

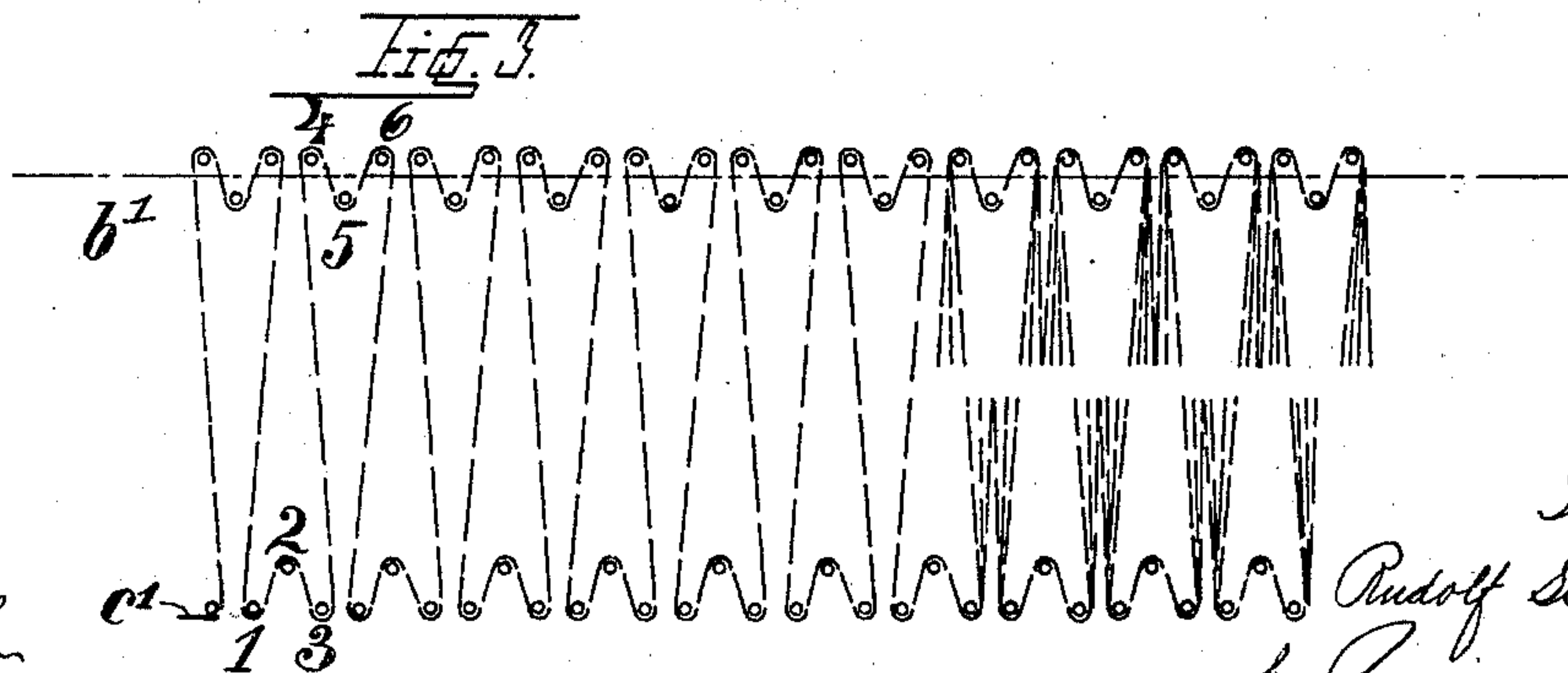
