

(No Model.)

G. S. SAPSWORTH.
MACHINE BAND OR BELTING.

No. 323,214.

Patented July 28, 1885.

Fig. 8.

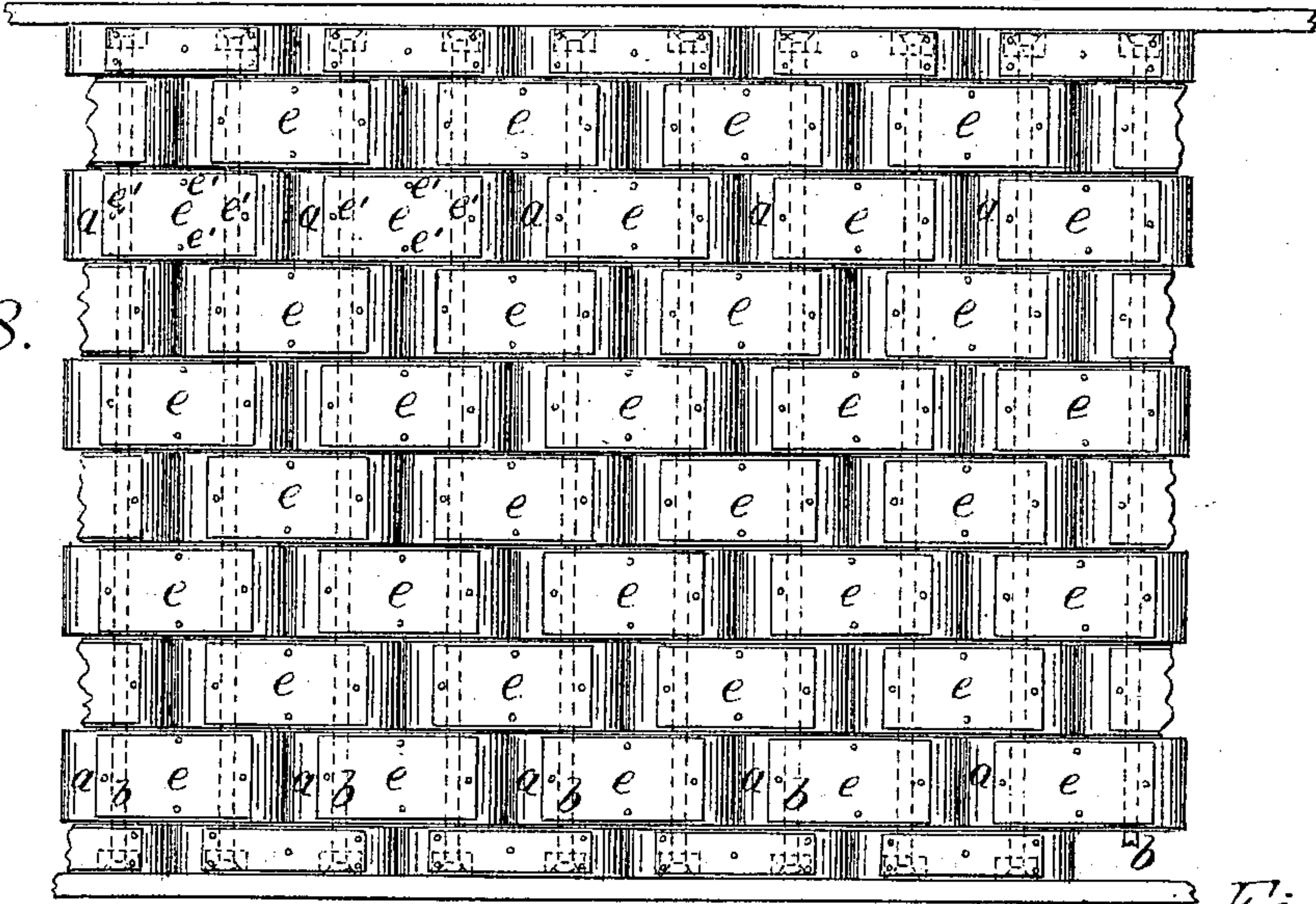


Fig. 6.

