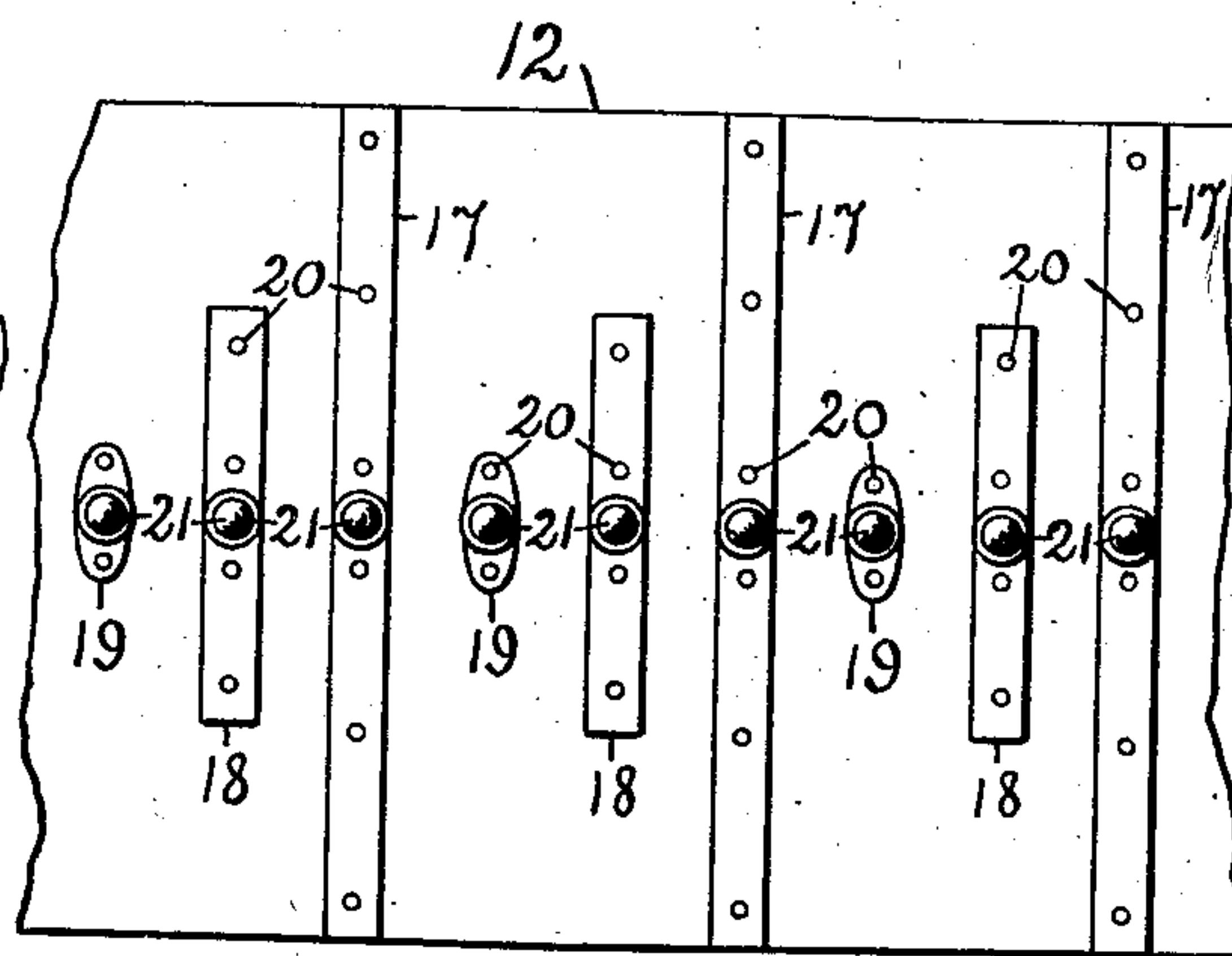
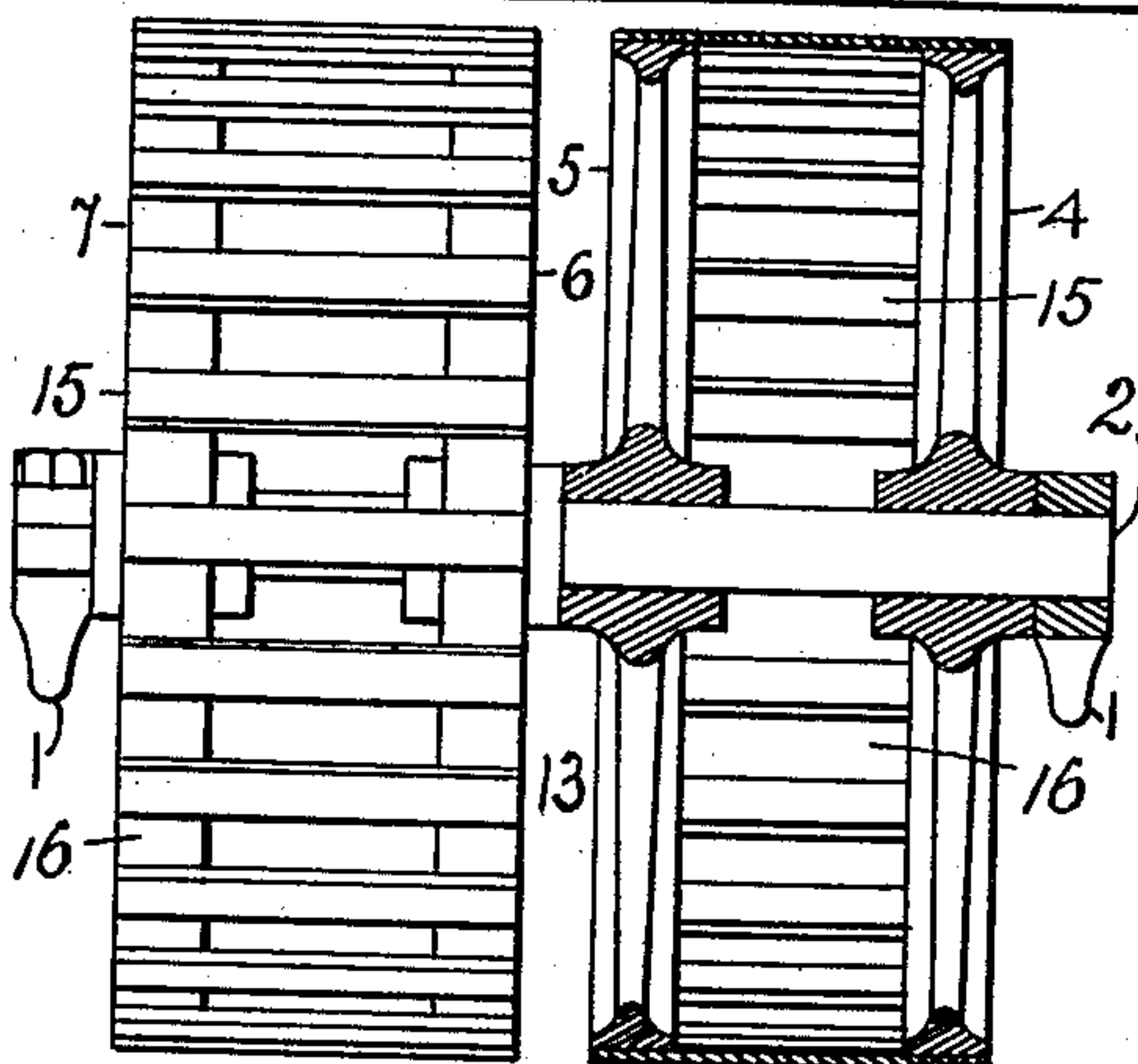
