

No. 813,251.

PATENTED FEB. 20, 1906.

H. STOLL, JR.

KNITTING MACHINE.

APPLICATION FILED OCT. 5, 1903.

Fig. 1.

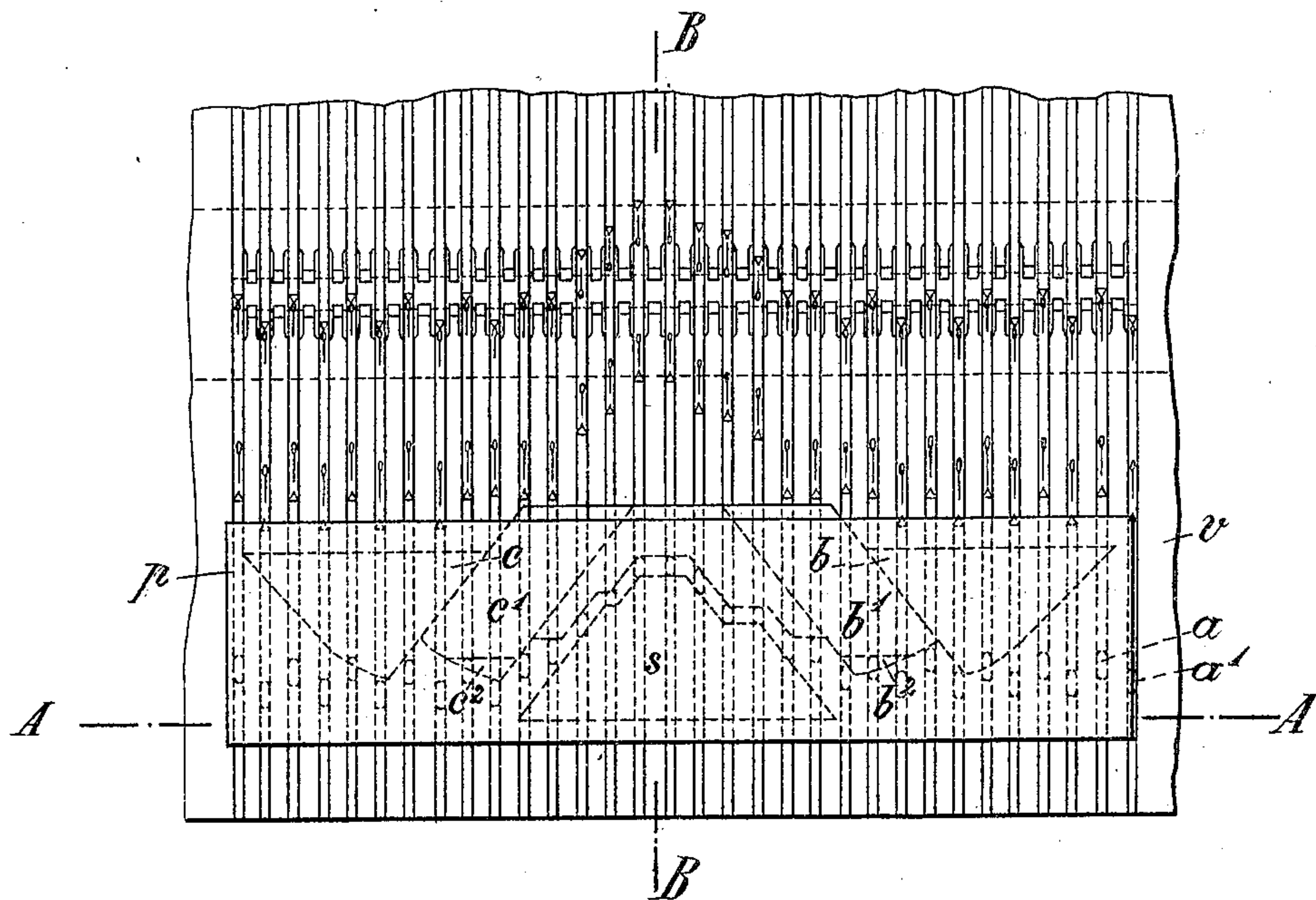


Fig. 2.