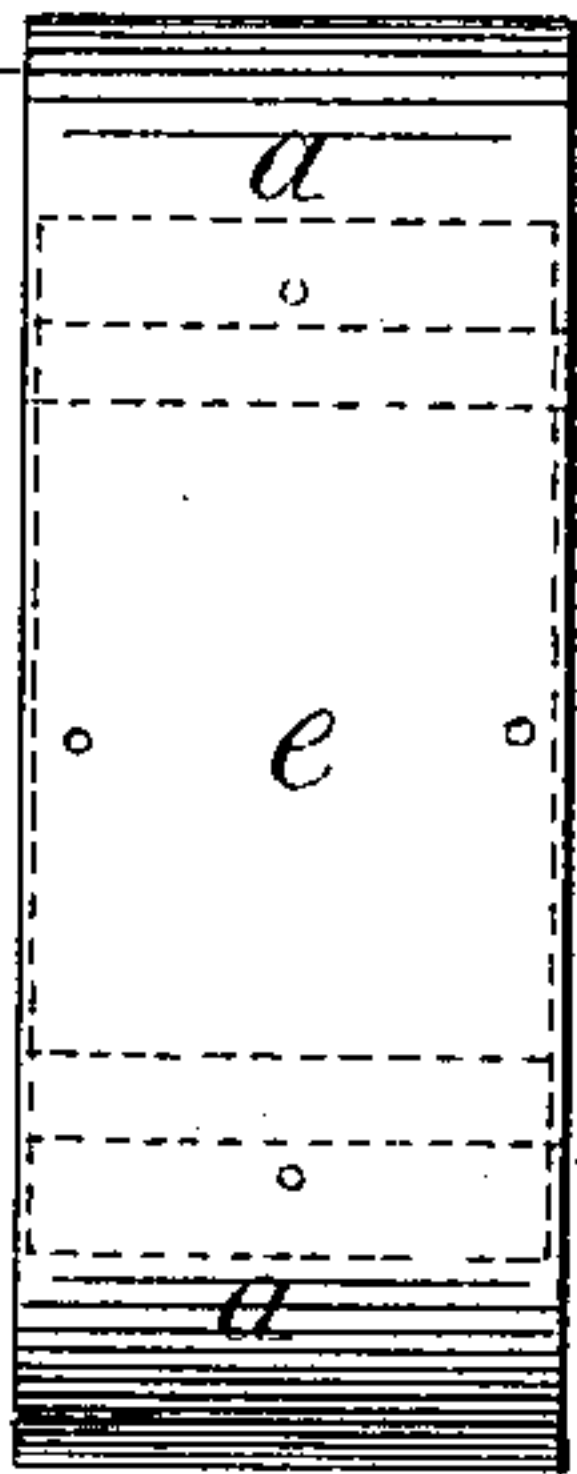
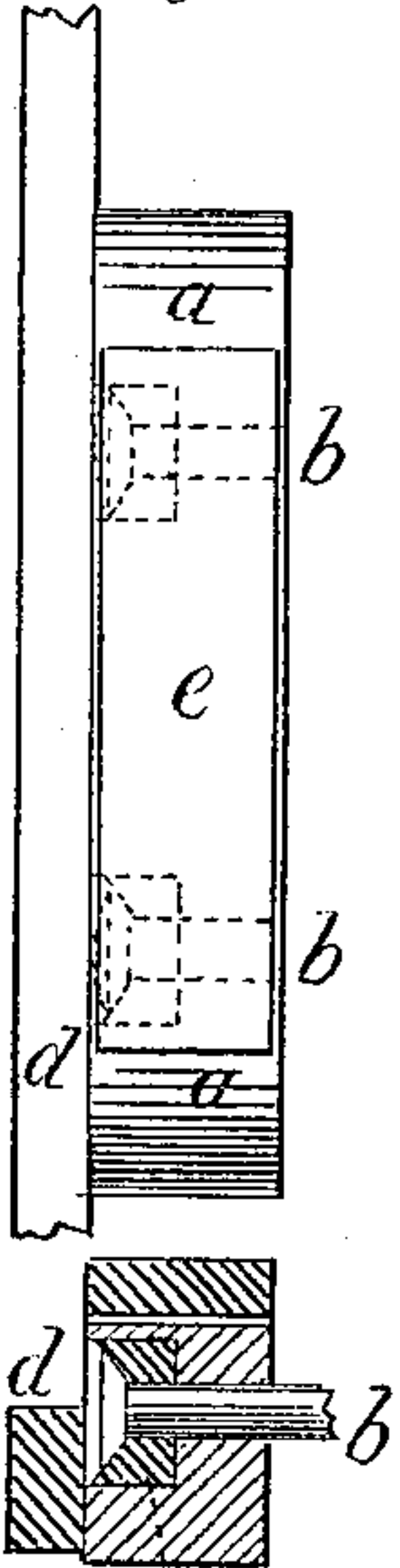


