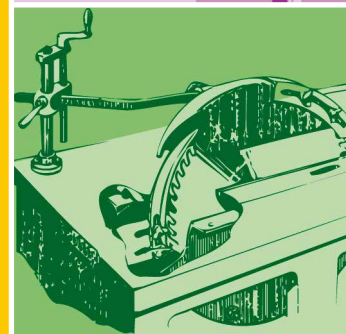
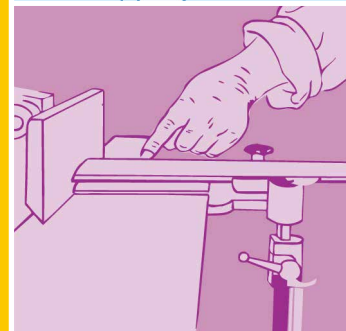
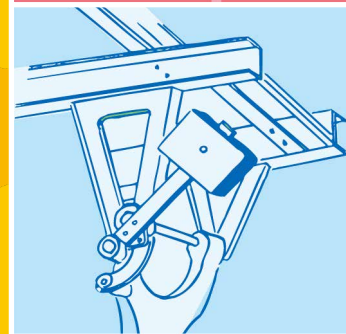
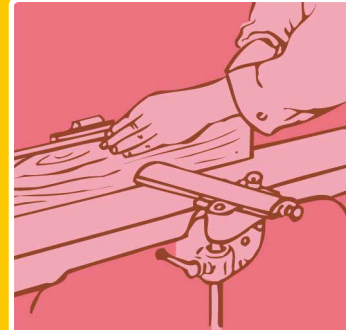
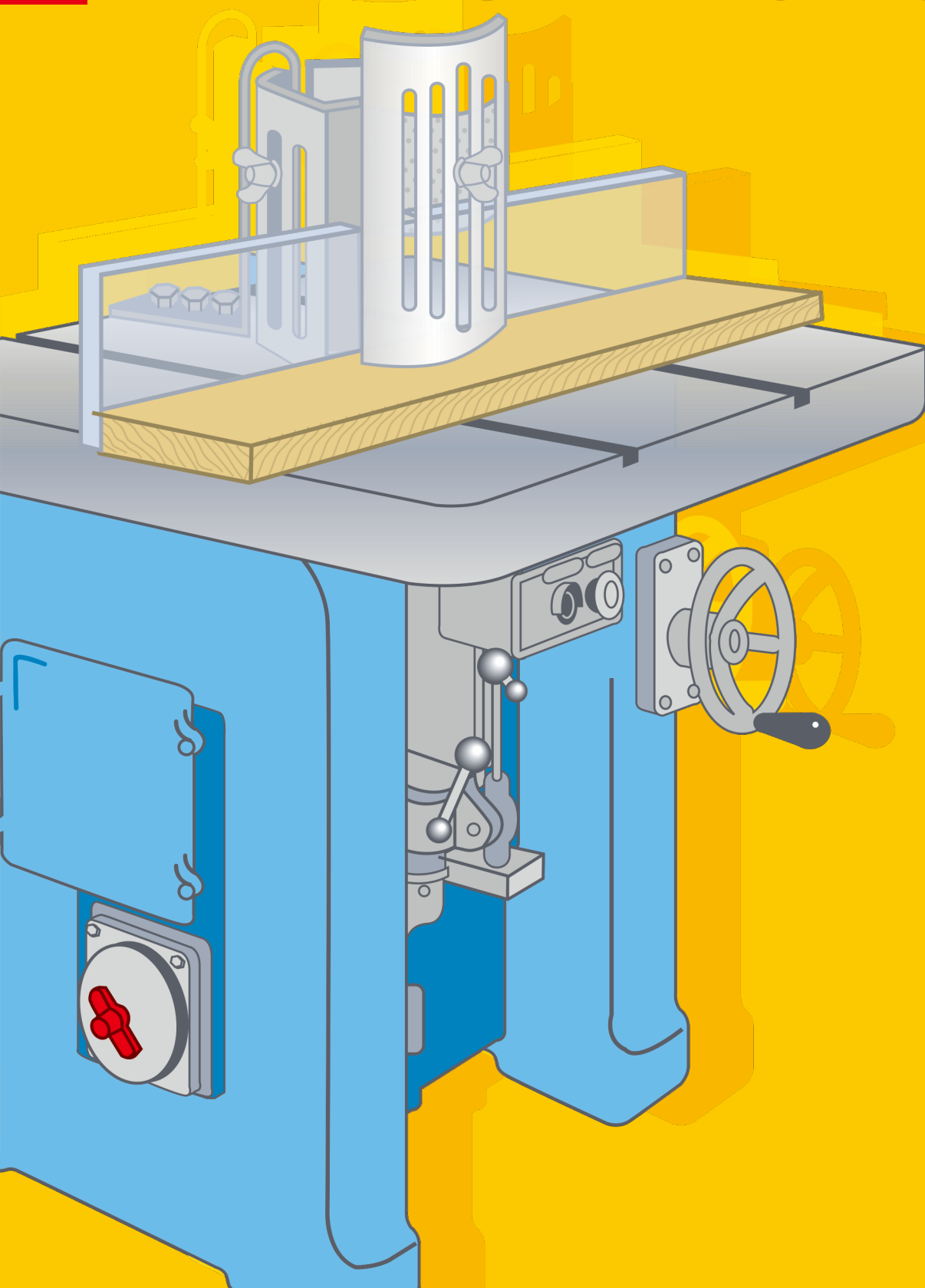


