

(No Model.)

2 Sheets—Sheet 1.

T. CORSCADEN.
SHEET METAL PULLEY.

No. 575,107.

Patented Jan. 12, 1897.

Fig. 1.

Fig. 2.

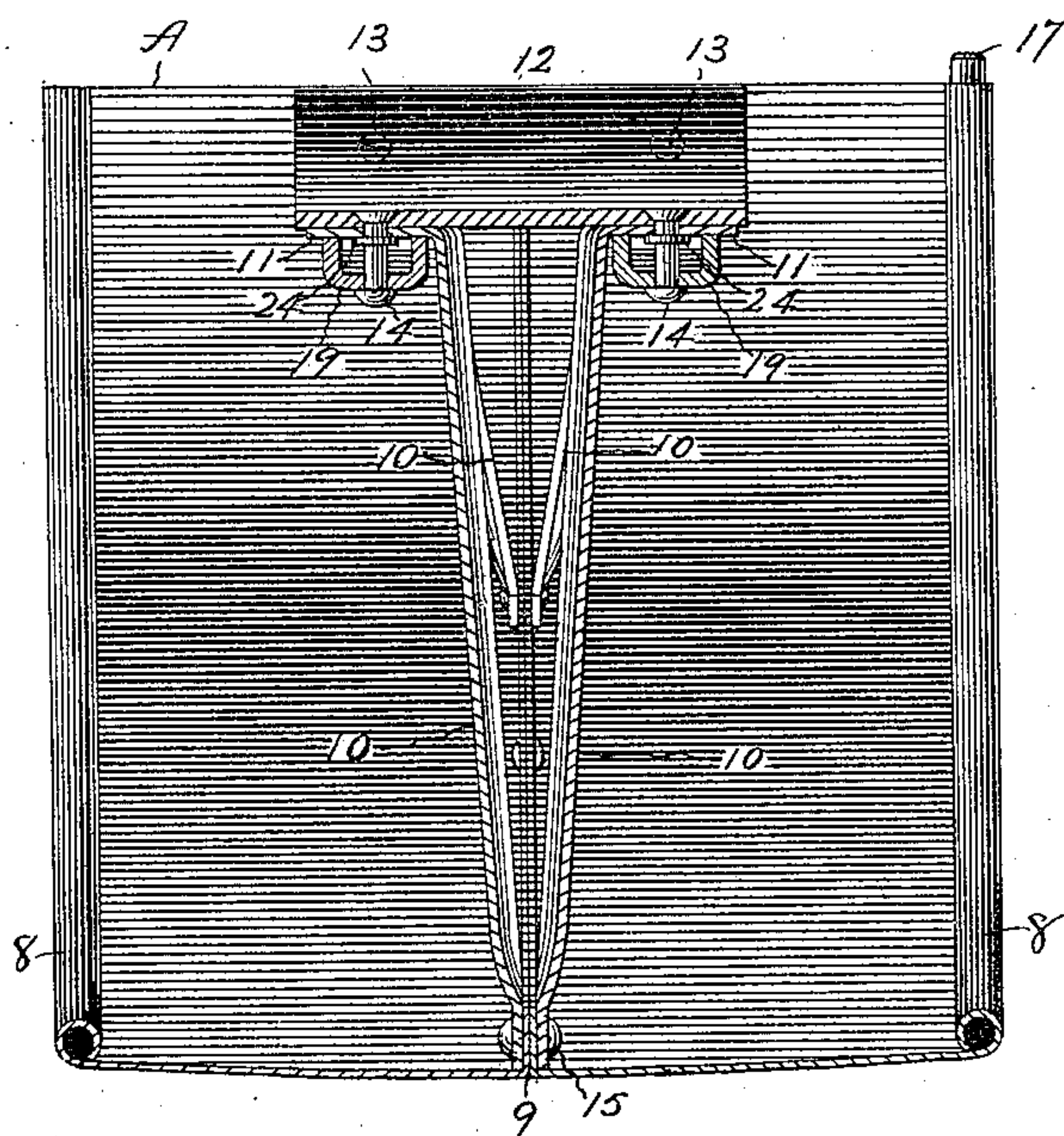
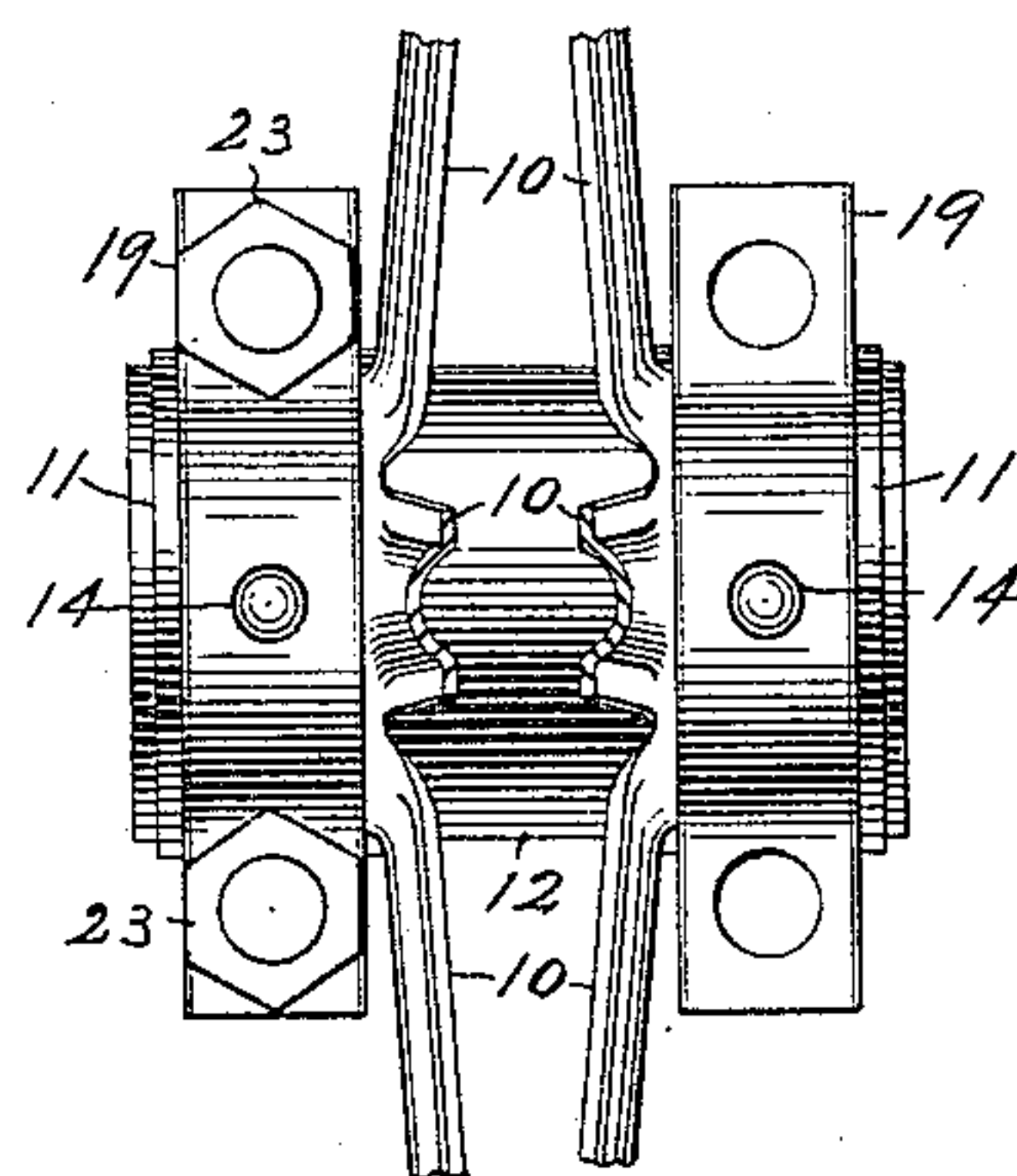


Fig. 3.



