

(No Model.)

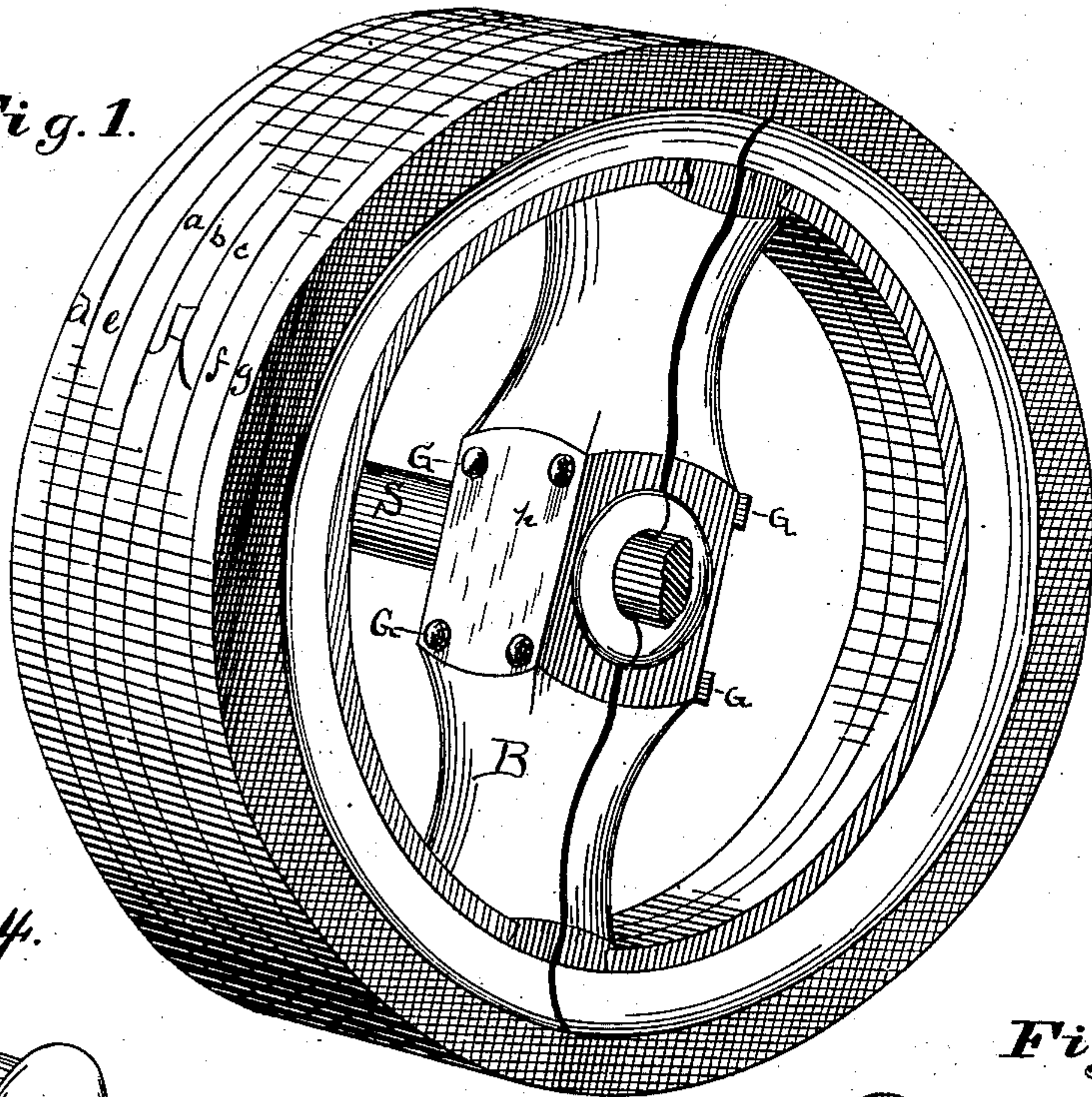
W. H. DODGE & G. PHILION.

