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**BUREAU OF INDIAN STANDARDS**

**DRAFT FOR COMMENTS ONLY**



*भारतीय मानक* **मसौदा**

**घिरनी गुटकों के संबंध में प्रयुक्त पारिभाषिक शब्दावली**

(आई एस 6498 का *पहला पुनरीक्षण*)

**Draft** *Indian Standard*

# Glossary of Terms Used in Connection with Pulley Blocks

(*First Revision* of IS 6498)

ICS 61.080

| | |
|---|---|
| Cranes, Lifting Chains and Related Equipment Sectional Committee, MED 14 | Last date for receipt of comments is **15 June 2024** |

FOREWORD
(*Formal clause will be added later*)

This standard was first published in 1971. This standard has been brought out to keep pace with the latest technological developments and international practices. Also, in this revision, the standard has been brought into the latest style and format of Indian Standards, and references, wherever applicable have been updated.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 2022 'Rules for rounding off numerical values (*second revision*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

**Draft** *Indian Standard*

# GLOSSARY OF TERMS USED IN CONNECTION WITH PULLEY BLOCKS

*( First Revision )*

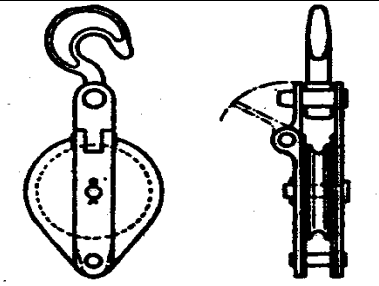
## 1 SCOPE

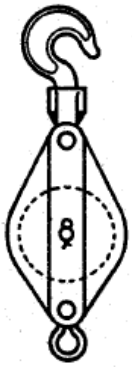
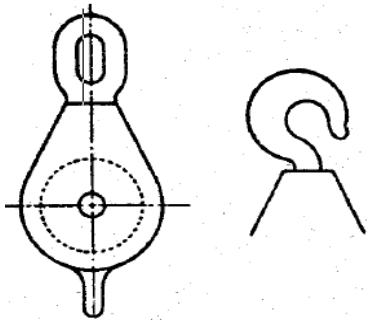
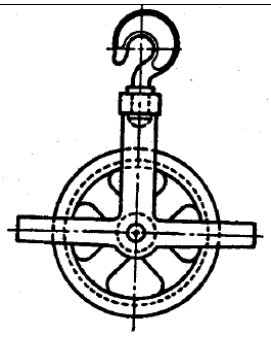
This standard defines the various terms used in the industry in connection with pulley blocks.