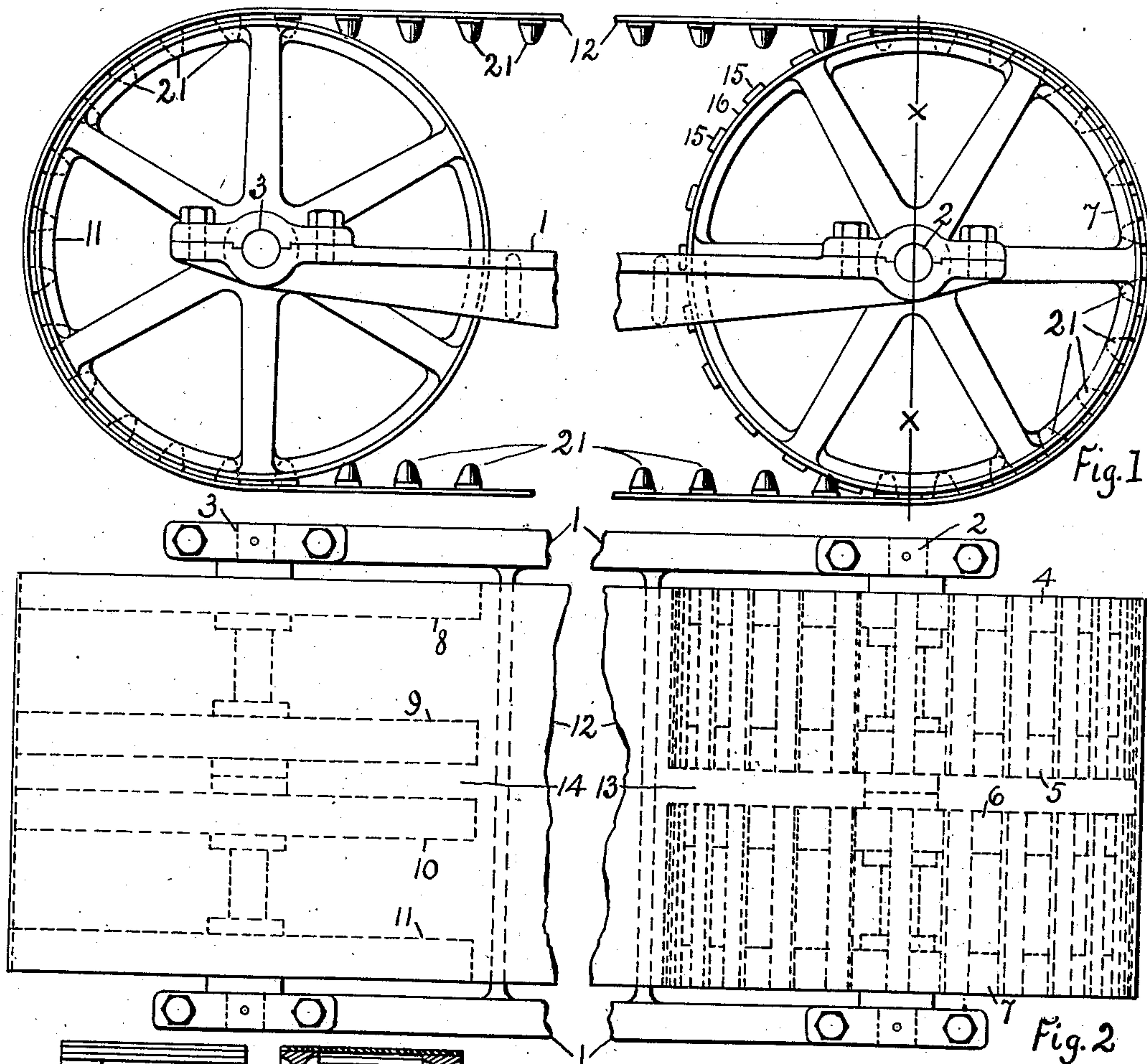


