

# Multiple uses of stairs

Arif Yasin Mujawar<sup>1</sup>, Sadik Sutar<sup>2</sup>

<sup>1</sup>PG student, Mtech Civil Construction Management, Ashokrao Mane Group of Institute, Vathar Tarf Vadgaon,

<sup>2</sup>Assistant Professor, **Sadik Sutar**, Mech.Eng Dept. of Mechanical Engineering, Ramrao Nikam Polytechnic College, Indoli

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**Abstract** - The purpose of this document is to provide multiple use of structure such as stairs in buildings. As we see that it is difficult to carry luggage by the way of stairs, I suggest the one simple way to make it easy.

**Key Words:** Staircase, slope, slippery.

## 1. INTRODUCTION

In this pandemic years 2020-2021 school colleges are closed the all kids are mostly spend their times in closed houses. They can't plays out door games. If we provide some sport type features in home it becomes very help full to the developing students. One thing is suggested in this paper that use of stairs as a slippery with minimum alterations. Also it becomes use full to transmit heavy luggage from floor to floor.

## 2. OBJECTIVE

- To provide playing things in home .
- To provide easy transfer of luggage's like gas cylinder , bags of grains etc.
- To make maximum use of limited space.

## 3. TYPES OF SYSTEM

For such study we consider the following more specific factors to design stairs

- Stair type
- Stair height
- Stair slope
- Local standard

The another geometric and design feature of the stairs are also affect the which are given bellow

- Longitudinal slope
- Number of lanes
- span
- Width of flit
- Height of riser

- Height of landing

## 4. LITRATURE REVIWE

All the contestants have to try and climb up this steep slippery slope to make it into the castle grounds. There are ropes place at the top of the wall to help, but the contestants have to get most of the way up the slope to reach them.

Once up, they have to slide down the slope on the other side, usually ending up in water traps or pools of mud. Any contestant that hasn't managed to get over the wall before the whistle blows is out of the game.

The final time this game was played, lots of balls were hanging from wires in the air above the slope on the back of the wall. This time, once the contestants have climbed up, they have to grab a ball on their way down the other side. The contestants need to have a ball of their own to move on, anyone who doesn't get one loses and is out of the game.

[https://keshiheads.fandom.com/wiki/Slippery\\_Wall](https://keshiheads.fandom.com/wiki/Slippery_Wall)

## 5. DESIGEN CONSIDERATION

The diagram fig 1.1 shoes regular staircase which is mostly designed in houses . which has two flits approximately 5 ft height and one middle landing in whole span. The stairs are divided in two parts first flit and second flit.

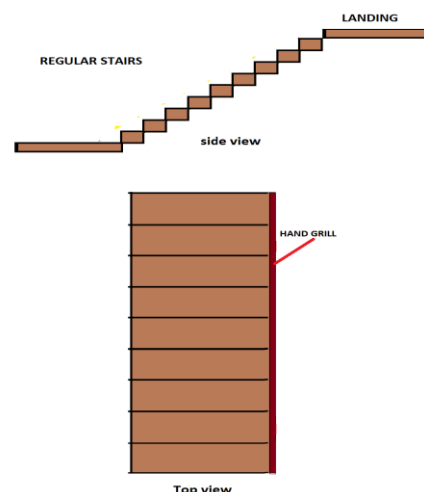


Fig 1.1 Regular staircase

Some modification is made in above regular stair design for multiple use, which becomes more convenient and more use full. The alteration required are shown in fig. 12