Fig. 3.

Fig. 2.

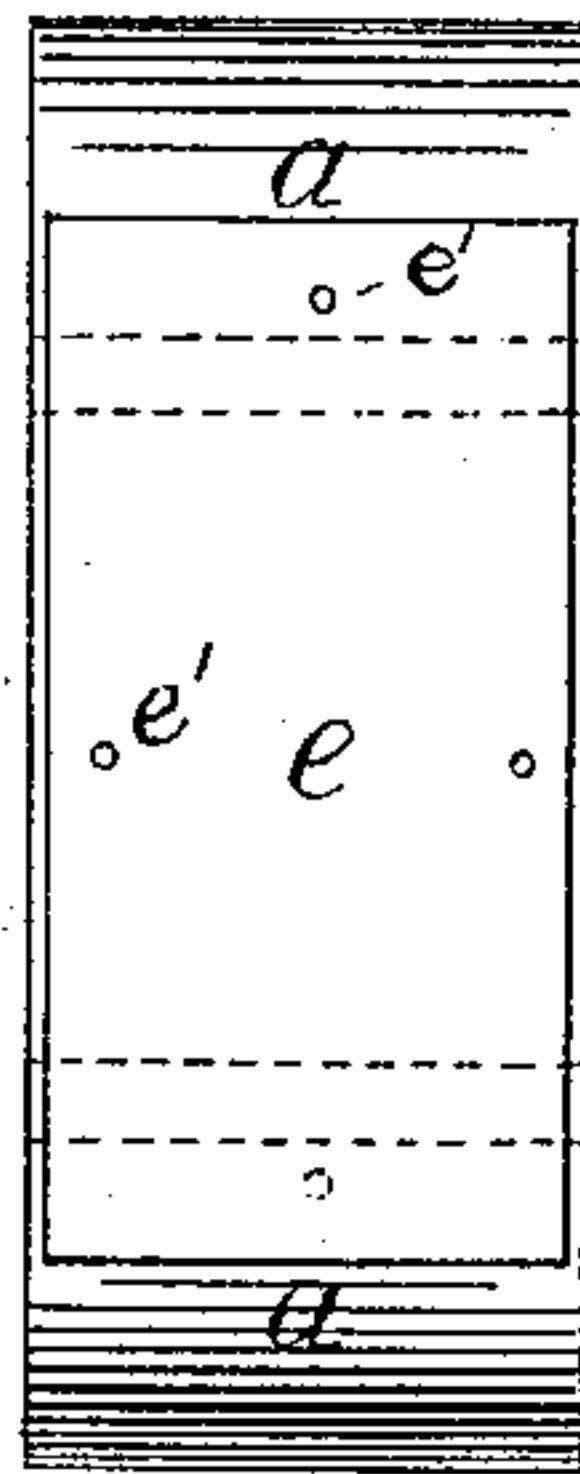


Fig. 1.