Witnesses

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(No Model.)

2 Sheets—Sheet 2.

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SHEET METAL PULLEY.

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Patented Jan. 12, 1897.

Fig. 4.

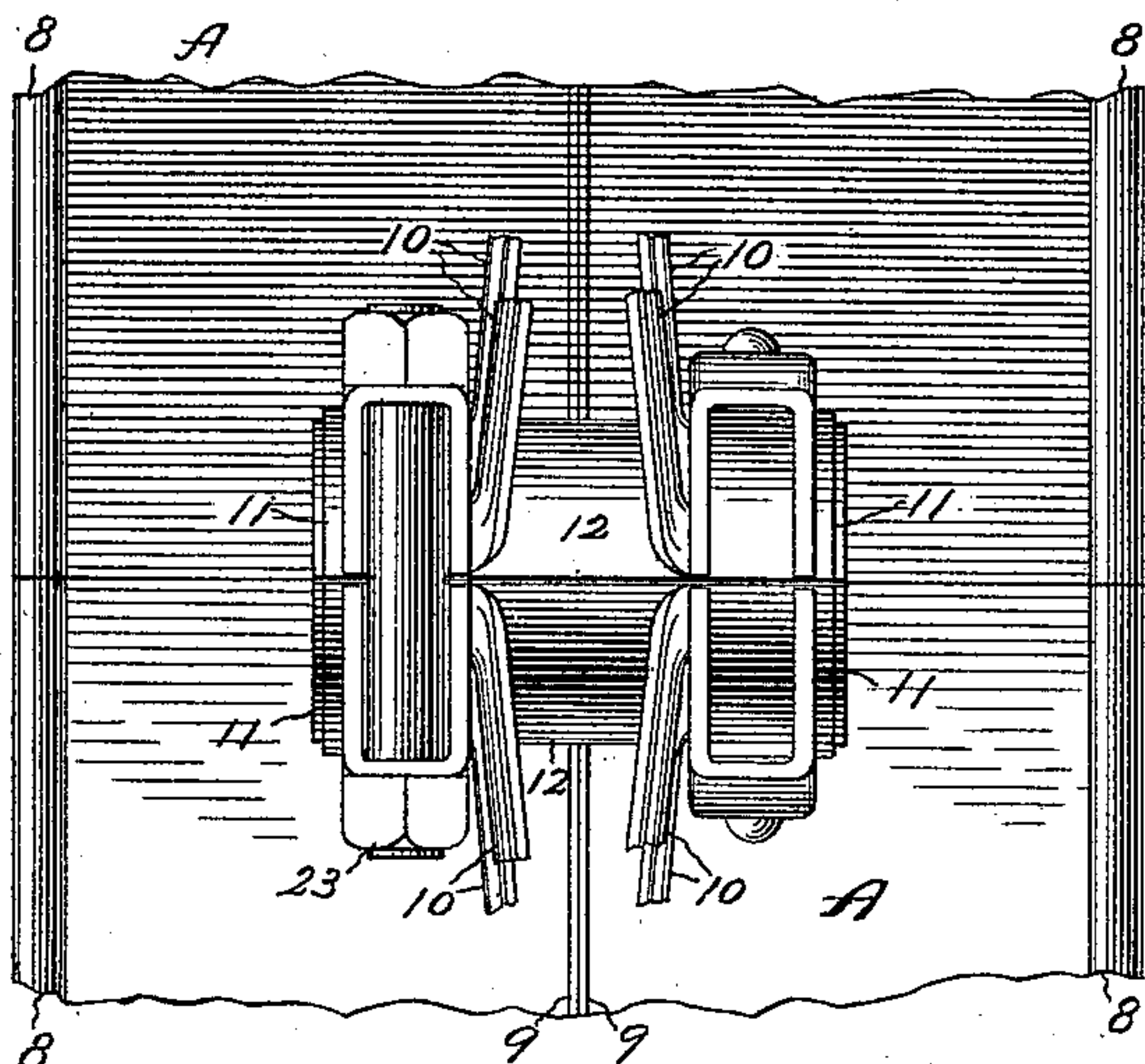


Fig. 5.

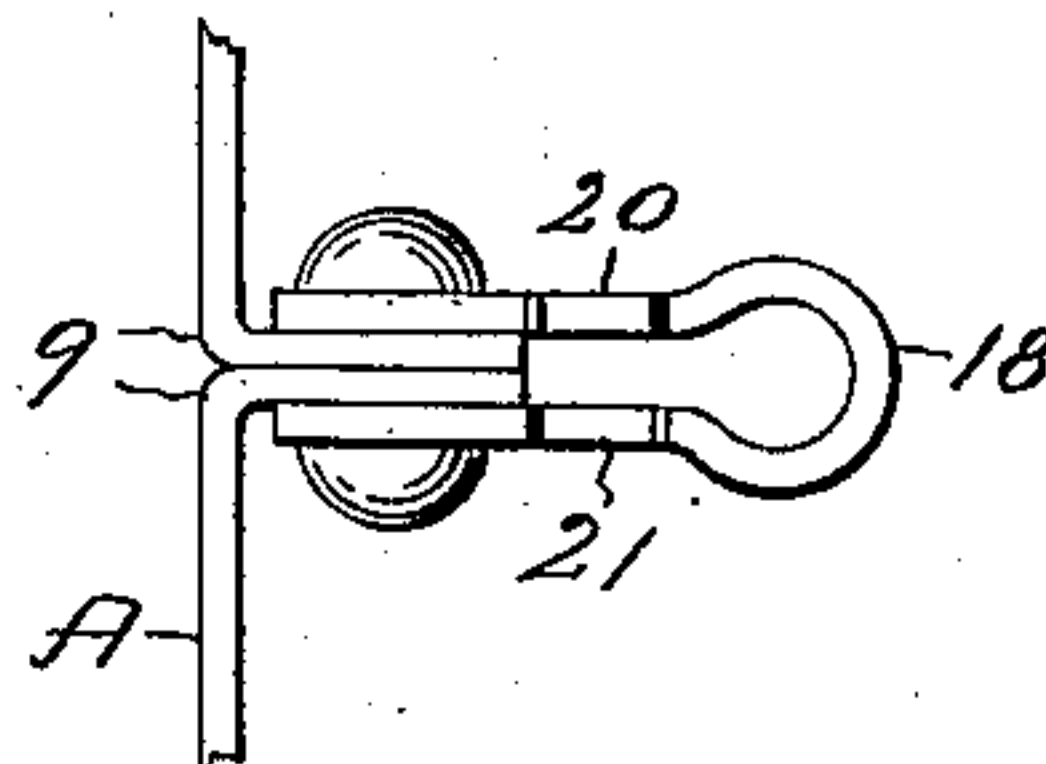


Fig. 6.