SEPARABLE PULLEY.

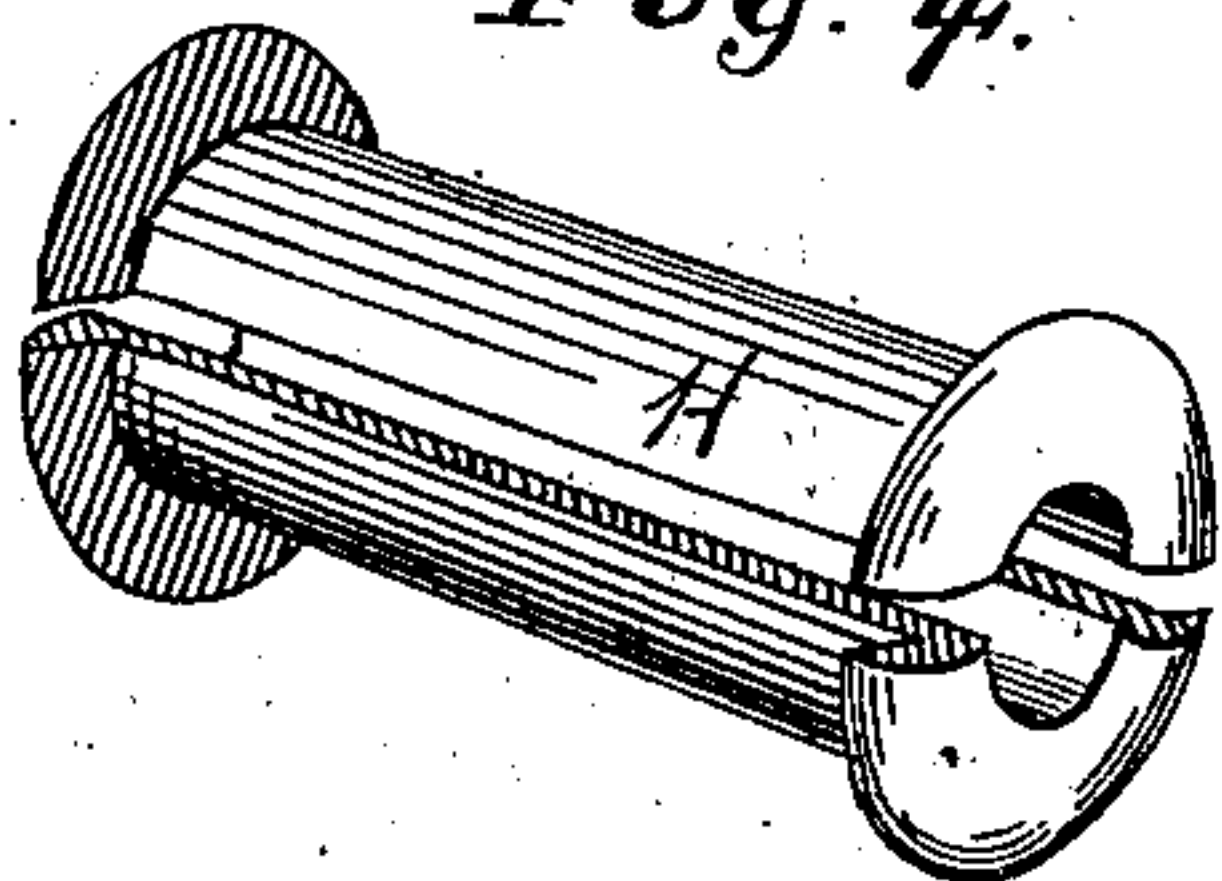
No. 260,462.

Patented July 4, 1882.