No. 842,611.

PATENTED JAN. 29, 1907.

J. H. BELL.  
CONVEYER.

APPLICATION FILED OCT. 1, 1906.



Witnesses. *Fig. 4*  
Edward. Wilde  
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*Fig. 3*

Inventor.  
John H. Bell  
By *R. E. Wright*  
att'y



# UNITED STATES PATENT OFFICE.

JOHN H. BELL, OF HADDONFIELD, NEW JERSEY.

## CONVEYER.

No. 842,611.

Specification of Letters Patent.

Patented Jan. 29, 1907.

Application filed October 1, 1906. Serial No. 336,850.

*To all whom it may concern:*

Be it known that I, JOHN H. BELL, a citizen of the United States, residing at Haddonfield, in the county of Camden and State of New Jersey, have invented certain new and useful Improvements in Conveyers, of which the following is a specification.

The object of this invention is, first, the construction of a belt conveyer which shall be guided in a direct course without any tendency to run to one side and wherein the edges of the belt shall be free from frictional contact and the consequent curling up and wear of its edges, which is usual where belts are guided by flanges at the edges of the drums; second, to form the driving-drums and carriers of skeleton construction with open spaces or interstices, so that if any part of the conveyed material overruns or falls from the belt its lodging between the belt or carriers and drums will be effectually prevented or reduced to a minimum, as such lodgment creates undue friction and wear of the parts and tends to distort the belt; third, to form the driving-drum and the inner side or face of the belt to interlock and whereby the belt shall be positively driven by the drum independent of frictional contact. By using drums with bars and intervening spaces and by also having bars secured to the belt there is great pulling power. The carrier-drum may be of the same diameter as the driving-drum or of other diameter, as desired. In narrow carriers a single narrow-faced pulley may be used at each side of the central guiding-space.

The invention is illustrated in the accompanying drawings, in which similar parts are designated by similar reference characters in all the views, and in which—

Figure 1 is a side elevation. Fig. 2 is a plan or top view. Fig. 3 is an inside view of a portion of the belt. Fig. 4 is a face elevation of a part of the driving-drum and a section of the other part on line *xx*, Fig. 1.