A Guide to the Factories and Industrial Undertakings (Woodworking Machinery) Regulations



Labour Department



Corrigendum to A Guide to the Factories and Industrial Undertakings

(Woodworking Machinery) Regulations (3rd edition)

(18 August 2023)

Item	Section	Current Version	Amendment
1	2.5	<p>Offences and penalties</p> <p>(1) Proprietor who fails to discharge his duty is guilty of an offence and shall be liable on conviction to a fine of \$50,000.</p> <p>(2) Person employed who fails to discharge his duty is guilty of an offence and shall be liable on conviction to a fine of \$10,000.</p>	<p>Offences and penalties</p> <p>(1) Proprietor who fails to discharge his duty commits an offence and is liable on conviction to a fine at level 6 (currently \$100,000).</p> <p>(2) Person employed who fails to discharge his duty commits an offence and is liable on conviction to a fine at level 5 (currently \$50,000).</p>

- End -

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**A Guide to the
Factories and Industrial Undertakings
(Woodworking Machinery) Regulations**

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1. Introduction

There is a high risk of accident from the use of woodworking machinery. In spite of improved safeguards, many people unsafely operating these machines are severely injured and even suffered from permanent disability each year. The facts show that injuries from these accidents are invariably more serious than those caused by ordinary machinery and a great many of the victims suffer from permanent incapacity.

The Factories and Industrial Undertakings (Woodworking Machinery) Regulations (the Regulations) lay down standards of safety measures for woodworking machinery and impose duties on proprietors to protect persons operating the machinery. At the same time, the Regulations also require persons employed to use the guards and safety devices so provided by the proprietors.

This Guide should be read in conjunction with ‘A Guide to the Factories and Industrial Undertakings Ordinance (Sections 6A and 6B) - Know your General Duties’ and other relevant publications published by the Labour Department. The sections impose general duties on proprietors and persons employed with regard to the safety and health at work in industrial undertakings.

2. Regulations

2.1 Application

The Regulations apply to any industrial undertaking in which any woodworking machine is used.

2.2 Interpretation

“**Woodworking machine**” means any circular saw, swing saw, pendulum saw, plain band saw, planing machine, vertical spindle moulding machine or chain mortising machine that operates on wood.

“**Circular saw**” means a circular saw working in a bench (including a rack bench) for the purpose of ripping, deep-cutting or crosscutting; but does not include a swing saw or other saw which is moved towards the wood.

**Related
Regulation**

2

3

“**Swing saw**” or “**Pendulum saw**” means a revolving saw mounted in a frame, column or chassis which is suspended from a pivot above the table, bench or other support on which the wood is placed and which is operated by being pulled across the table, bench or other support on which the wood is placed.

“**Plain band saw**” means a band saw, other than a log saw or a band re-sawing machine, the cutting portion of which runs in a vertical direction.

“**Planing machine**” includes a machine for overhand planing or for thicknessing or for both operations.

“**Underground room**” means a room any part of which is so situated that half or more of the whole height thereof measured from the floor to the ceiling is below the surface of the footway of the adjoining street or of the ground adjoining or nearest to the room.

2.3 Duties of Proprietors

- | | | |
|--------------|---|----------|
| 2.3.1 | Stopping and starting devices | 4 |
| | A woodworking machine shall be provided with an efficient stopping and starting appliance, and the control of this appliance shall be in such a position as to be readily and conveniently operated by the person in charge of the machine. | |
| 2.3.2 | Clear space | 5 |
| | Sufficient clear and unobstructed space shall be maintained at a woodworking machine while in motion to enable the work to be carried on without unnecessary risk. | |
| 2.3.3 | Floors | 6 |
| | The floor surrounding a woodworking machine shall be maintained in good and level condition, and, so far as practicable, free from chips and other loose materials, and non-slippery. | |
| 2.3.4 | Lighting | 7 |
| | Adequate lighting, being not less than 160 lux, shall be provided for the working area. Artificial lighting shall be so placed or shaded as to prevent direct rays of light from impinging on the eyes of the operator while operating the woodworking machine. | |

2.3.5 Underground rooms

8

Woodworking machine is not allowed to be worked in any underground room which is certified by the Commissioner for Labour to be unsuitable for the purpose as regards height, construction, light, ventilation or in any other respect.