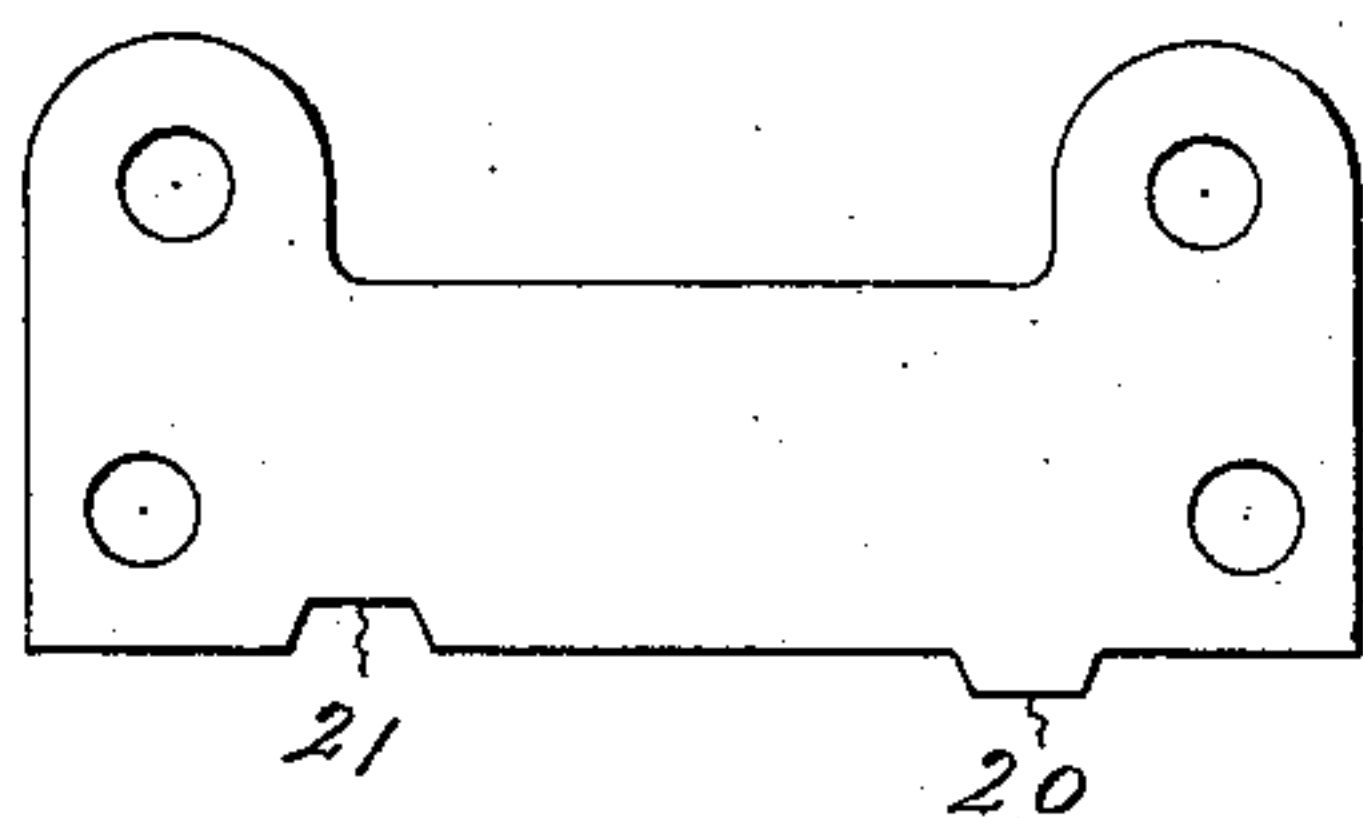
