

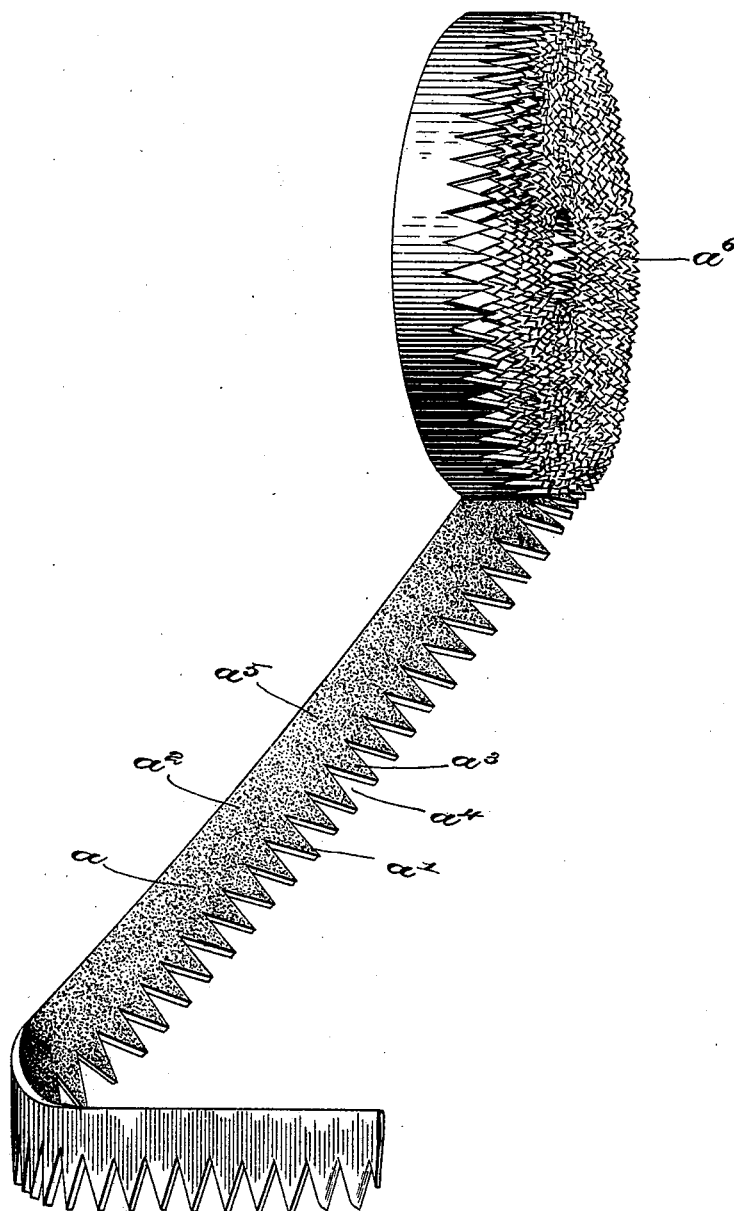
No. 646,592.

W. B. ARNOLD.
WELT.

Patented Apr. 3, 1900.

(No Model.)

(Application filed Dec. 28, 1899.)



Witnesses.

Thomas Drummond.
R. Shaw.

Inventor.

William B. Arnold,
by George F. Gray,
Attys.

UNITED STATES PATENT OFFICE.

WILLIAM B. ARNOLD, OF ABINGTON, MASSACHUSETTS.

WELT.

SPECIFICATION forming part of Letters Patent No. 646,592, dated April 3, 1900.

Application filed December 26, 1899. Serial No. 741,517. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM B. ARNOLD, a citizen of the United States, and a resident of Abington, county of Plymouth, and State of Massachusetts, have invented an Improvement in Welts, of which the following description, in connection with the accompanying drawing, is a specification, like letters on the drawing representing like parts.

My present invention is an improved welt for use in the manufacture of boots and shoes, my invention relating to said welts as an article of manufacture to be offered to the trade for general use wherever welts are employed.

Stated in general my invention comprises the provision of a ribbon-like strip of leather or other welt material, preferably having a uniform or substantially-uniform thickness from edge to edge, one of said edges being made with similar indentations throughout its length. This welt is manufactured in lengths of several yards and sold to the trade in flat rolls and is not only much more economical than the common kind of welt ordinarily used, but has many advantages of use, particularly in overcoming the deep ridge which occurs in McKay sewed shoes adjacent the stitching about the sole due to the employment of the ordinary skived welt, which gives no support to the inner part of the sole, and hence produces a ridge which manufacturers have long considered a very objectionable feature of such shoes and have sought to remedy without success, so far as I am aware.

In its preferred form I provide one surface, preferably the flesh side of the welt, with cement, so that the welt may be secured to the outer sole or other part of the shoe simply by said cement instead of the more expensive and slower method of nailing, as now employed.

Further advantages of my invention and the construction thereof will be more fully pointed out in the course of the following detailed description, reference being had to the accompanying drawing, in which I have illustrated my preferred embodiment of the invention, and the latter will be more particularly defined in the appended claims.

In the drawing I have represented my invention in a perspective view.

