(No Model.)

# J. F. PARKES.

## SPLIT PULLEY.

No. 488,947. Patented Dec. 27, 1892.

Fig.1

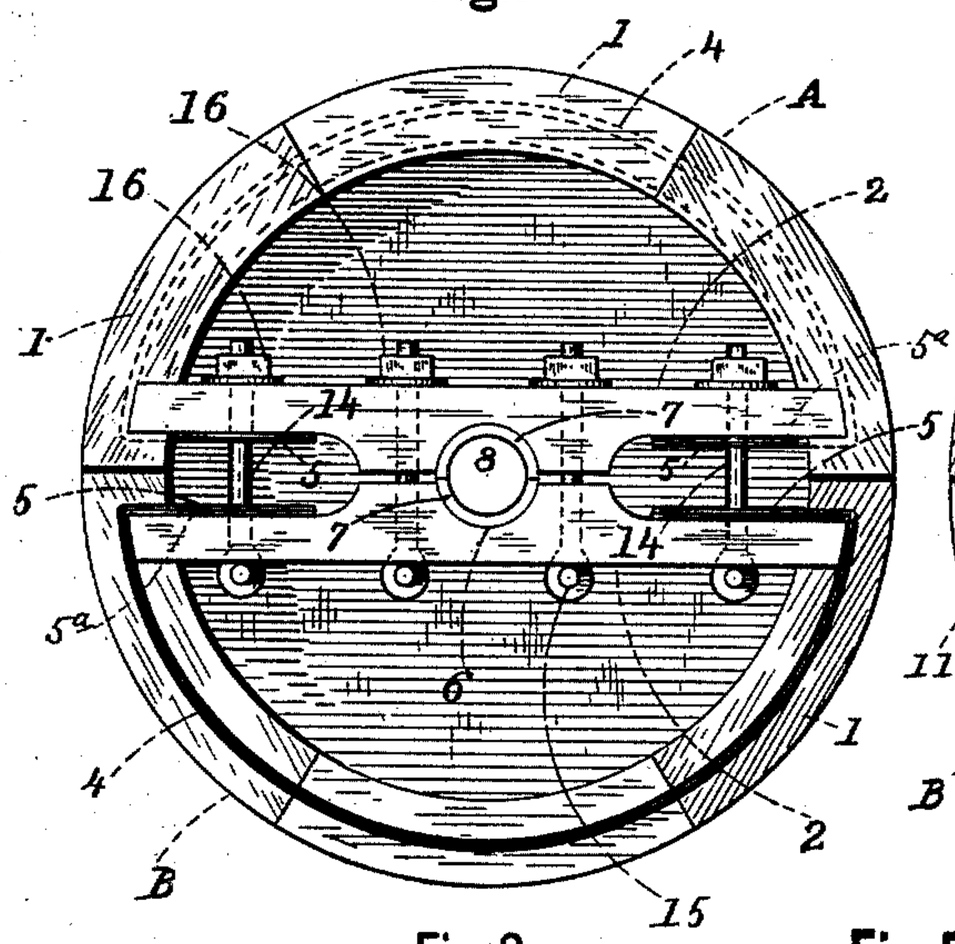



Fig.2

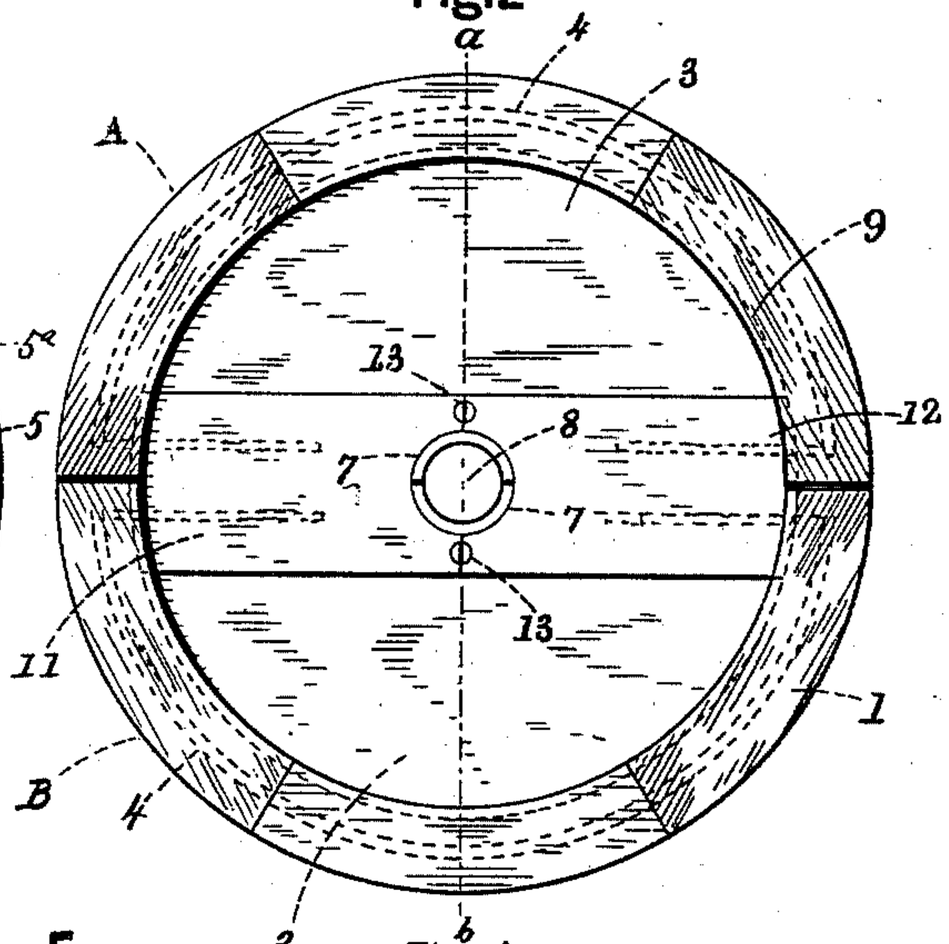



Fig.3

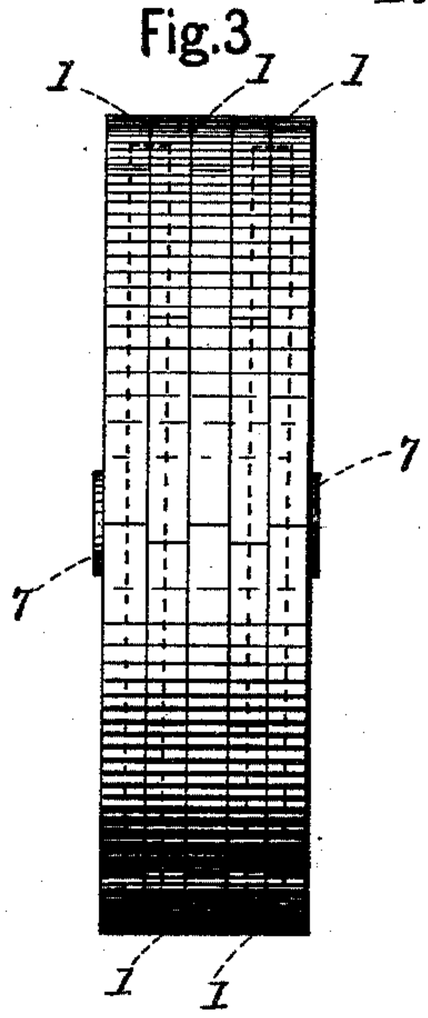



Fig.5

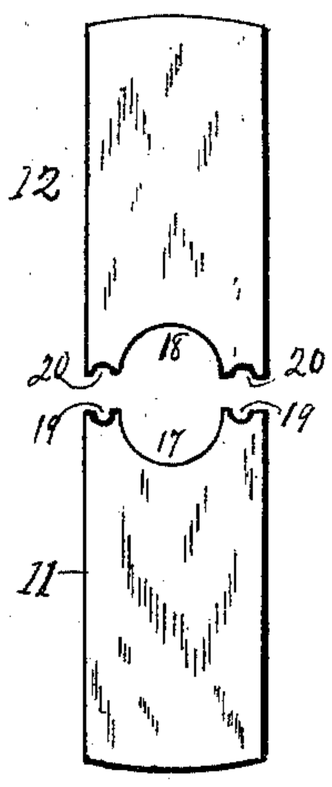
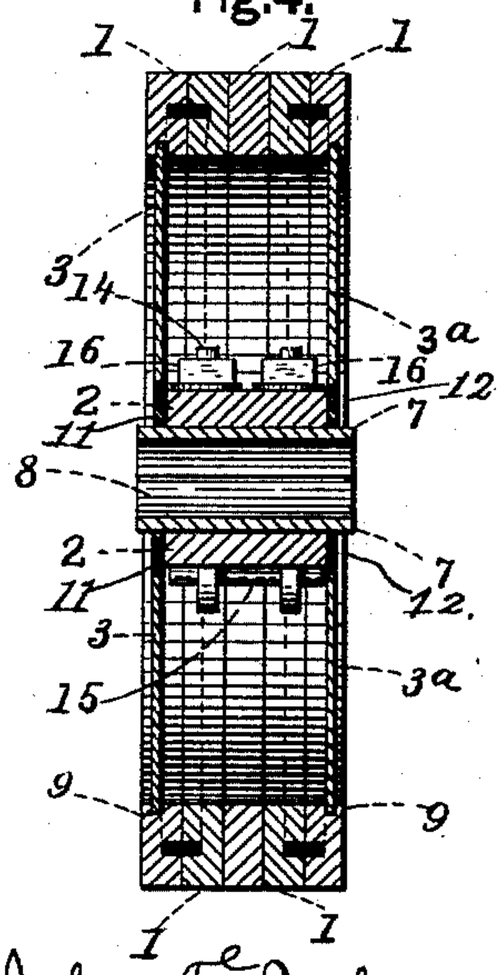



Fig.4.

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# UNITED STATES PATENT OFFICE.

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## SPLIT PULLEY.

SPECIFICATION forming part of Letters Patent No. 488,947, dated December 27, 1892.

Application filed September 4, 1891. Serial No. 404,701. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN F. PARKES, a citizen of the United States, residing at North Tonawanda, in the county of Niagara and State of New York, have invented certain new and useful Improvements in Safety Split Pulleys, of which the following is a specification.

My invention relates to certain improvements in wooden split pulleys whereby great strength in the construction of the pulley and safety in its use is secured, all of which will be fully and clearly hereinafter described and claimed, reference being had to the accompanying drawings, in which:—

