

**P3 – Preparation of Specifications for United Kingdom Patents  
Mark Scheme 2014**

**Question**

*In this question you are asked to draft a specification for filing at the UK Intellectual Property Office with a view to obtaining a UK patent. You should assume that the client's description of the prior art in the field is complete. You should not take into account any other prior art in the field which might be known to you. You should also assume that the client's description of the device and its operation is accurate, i.e. that the device works as described. The allocation of marks is given at the end of the question.*

Dear Pat,

With the onset of autumn, I have been busy picking up leaves around the garden, as well as doing a bit of painting and decorating. I have found myself continuously fighting with bin bags, which has set my mind working.

The problem with plastic bin bags or waste sacks is that, while they are good for holding and transporting rubbish, because they are made from thin plastic, they are very light and flexible. As a result, a bin bag is messy to fill as the sack blows in a breeze or folds under its own weight and size. This got me thinking about bin bag holders.

My idea is a temporary support for a waste sack. The joy of my frame is that it is simply a single hoop with a handle. Bin bag holders that are currently available typically have two rings in which the open end of the bin bag is clamped between outer and inner rings. The bag is folded over an inner ring while an outer ring, having a slightly larger circumference, holds the open end in place by exerting an inwardly directed force against the inner ring. The bag holders also include a vertical support and either feet or a base on which the closed end of the rubbish sack sits. Wall mounted frames having just the pair of rings over which the open end of the bag is folded and clamped are also available but these need to be permanently screwed to a wall. These existing supports are all well and good but they are limited in their use due to their size and weight, their portability and/or stability.

My frame is a flexible hoop over which the open end of the sack is folded. The hoop has a circumference that is bigger than that of the open end of the sack. This stretches the open end of the sack and holds it on the frame. The circumference of the hoop is reduced by squeezing two arms together which allows the open end of the bag to be passed from inside the hoop circumference and folded over the hoop so the open end of the bag hangs outside the hoop. Release of the arms allows them to spring back to their original conformation and for the circumference to expand to its original size. As a result, the hoop bears against the fold of the bag hanging outside the loop.

The whole frame is made from a single piece of round wire and, in the versions I have made, the frame includes two parallel arms that are resilient. To take the bag off the frame, the arms are squeezed together which reduces the circumference of the hoop so the hoop no longer bears against the fold of the bag. The weight of the sack contents and the reduced hoop diameter unfolds the open end of the sack from the ring.

The hoop needs to fit a standard refuse sack, which I believe to be about 150cm in circumference when open, but it would be good to cover other sizes of bags such as pedal bin liners which I think have an open circumference of about 85cm. I have found that a flat part on

the ring circumference is particularly helpful so the straight part can be rested on the ground or a flat surface. This helps direct sweeping of waste, leaves, rubbish etc. into the sack. The dips in the hoop on either side of the arms provide the hoop with greater deformability and resilience to enable the circumference to be reduced sufficiently to allow a waste sack to be easily passed through the centre of the hoop and the open end folded over the hoop without deforming or tearing the open end of the sack.

The length of the arms is not critical but needs to be sufficient to fit comfortably within an adult palm, without being overlong and intrusive when in use. I have in mind a length of between 100mm and 500mm, with an ideal length being 150mm.

The other great thing about my frame, apart from its simplicity, is that it comes with a stand which is simply two legs made from one piece of wire. The stand can also be used as a handle extension. The struts hold the arms of the loop, which may be inserted either in the same plane as the legs or perpendicular to the legs. The legs can then either be planted in the ground or used as an extension to the arms. I would think a leg length of about 70cm should be sufficient. The first strut on the legs is used to grip the handle when it is inserted at right angles to the legs. The stand and the hoop lock together so that the stand sits at the join between the arms and the hoop. The second strut is used to hold the arms when inserted in the legs for use as a handle extension. The arms are a tight fit in between the legs and the struts so the arms do not pivot away from the legs.

The closed end of the legs is curved to give a space between the struts and the legs. This provides additional support to the hoop arms and assists in holding the hoop perpendicular to the stand.

Of course, the frame may be made from any suitable metal or plastics material provided that the material has a) sufficient rigidity to support the weight of at least a partially filled waste sack, b) sufficient flexibility and resilience to enable the ring to function as envisaged, and c) a weight that promotes the portability of the frame. The ring and stand may be made from the same or different materials.