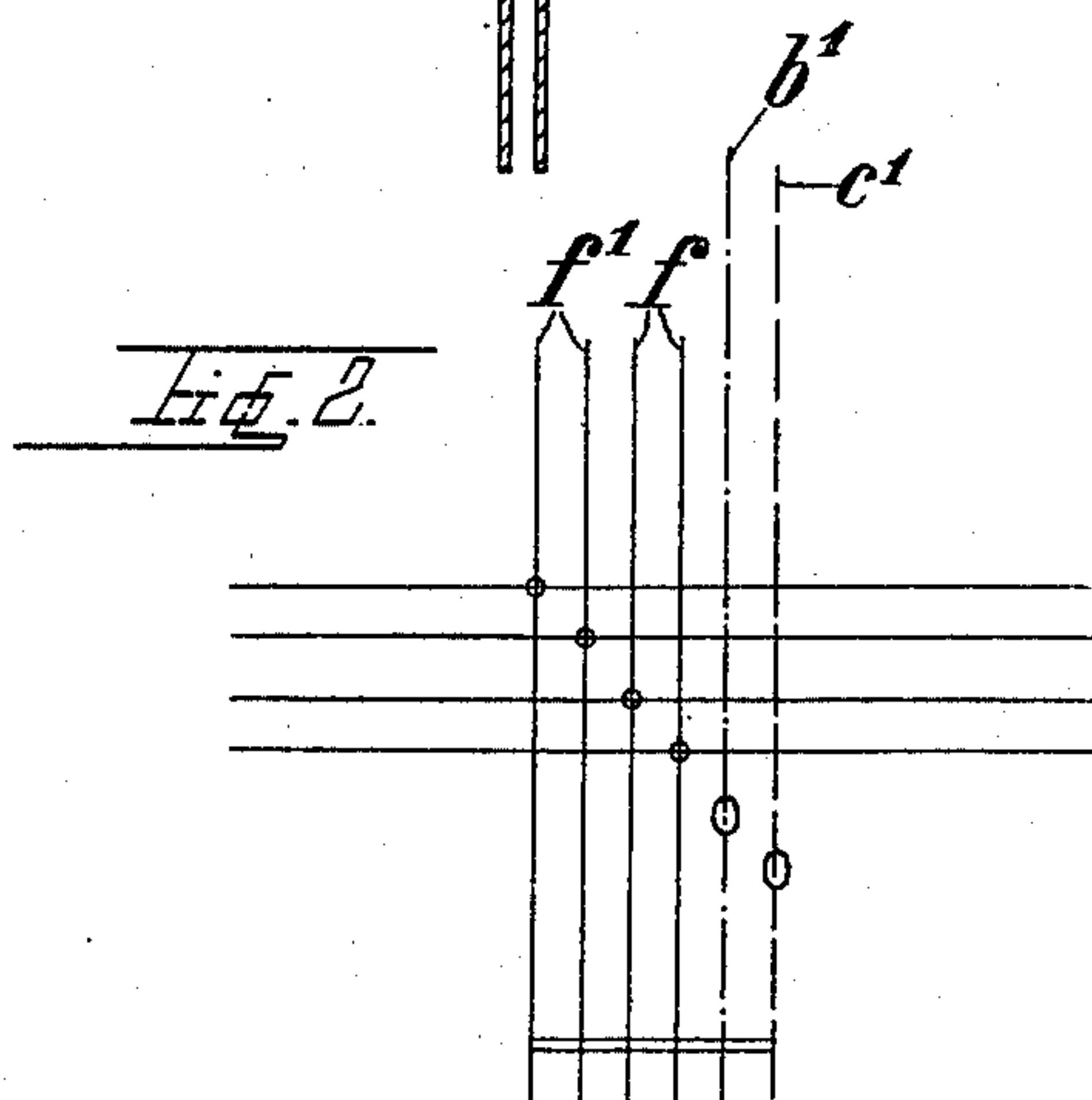