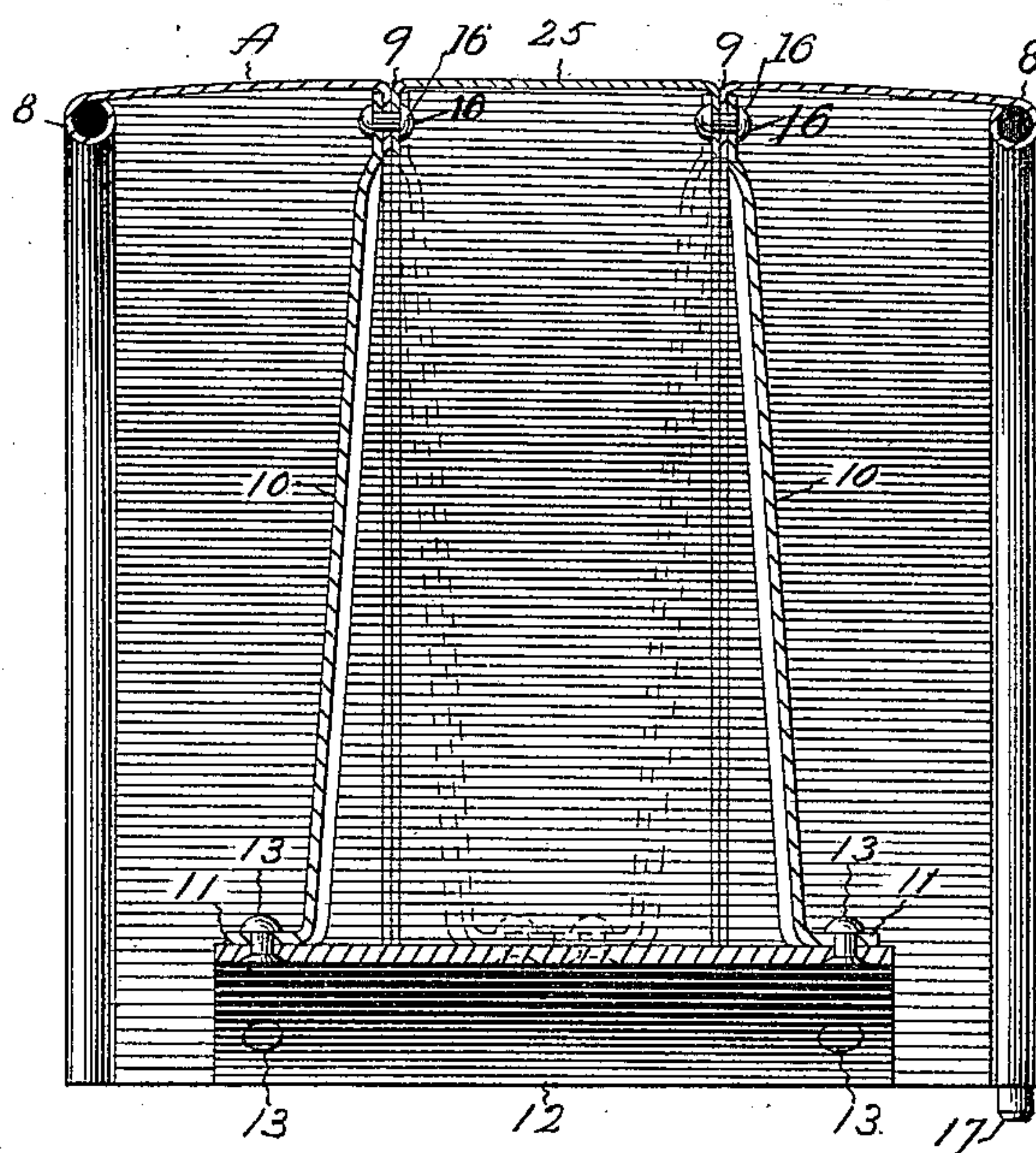