2.3.6 Training

1. A person while being trained to work a woodworking machine shall be fully and carefully instructed as to the dangers arising in connection with such machine and the precautions to be observed. 9(1)
2. Person under 16 years of age is not allowed to be employed on any woodworking machine. 9(2)

2.3.7 Safeguarding of Circular Saws

1. Under bench fence 10(1) & 10(2)

The part of a circular saw below the bench table shall be protected by 2 plates of metal or other suitable material, one on each side of the saw and such plates shall not be more than 150 millimetres apart, and the bottom side shall be at least 50 millimetres beyond the saw teeth. The metal plate shall be of a thickness not less than 2 millimetres if not beaded or not less than 1 millimetre if beaded.
2. Riving knife 10(3)

There shall be a riving knife behind and in direct line with a circular saw. The riving knife shall –

 - (a) have a smooth surface;
 - (b) be strong, rigid and easily adjustable;
 - (c) be so positioned that its edge nearer the saw shall form an arc of a circle having a radius not exceeding the radius of the largest saw used on the bench;
 - (d) be maintained as close as practicable to the saw, having regard to the nature of work being done at the time, be so positioned that the distance between its front edge and the teeth of the saw does not exceed 15 millimetres at the level of the bench table;
 - (e) for a circular saw of a diameter of less than 600 millimetres, extend upwards from the bench table to within 25 millimetres of the top of the saw;

- (f) for a circular saw of a diameter of 600 millimetres or more, extend upwards from the bench table to a height of not less than 250 millimetres.
3. Top Guard 10(4)
 The top of a circular saw shall be covered by a strong and easily adjustable guard, with a flange at the side of the saw furthest from the fence; and such guard shall –
 (a) be kept so adjusted that the flange shall extend below the roots of the teeth of the saw;
 (b) extend from the top of the riving knife to a point as low as practicable at the cutting edge of the saw.
4. Push-sticks 11
 A suitable push-stick shall be kept available for use at the bench of a circular saw that is fed by hand.
5. Saw blade 17(2)
 Cracked saw is not allowed to be used in a circular saw.
- 2.3.8 Safeguarding of Swing and Pendulum Saws**
1. Saw guard 12(1)
 A swing saw or pendulum saw shall be guarded so far as practicable. It shall also be so designed and maintained that it automatically returns to the back position when released at any point of its travel.
2. Limit chain 12(2)
 A swing saw or pendulum saw shall be provided with limit chains or other effective devices to prevent it from being pulled out in front of the work table. Such chains or devices shall be maintained in good working order.

2.3.9 Safeguarding of Plain Band Saws

- | | |
|---|-------|
| 1. Both sides of the bottom pulley of a plain band saw shall be completely encased by sheet metal or other suitable material; | 13(a) |
| 2. The front of the top pulley of a plain band saw shall be covered with sheet metal or other suitable material; | 13(b) |
| 3. All portion of the blade of a plain band saw shall be enclosed or securely guarded, except the portion of the blade between the bench table and the top guide. | 13(c) |

2.3.10 Safeguarding of Planing Machines

- | | |
|--|-------|
| 1. Planing machine, which is used for overhand planing and not mechanically fed, is allowed only if it is fitted with a cylindrical cutter block. | 14(1) |
| 2. A planing machine used for overhand planing shall be provided with a “bridge” guard capable of covering the full length and breadth of the cutting slot in the bench. The planing machine shall be so constructed as to be easily adjusted both in a vertical and horizontal direction. | 14(2) |
| 3. The feed roller of a planing machine used for thicknessing, except a machine used both for overhand planing and thicknessing, shall be provided with an efficient guard. | 14(3) |

2.3.11 Safeguarding of Vertical Spindle Moulding Machines

- | | |
|--|-------|
| 1. The cutter of a vertical spindle moulding machine shall, where practicable, be provided with the most efficient guard having regard to the nature of the work being performed. | 15(1) |
| 2. For such work as cannot be performed with an efficient guard for the cutter, the wood being moulded shall, where practicable, be held in a jig or holder of such construction as to reduce as far as possible the risk of accident to the person working the machine. | 15(2) |
| 3. A suitable “spike” or push stick shall be kept available for use at the bench of the machine. | 15(3) |

2.3.12 Safeguarding of Chain Mortising Machines

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The chain of a chain mortising machine shall be provided with a guard that shall enclose the cutters so far as practicable.

2.3.13 Maintenance

1. All tools, blades and cutting instruments of a woodworking machine and other machines operating on wood shall be –
 - (a) kept free from patent defect;
 - (b) properly maintained;
 - (c) kept clean;
 - (d) properly ground, sharpened and set.

17(1)

2. The guards and other appliances shall be –
 - (a) maintained in an efficient state;
 - (b) constantly kept in position while the machine is in motion except when, owing to the nature of the work being done, the use of the guards or appliances is rendered impracticable;
 - (c) so adjusted as to enable the work to be carried on without unnecessary risk.

17(3)

2.4 Duties of persons employed

A person employed on a woodworking machine shall –

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- (a) use and maintain in proper adjustment the guards provided;
- (b) use the “spikes” or push-sticks and jigs or holders provided, except when, owing to the nature of the work being done, the use of the guards or appliances is rendered impracticable.

2.5 Offences and penalties

- (1) Proprietor who fails to discharge his duty is guilty of an offence and shall be liable on conviction to a fine of \$50,000.
- (2) Person employed who fails to discharge his duty is guilty of an offence and shall be liable on conviction to a fine of \$10,000.