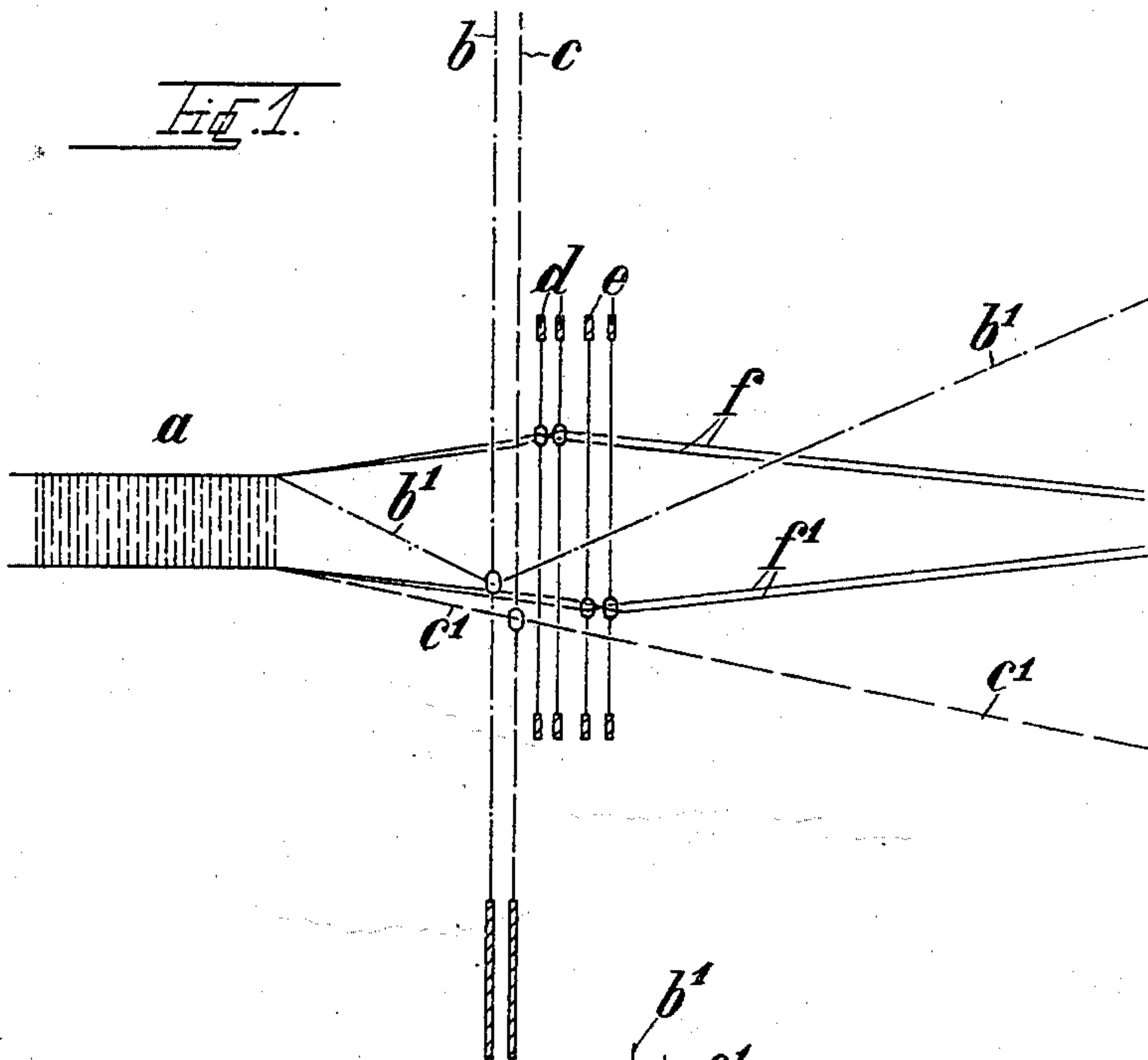
R. SCHWARTZ.

