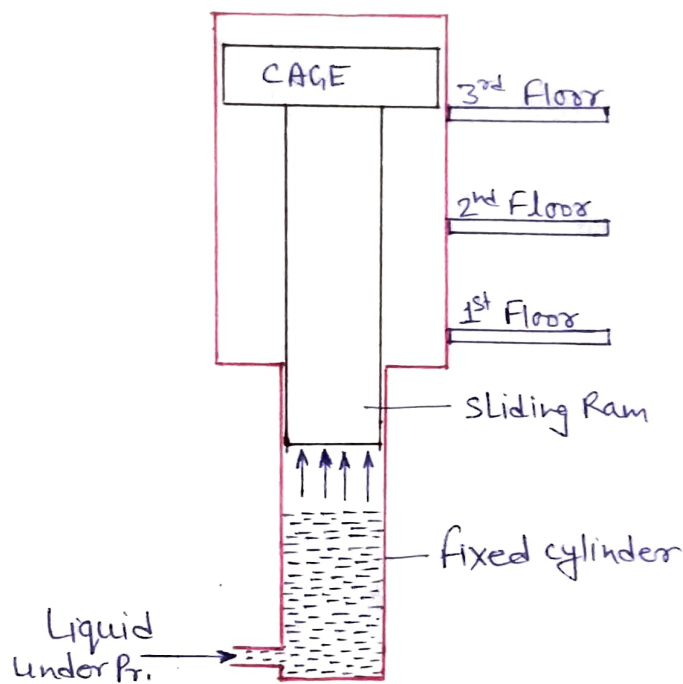


** Hydraulic lift and its application :-

The hydraulic lift is a device used for carrying passengers or goods from one floor to another in multi-storeyed building. the hydraulic lifts are of two types-

- ① Direct acting hydraulic lift
- ② suspended hydraulic lift

+ Direct acting hydraulic lift-



- it consists of a Ram, sliding in fixed cylinder as shown in fig. At the top of the sliding ram, a cage is fitted. On this cage the persons may stand or goods may be placed. the liquid under pr. flows into the fixed cylinder. this liquid exerts force on the sliding ram, which moves vertically up and thus raise the cage to the required height.
- the cage is moved in the downward direction, by removing the liquid from the fixed cylinder.

• Suspended Hydraulic Lift →

it is a modified form of the direct acting hydraulic lift. it consists of a cage (on which person may stand or goods may be placed) which is suspended from the wire rope. A jigger, consisting of a fixed cylinder, a sliding ram, and a set of two pulley blocks, at the foot of the hole of the cage.

one of the pulley block is movable and the other is fixed. the end of the sliding ram is connected to the movable pulley block. A wire rope, one end of which is fixed and the other end is taken round all the pulleys of the movable & fixed blocks & finally over the guide pulleys as shown in fig.

the cage is suspended from the other end of the rope. the raising or lowering of the cage of the lift is done by the jigger.

when liquid under high pr. is admitted into the fixed cylinder of the jigger, the sliding ram is forced to move towards left. As one end of the ram is connected to the movable pulley block & hence the movable pulley block moves towards the left, thus increasing the distance betⁿ two pulley blocks. the wire rope connected to the cage is pulled and the cage is lifted. for lowering the cage fluid from the cylinder is taken out. the sliding ram move towards right and hence movable pulley block also move towards right. this decrease the distance betⁿ two pulley blocks and cage is lowered due to increased length of the rope.