I am so excited by my idea and want to use my prototypes at a barbeque that I am having for friends tomorrow, so please would you file a UK patent application today. I hope the attached drawings help.

Thanks,  
Charlie.

**Introduction and Description: 35 marks**

**Claims: 60 marks**

**Abstract: 5 marks**

**Total marks: 100 marks**

## Answer

### Introduction and Description

Title	1 mark
Statement of field	1 mark
Prior Art	2 marks
Statement of invention and general description - mark cumulatively awarding ½ mark for what the feature does and ½ for why the feature is beneficial/advantageous, up to a maximum of 13 marks.	13 marks
Figures:	
i) Page numbering.	1 mark
ii) Feature numbering.	1 mark
iii) Figure description.	3 marks
Specific description:	
i) Description of figures.	9 marks
ii) Description of how it works.	4 marks
- a good candidate will explain that the stand works with both embodiments of the hoop.	
	<b>Total: 35 marks</b>

## Claims

### Independent apparatus claim

#### Claim 1

**30 marks** are available for statement of the three following features:

- i. Refuse sack support frame comprising a
- ii. Hoop
- iii. Means to move circumference (in one position exerts outward force on sack)

Such as:

A refuse sack support frame comprising a hoop to support a refuse sack comprising the means to move the circumference of the hoop between two positions in which one position exerts an outward force to hold the sack on the hoop.

If the candidate has obtained 30 marks consider deducting marks cumulatively from the maximum 30 marks for unnecessary restrictions to the claim. Examples:

Major:

Claim reads onto the prior art – **30 marks**

Claim doesn't cover all the embodiments – **30 marks**

Claim includes the stand – **30 marks**

Medium:

Inclusion of arms – **15 marks**

Inclusion of the sack as a claimed feature – **15 marks**

Minor:

Inclusion of handles – **5 marks**

Use of language and structure of claim – **up to 5 marks**

Other restrictions to be agreed and documented here

The maximum deduction is 30 marks.

### **Dependent claims**

Award **1 mark** per dependent claim, up to a maximum of **10 marks**.

- a) Means reduce circumference of the hoop.
- b) Hoop provides means.
- c) Means are arms.
- d) Hoop circumference relative to bag circumference.
- e) Flat or straight portion is located on the hoop circumference substantially opposite the location of arms.
- f) A portion of the hoop circumference on either side of the handle deviates from a circular shape to provide a spring portion.
- g) Stand is U-shaped having two legs joined together at one end.
- h) Stand includes one or more struts located between the two legs that hold the legs a fixed distance apart.
- i) Joined end of the stand is shaped to sit in a plane that is parallel to but below (or above) the plane of the legs when the stand is held in a horizontal plane and orientation.
- j) One end of the stand finishes in a point or sharp edge.

Award **3 marks** per dependent claim, up to a maximum of **18 marks**.

- k) Arms oriented in the same plane as the hoop.
- l) Circumference of the hoop includes a flat or straight portion.
- m) The spring portion is shaped as an indent from the circumference.
- n) Frame further includes a separate stand.

- o) Refuse sack support ring is inserted through a gap between the closed end of stand and the first strut at right angles to the stand so that, in use, the stand is oriented vertically and the ring is held by the stand at an orientation that is orthogonal to the stand.
  - p) Refuse sack support ring is inserted through a gap between the closed end of stand and the first strut in the same plane as the stand so that, in use, the stand is oriented in the same plane as the ring and the stand serves as a handle extension.
- No marks are awarded for trivial claims, such as specific dimensions.
  - Mark for a specific claim is halved if it combines features that should appear in separate dependent claims.
  - Consider whether the pre-amble is correct and whether the claim is in a sensible place in the dependent claims when awarding mark.
  - Kit (of parts) claims attract 1 mark, as do an independent claim to the stand per se and a method claim.

Omnibus claims

i) as shown in figures

**1 mark**

ii) as described herein

**1 mark**

**Total: 60 marks**

**Abstract**

Title (Must be the same as the Introduction title)

**1 mark**

Figure (selection of any figure)

**1 mark**

Text

**3 marks**

**Total: 5 marks**

**Total marks: 100 marks**