Fig. 7.



WITNESSES

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THOMAS CORSCADEN, OF NEW BRITAIN, CONNECTICUT, ASSIGNOR TO THE
AMERICAN PULLEY COMPANY, OF PHILADELPHIA, PENNSYLVANIA.

SHEET-METAL PULLEY.

SPECIFICATION forming part of Letters Patent No. 575,107, dated January 12, 1897.

Application filed March 5, 1896. Serial No. 581,906. (No model.)

To all whom it may concern:

Be it known that I, THOMAS CORSCADEN, a citizen of the United States, residing at New Britain, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Sheet-Metal Pulleys, of which the following is a specification.

My invention relates to improvements in sheet-metal belt-pulleys; and the objects of my improvements are simplicity and economy in construction and general efficiency in use.

In the accompanying drawings, Figure 1 is a side elevation of the main part of one of my pulleys, a portion of the rim being shown in section. Fig. 2 is a vertical section of one-half of my pulley on the line xx of Fig. 1. Fig. 3 is a plan view (supposing the pulley to be in the position shown in Fig. 1) of the hub portion of my pulley with the spoke-arms represented as broken off and the clamp-bolts removed from one end of the hub. Fig. 4 is a side elevation of the same, together with a portion of the rim of the pulley behind the hub. Fig. 5 is an end view of a portion of one part of my pulley, showing the rim-bolt lug and adjacent portion of the rim. Fig. 6 is a plan view of the blank from which the rim-bolt lugs are formed, and Fig. 7 is a central vertical section of half of one of my pulleys in a somewhat-modified form.

I form the circumferentially-divided rim A of my pulley of two or more parts of sheet metal, having a rolled bead 8 at each outer edge of the rim and each rim part having an inwardly-turned flange 9 at the meeting edges in the middle portion of the rim. The said rim is also divided transversely, making what is known as a "divided" or "two-part" pulley. The spoke-arms 10 preferably have hub-terminals 11, which stand at nearly right angles to said arms and are permanently secured in any proper manner to the hub-shells 12, substantially as in my former application, Serial No. 529,850, filed November 24, 1894, and also as in my Patent No. 474,547, dated May 10, 1892.

I have shown in the upper half of the hub, Fig. 1, the hub-terminals of three adjoining spoke-arms as formed in one piece, but it is evident that each spoke-arm might have its individual hub-terminal, if desired; or, in

other words, the hub-terminal for three spokes may be divided into three parts, as shown in the lower half of the hub in Fig. 1. The rivets 13, by which part of these hub-terminals are permanently secured to the hub-shells, are shown in Figs. 2 and 7 and are indicated by broken lines in Fig. 1, while the longer and shouldered rivets 14 secure the other spoke-arms in Figs. 1, 2, and 3.

The outer ends of the spoke-arms may be connected to the rim-flanges in any proper manner, as, for example, by the rivets 15, while other rivets 16, if desired, may additionally secure together two abutting rim-flanges. I prefer to insert dowel-pins 17 in the hollow of the beads 8 at the outer edge of the rim, as shown in Figs. 2 and 7, and in putting the two parts of the pulley together let said pins enter the opposing hollow bead, which serves as the dowel-socket. The meeting edges of the two parts of the rim are also provided with rim-bolt lugs 18, secured to the flanges 9, as shown in Figs. 1 and 5. The said rim-bolt lugs I form from blanks like that shown in plan view, Fig. 6, which blanks are doubled upon themselves, forming a bolt-eye at the bend. In addition to this eye each lug is provided at the edge which faces the companion lug with a tongue 20 and recess or notch 21, (see Figs. 1, 5, and 6,) whereby as the two parts of the pulley are put together the tongues 20 enter the notches 21 after the manner of a dowel pin and socket for bringing the middle portion of the abutting edges of the rim properly together, while the dowel-pins 17 in the rolled beads bring the abutting edges properly together at the outer edge of the rim. The parts of the rim are then firmly held in place by the rim-bolts 22.