Figure 1 is a side elevation of the pulley, a portion being removed to show the interior construction. Fig. 2 is a side elevation of the pulley complete. Fig. 3 is a face view, showing the different layers of material composing the pulley. Fig. 4 is a vertical central section through the pulley in or about line *a b*, Fig. 2. Fig. 5 is a plan view of two of the side pieces of the pulley.

I build up my pulley in the usual way by means of curved wooden portions or sections glued or otherwise secured together in any well known way, the pulley being thus formed in two semicircular rim portions A and B, composed of the sections, 1, see Figs. 3 and 4. To each half portion A and B, is rigidly secured a cross-bar, 2, which is wide enough to extend from the side pieces 3 to the side pieces $3^a$, of the pulley, see Fig. 4. Each pair of sections, 1, is provided with a nearly semicircular groove which terminates at a short distance from the end of the section, and into which is fitted (before they are secured together) a curved strip of band iron, 4, (or wire or any suitable strengthening material may be used if desired.) By terminating the grooves near the end of the sections, the ends of the sections are left solid and a flat smooth surface is given to each end of each section which will bear against the adjacent end of the other section when the pulley is put together, without the need of additional blocks or other devices between them as would be necessary if the grooves extended to the ends of the sections and the ends of the bands projected out of the grooves beyond the end of the section. This band, 4, is bent at the ends so as to form the portions, 5, which extend around the ends of the cross bar, 2, and inward along the sides of the same toward the center, and is then secured to the cross bar by screws $5^a$ or other well known means, the ends of the bars being preferably reduced or cut away at their ends as shown in Fig. 1, for the reception of the ends of the bands. The object of these metallic bands is to strengthen the pulley and thereby prevent any of the parts from being broken and thrown off by centrifugal force and thereby injuring workmen and others near it. There may be one or more of these strengthening bands, 4, according to the size or width of the pulley.