My invention will be perhaps better understood if I first explain the ordinary kind of welt which is commonly used by boot and shoe manufacturers at the present time, said common welt consisting of a strip of leather usually somewhat narrower than I prefer to employ, said leather being skived, so as to be thick at one edge and thin at the other edge thereof, this shape being partly for economy in manufacturing the welt and partly for the supposed requirements of shoe manufacture as heretofore practiced. The said welt is laid around the bottom of the shoe at the edge thereof and is crimped and formed about the toe part, the crimps thereof coming in the thin part of the welt and the latter being tacked down with nails.

Instead of the aforesaid welt my welt consists of a ribbon-like strip a , having the same thickness at its inner edge a' that it does at its outer edge a'' , the inner edge being provided with symmetrical projections or teeth a^3 , herein shown in the form of triangular teeth and extending similarly in a continuous series throughout one longitudinal edge for the length of the welt, these teeth being separated by indentations a^4 , extending considerably into the body part of the welt. This toothed construction, while affording very great and important advantages in use, is also of great value in economy of manufacture, inasmuch as the saving of stock by simply running a cutting-tool having zigzag teeth along the middle part of a wide strip thereby severs the same into two pieces of welt and at the same time saves a considerable amount of stock, it being understood that welting is usually made of expensive high-grade leather. Having provided the strip of indeterminate length, as shown, I apply to one side thereof, preferably the flesh side, a coating a^5 of cement, preferably the best rubber cement, and when this is dried sufficiently the welt is compactly wound into flat form, as shown at a^6 , being sold in rolls of the number of yards required, it being understood that successive strips of welt are cemented together end to end, so as to form a single long strip.

I prefer to employ the triangular teeth shown, inasmuch as these cooperate in the requirements of use and give the best results

in manufacture; but it will be understood that I do not limit my invention and claims to this feature, although I prefer this form.

I have found that substantially the form of triangular teeth shown, having the shape and proportions substantially as indicated in the drawing, provides just the required amount of flexibility or yielding character to the serrated edge, which permits it to be fed smoothly and evenly by any means provided for feeding the welt in the process of shoe manufacture. The sloping character of the sides and the narrow points of the teeth offer so slight a resistance to the directing and retaining device of the machine that the welt feeds smoothly and evenly.

My invention is of great value, as already explained, in connection with the manufacture of McKay sewed shoes in that it provides a level support to hold up the outer sole inside of the stitching, and thereby prevents the deep ridge which usually marks the ending of the skived welt, this being due to having the welt of uniform thickness throughout its entire width, although not thereby requiring any more stock than before. This not only holds the stitching more securely, but it keeps up the outer sole as well, and thereby prevents the stitching wearing off as rapidly, it being understood that the part of the bottom of the shoe inclosed by the welt is held out level with the welt with suitable filling material. The toothed or indented form of my welt also enables the welt to be wiped tightly around the toe, the teeth of the welt being brought closely together, so as to form practically a solid piece of leather all about the toe, thereby giving a superior support to this part of the sole. As the welt is carried toward the shank it again opens, the teeth spreading apart to their normal extent, as shown in the drawing, thereby giving great flexibility to the sole, while at the same time providing a much more waterproof construction, inasmuch as the adjacent surfaces of the outer sole and the welt and the shoe-bottom are all parallel and therefore in perfect contact for the entire width of the welt. The welt having one side cemented can be put onto the outer sole much more quickly, neatly, and accurately with cement instead of nails, as formerly, and can also therefore be heavily hammered down on the shoe from toe to shank. This not only saves the expense of nails, but produces a firm shoe and one also containing no nails in the outer sole. My invention, however, is of particular advantage at the present time in connection with the manufacture of the popular mannish women's shoes and heavy men's

shoes, in which the current styles require that the soles shall be of extreme thickness, so as to remove the foot more than usual from the ground, said styles of shoes having been made prior to my present invention by providing double soles, thereby not only greatly increasing the cost of manufacture, but also making the shoes unduly and inconveniently heavy. By the use of my improved welt on Goodyear sewed shoes by cementing my welt directly onto the Goodyear welt after the latter has been sewed to the vamp and inner sole and then filling in with a cork filling and applying the outer sole to the two welts all the advantages of the said double sole are obtained and a much lighter shoe is obtained of the same desired extreme thickness of sole with an absolutely waterproof surface. Thus by the use of my welt the heavy appearance is given at the edge of the sole and the weight of the tap previously required and which is not waterproof and gives no additional wear is thereby saved.

I have not undertaken to state all the advantages, but merely the main advantages of my improved welt.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. As an article of manufacture, a ribbon-like welt of indeterminate length having a uniformly-toothed longitudinal edge adapted to be severed into sections of suitable lengths in use, substantially as described.

2. As an article of manufacture, a ribbon-like welt of indeterminate length having a uniformly-toothed, longitudinal edge adapted to be severed into sections of suitable length in use, said welt having one side thereof provided with a coating of cement, and being of substantially the same thickness throughout its entire width from edge to edge, substantially as described.

3. As an article of manufacture, a welt for boots and shoes adapted to be wound into rolls of flat disk form for sale, said welt having substantially the same thickness throughout its entire width from edge to edge, one edge thereof having a series of teeth extending uniformly throughout the length of the welt, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM B. ARNOLD.

Witnesses:

GEO. H. MAXWELL,
GEO. W. GREGORY.