

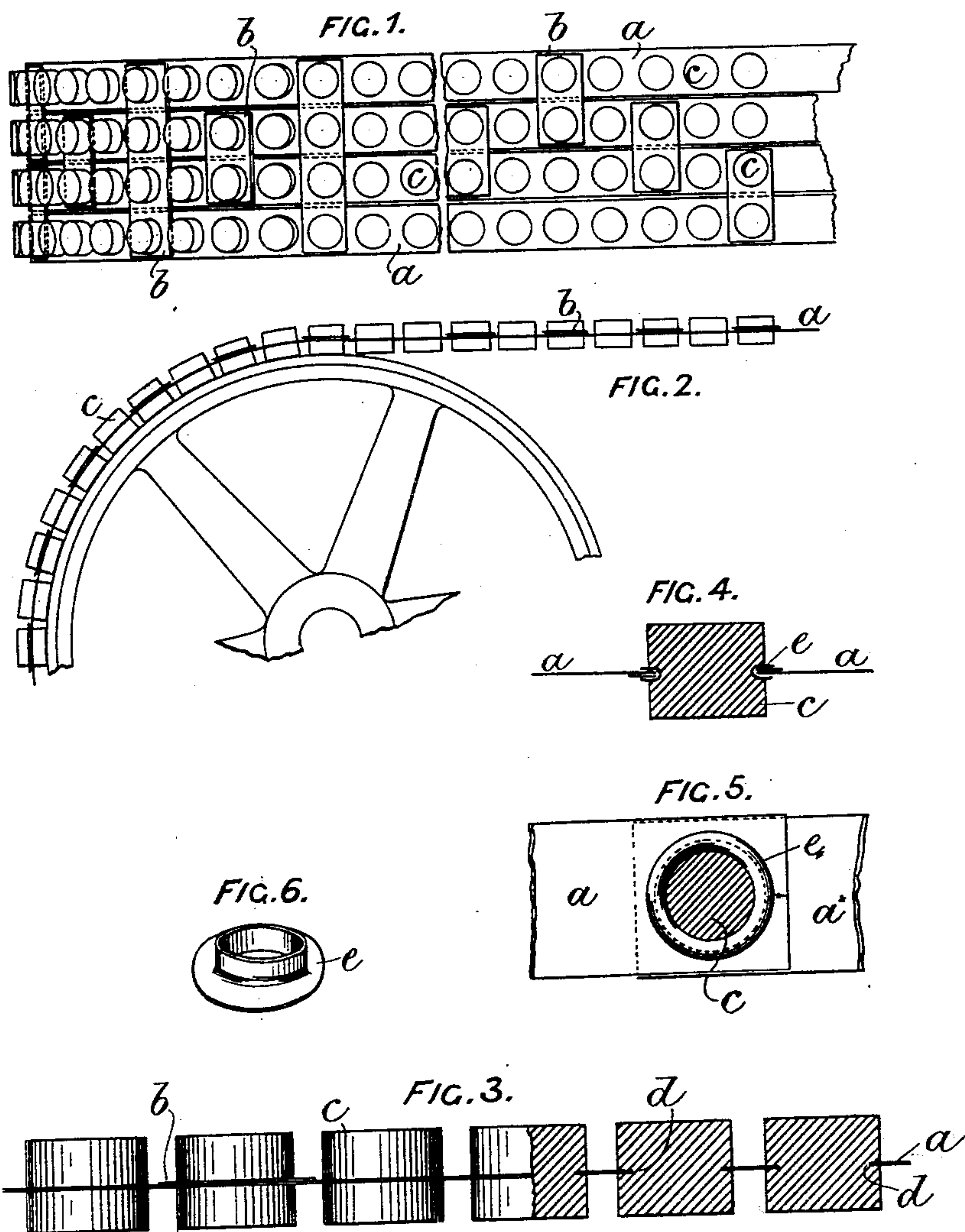
(No Model.)

2 Sheets—Sheet 1.

J. WETHERILT & W. J. ARMITAGE.
BELT OR BAND FOR DRIVING MACHINERY

No. 591,711.

Patented Oct. 12, 1897.



Witnesses.
James Wetherilt
Robert G. Smith

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James Wetherilt.
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By *James L. Norris*
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(No Model.)

2 Sheets—Sheet 2.

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FIG. 7.