At the center, between the ends of each cross-bar, 2, is a semicircular opening, 6, see Fig. 1, into which is placed two corresponding semicircular portions or half sleeves, 7, each adapted to fit in the openings, 6, and thereby, (when the pulley is put together,) form the central opening, 8, through which the shaft upon which the pulley is placed passes and is secured; but if desired the portions 7, may be dispensed with and the openings, 6, above used and clamped over the shaft to hold the pulley centrally in place.

Around each inner edge of the two semicircular portions A and B, is a groove, 9, see Fig. 4, (it is also shown by the dotted lines, 9, in Fig. 2.) If the pulley is composed of two semicircular sections, it is evident that there would be two grooves in each section, one upon each inner edge, but if there are more than two sections, as in Fig. 4, only the outer inner edges of the outer section would be provided with grooves. Therefore when I speak of the groove 9, I mean the groove that extends entirely around the inner edge of the two portions whether said pulley be composed of two or more sections. Into this groove, 9, is first fitted the side pieces 3 and $3^a$, then the two central pieces 11 and 12 are put in and rigidly secured in place to the cross bars by screws 13, see Fig. 2. The side pieces are substantially semicircular, and the central pieces are substantially rectangular and only extend from the groove to the center of the pulley, and are provided upon their inner ends with the semicircular recesses 17 and 18, respectively, which encircle the hollow

sleeves 7, and also with the semicircular recesses 19 and 20, respectively, through which pass the screws 13. By making the central pieces in this manner, their outer ends can be placed within the groove and the inner ends can then be brought together and secured by means of the screws as above described, thus dispensing with any other means for holding all of the side pieces together except the two screws upon each side of the pulley. Both sides of the pulley being thus covered it presents a smooth surface on all sides so that as there are no projections to catch upon, there is no danger in either slipping on or taking off a belt.

The two halves of the pulley are removably secured together by means of the bolts, 14, which pass through the cross-bars, see Figs. 1 and 4. These bolts are flattened and perforated at one end and a pin or bolt, 15, passed through them substantially as shown, the opposite end being secured by the screw nuts, 16. When putting the pulley on to a shaft the two parts are separated, then put together on the shaft and tightly drawn together by the bolts, 14 and nuts, 16, as above mentioned. The sides are then put in the rim in the manner above described and the pulley is ready for use.

I claim as my invention.

1. In a split pulley, the combination, of two semicircular portions, each of which is provided with a cross bar, the ends of which bars are rigidly secured thereto, and the central portions of the bars provided with means for holding the pulley to the shaft, and a strengthening band in each portion, the ends of which extend inwardly toward the center of the pulley and are rigidly secured to the ends of the cross-bar substantially as set forth.

2. In a split pulley, the combination, of two semicircular portions, each of which is composed of a number of semicircular sections secured together in pairs, each pair of sections being provided with a groove which extends nearly to the ends thereof, a cross-bar for each portion of the pulley, and a strengthening band in each groove, the ends of which band extend toward the center of the pulley and are rigidly secured to the cross pieces, substantially as set forth.

3. In a split pulley, composed of two semicircular portions, the inner edges of which are provided with two grooves, one upon each side, cross-bars for holding the pulley together, the central portions of which bars are provided with means for the reception of the shaft, and four pieces secured in each groove, two substantially semicircular pieces, one on each side of the cross-bars, and two substantially rectangular central pieces, the outer ends of which are within the groove and the inner ends of which abut against each other and are provided with recesses, and are secured to the cross-bars, whereby the outer sides of the pulley are smooth, substantially as set forth.

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Witnesses:
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