A suitable framework 1 supports shafts 2, 3, and there will be driving means—such as a gear, a sprocket wheel and chain attached to shaft 2 for driving purposes, or any suitable driving means—provided by the machine to which the conveyer is attached, which is not shown, being no part of the invention. Upon shaft 2 are mounted pulleys 4 5 6 7 and upon carrier-shaft 3 there are mounted pulleys 8 9 10 11. Pulleys 4 7 are fixed to have their outer edges as far apart as the width of the

belt 12 and pulleys 8 11 may be the same or less apart, while pulleys 5 6 and 9 10 are near the middle of their respective shafts, but with spaces 13 14 between their adjacent edges. Secured to the peripheral surfaces of pulleys 4 5 are connecting-bars 15, spaced apart to leave spaces or openings 16. The pulleys 4 5 when connected by the bars 16 form a driving-drum with an intersticed annular surface. Pulleys 6 7 are likewise connected with bars 15. Pulleys 8 9 and 10 11 may be provided with bars and spaces or without, as shown. Thus there are a pair of open-faced drums for shaft 2 with a space 13 between them and two pairs of plain pulleys with a space 14 between the inner pulleys on shaft 3.

Attached to the inner face or surface of belt 12 are bars 17, which reach the entire distance across the belt, also shorter bars 18, which reach only a portion of the way across the belt, and bases 19 still shorter than bars 18. Bars 17 18 and bases 19 are preferably secured to belt 12 by countersunk rivets 20, the bars and bases being of less thickness than bars 15 of the drums. The bars and bases are spaced apart on belt 12 so as to abut and be carried along by bars 15. By making bars 18 and bases 19 shorter than bars 17 the belt is more flexible than if all are carried its entire width. The bars and bases may be differently arranged on the belt than as shown, and one or more kinds only may be attached to the belt to suit the material of which the belt is composed or the work the belt has to do. Secured to the center of bars 17 18 and bases 19 are the tapered guiding-lugs 21, preferably of circular cross-section, but of a form and size to freely pass through spaces 13 14 to centrally guide belt 12.

I claim—

1. In a conveyer, a framework supporting shafts, and pulleys connected by bars in manner to form drums with intersticed annular surfaces, on the shafts.

2. In a conveyer, a suitable framework, shafts supported thereon, groups of pulleys on the shaft, and bars secured to the peripheries of adjacent pulleys to form drums with intersticed faces.

3. In a conveyer, a framework, shafts supported thereon, groups of pulleys thereon, the pulleys of each group forming a drum, by means of peripheral connections, with intervening spaces, and adapted to carry a belt.

4. In a conveyer, a framework, shafts sup-



ported thereon, groups of pulleys on the shafts, the pulleys of each group forming a drum, by means of peripheral connections, with intervening spaces, and adapted to carry a belt, and a belt - guiding space between adjacent drums.

5. In a conveyer, a framework having means for supporting shafts, shafts therefor, drums upon the shafts comprising pulleys, or their equivalents, each adjacent pair of pulleys at each end of the shaft being connected at their peripheries in manner to form a drum with an intersticed peripheral surface, and the adjacent drums being separated to afford a space for the passage of belt-guides.

6. In a conveyer, a belt having fixed upon its inner surface a series of crosswise bars of different lengths.

7. In a conveyer, a belt having fixed upon the whole breadth of its inner surface a series of crosswise bars, spaced apart, and tapered guiding-lugs projecting from the center of said bars.

8. In a conveyer, a belt having fixed upon its inner surface a series of crosswise bars, of different lengths, spaced apart, and guiding-lugs projecting from said bars.

9. In a conveyer, a belt having fixed upon its inner surface a series of crosswise bars, spaced apart, and guiding-lugs of circular cross-section projecting from said bars.

10. In a conveyer, a belt having upon its interior surface a series of bars some of which reach across the belt, and others which reach only a portion of the way across, lugs upon the bars, and additional lugs secured to the

belt which have bases shorter than the aforesaid short bars which reach only a portion of the way across the belt.

11. In a conveyer, a framework having means for supporting shafts, shafts therefor, drums upon the shafts which are formed of pulleys or equivalent means, placed apart on the shaft and connected by bars secured to their peripheries, with intermediate spaces, and projecting above the pulleys.

12. In a conveyer, a framework having means for supporting shafts, shafts therefor, multiple drums upon the shafts which are formed of pulleys or equivalent means, placed apart on the shaft and connected by bars secured to their peripheries, with intermediate spaces, and projecting above the pulleys, and a guiding-space between the adjacent drums placed upon a common shaft.

13. In a conveyer, driving-pulleys and carrier-pulleys, each having a shaft, a frame carrying the shafts, the pulleys placed upon their proper shafts to provide an intervening space between the pulleys on the same shaft, and a carrier-belt having upon its inner surface projections adapted to pass through the intervening spaces, as means for guiding the belt.

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

JOHN H. BELL.

Witnesses:

RANSOM C. WRIGHT,  
LEWIS H. REDNER.