## 2 TERMINOLOGY

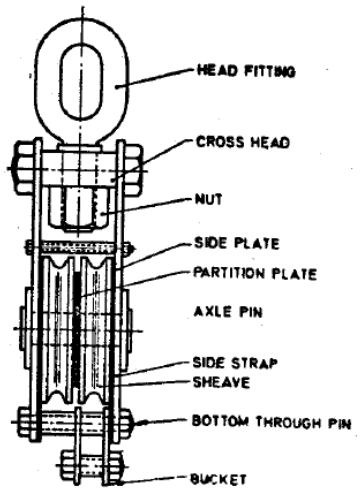
### SECTION 1 ROPE PULLEY BLOCKS

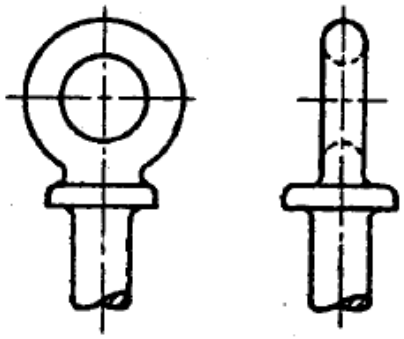
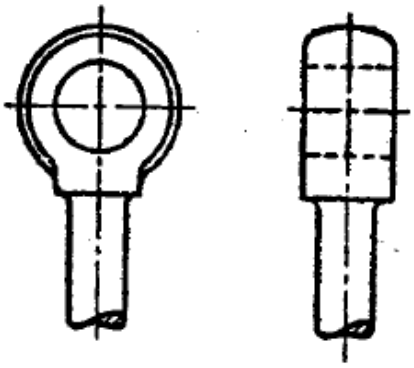
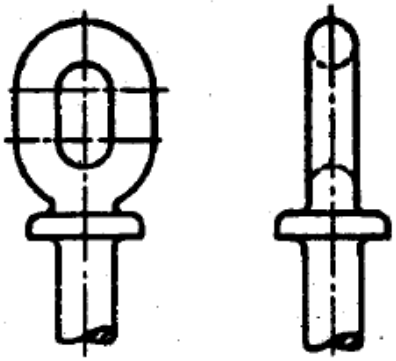
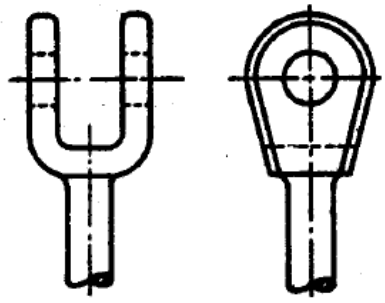
#### Subsection 1 Types of Blocks

| *Sl No.* | *Ref No.* | *Term* | *Definition* | *Typical Example* |
|---|---|---|---|---|
| (1) | (2) | (3) | (4) | (5) |
| i) | 1101 | Pulley Block | A block with sheave (s) for use with wire rope or fibre rope, and forming part of a rope purchase | — |
| ii) | 1102 | Single, Double, Treble, Four fold, Five fold, or Six fold Block | A block with one, two, three, four, five or six sheaves, respectively | — |
| iii) | 1103 | Snatch Block | A single block with a hinged portion through which a rope can be passed to facilitate rigging |  FIG. 1 SNATCH BLOCK |
| iv) | 1104 | Ships' Cargo Block | A block specially designed for ships' cargo handling. The blocks have varying types of head fitting, depending upon the position in the rig. | — |

| | | | | |
|---|---|---|---|---|
| v) | 1105 | Engineering Block | A block designed for general engineering purposes. The blocks have varying types of head fitting, depending upon the required usage and the position in the purchase. | — |
| vi) | 1106 | London Pattern Block | A plate-side block for use with fibre rope. Normally single, double, treble, or snatch, having a swivel hook and becket. |  FIG. 2 LONDON PATTERN BLOCK |
| vii) | 1107 | Malleable Block | A malleable iron block, normally galvanized, with sheaves suitable for fibre rope, usually fitted with an eye or hook. |  FIG. 3 MALLEABLE BLOCK |
| viii) | 1108 | Gin Block | A sheave housed in a malleable iron frame having a swivel hook. Used with fibre rope, and sometimes referred to as a ‘rubbish pulley’ or ‘gin wheel’. |  FIG. 4 GIN BLOCK |

## Subsection 2 Block Components

| *Sl No.* | *Ref No.* | *Term* | *Definition* | *Typical Example* |
|---|---|---|---|---|
| (1) | (2) | (3) | (4) | (5) |
| i) | 1201 | Names of Block Components | The names of typical block components are given the figure |  FIG. 5 NAMES OF BLOCK COMPONENTS |
| ii) | 1202 | Block Shell | The framework of the block, excluding sheave (s) | — |
| iii) | 1203 | Sheave | A pulley, grooved to suit either wire rope or fibre rope; and fitted with either plain bush, self-lubricating bush, or with ball or roller bearings | — |
| iv) | 1204 | Axle Pin | The pin on which the sheave rotates | — |
| v) | 1205 | Becket | The fitting on the block to which the rope used in the purchase is secured | — |
| vi) | 1206 | Cross-head | A cross-member attached to the upper part of a block, and housing the shank of a head fitting. | — |

| | | | | |
|---|---|---|---|---|
| vii) | 1207 | Head Fitting | The means by which the block is attached to its anchorage or to the load being lifted. Typical head fittings are shown in Fig. 6 to 18 |  <br>FIG. 6 ROUND EYE |
| | | | |  <br>FIG. 7 STUD EYE |
| | | | |  <br>FIG. 8 OVAL EYE |
| | | | |  <br>FIG. 9 DOUBLE LUG |