METHOD OF PRODUCING FIGURED DOUBLE PILE FABRICS.

(Application filed May 27, 1899.)

(Specimens.)

2 Sheets—Sheet 1.



Witnesses
Attest

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by *[Signature]*
Sally

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2 Sheets—Sheet 2.

Fig. 4.

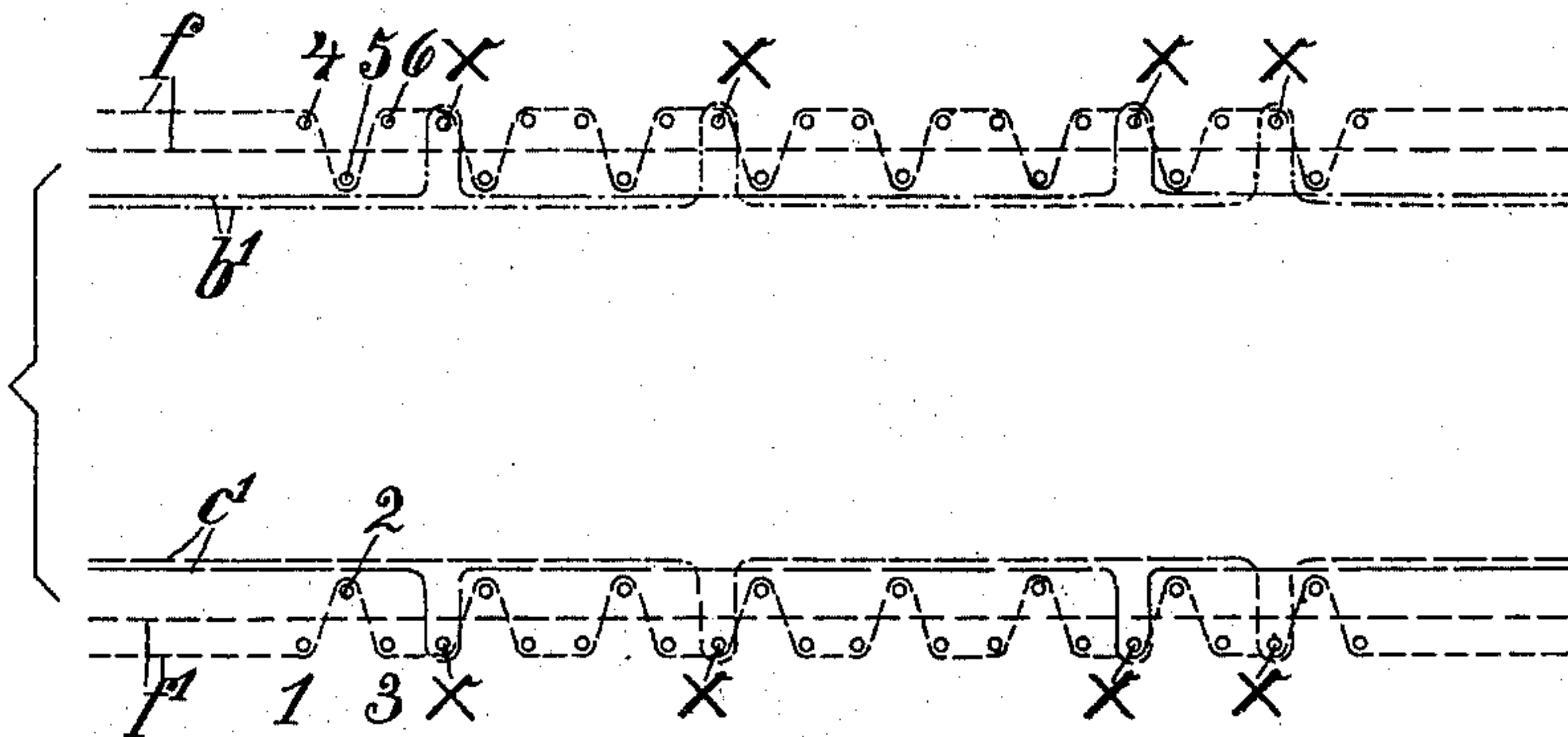


Fig. 5.