Schnitt A-A.

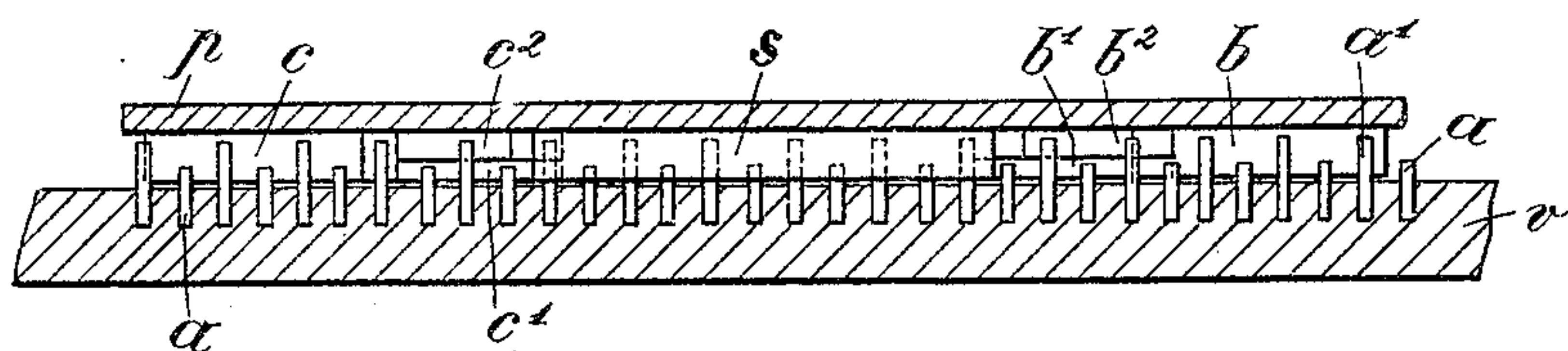
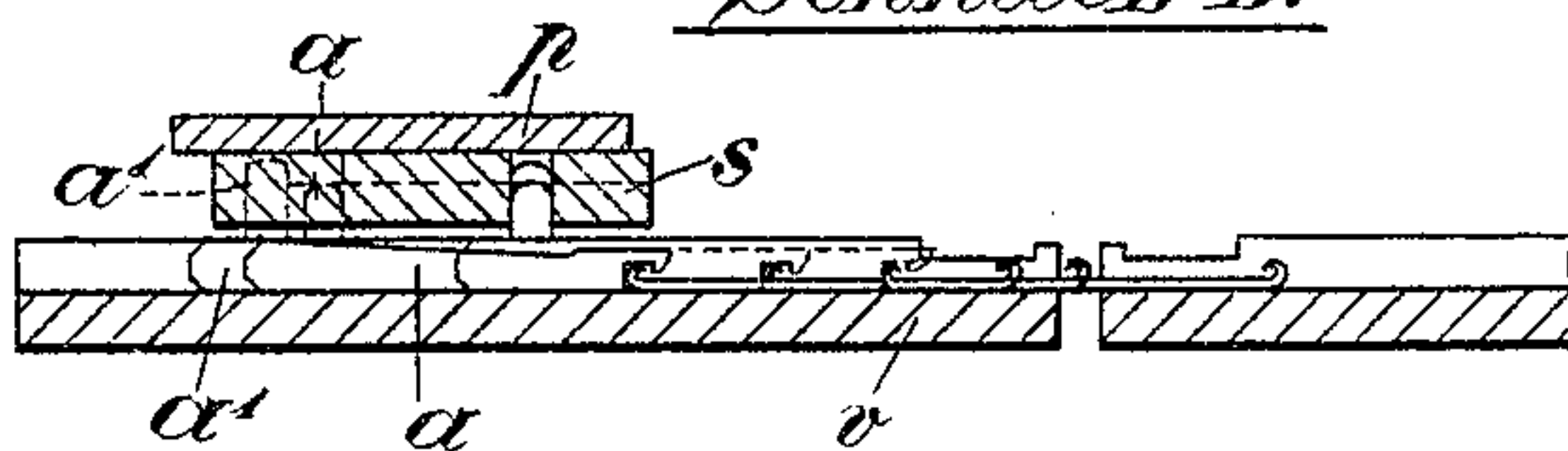


Fig. 3.