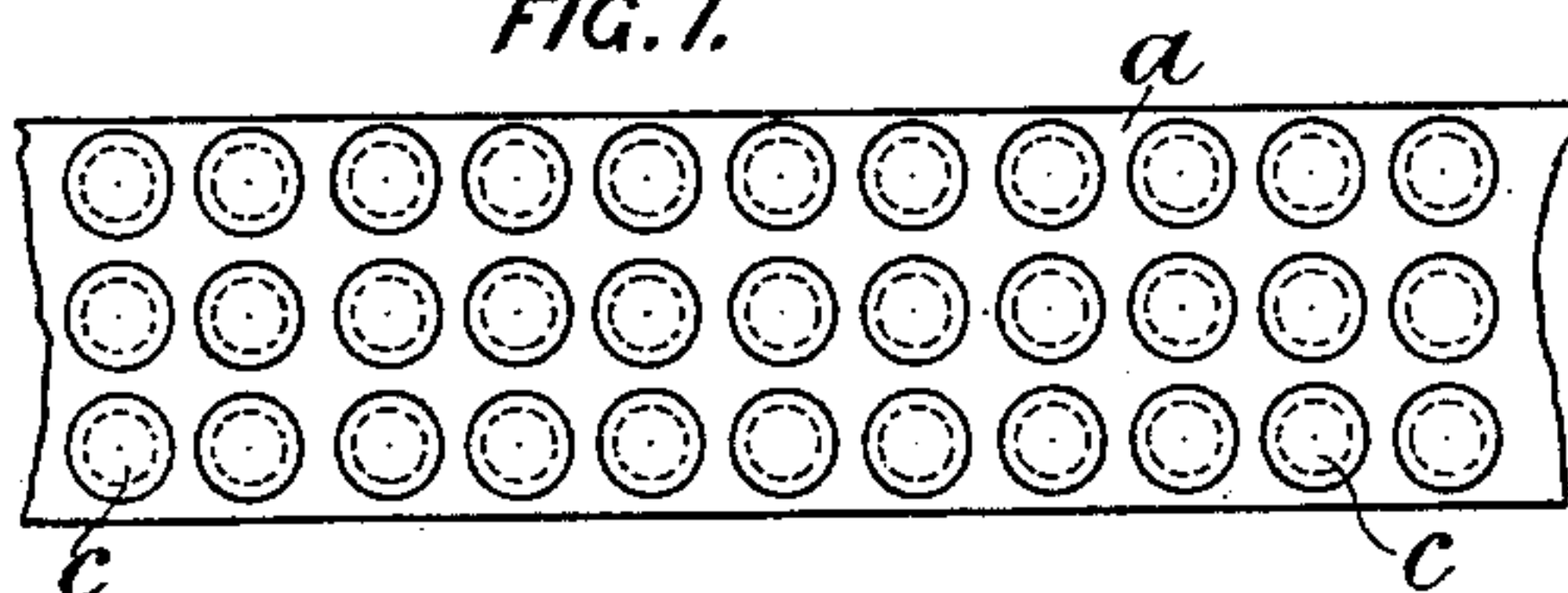


FIG. 8.