20(1)&(2)

20(3)

3. Exclusion of certain regulations

Regulations 10, 13, and 14(2) and (3) shall not apply to a woodworking machine when other safeguards are provided and maintained rendering the machine equally safe as it would be if guarded in the manner specified in these regulations.

4. Safety in the use of Woodworking Machines

4.1 Circular Saw (See Figs. 1 and 2)

The following safety devices shall be provided where a circular saw is used:

4.1.1 Adjustable top guard

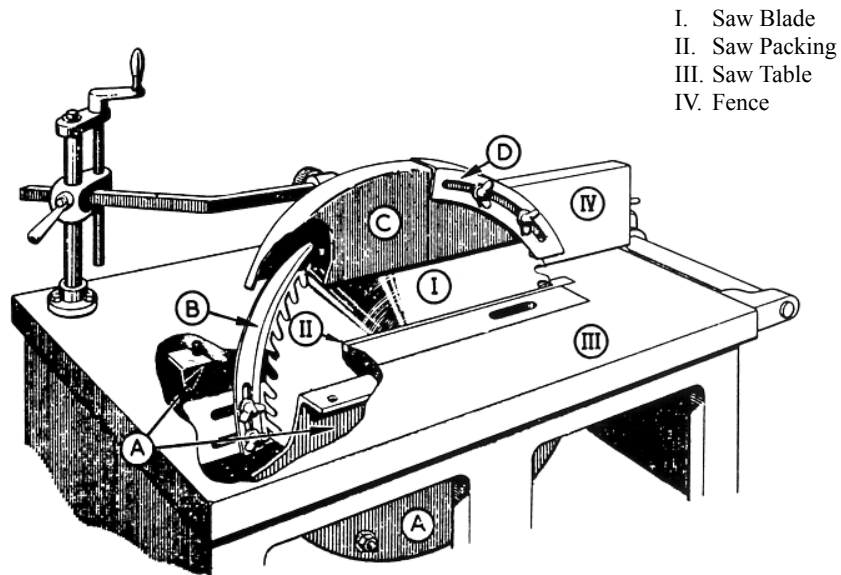
This guard is normally made of stiff metal and semi-circular in shape. It is capable of adjustment without risk to operator to various levels to suit the thickness of wood. Proper adjustment of the guard shall be made before work is started so that the wood may just pass underneath it. In the event of the operator slipping, the guard will prevent his body from coming in contact with the saw teeth. Adjustment to the guard should only be made whilst the saw stopped in motion.

4.1.2 Riving knife

Most fatal accidents at circular saws have been due to the timber closing-in on the saw and being flung back or off with great violence. The riving knife is the means of preventing this. It must be thicker than the saw blade and shall be so positioned at the level of the bench table that its distance from the saw teeth is no less than 3 millimetres and no more than 15 millimetres. The bolts or studs for securing the knife should be properly tightened, otherwise it may be pulled against the revolving saw and damaged.

4.1.3 Under bench fence

This plate is installed to prevent workers from being hurt by the saw when removing sawdust. The sheet metal used for guarding each side of the saw shall not be more than 150 millimetres apart, and the bottom side shall be at least 50 millimetres beyond the saw teeth. (See Fig. 1)



- A. Under bench fence (on each side of saw, not more than 150mm apart)
- B. Riving knife (adjustable to suit saw)
- C. Top guard (adjustable to suit work)
- D. Flanged adjustable extension piece

Fig. 1 Guarding of Circular Saw

4.1.4 Push-stick

Push-stick should always be ready for use on the bench. It helps prevent the worker's hands from being too close to the saw during work. It is an indispensable safety device and has prevented many accidents. (See Fig. 2)

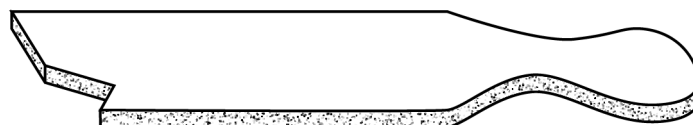


Fig. 2 Push Stick

4.2 Swing Saw or Pendulum Saw (See Fig. 3)

The following safety devices shall be provided:

4.2.1 Saw guard

The saw shall be covered as far as is practicable by a guard of stiff sheet metal to prevent the hand injured from coming in contact with the saw teeth. It shall be so designed that it automatically returns to the back position when released at any point of its travel.

4.2.2 Limit chain

Accidents often arise from a swing saw being pulled out from the work table as a result of use of excessive force or other causes. The function of a limit chain is to fasten the saw on the machine rack, restraining the saw from swinging beyond the range of the work table. In view of the importance of the chain, regular examination and maintenance are indispensable safety measures.