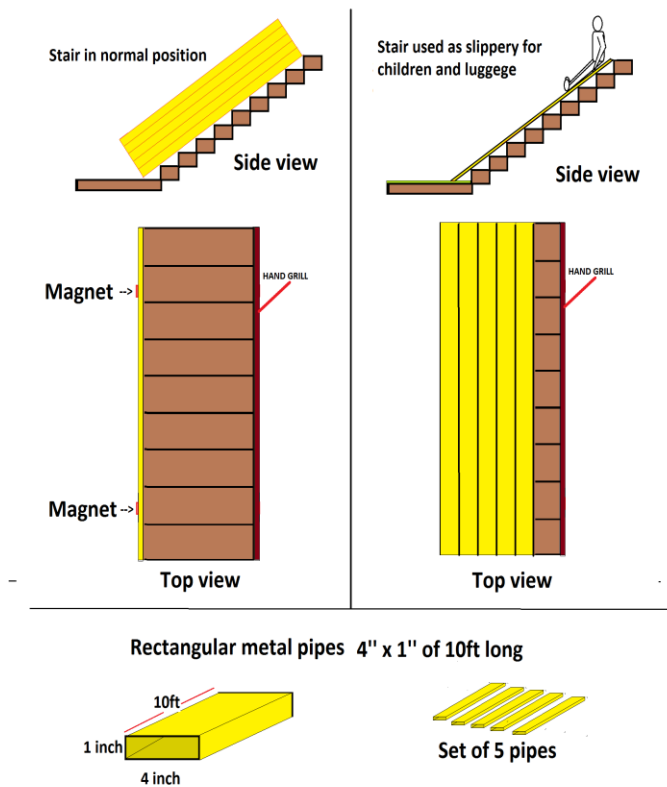


Fig 1.2 Modified stair for multiple use

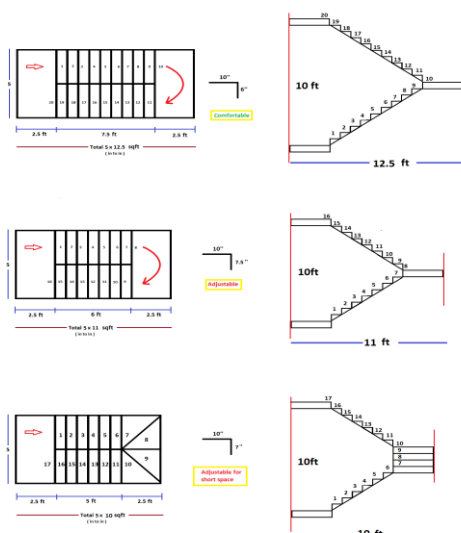


Fig.1.3 stair arrangement in congested space

The proper arrangement of stairs as per available space at the time of construction is given in fig.1.3

## 6. METHODOLOGY

1. Surveying
2. Required space observing
3. Design plan
4. Problem statement
5. Scope of work

### 6.1 Surveying

It include the proper inspection of spot where to have make modification , though this tecnique is not use full for each type of stairs . So proper inspection through surveying has to do . which includes the measurement of slope , height , number of stairs etc.

### 6.2 Required space observing

Mostly the space provided for the width of the stair is 3 feet regularly some time it is reduced to 2.5ft as per site condition it is necessary to observ it care fully. If it is 3ft then more convinent to modify . It measures 36 inches out of which we provide 20 inches slippery track and 16 inch up climbing .

### 6.3 Design plan

1) As shown in fig 1.2 the stair is 3ft wide and has 9 steps total height of 5ft from base.

2) 5 pieces of rectangular pipes 4"x1" having length 10ft long are taken. The 5 pipes are welded from back side to provide smooth surface at front .

3) The welded pieces are connect to the wall by hinge and laid down on the stair as shown in figure .

4) The hinge allow it to make 2 modes one as slippery and other is as regular stairs.

5) When not in use kept it as seen in normal *position* in fig 1.2 by fitting the magnet attachment.

6) 16inch space kept to up climb for children.

### 6.4 Problem statement

- 1) Not convenient for each type of stairs
- 2) Chances of accident when misuse.
- 3) Proper fitting is necessary which require skilled labor.

### 6.5 Scope of work

- 1) Mostly usable in common stairs as it doesn't require more cost
- 2) Proper smoothness and hand grill avoids chances of accident.
- 3) More help full to carry gas cylinder, bags of grains etc. from ground floor to upper one
- 4) It makes home ground for playing for children under the observations of parents.

### 7. CONCLUSION

We are facing lockdown continually from ends of year 2019 .The children's are rest at home form 2 years, the extra activities are reduces from them . such arrangement not only helps to play the children but also gives the convenient mode of transmission of goods.

### 8. REFERENCES

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### BIOGRAPHY



**Mr Arif Yasin mujawar**

**A/P : Rethare Bk ,Tal: Karad,  
Dist :Satara,  
Maharashtra 415108 Mob.  
9623278339**

Continually working in new and advanced researches, Social worker in Karad taluka area, Popular in

doing best work in minimum cost.