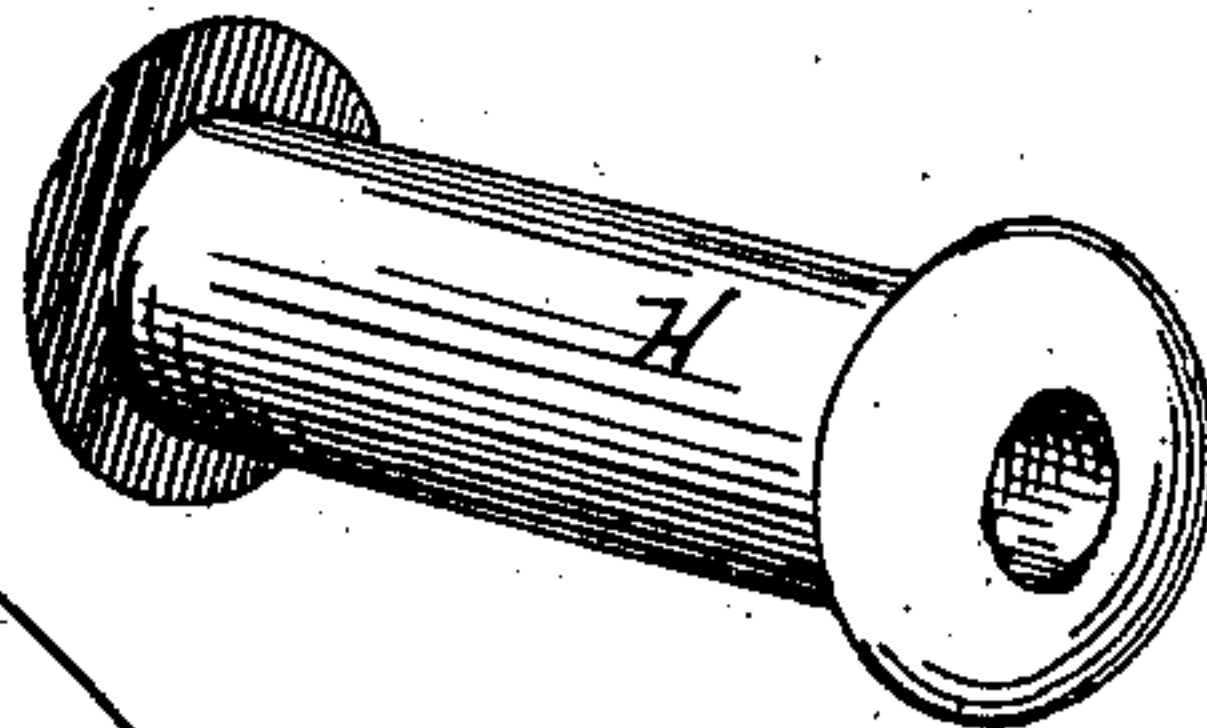
*Fig. 1.*



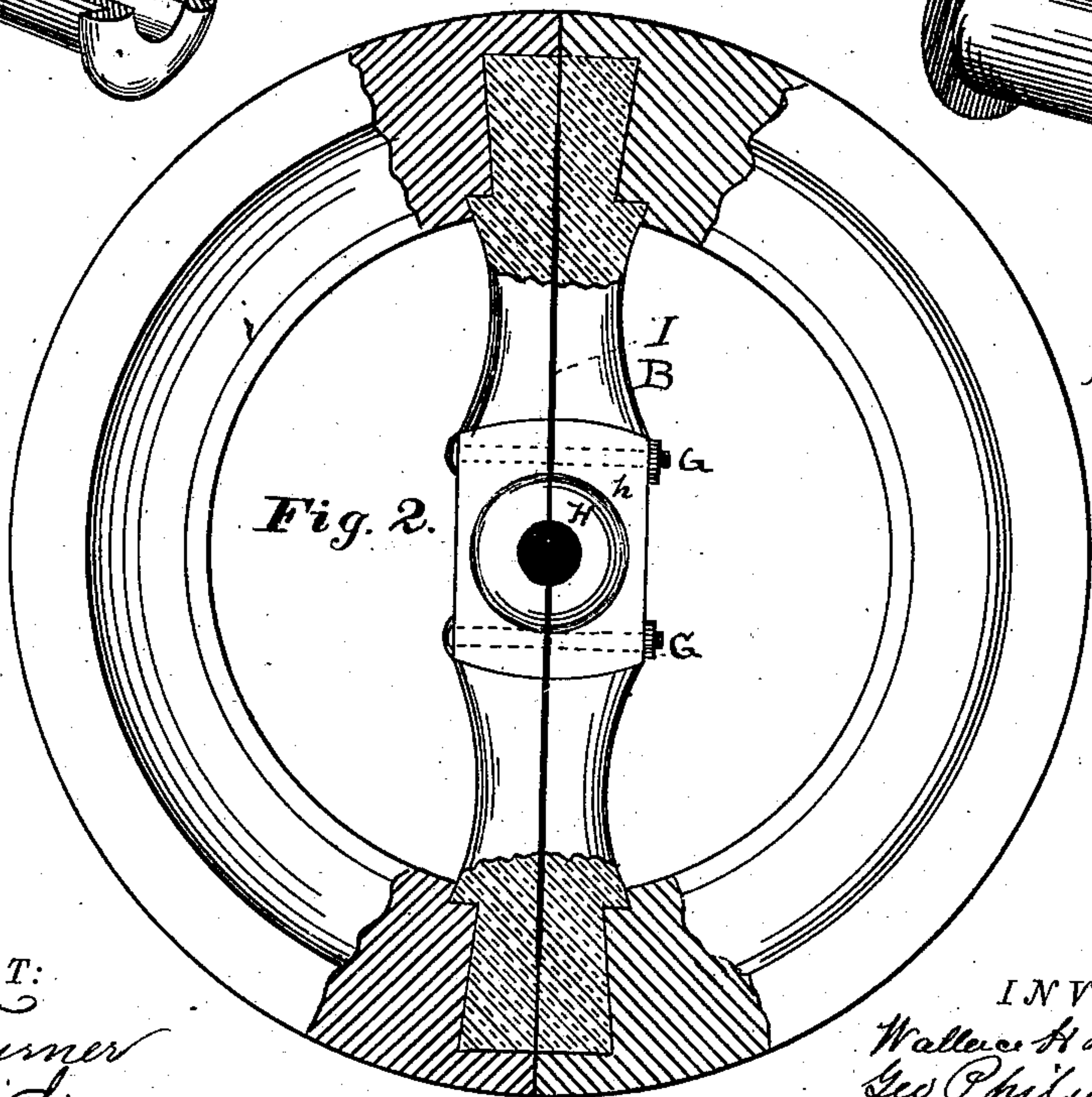
*Fig. 4.*



*Fig. 3.*



*Fig. 2.*



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# UNITED STATES PATENT OFFICE.

WALLACE H. DODGE AND GEORGE PHILION, OF MISHAWAKA, INDIANA.

## SEPARABLE PULLEY.

SPECIFICATION forming part of Letters Patent No. 260,462, dated July 4, 1882.

Application filed May 29, 1882. (No model.)

*To all whom it may concern:*

Be it known that we, WALLACE H. DODGE and GEORGE PHILION, of Mishawaka, in the county of St. Joseph and State of Indiana, have  
5 invented a new and useful Improvement in Separable Pulleys; and we do hereby declare that the following is a full and accurate description of the same.

Heretofore separable pulleys have been made  
10 in parts fitted and bolted together prior to being bored and turned, and therefore they were fitted to the shaft and secured thereon in ordinary way. Such pulleys are not interchangeable as to shafts of different diameters.

15 Our improvement obviates, first, the old and imperfect mode of fastening the pulley in place on the shaft, and, second, renders the same pulley readily applicable to shafts of different diameters, or as a fast or loose pulley.

20 In addition to the above, we propose to make our pulleys of wood and in a structural way which will greatly cheapen and add to their efficiency.