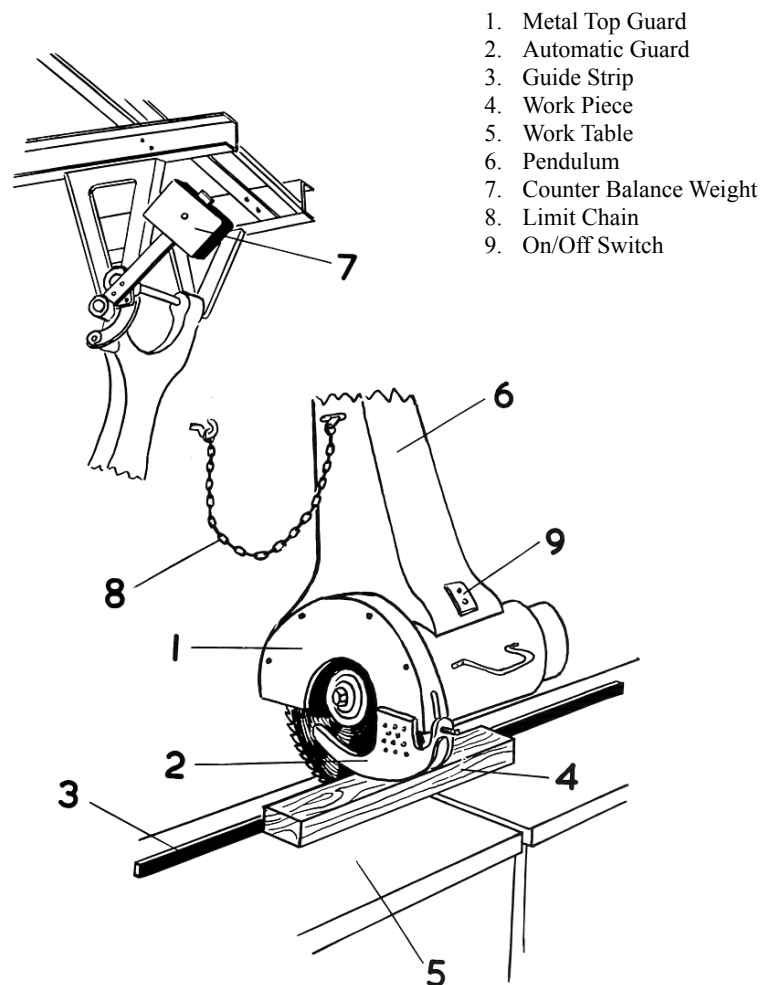


Fig. 3 Guarding of Swing Saw or Pendulum Saw

4.3 Plain Band Saw (See Fig. 4)

The following safety measures shall be taken:

- 4.3.1** The part of the machinery below the work table, including the rotating bottom pulley wheel and the saw, shall be completely encased by sheet metal to ensure that the worker does not come into contact with it.

The top pulley above the work table shall be properly covered with sheet metal to prevent accident.

All portions of the blade shall be enclosed or securely guarded except the portion of the blade between the work table and the top guide.

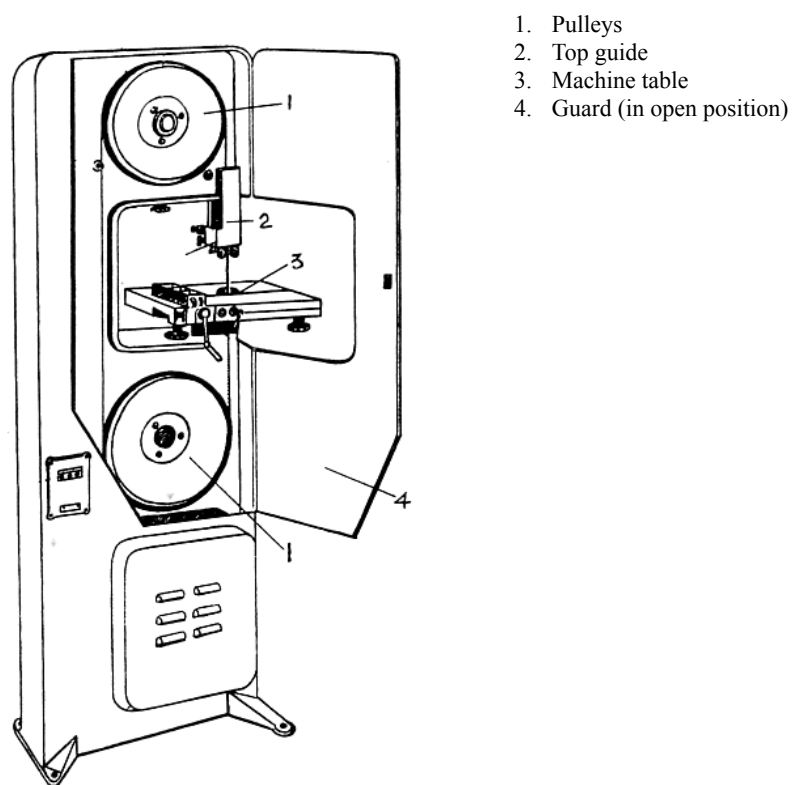


Fig. 4 Guarding of Plain Band Saw

4.4 Planing Machine

The risk from overhand planing machines and all planing machine is not lower than the above-stated woodworking machine, particularly on those equipped with the old-type square cutter blocks. The unsafe operation of these machines caused the loss of many workers' fingers or hands. The following safety precautions shall be adopted.

4.4.1 Cutter block

Unless the machine is mechanically fed, a cylindrical cutter block shall be used instead of the more dangerous square cutter block.