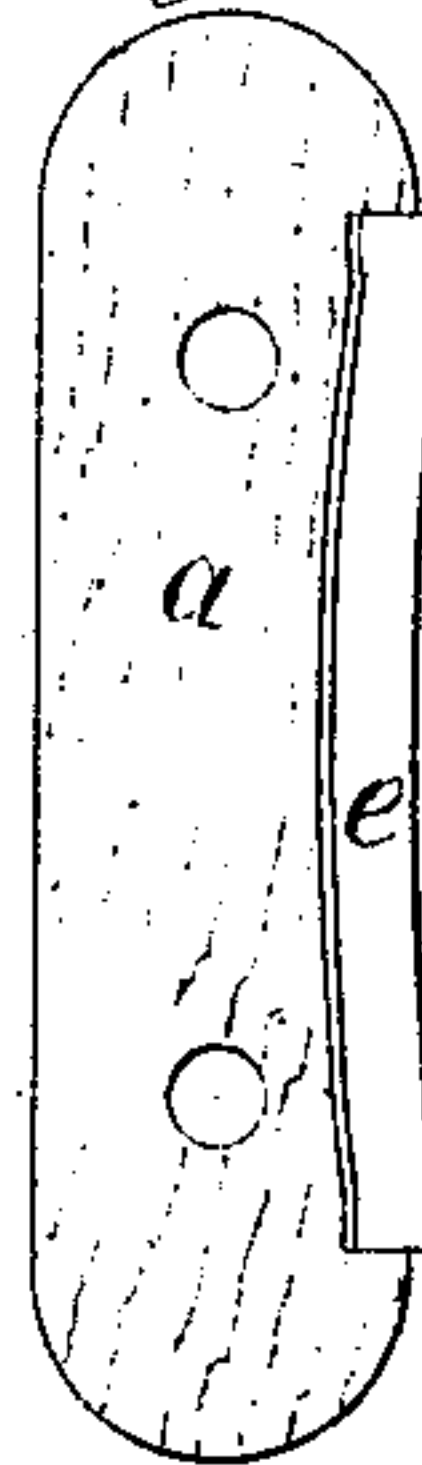


Fig. 7.

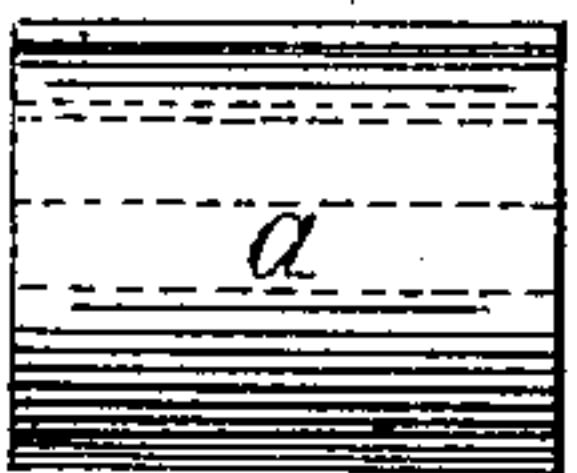
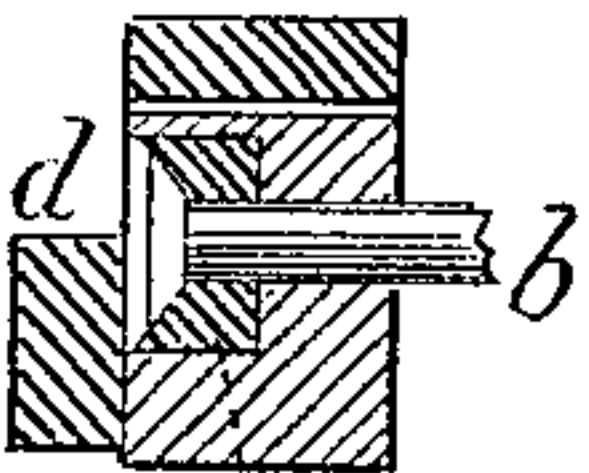


Fig. 5.