Schnitt B-B.



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UNITED STATES PATENT OFFICE.

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KNITTING-MACHINE.

No. 813,251.

Specification of Letters Patent.

Patented Feb. 20, 1906.

Application filed October 5, 1903. Serial No. 175,857.

To all whom it may concern:

Be it known that I, HEINRICH STOLL, Jr., a citizen of the German Empire, residing at Reutlingen, in the Kingdom of Württemberg, Germany, have invented certain new and useful Improvements in Knitting-Machines, of which the following is a description, reference being had to the accompanying drawings and to the letters of reference marked thereon.

This invention relates to improvements in through-and-through knitting-machines, and has for its principal object to provide a knitting-machine in which fabric of various designs may be manufactured by alteration in the length of the loops.

A further object of the invention is to provide a knitting-machine in which jacks are provided with feet of different length and the cams with faces of different lateral extent to operate on the feet of the jacks in such manner as to effect the formation of loops of different length.

A still further object of the invention is to provide a knitting-machine in which a set of needles is so arranged that alteration needles or jacks or those arranged at regular or irregular intervals may be provided with feet of different length in order that the actuating-cams may effect movement thereof to greater or less extent.

With these and other objects in view, as will hereinafter more fully appear, the invention consists in the novel construction and arrangement of parts hereinafter described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that various changes in the form, proportions, size, and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings, Figure 1 is a plan view of sufficient of a knitting-machine to illustrate the application of the invention thereto. Fig. 2 is a longitudinal sectional view of the same on the line A A of Fig. 1. Fig. 3 is a transverse sectional view on the line B B of Fig. 1.

Similar letters of reference are employed to indicate corresponding parts throughout the several figures of the drawings.

The bed or cylinder *b* is provided with a plurality of parallel grooves arranged in the usual manner for the reception of jacks *a a'*,

which are provided with feet of different length, those of the jacks *a'* being shown in the present instance as being somewhat longer than those of the jacks *a*. The cam ring or strip *p* is provided with a central cam *s* and a plurality of side tongues *b' b² c' c²*, which together form the cams for engaging the feet of the jacks. The faces of the cams *b' c'* are of the full width or lateral extent of the cams and serve to engage the feet of all of the jacks, while the portions *b²* and *c²* serve to engage with and actuate the feet of the jacks *a'*, which are somewhat longer, so that in the operation of the machine the jacks with the shorter feet are drawn backward or downward for a comparatively short distance and form loose meshes, while those jacks having higher feet being engaged by the cam-surfaces, which extend for the full lateral extent of the cam, effect the formation of longer loops, and thus produce a design which may be varied by altering the number and the situation of the jacks having higher or shorter feet. This operation may be taken advantage of in the formation of regular ware in which the loops are all of the same size by the employment of jacks having the higher feet, or all of the jacks may be formed with the shorter feet, and thus produce a fabric in which all of the loops are loose, and the fabric may be varied to any extent by altering the arrangement of the jacks.

Having thus described the invention, what is claimed is—

1. In a through-and-through knitting-machine, a grooved bed, needles arranged therein, jacks for operating the needles, said jacks having feet of different height, and feet-engaging cams having actuating-surfaces of different lateral extent; substantially as described.

2. In a through-and-through knitting-machine, a grooved bed, needles arranged therein, jacks for operating said needles, said jacks having feet of different length, and cams acting on said feet to effect different lengths of needle-stroke and corresponding difference in the character of the mesh of the fabric; substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

HEINRICH STOLL, JUNIOR.

Witnesses:

AUGUST DRAUTZ,
FR. HOFMANN.