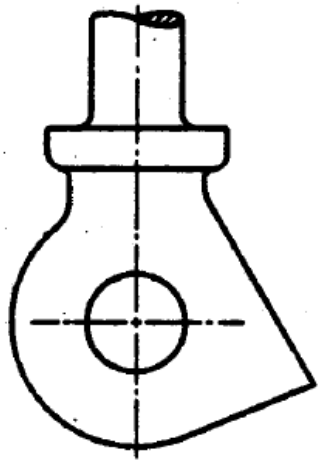


*FIG. 10 DUTCH BILL EYE

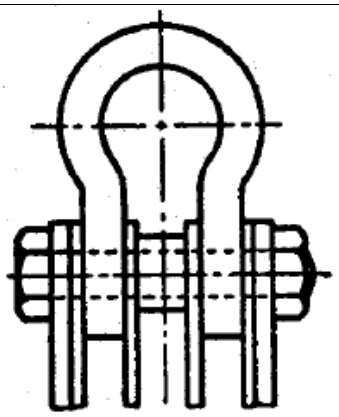


FIG. 11 FIXED BOW SHACKLE

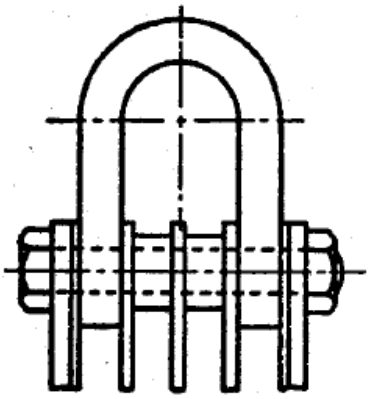


FIG. 12 FIXED DEE SHACKLE

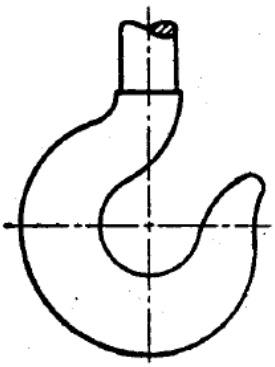


FIG. 13 POINT HOOK

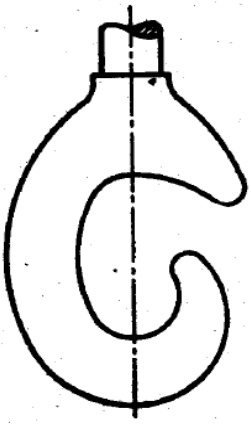


FIG. 14 ‘C’ HOOK

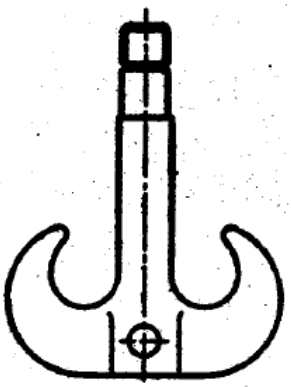


FIG. 15 RAMSHORN HOOK