Fig. 4.

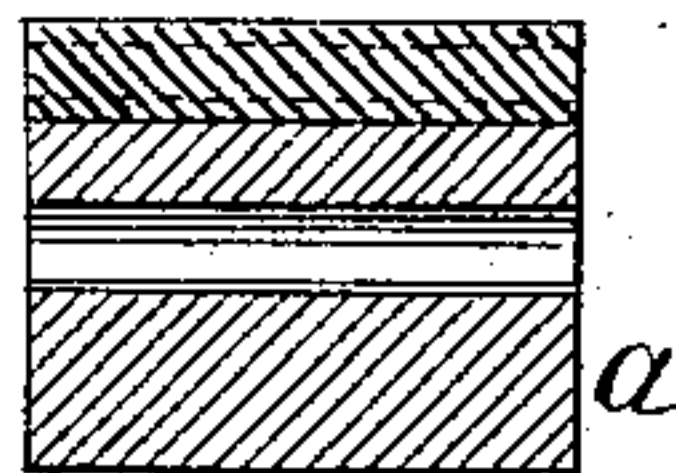
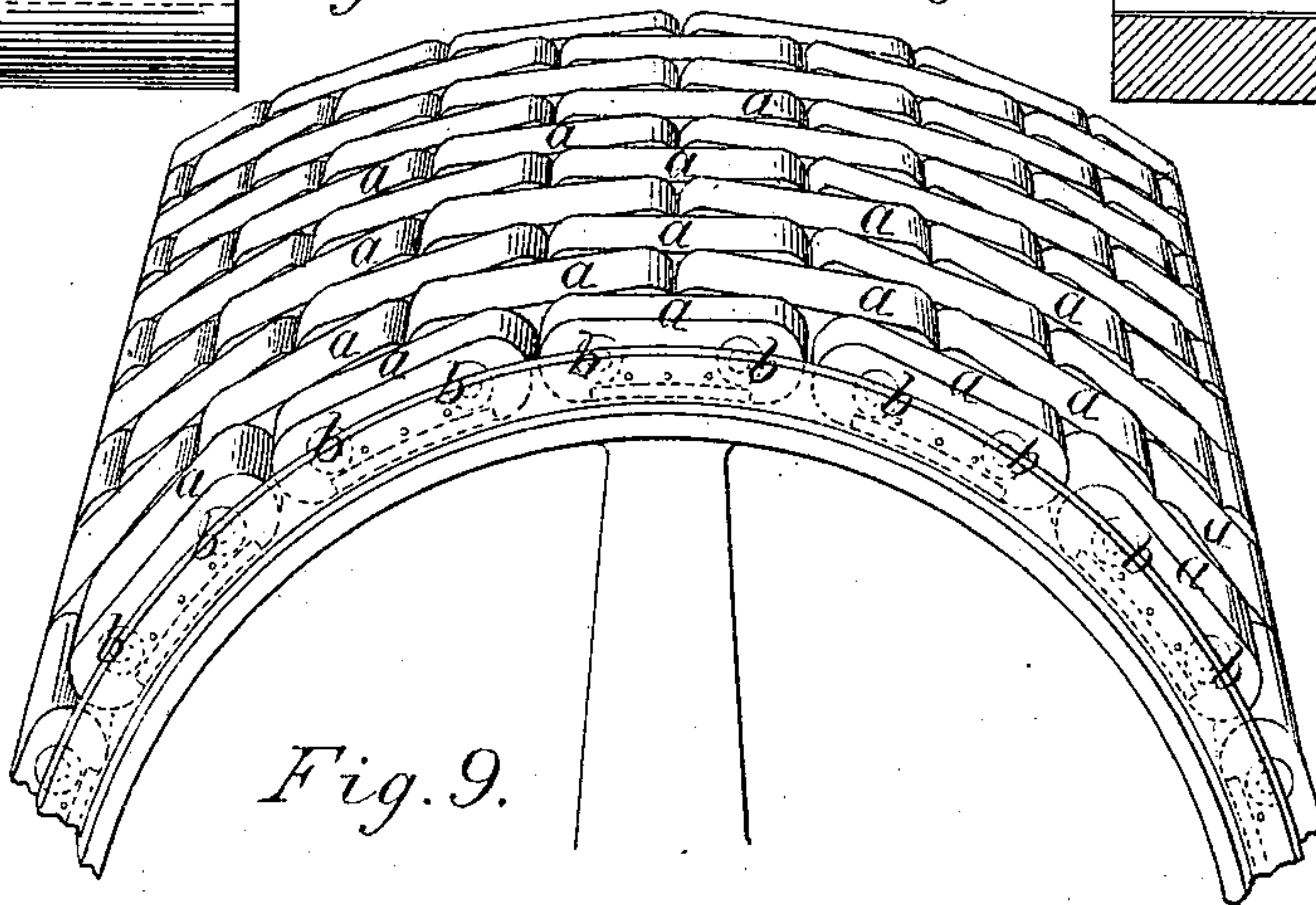


