

# HANDOUTS

## Chapter 1

## INTRODUCTION TO SHOE

### **The principal part of the shoe**

The anatomy of a shoe can be divided broadly in an **upper part** and **bottom part**. Section of the upper part includes **vamp**, **quarter**, **toecap**, **topline** etc. the section of the lower shoe (**bottom part**) consist of an **insole**, **outsole**, **shank** and **heel**. Various areas of the shoe have different names.



Bottom part mainly consists of sole, insole and heel. Some of the main bottom parts are explained below:-

### PARTS OF SHOE



**Loake Tweed (Oxford) - Shoemakers Range**

## CHAPTER- ONE

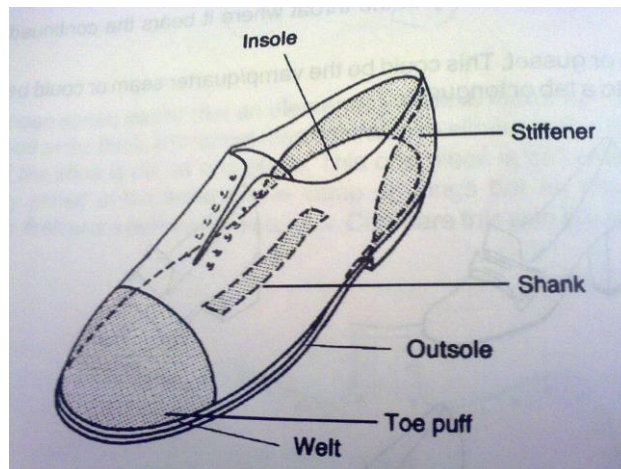
### 1.1 BOTTOMS COMPONENTS

This is a term which refers to the whole of the bottom of shoe as opposed to the upper. It generally includes some of the following, depending on type of construction.

- a. Insole
- b. Sole.
- c. Welt.
- d. Bottom fillings.
- e. Heel, heel lifts and top piece.

**COMPONENTS:** This is collective term which is used to describe items which is in Corporate in shoe and includes the following.

- a. Toe puff.
- b. Stiffener.
- c. Shank.
- d. Socks



**Insole:** A layer of material shaped to the bottom of the last and sandwiched between the outsole (and midsole) and the sole of the foot inside the shoe. The insole covers the join between the upper and the sole in most methods of construction and provides attachment for the upper, welting. This provides a platform upon which the foot can operate and separates the upper from the lower. This is the inner sole of the shoe which is next to the foot under the shoe sock.

Athletic shoe wear will often have a sockliner, a piece of material placed over the top of the insole board (glued in position or removable).

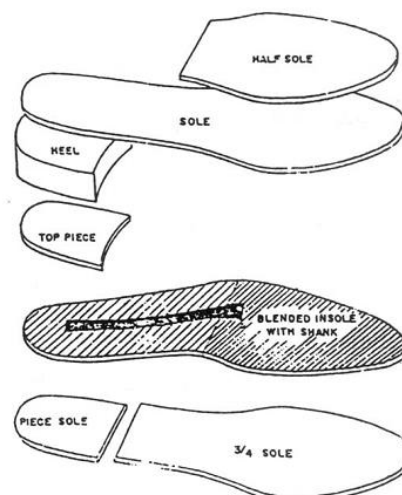
**Sole:** The term sole derives from 'solea' a latin word meaning soil or ground. This is the outer most sole of the shoe, which is directly exposed to abrasion and wear. Traditionally made from a variety of materials, i.e. leather, pure rubber, resin rubber compound, plastic etc. the outsole is constructed in different thickness and degrees of flexibility. The layer of material which covers the bottom of the shoe and is the walking surface of that shoe is called **sole**.

**Welt:** Welt is strip of material that joins the upper to the sole. Most shoes will be bonded by Goodyear welted construction. Some shoes use an imitation welt stitched around the top flat edge of the sole for decorative purpose, but it is not a functional part of the shoe.