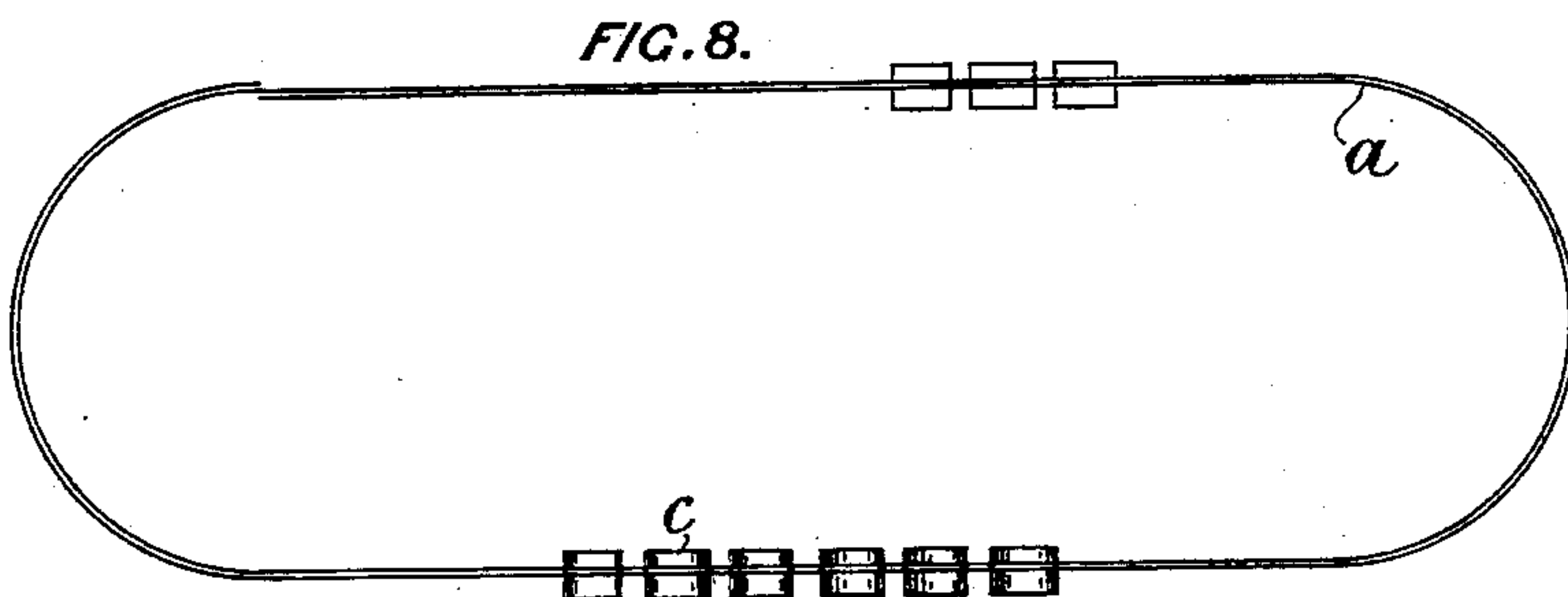


FIG. 9.

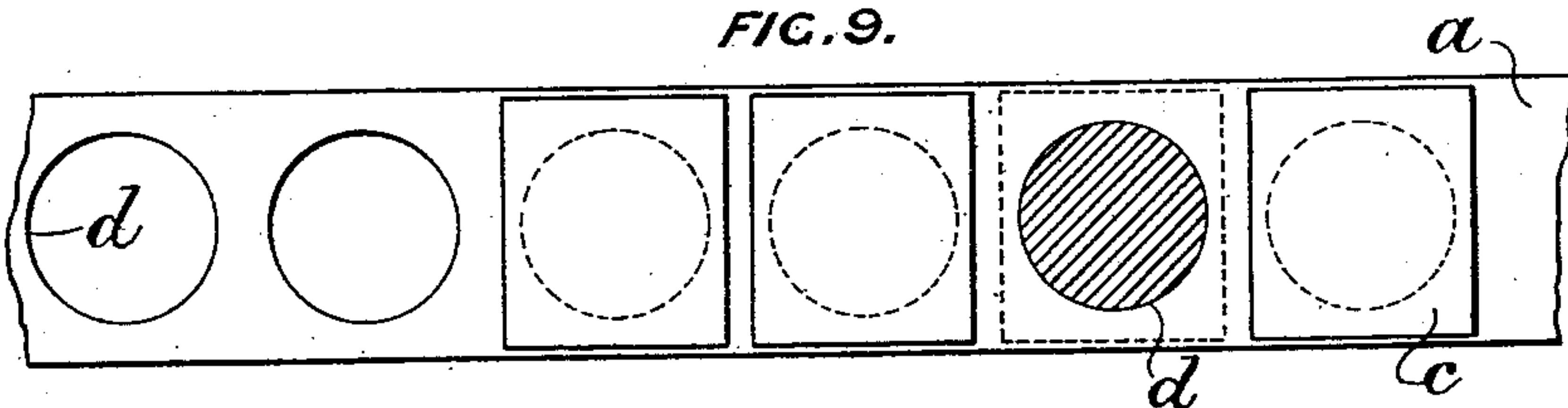
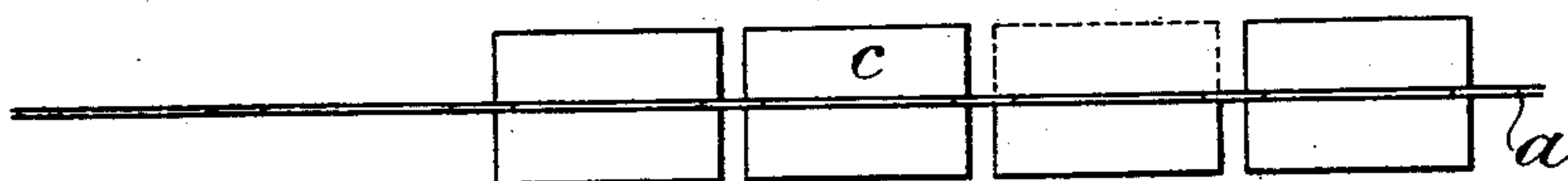


FIG. 10.



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UNITED STATES PATENT OFFICE.

JAMES WETHERILT AND WILLIAM JOSEPH ARMITAGE, OF LONDON,
ENGLAND.

BELT OR BAND FOR DRIVING MACHINERY.

SPECIFICATION forming part of Letters Patent No. 591,711, dated October 12, 1897.

Application filed February 23, 1897. Serial No. 624,512. (No model.) Patented in England May 14, 1896, No. 10,314.