I hold the permanently-attached hub-shells firmly together and bind the hub portion of the pulley upon the shaft by means of the clamps 19 and clamp-bolts 23. In Figs. 3 and 4 I have omitted the clamp-bolts at one end of the hub in order to better show the clamps. The said clamps embrace the hub-terminals as well as the hub-shells, and they are formed from sheet metal doubled upon itself by two bends near the middle, but without bringing the side plates closely together, whereby said clamps have the form of a flattened U in end

view or in cross-section, the two sides being separated sufficiently to let the bolts pass between them. The metal which connects the said sides forms a bolt-seat, which is perforated at the proper points to receive the clamp-bolts. I make said clamps long enough to extend across the ends of the hub, while the clamp-bolts may pass down by the sides of the hub, as best shown in Fig. 1, and I form the metal at the inner edge of said clamps on a circle which substantially fits the periphery of the hub on the outer surface of the hub-terminal. With clamps thus formed to span the hub it is not necessary that they should be secured to the hub in any way except by the clamp-bolts, and in such case the central hub-terminal on each half of the pulley may be secured to the hub-shell by a short rivet, as shown in Fig. 7, and in any event it is best that the hub-clamps shall not be rigidly secured in place.

In order to insure having the clamps always at hand, I prefer to employ some means which shall so attach them to the hub as to prevent accidental misplacement during transportation, &c. For this purpose I have shown the longer rivets 14, which have a shoulder formed by the flange 24 between their ends, whereby said rivets may be first inserted through the hub-terminals and hub-shells and headed down on the inside of said shells. The clamps may then be slipped on over the outer ends of said rivet and upon the hub-terminals, and said outer end then headed down by means of any proper set or otherwise. When so riveted, the clamps are yieldingly attached to the hub-shells, as the rivets are of a length and size to yield a little to accommodate any inequality that there may be in tightening up the bolts at the opposite ends of the clamps. If the clamps were absolutely rigid with the hub, then when the bolt at one end of the clamp was screwed down harder than the bolt at the opposite end there might be a little twist given to the hub, so as to throw the pulley out of true, but when the clamps are yieldingly attached to the hub or not secured at all except by the clamp-bolts there is no liability of making the pulley untrue by the act of unevenly tightening the bolts.

The half-pulley shown in Fig. 7 is of the same general construction and adapted for the same kind of clamps. If desired, the flanged rivet 14 may be substituted for the middle one of the short rivets 13, and thereby have the clamps attached to the hub. The pulley, however, is of a construction especially adapted for a wider belt, and therefore I have made the rim in three parts instead of two, the two outer parts having the same rolled

bead at their outer edges and the same flange 9 at their inner edges. The middle portion 25 of the rim has the flange 9 at each edge, and the two abutting flanges are united the same as in the construction first described. The single spoke-arms are also the same as before described, and I may employ one set of single arms secured to the outer ends of the hub-shells and the compound flanges, as indicated in full lines, or I may employ in connection with the spoke-arms shown in full lines other spoke-arms, as indicated by the broken lines, thereby forming two sets of compound spoke-arms.

I claim as my invention—

1. A pulley having a divided hub, a sheet-metal rim having the rolled-over edges and the inwardly-turned flanges, separate spoke-arms projecting from said hub and having their outer ends mechanically secured to said flanges, dowel-pins in said rolled-over edges, rim-bolt lugs secured to and projecting inside of said inwardly-turned flanges and opposing tongues and recesses in the abutting edges of said rim-bolt lugs, substantially as described and for the purpose specified.

2. A pulley having a divided hub, spoke-arms and rim, and also having rim-bolt lugs extending radially inward from the said rim with registering tongues and recesses in the meeting radial edges of said rim-bolt lugs, substantially as described and for the purpose specified.

3. A transversely-divided or two-part pulley having permanently-secured hub-shells, the hub-clamps formed of sheet metal doubled upon itself by two bends near the middle in the form of a flattened U in end view, and of a length to span the end of the hub, the metal sides of said clamps being separated to let the clamp-bolts pass between them while the metal connecting said sides is perforated and serves as a bolt-seat, substantially as described and for the purpose specified.

4. A transversely-divided pulley having permanently-secured hub-shells and having hub-clamps that span the ends of the hub, and means for yieldingly attaching said clamps to said hub-shells to prevent accidental displacement during transportation, but permitting them to yield and prevent throwing the pulley out of true in tightening up, substantially as described and for the purpose specified.

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