**Bottom Filling:** This is used to fill the cavity between the insole and the sole or middle sole. Bottom filling is usually made of a granulated cork mixture, leather or felt cut to shape. It is essential, as it goes in the forepart of the shoe, that whatever is used is flexible.

Filler means the materials which fills the cavity or gap. Bottom filler is a kind of material which fills the cavity formed during the lasting. Almost all types of footwear needed bottom filler. It may be in the forepart, heel portion or whole of the bottoms area.

**Heel:** The heel is the raised component under the rear of the shoe. Heel is consist of a variety of shapes, heights and materials and is made of a series of raised platforms. The part of the heel next to sole is usually shaped to fit the heel; this is called the heel seat or heel base. The heel breast describes front face of the heel. The ground contact section is called the top piece. Heels raise the rear of the shoe above the ground. A shoe without a heel or midsole wedge may be completely flat. When the heel section sits lower than the forefoot the style is called a 'negative heel'. The under part of the shoe which supports the heel of the foot may be stuck or nailed to the shoe bottom. It can be made of leather, wood, plastic, rubber, leather board, etc.



## Parts of Heel

**Heel Base:** That part of the heel next to the sole, usually concave to fit the heel seat.

**Heel Breast:** The forward face of the heel, often concave towards the shank.

**Heel Seat:** The part of the sole to which the heel is attached, often beveled to form a rounded top which fits into the concave heel base.

**Heel lift:** layers of material such as leather or leather board which are built up together and shaped to form built heels.

**Top piece:** The top surface or walking surface heel is called as top piece.

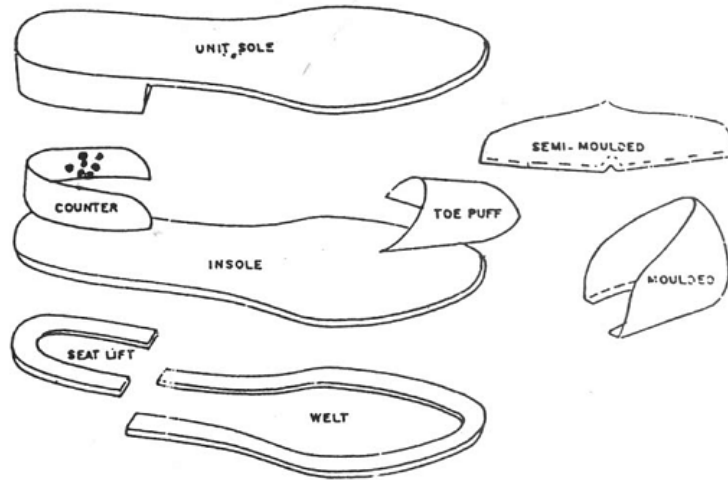
## Stiffeners

**Toe Puff:** A stiffening which is inserted between the upper and lining at the toe of the shoe. The purpose of this is to reproduce the shape of the toe of the last and to retain that shape throughout the life of the shoe.

**Stiffener:** A stiff material which may be molded to the shape of the last back part or, alternatively, inserted flat and molded during subsequent processes. It is normally inserted between the lining and upper to support the back of the shoe and to grip the foot.

**Shank steel:** The shank bridges between the heel breast and the ball tread. The shankpiece or shank spring can be made from wood, metal, plastic and consists of a piece approximately 10 cm long and 1.5 cm wide. The shankpiece reinforces the waist of the shoe and prevents it from collapsing or distorting in wear. The contour of the shank is determined by heel height. Shoes with low heels or stiff soles do not require a shank because the torque between the rear and forefoot does not twist the shoe.

**Socks:** A piece of material shaped to cover the whole or part of the insole. It is inserted into the completed shoe and usually bears the maker's name and the shoe brand name.



Insole, shank board and shank steel combined together is called **Insole**.

*End of chapter one*

## Quiz (10%)

1. What do you know about bottom component technology?
2. Define all bottom components?
3. List and explain all parts of shoe (Hint: take the above shoe style)?
4. Define about shoe stiffener also include their uses?
5. Define all parts of heel?