To all whom it may concern:

Be it known that we, JAMES WETHERILT, residing at Maida Vale, and WILLIAM JOSEPH ARMITAGE, residing at Notting Hill, London, England, subjects of the Queen of Great Britain, have invented certain new and useful Improvements in Belts or Bands for Driving Machinery and for Like Uses, (for which we have obtained Letters Patent of Great Britain, bearing date the 14th day of May, 1896, No. 10,314,) of which the following is a specification.

Our invention relates to the manufacture of belts or bands of an improved construction for use in the transmission of power, such as driving machinery or parts of machinery, and for like uses.

Our invention embodies a band for the transmission of power, composed of a metal strip or strips, preferably steel, of a suitable quality, placed side by side, and crosswise are placed other like strips. Each strip of metal has formed, as by punching, at regulated distances apart, holes therethrough, and the holes in the underlying and overlying strips are arranged to coincide accurately, and there-through are forced blocks of india-rubber or analogous composition sufficiently to leave a portion of each block on each side the superimposed perforated strips projecting, metal eyelet connections being used at the meeting ends of the band.

In the drawings, Figure 1 is a plan view of a portion of our improved construction of belt, and Fig. 2 an edge view of the same. The right-hand half of these figures shows one way in which the cross-strips may be applied, and the left-hand half shows a modification. Fig. 3 is an edge view, partly in section, drawn to a larger scale. Fig. 4 is a sectional side view, and Fig. 5 a sectional plan view, of a detail, showing the jointing of the opposite ends of a driving-belt. Fig. 6 shows a detail. Fig. 7 shows a face view of the improved belt, consisting of one wide strip of metal. Fig. 8 shows an edge view of the strip as sometimes formed by two or more layers. Fig. 9 shows a plan view, partly in section, of a metal strip according to a modification. Fig. 10 shows the same by an edge view.

a a are longitudinal metal strips.

b b are cross-strips; *c c*, rubber blocks; *d d*, perforations for the same, and *e* is a metal eyelet connection.

Although in the drawings we have shown the india-rubber block in shape round or square, other shaped rubber blocks may be employed in lieu thereof.

The holes *c* in the bands or strips may correspond to the shapes of the blocks and be arranged so that when the strips are in their correct position in the driving-band for use the blocks shall be securely held.

Round or oval holes may be employed for use with square plugs, as shown in Figs. 9 and 10, or other combinations of forms of the respective parts may be employed.

The driving-belts may be formed of longitudinal bands or strips, in some cases of the entire length of the belt, the opposite ends being connected by overlay jointing, steel, copper, brass, or other suitable eyelet-plates *e*, or jointing parts being used to connect the ends at the coincident perforations in the respective strips. (See Figs. 4 and 5.) Fig. 6 shows one of these eyelet-plates *e* before insertion.

Suitable pressure clenches the plate or ring to the form shown in Fig. 4.

Such a construction of belting is not limited practically as to length, breadth, and strength.

Belts of the improved construction will be found not liable to stretch, to be very durable, to possess great frictional hold, to be easily repaired, or altered in length, or additions made thereto.

The joints made being by means of the perforations at the previously-adjusted distances, they can hardly be out of the square.

The longitudinal band or bands may be built up of several laminæ of metal instead of one thicker strip. (See Fig. 8.)

Air between the pulleys and the improved driving-belts cannot lodge, and cannot therefore interfere with the grip of the belts on the pulleys.

The joints made as described will not cause "jumping" or interfere with the smooth running of the belts. By these means undesirable thickening of the belt or band at the locality of a joint is avoided.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is—

5 1. A band for the transmission of power comprising a continuous metal strip of suitable width and length perforated at adjusted distances with series of holes in combination with recessed plugs of elastic material as
10 rubber held in said holes and means for connecting the ends of said band substantially as set forth.

2. In a band for the transmission of power, longitudinal metal strips laid side by side and
15 perforated with series of holes, other metal strips laid crosswise thereof perforated with series of holes corresponding to those in the longitudinal bands in combination with recessed plugs of elastic material as rubber and
20 means for connecting the ends of the band substantially as set forth.

3. In a band for the transmission of power, longitudinal metal strips laid side by side and

perforated at regular distances throughout the band, overlying parallel cross-strips having perforations corresponding to those in the underlying longitudinal strips and coinciding accurately therewith in combination therewith blocks of india-rubber fixed in said perforations and metal eyelet connections at the meeting ends of the bands, substantially as set forth. 25 30

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

JAMES WETHERILT,
WILLIAM JOSEPH ARMITAGE.

Witnesses to the signature of James Wetherilt:

JOHN COODE SCORER,
FRED C. HARRIS.

Witnesses to the signature of William Joseph Armitage:

JOHN COODE SCORER,
JOSEPH LAKE.