Fig. 9.



Witnesses:

Percy White.
W. E. Anglinbaugh.

Inventor:

George Saunders Sapsworth
by John J. Halsted, of
his Attys.

UNITED STATES PATENT OFFICE.

GEORGE SAUNDERS SAPSWORTH, OF SHADWELL, COUNTY OF MIDDLESEX,
ENGLAND.

MACHINE BAND OR BELTING.

SPECIFICATION forming part of Letters Patent No. 323,214, dated July 28, 1885.

Application filed May 4, 1885. (No model.) Patented in England October 14, 1884, No. 13,594.

To all whom it may concern:

Be it known that I, GEORGE SAUNDERS SAPSWORTH, a subject of the Queen of Great Britain, residing at 56 High Street, Shadwell, in the county of Middlesex, England, manufacturer, have invented certain new and useful Improvements in Machine Belting, Bands, or Straps, (for which I have received Letters Patent in Great Britain, No. 13,594, dated October 14, 1884,) of which the following is a specification.

The object of the invention is to produce a cheap, strong, durable, and efficient substitute for the ordinary leather belts and such like belting, bands, and straps at present in use. For this purpose I form my improved belting, mainly, of a series of links, pieces, or joints of wood, or compositions of wood jointed together to number requisite to make up the required length and width of belt or band desired. These pieces, hereinafter referred to as the "links," are each formed with perforations at or toward each end to admit of the passage therethrough of rods or pins when such links have been arranged in series to form the belt, which pins serve as connections of the links and as their hinges or centers of motion, when, as in passage around a pulley, the linked belt is bent to a curve and the links take their relative positions around its periphery.

The sizes of the links employed will vary with the size of belt or the character of the work to be performed by it or with other conditions, as also will vary the arrangement of links of different sizes in series in one and the same belt—such, for instance, as in a belt having larger links in longitudinal order in the interior or body of the belt and narrower links at the outer edges, or vice versa, or in other sequence.