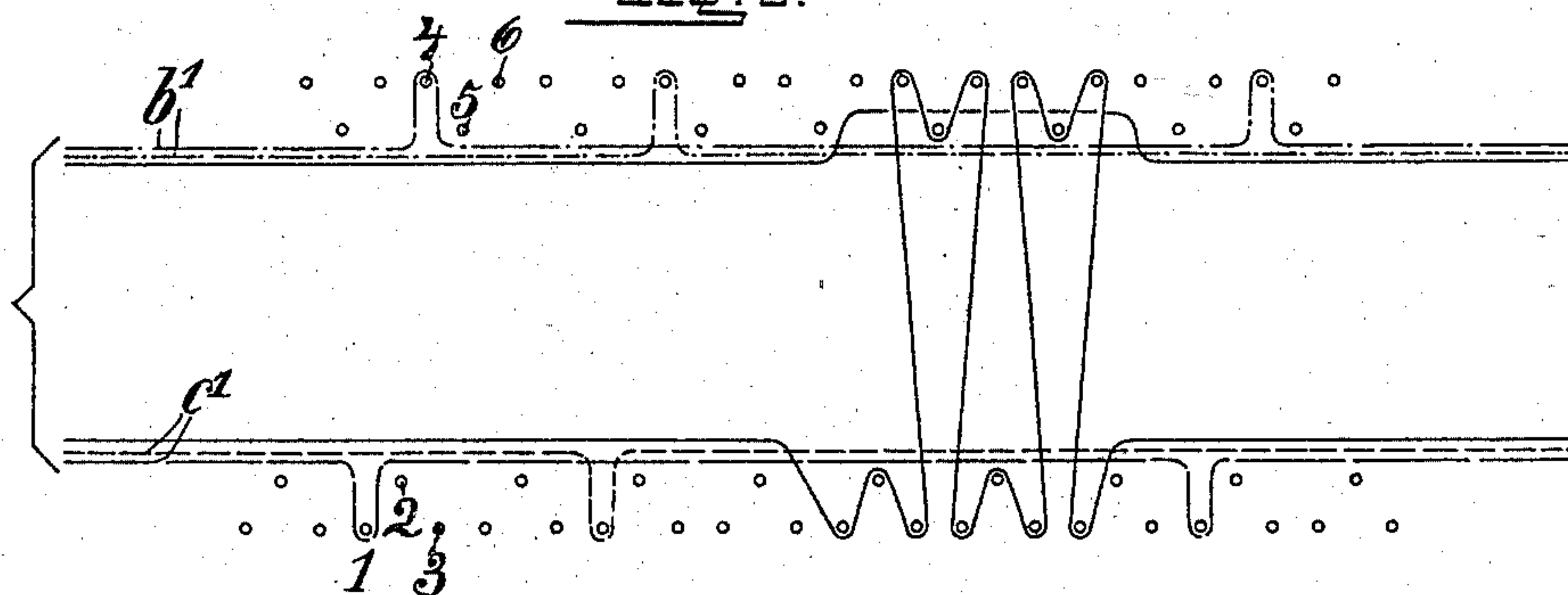
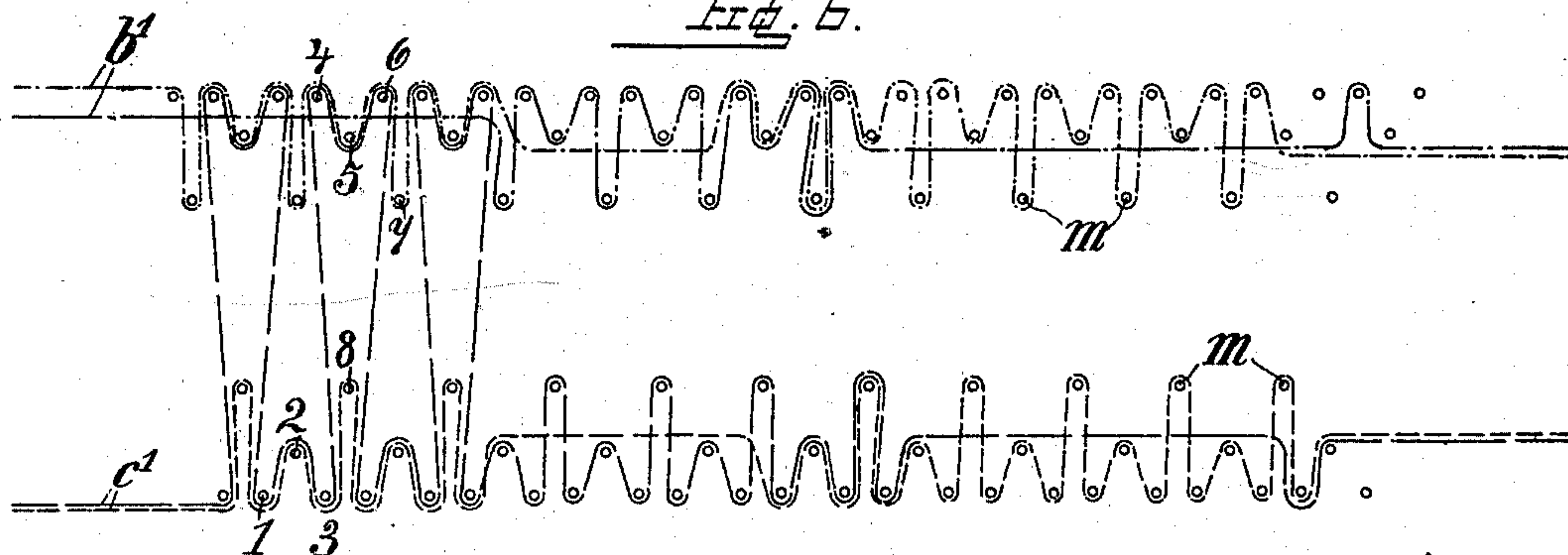


Fig. 6.



Witnesses:

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UNITED STATES PATENT OFFICE.

RUDOLF SCHWARTZ, OF CREFELD, GERMANY.

METHOD OF PRODUCING FIGURED DOUBLE-PILE FABRICS.

SPECIFICATION forming part of Letters Patent No. 683,340, dated September 24, 1901.

Application filed May 27, 1899. Serial No. 718,579. (Specimens.)

To all whom it may concern:

Be it known that I, RUDOLF SCHWARTZ, manufacturer, a subject of the German Emperor, residing at No. 160 Ostwall, Crefeld, in the German Empire, have invented certain new and useful Improvements in Methods of Producing Figured Double-Pile Fabrics; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention has relation to the manufacture of double-pile fabrics, and particularly to such fabrics in which the design is produced in part by the nap or pile and in part by frisé or mirror effects.

