknut system to secure it. These machines weigh approximately 150 kg.

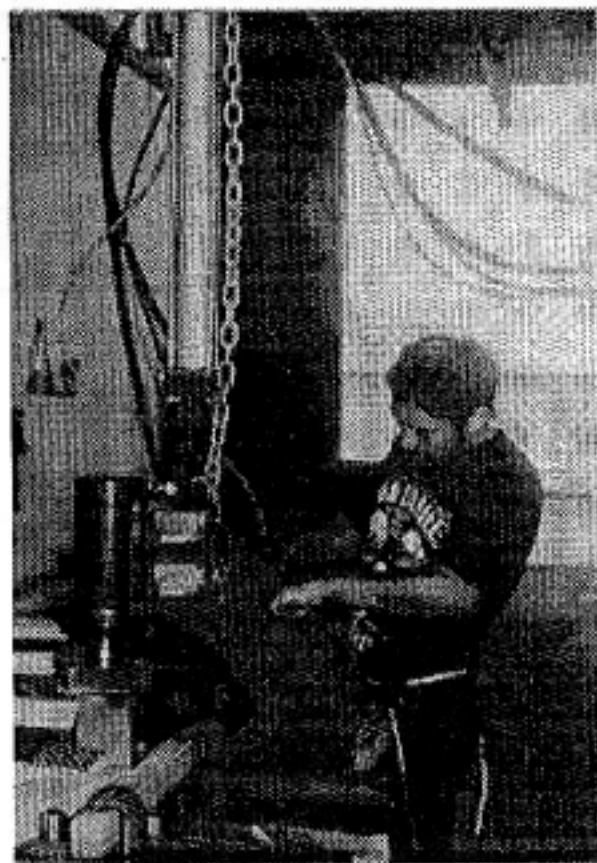


Fig 1. Worker using a truss press

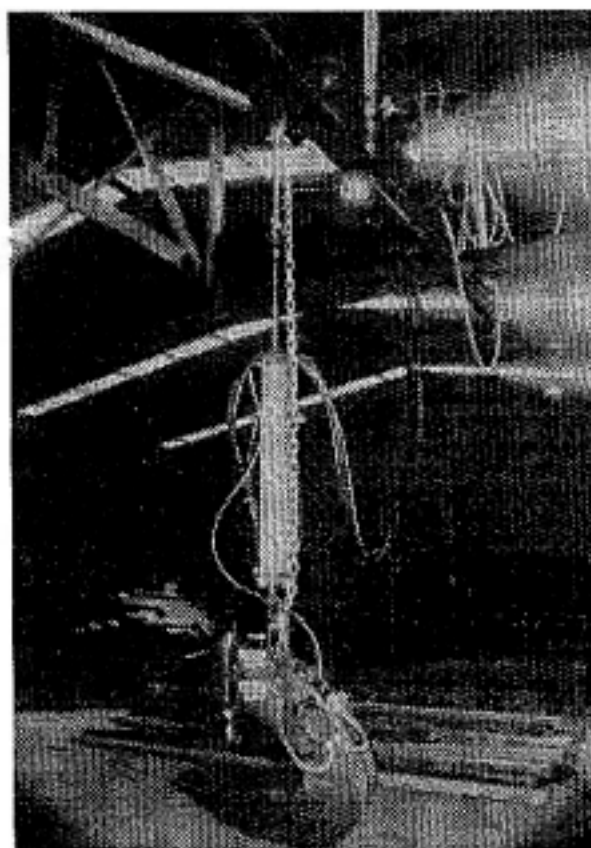


Fig 2. Truss press and safety chain

The accident

This accident occurred when the locknut securing the truss press to the gantry device came undone. The company had thought that as the machine was secured by means of a locknut this would not occur, and although it had only recently been purchased, they had never checked its security.