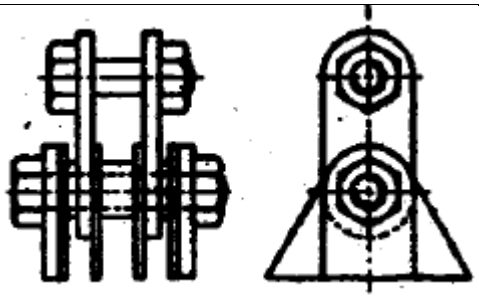


FIG. 16 PLATE LINK

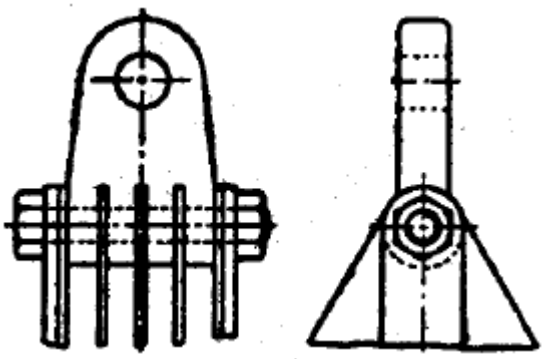


FIG. 17 PLATE CROSSHEAD

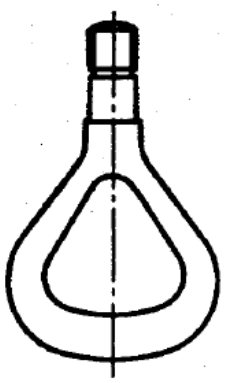
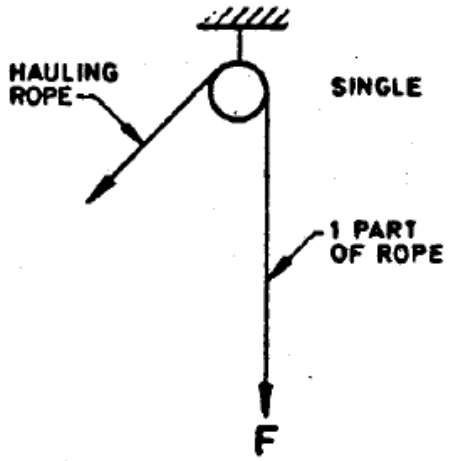
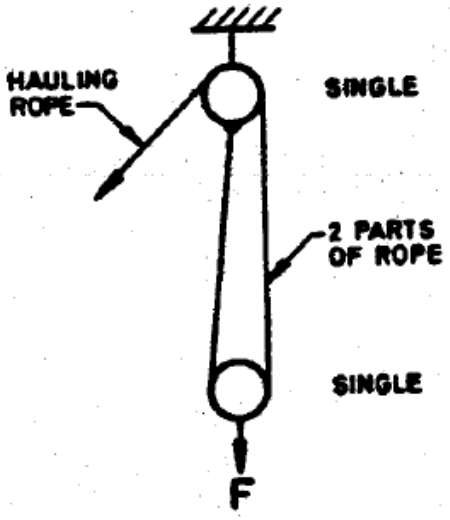
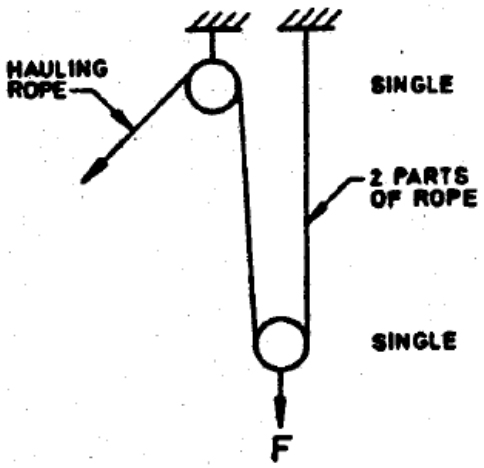
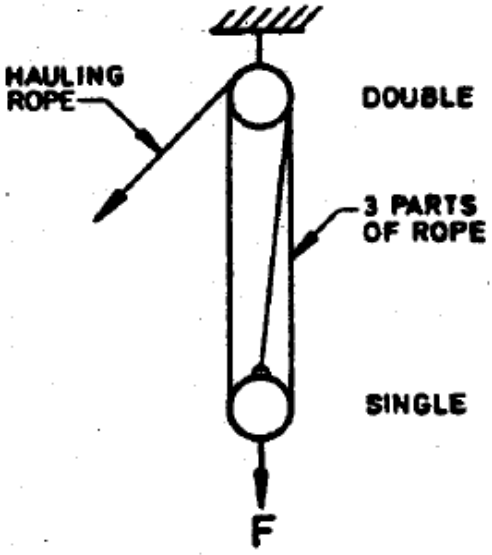
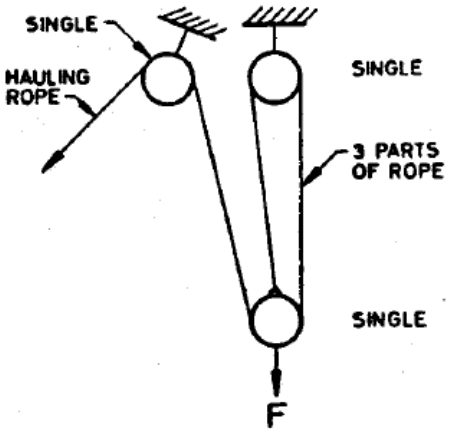