Prior to my invention a single-pile warp was used in the manufacture of these fabrics, and the frisé or mirror portions of the design being produced on the two ground fabrics by this single-pile warp the threads become spaced too far apart, so that a closely-woven uniform design cannot be obtained.

My invention has for its object a method of weaving these fabrics whereby the disadvantages referred to are obviated and closely-woven or, as I may say, "solid" frisé and mirror effects produced; and it consists, essentially, in producing the figured nap or pile by means of a pile-warp which is woven or bound into both ground fabrics, and if frisé and mirror effects are to be produced this, according to my invention, is done on one of the ground fabrics only by means of the said pile-warp, because all the pile-threads are required in the production of frisé and mirror effects on one of the ground fabrics. Now in order to produce these effects on both ground fabrics I make use of a second pile-warp which does not serve for the formation of the pile, but only for the production of the frisé and mirror effects in the other ground fabric.

That my invention may be fully understood I will describe the same in detail, reference being had to the accompanying drawings, in which—

Figure 1 shows diagrammatically means for producing a double-pile fabric such as referred to. Fig. 2 shows the relative arrangement of the warp and pile threads. Fig. 3 shows in section a double-pile fabric partly

cut midway along the line of warp or pile. Fig. 4 is a like view of a double fabric having mirror effects only. Fig. 5 is also a section of a double fabric partly cut along a line midway between the two fabrics in which the mirror effects and pile or nap alternate; and Fig. 6 is a section of a double fabric, also partly cut on a line midway between the two fabrics, showing pile, mirror, and frisé effects.

The fabric is woven upon a double-backed-velvet loom provided with a separate compass-board for each pile-warp.

In Fig. 1, *a* indicates the completed double fabric; *b*, a heddle of the compass-board for the pile-warp *b'* to be bound or woven into the upper ground fabric to produce frisé or mirror effects, or both, and *c* a heddle for the pile-warp *c'*, which forms the pile on both fabrics and also the frisé or mirror effects on the lower ground fabric. *d* indicates two shafts for the warp *f* of the upper ground fabric, and *e* two shafts for the warp *f'* of the lower ground fabric.

As shown in Fig. 2, there is in each reed two ground-threads *f'*, two ground-threads *f*, a pile-thread *b*, and a pile-thread *c'*.

In the double fabric shown in Fig. 3 the pile-warp *c'* is bound or woven into both the upper and lower ground fabrics, while the pile-warp *b'* is bound or woven into the upper ground fabric only without forming frisé or mirror effects. The successive weft-picks are indicated by the numerals 1 2 3 4 5 6.

In Fig. 4 a portion of the upper and lower ground fabrics is shown having mirror effects only formed thereon. The pile-warps *b'* or *c'* bind in both fabrics exactly opposite each other, so that the mirror effects are exactly alike on both ground fabrics.

Fig. 5 shows a portion of the double fabric in which the pile or nap alternates with mirror effects. The pile-warp *b'* forms here mirror effects only on the upper ground fabric, while the pile-warp *c'* forms the pile on both ground fabrics and the mirror effects on the lower ground fabric.

Finally, in Fig. 6 I have shown a portion of a double fabric having pile-frisé and mirror effects. The pile-warp *c'* forms here not only the pile for both ground fabrics, but also

the mirror and frisé effects for the lower ground fabric, while the pile-warp *b'* produces the mirror and frisé effects on the upper ground fabric. The frisé weft-picks *m* 5 are, as is well known, pulled out of the finished fabric, the picks being here increased to eight, as shown.

Having thus described my invention, what I claim as new therein, and desire to secure by 10 Letters Patent, is—

1. The mode of producing figured double-pile fabrics with frisé or mirror effects or both, which consists in forming the nap or pile for both ground fabrics and the frisé or mirror 15 effects or both on one of said ground fabrics by means of one and the same warp, and forming the frisé or mirror effects or both on the

other ground fabric by means of a special warp, for the purpose set forth.

2. The mode of producing figured double- 20 pile fabrics, which consists in forming the nap or pile on both fabrics and the frisé or mirror effects or both on one of said ground fabrics by means of one and the same warp, forming the frisé or mirror effects or both on 25 the other ground fabric by means of a special warp and forming the frisé-loops for both fabrics separately, for the purpose set forth.

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

RUDOLF SCHWARTZ.

Witnesses:

ROBERT BECTER,
W. KRENELS.