A cycling costume inspired by Alice Bygrave’s 1895 UK Patent #17,145
DESIGN FEATURES

This ‘ordinary’ A-line skirt features a remarkable hidden pulley system sewn into the front and rear central seams. It operates via an interconnected series of stitched channels, threaded cords, weighted hems and concealed button holes. It is undetectable until the wearer activates the mechanism via cords at the waist. The pulley system converts the costume by raising or lowering the skirt height, much like a curtain, when needed.

THE INVENTOR: ALICE BYGRAVE

Alice Bygrave (born Duerre) of No. 13 Canterbury Road, Brixton, in the County of Surrey, registered a UK patent for ‘Improvements in Ladies’ Cycling Skirts’ on 6th December 1895. She was 36. She lodged the same patent in Canada, Switzerland and America. In 1896 her invention was commercialised and distributed by Jaeger, the British fashion house, as the Bygrave ‘Convertible’ Skirt and was advertised in popular periodicals such as ‘The Lady Cyclist’ and ‘The Queen: The Lady’s Newspaper’. It was sold throughout Britain, in America and even made its way to Australia.

Alice’s invention brings built-in engineering, deliberately concealed technologies and creativity to the problem of how to wear an ‘ordinary’ skirt and cycle safely. Her design appears influenced by the social challenges facing mobile women combined with her skills and interests. Alice identifies as a dressmaker, probably having learned from her mother. Her parents owned a watch and clock-making shop on Kings Road, Chelsea, in West London and her brother, Arthur, and her sister-in-law, Rosina Lane, were professional racing cyclists. Rosina is actually documented wearing the Alice’s ‘Convertible’ Skirt at public cycling events (pictured right).

“My invention relates to improvements in ladies’ cycling skirts and the object is to provide a skirt as proper for wear when the wearer is on her cycle as when she has dismounted.”

Alice Bygrave (1896)
Victorians enthusiastically took to the bicycle. Yet women had to deal with many social, political and material challenges to their freedom of movement. Cycling in ‘ordinary’ dress could be dangerous as it wrapped around pedals and caught in wheels. Wearing more ‘rational’ cycle wear, such as shorter skirts and bloomers, was more comfortable, but not necessarily safer as some parts of society were threatened by the sight of this progressive ‘New Woman’ carving new modes of gendered independence in public space. Onlookers sometimes hurled abuse and stones! However, nothing was going to stop women from cycling. In response, some creatively protested against restrictive ideas of how a woman should act and move in public through their clothing, by designing convertible costumes that enabled wearers to switch from street wear to cycle wear when needed. Luckily for us, these inventive women not only imagined, made and wore radical new forms of cycle wear - they also patented their designs!

Six sewing patterns in this collection (comprising a total of nine different garments) are inspired by convertible cycle wear patents lodged in the 1890s by inventive British women. They form part of an ESRC funded Bikes & Bloomers sociology project led by Dr Kat Jungnickel at Goldsmiths, University of London, with Rachel Pimm, Nadia Constaninou, Alice Angus and Britt Hatzius. More about the lives of these fascinating inventors is in Bikes & Bloomers: Victorian Women Inventors and Their Extraordinary Cycle Wear (Goldsmiths Press). Along with the book, these patterns bring to life some of the inspiring cycling, sewing and suffrage stories that have helped shape how we cycle today. They also (still) provide useful ideas for functional clothing that works on and off the bike. We look forward to seeing what modern sewing cyclists make with them.
PATTERN #1

PULLEY CYCLING SKIRT

Pattern #1 is a long A-line skirt with a pulley system sewn into the front and rear central seams. The wearer converts the skirt using a system of stitched channels, threaded cords and weighted hems. This raises or lowers the skirt height, much like a curtain. **Requirements:** 2.5m fabric, 4 x 1.5m woven cord, 4m bias tape, 4 small weights and 4 buttons.

This pattern is approx UK size 12 and will need to be customised to fit as required. Minimal instructions are provided. See our mistakes, workarounds and suggestions at: bikesandbloomers.com

RESEARCH PROJECT
Kat Jungnickel

SILK LINING ARTWORK
Alice Angus

COVER PHOTO
Charlotte Barnes

BIKES & BLOOMERS CONVERTIBLE CYCLE WEAR SEWING PATTERNS:
#1 – Pulley cycling skirt
#2 – Cycling semi-skirt
#3 – 3-piece cycling suit
#4 – Cycling skirt/cape
#5 – Side-button skirt
#6 – Cycling bloomers I, II

All sewing patterns are free to download. Profits from the sale of printed patterns go to the London Bike Kitchen, a DIY workshop. Please share your cycle wear creations with us on #bikesandbloomers & www.bikesandbloomers.com
VICTORIAN WOMEN'S
CONVERTIBLE CYCLEWEAR
SEWING PATTERNS

#1 PULLEY
CYCLING SKIRT

www.BIKESandBLOOMERS.com
20 CM FASTENING IN LEFT SIDE

EXIT BUTTONHOLE
ALICE LOUISA BYGRA

SKIRT BACK
CUT 1 PAIR SELF
CUT OR FOLD TO PRINT SAFE BOX
LINE UP SHAPES ◆
STICK TOGETHER ◆
CUTTING LINE ........................................
SEAM ALLOWANCE ........................................

SEW FRONT AND BACK SKIRT PIECES TOGETHER
SEW TOGETHER FACINGS
BAG OUT FACINGS WITH LINING
MAKE CHANNELS AND TOPSTITCH TO FRONT AND BACK CENTRES
MAKE AND BAG OUT PLACKET AND TOPSTITCH DECORATIVELY
THREAD CORD OR RIBBON THROUGH CHANNELS WITH SAFETY PIN
COVER AND INSERT WEIGHTS AND ATTACH CORDS AT ENDS
FIX SKIRT, LINING AND PLACKET INTO WAISTBAND
HAND SEW WAISTBAND CLOSED
ADD FASTENINGS AND BUTTON TO KEEP PLACKET DOWN
SEW BUTTONHOLES TO FRONT TO ACCESS TO CORD PULLEY SYSTEM
CUT 1 PAIR LINING
BACK CORD Casing

OLD
WAISTBAND
CUT 1 SELF
CUT 1 FUSE INTER
SEw HALVES TOGETHER FIRST AND ATTACH RICH

CENTRE BACK

GRAIN LINE

BUTTONHOLE