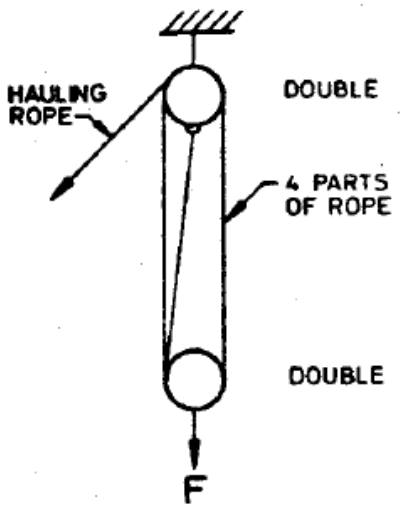
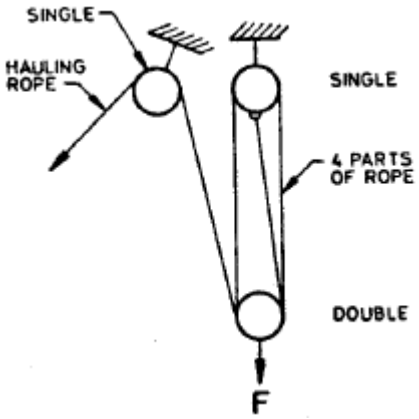
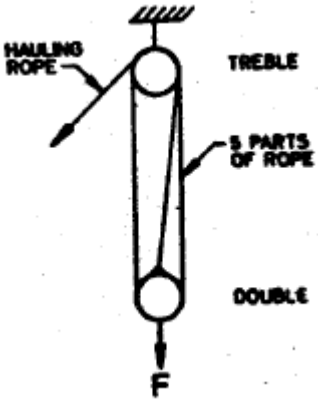
FIG. 18 TRIANGULAR LIFTING EYE

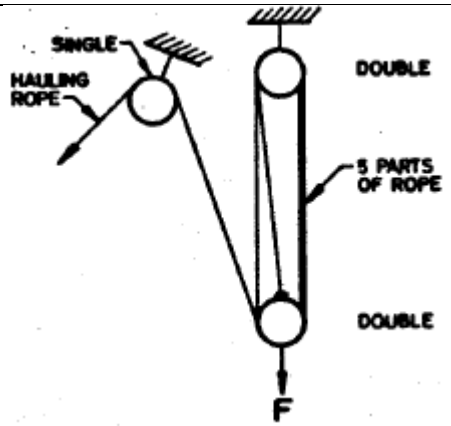
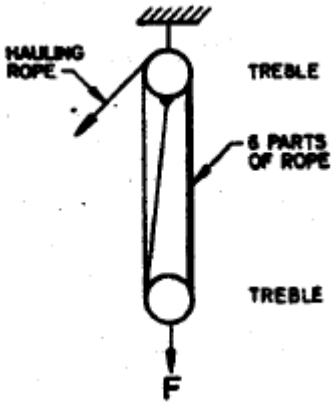
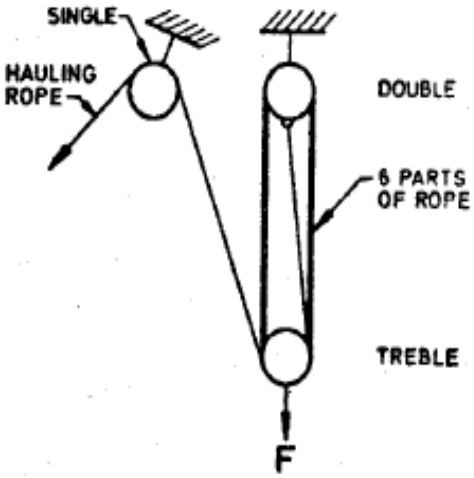
## SECTION 2 ROPE TACKLES