Subsequent action

Since the accident, the shaft by which the truss press is suspended to the clevis has been drilled and a steel dowel has been put through it. The

company has also fitted a safety chain from the top of the truss press to a point above the clevis. In the event that either the shaft or the locknut should fail, the machine will only be able to drop as far as the length of safety chain allows.

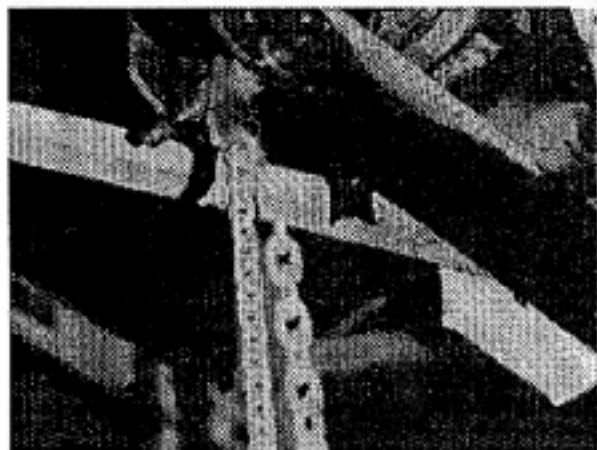


Fig 3. Safety chain — top connection

Recommendations

As a result of this accident and the widespread use of these machines in the timber pre-nail industry, it is recommended that these machines should be fitted with a safety chain as a minimum so that in the event of any part of the securing mechanism failing, the chain will take up the slack and the machine will not hit any worker in its vicinity.

It is also important to ensure that the safety chain and its connections are capable of supporting the maximum load imposed on them including any impact loading if the truss press fell off. The best way to check this is to do a load test on the safety chain and connections.

Another option to prevent the recurrence of a similar accident is to obtain the service of a

registered engineer to check and certify the equipment including the suspension system, and do an overload test of the truss press with the suspension system to ensure that the press will not fall during operation. Any locknut and bolt on the connections should be locked by fasteners or other suitable locking devices to prevent them from coming loose. A regular inspection and maintenance of the equipment and suspension system should be carried out by a competent person and entered into a record where it can be checked by an authorised person as required.

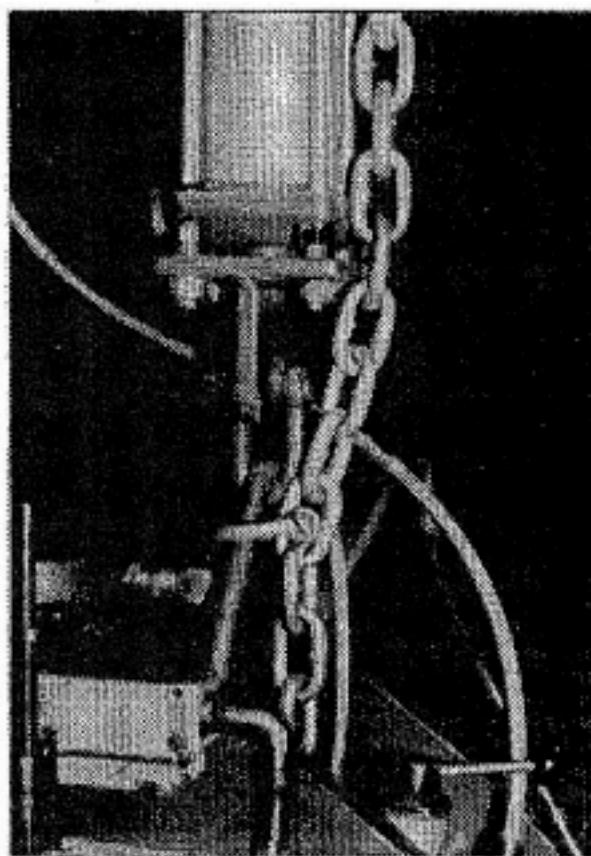


Fig 4. Safety chain — bottom connection