4.4.2 "Bridge" guard

To give protection to the hands, a suitable guard shall be provided on the planing machines to cover the cutting slot. Where the "bridge" guard is used, its height and the distance between the end of it and the guide board should be so adjusted that there is just sufficient room for the passage of wood while fingers do not come into contact with the cutter. (See Figs. 5 and 6)

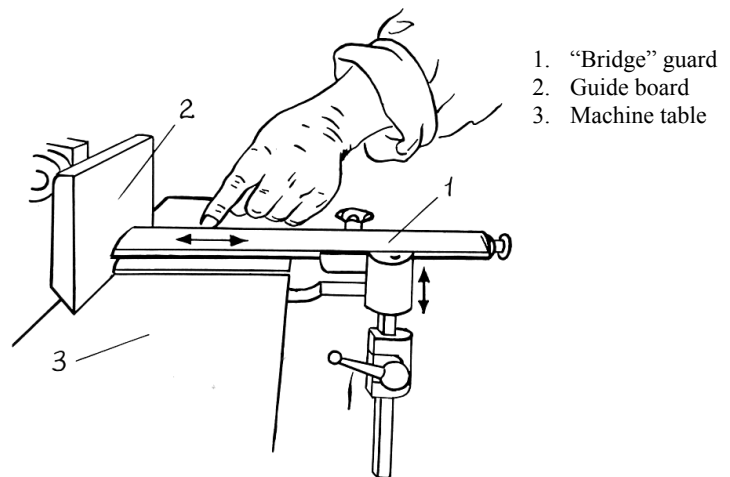


Fig. 5 Guarding of Planing Machine

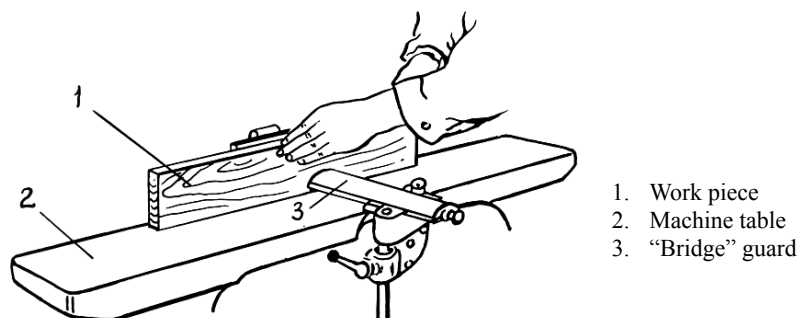


Fig. 6 Illustration of the use of a "bridge" guard

4.4.3 Push-block

When short pieces of wood are planed, push-blocks or special appliances shall be used to grip the wood tightly before planing.
(See Fig. 7)

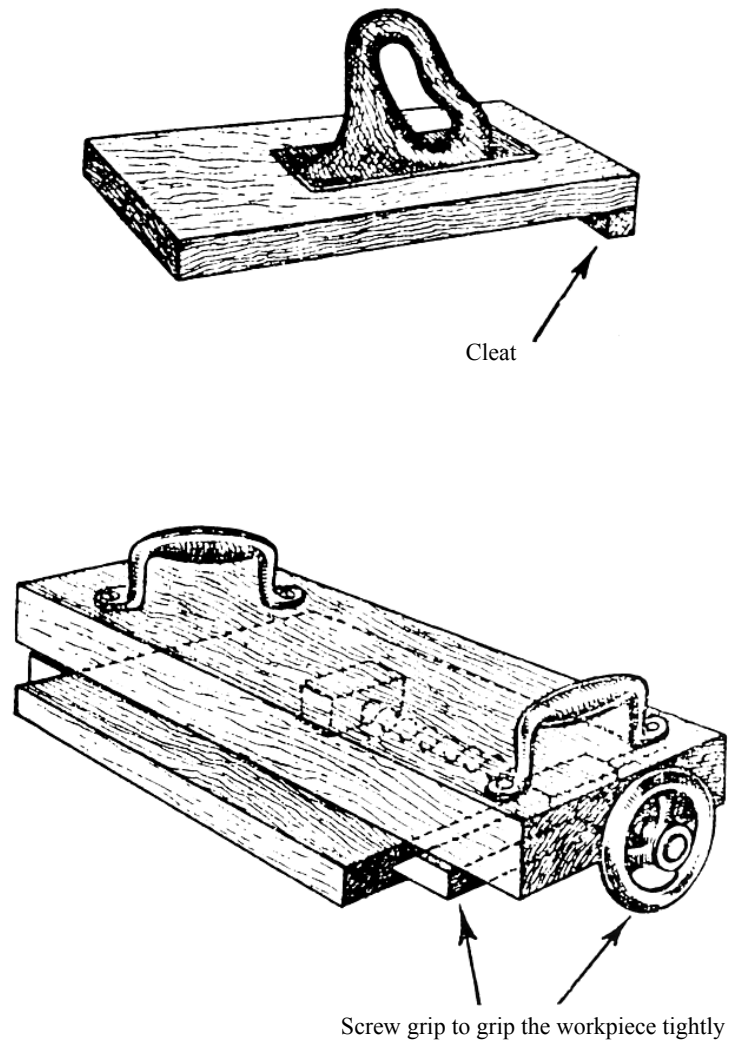


Fig. 7 Push-blocks for Planing Machine

4.4.4 Guard for Feed Roller

The feed roller at the place where wood is inserted shall be safely guarded to prevent the hand from being dragged into the machine. (See Fig. 8)