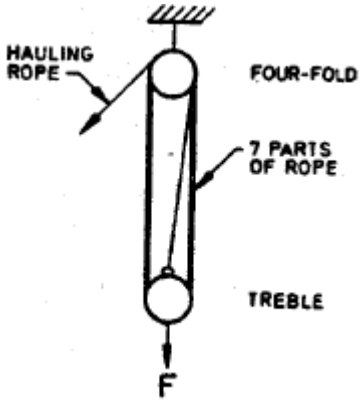
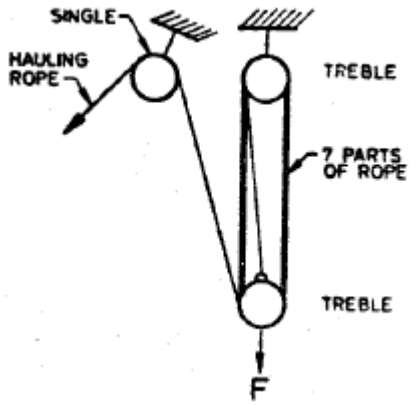
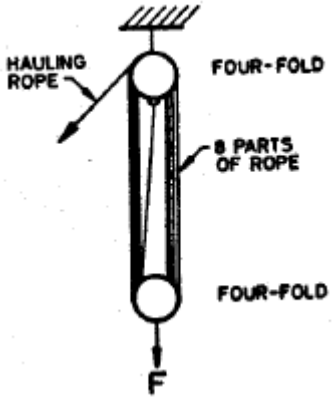
### Subsection 1 Forms of Purchase

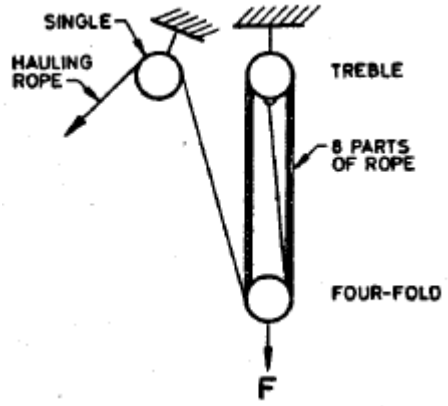
| Sl No. | *Ref No.* | *Term* | *Definition* | *Typical Example* |
|---|---|---|---|---|
| (1) | (2) | (3) | (4) | (5) |
| i) | 2101 | Single-Part Purchase | Force, *F*, held on 1 fall rope commonly used for routine loads on ships derricks. |  FIG. 19 SINGLE |
| ii) | 2102 | Two-Part Purchase | Force, *F*, held on 2 fall ropes |  FIG. 20 SINGLE AND SINGLE |

| | | | | |
|---|---|---|---|---|
| iii) | | | Fig. 21 is sometimes referred to as a gun tackle rig, and is commonly used on ships' derricks |  <br>FIG. 21 SINGLE AND SINGLE |
| iv) | 2103 | Three-Part Purchase | Force, *F*, held on 3 fall ropes |  <br>FIG. 22 DOUBLE AND SINGLE<br>  <br>FIG. 23 SINGLE AND SINGLE AND LEAD BLOCK |

| | | | | |
|---|---|---|---|---|
| v) | 2104 | Four-Part Purchase | Force, *F*, held on 4 fall ropes |  <br>FIG. 24 DOUBLE AND DOUBLE |
| | | | |  <br>FIG. 25 SINGLE AND DOUBLE AND LEAD BLOCK |
| vi) | 2105 | Five-Part Purchase | Force, *F*, held on 5 fall ropes |  <br>FIG. 26 TREBLE AND DOUBLE |