The accompanying drawings will serve to illustrate my invention more in detail, and therein Figure 1 shows an edge or side view of a separate link, *a*, such as will serve with a series of like links to make up a belt such as is shown in part by Fig. 8. Fig. 2 shows an underside view; Fig. 3, an upperside view; Fig. 4, a section, and Fig. 5 an end view, of the same. Fig. 6 shows a like under side view,

and Fig. 7 a section, of an outer side link, with part of a pin, *b*, in position therein, *c* being a metallic cap or washer, serving as a washer or eyelet countersunk or let into the substance of the link, so as to give a flush or even surface to the edge of the belt-links next the leather strip *d*, which strip, pinned to the links at the edges, will be of service in taking the wear of forks or parts used in shifting such belts from and to the driving-pulley. Fig. 9 shows by a diagram or sketch in perspective a portion of such a belt supposed to be encircling a part of a pulley.

e are pieces of leather, india-rubber, felt, woven, or other suitable material, applied in recesses in the sides of the links *a*, next to the surfaces, driving and being driven by them, in order thereby to give increased frictional hold between the parts and to aid in deadening or preventing rattle or noise of the belt, and such pieces of leather or equivalent material may be further secured by pins or such means, as at *e'*.

The pins *b* pass through alternate ends of the links, arranged side by side in rows to the width desired, and the next row is formed by passing the next pin *b* through the alternate ends of the pieces of previous row, and through alternate pieces of the next row of links, and so on until the belt is complete, when the first and last rows are interspaced and a pin secures the whole into an endless uniform pliant band ready for use.

The pins *b* may be arranged to pass for only a certain distance across from each side of the belt to or toward the center of the belt, or from each side to a line drawn longitudinally of the belt centrally, or from each side to lines dividing the belt into three or other series of links, such central part or middle parts being similarly provided with hinge-pins in series. By this arrangement of the pins, and with the aid of suitable connections of the adjoining rows of links in the longitudinal divisions of links, by continuing the leather or other suitable undersurface, or otherwise connecting the adjoining rows, where the pins are severed or their continuity broken, I am enabled to use my belts in situations where otherwise difficulty would attend their being applied, such as when

driving a pulley with a curved periphery from a pulley of flat surface, or from a curved-surfaced pulley to another curved pulley, or similarly where a surface irregularity in the driving or driven surface requires the normally plane-faced belt to adapt itself thereto by hinging itself in lateral series, one strip or series of links on another such, as well as longitudinally, links hinging on links. The adjoining links of the adjoining series of links so connected for lateral hinging should be arranged to abut or lie uniformly side by side, and not in alternate series, for convenience of hinging, and to avoid tearing strain on the joints of leather or such like connection.

One or more continuous series of metal links arranged longitudinally along the edges of the band, or centrally, or in other relations to the wooden links which mainly form the band, will, in some cases, be found useful in affording additional strength.

The modes of securing the ends of the pins or rods *e* are various, and this end may be attained by the use of washers and riveting, by an enlargement or head at the ends of those pins, by a head at one end and washer and enlargement at the other end, by a compression or expansion of that end, by means of ordinary wood-screws or clinched-ended nails, or by other well-known devices.

In place of forming the links of wood, they may be formed of a composition of wood; or instead of using a lining of leather or equivalent grip-aiding or sound-deadening character, the wood may be used without it; or this material may be applied in more or less continu-

ous strips or sheets on the pulley sides of the belts, and so as to come between such and the links; or in place of the continuous strip of leather applied, as at *d*, a strip of other material may be used; or links of leather or of metal, or both, may be applied at the outer edges or otherwise arranged in the series.

The greater relative weights of these improved belts over ordinary leather belts will be found to afford greater friction or grip. The avoidance of overlapping and lacing conduces to economy. The non-expansion and non-contraction characteristic of my improved belts will afford great convenience in use, with many other advantages.

I claim—

1. A machine belt, band, or strap composed of wood or wood-composition links, pieces, or blocks arranged lengthwise and side by side, and connected together, substantially as set forth.

2. The described combination of parts, constituting a machine belting, band, or strap, consisting of the jointed pieces, *a*, of wood or composition of wood, their connecting-pins *b*, and the described leather or equivalent lining *e*, substantially as and for the purposes set forth.

In testimony whereof I have hereunto set my hand in presence of the subscribing witnesses.

GEORGE SAUNDERS SAPSWORTH.

Witnesses:

ALFRED DONNISON,

JOHN ALFRED DONNISON.