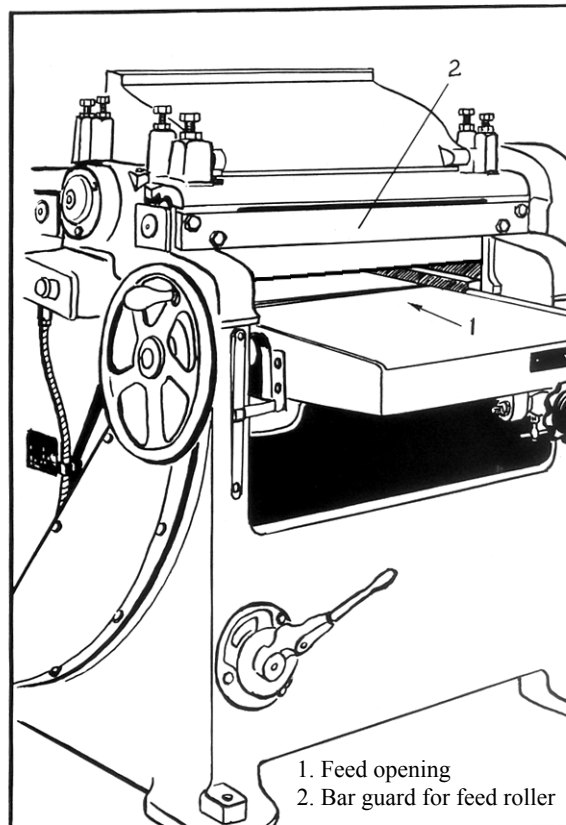


Fig. 8 Guard for Feed Roller

4.5 Vertical Spindle Moulding Machine

Work done on vertical spindle moulding machine varies so much that no single guard can be relied on to give the operator safety on every job. Nevertheless, most accidents could be avoided if the following safety precautions are complied with:

4.5.1 Guard for cutter

A secure guard should, if possible, be added to the cutter, having regard to the nature of the work being performed, so as to divert the hands from contact with the cutter. In this connection, the cage-type guard is recommended. (See Fig. 9)

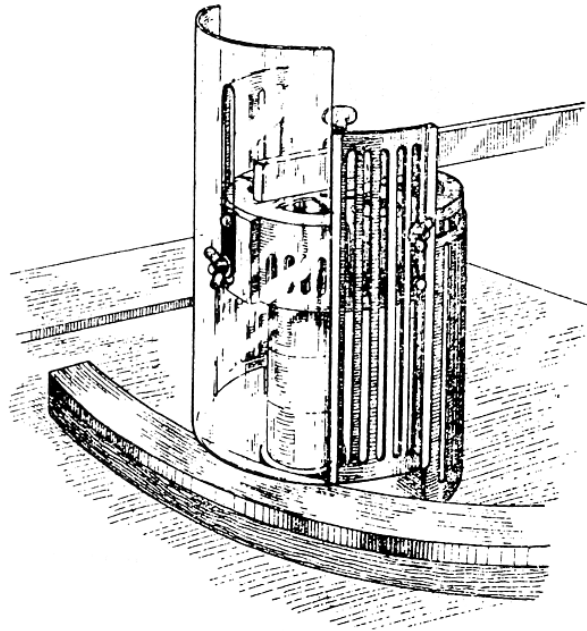


Fig. 9 Cage-type guard for Spindle Moulding Machine

Under special circumstances, where the type of work is such that a guard cannot be used, the workpiece shall be firmly gripped with special devices to keep the hand away from the cutter. (See Fig. 10)

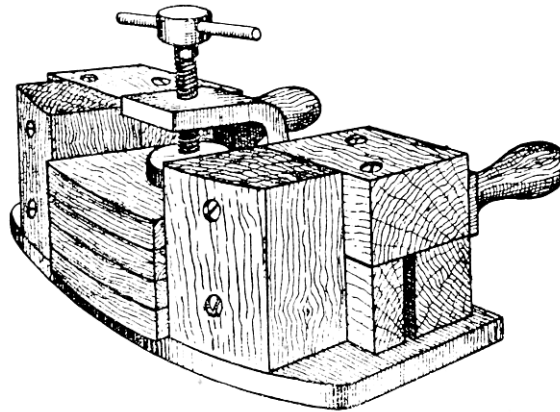


Fig. 10 Work holder for use at Spindle Moulding Machine

4.5.2 Push-stick

A push-stick is a necessary safety device on a vertical spindle moulding machine. It will maintain a safe distance between the hands and the blade in cutting short lengths of wood. (See Fig. 11)