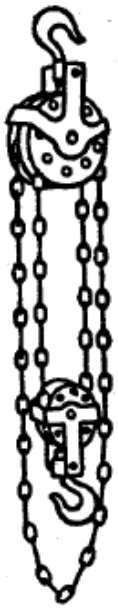
| | | | | |
|---|---|---|---|---|
| vii) | | | |  FIG. 27 DOUBLE AND DOUBLE AND LEAD BLOCK |
| viii) | 2106 | Six-Part Purchase | Force, *F*, held on 6 fall ropes |  FIG. 28 TREBLE AND TREBLE |
| ix) | | | |  FIG. 29 DOUBLE AND TREBLE AND LEAD BLOCK |

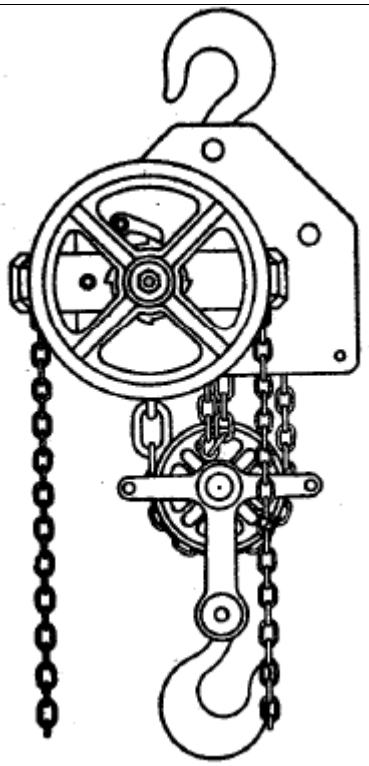
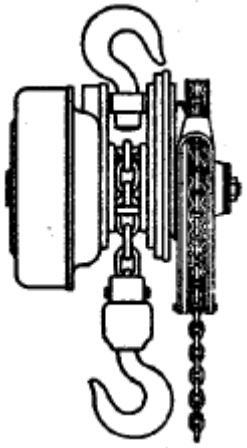
| | | | | |
|---|---|---|---|---|
| x) | 2107 | Seven-Part Purchase | Force, *F*, held on 7 fall ropes |  <br>FIG. 30 FOUR-FOLD AND TREBLE |
| | | | |  <br>FIG. 31 TREBLE AND TREBLE AND LEAD BLOCK |
| xi) | 2108 | Eight-Part Purchase | Force, *F*, held on 8 fall ropes |  <br>FIG. 32 FOUR-FOLD AND FOUR-FOLD |

| | | | | |
|---|---|---|---|---|
| xii) | | | |  FIG. 33 TREBLE AND FOUR-FOLD AND LEAD BLOCK |
| xiii) | 2109 | Fall Ropes | The parts of ropes as illustrated in Fig. 19 to 33 supporting the force, *F*, held by the purchase. The number of all ropes determines the mechanical advantage of the purchase | — |

## SECTION 3 CHAIN PULLY BLOCKS

### Subsection 1

| *Sl No.* | *Ref No.* | *Term* | *Definition* | *Typical Example* |
|---|---|---|---|---|
| (1) | (2) | (3) | (4) | (5) |
| i) | 3101 | Chain Pulley Block | A hand-operated hoist of the following types:<br>1) Differential type<br>2) Worm gear type<br>3) Spur gear type, and<br>4) Triple spur gear type |  <br>FIG. 34 DIFFERENTIAL PULLEY BLOCK<br><br>  <br>FIG. 35 WORM GEAR PULLEY BLOCK |

| | | | | |
|---|---|---|---|---|
| | | | |  <br>FIG. 36 SPUR GEAR PULLEY BLOCK |
| | | | |  <br>FIG. 37 TRIPLE SPUR GEAR PULLEY BLOCK |