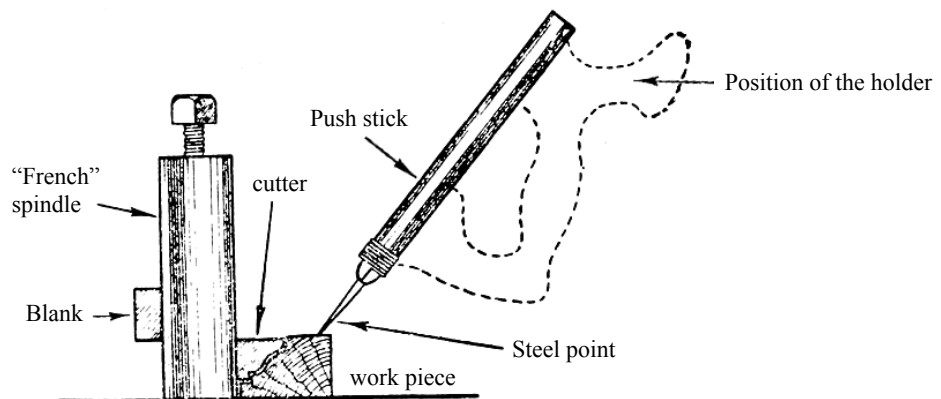


Fig. 11 Push stick for use at Spindle Moulding Machine

4.6 Chain Mortising Machine

4.6.1 In spite of the fact that the work done by chain mortising machines is comparatively simple, the risk involved in it must never be ignored. The chain of any mortising machine shall be provided with a safety guard. Except for the area which has to be exposed for performing the work, all other parts of the machine shall be securely fenced. The workpiece must be secured with bolts or clamps in order to prevent it from flying out. (See Fig. 12)

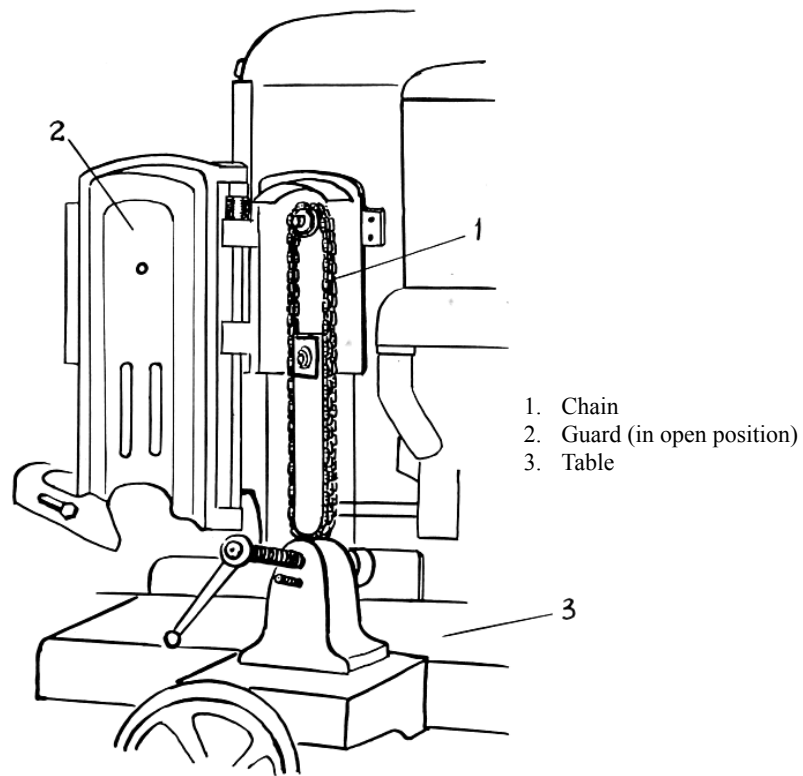


Fig. 12 Guarding of Chain Mortising Machine

4.7 General Safety Precautions

Apart from the aforesaid specific requirements on woodworking machines, the following general safety precautions should be complied with in order to ensure the safety and health at work in connection with the use of woodworking machines:

- (1) Woodworking machines shall be maintained in good condition, including regular cleaning, examination, repairs, etc.;
- (2) The workshop shall be kept clean, passageway shall be free from obstruction and a suitable place shall be provided for storing wood and the finished products;
- (3) Woodworking machines shall only be operated by persons who are competent for the purpose;
- (4) Operators must concentrate on the work when operating woodworking machines;
- (5) If operators discover any defects on the woodworking machines, they must not operate the machines and the defect must be reported to the proprietor.

5. Enquiries and Complaints

Enquiries

If you wish to enquire about this Guide or require advice on occupational safety and health (OSH) matters, please contact the Occupational Safety and Health Branch of the Labour Department (LD) through:

Telephone : 2559 2297 (auto-recording service available outside office hours)

Fax : 2915 1410

E-mail : enquiry@labour.gov.hk

Information on the services offered by LD and on major labour legislation is also available on our website at www.labour.gov.hk. For details on the services offered by the Occupational Safety and Health Council, please call 2739 9000.

Complaints

If you have any complaint about unsafe operations and environments at workplaces, please call the LD's OSH complaint hotline at 2542 2172, or fill out and submit an online OSH complaint form on our website. All complaints will be treated in the strictest confidence.



Online OSH Complaint Form