25 We are aware that wooden pulleys have heretofore been made, and therefore do not claim such broadly, but only with relation to the structural methods hereinafter described.

30 That others may fully understand our invention, we will particularly describe it, having reference to the accompanying drawings, wherein—

35 Figure 1 is a perspective of our pulley. Fig. 2 is a section of the same transverse to the axis. Figs. 3 and 4 represent the separable spool-hub.

40 A represents our pulley, and the mode of structure is as follows: We first form up of segments *a b c* a ring, the parts being glued and nailed or doweled together. This ring forms the central part of the pulley, and after  
being turned it is cut in halves transversely.

45 The spoke and hub bar *B* is prepared either by properly fashioning a wooden stick in the lathe and afterward slitting it in two, as shown, or by fitting together properly two separate bars. These parts are secured at their ends to the ends of the ring-segments in some proper and efficient manner, and for this purpose we prefer the dovetail, as shown. The  
50 parts of the bar *B* are so placed in the ring-segments that they will not touch each other at the axis or hub of the wheel when the ring-

segments are placed in position. The clamping-bolts *G G* are then inserted with pieces of thin wood or veneering, *I*, between the parts  
55 of the bar *B*, to prevent them from springing together under the action of the bolts while being turned in the lathe. The exterior rim-segments, *d e f g*, are then applied and secured by glue, nails, or other suitable means, and cut  
60 transversely in line with the previous cut. After this is done the pulley is turned on its face and edges, and the central part of the spoke arm or hub *h* is bored truly central. This bore may be adapted exactly to a shaft, *S*, of  
65 some definite size, and the pulley may be applied thereon, the pieces of veneering being removed, so that the bolts *G* may then draw the parts *B* forcibly upon the shaft, and thereby clamp the pulley-hub against said shaft, and  
70 in that way obtain an adhesion due to area of surfaces in contact. This is a much stronger adhesion than is possible where the area of contact is confined to the point of a set-screw on one side and a small segment of the hub on  
75 the opposite side.

This method of securing a pulley upon a shaft is equally applicable to wooden or metallic pulleys.

80 The use of separable pulleys is largely for temporary purposes, and it is therefore sometimes extremely inconvenient to properly fit a pulley to a shaft for which it is not adapted. To obviate this difficulty we employ removable thimbles *H*, made also in halves, and  
85 these can be provided in sets or quantities adapted to shafts of various sizes; or, if necessary, at small expense one of these thimbles can be bored to fit a shaft of any unusual diameter, so that no change whatever in the pulley will be required. The tension of the same  
90 bolts, *G G*, fastens and clamps the pulley to the split thimble and the thimble to the shaft. This method of adapting a pulley to shafts of various sizes is also equally applicable to metallic or wooden separable pulleys.

If it is desired to use one of these pulleys as a loose pulley, the thimble *H* should not be split, but fitted to and placed upon the shaft in the usual way, and the pulley then applied  
100 to the thimble, as described.

Having described our invention, what we claim as new is—

1. A separable pulley whereof, when the



meeting ends of the rim are in contact, the meeting faces of the spoke bar and hub are slightly separated, as described, combined with clamp-bolts G, whereby said hub is 5 clamped upon the shaft, in the manner set forth.

2. A separable pulley whereof, when the meeting ends of the rim are in contact, the meeting faces of the spoke bar and hub are 10 slightly separated, and clamping-bolts G, combined with a separate thimble, H, to be placed intermediate to the shaft and pulley, as set forth.

3. A separable pulley whereof, when the 15 meeting ends of the rim are in contact, the meeting faces of the spoke-bar are slightly separated, and clamp-bolts G, combined with a separable split thimble interposed between said shaft and pulley, substantially as set forth.

20 4. A separable pulley, A, composed of wooden segments *a b c*, &c., as set forth, provided

with a divided spoke-bar, B, the meeting faces whereof are slightly separated, and clamp-bolts G, whereby said parts of bar B may be drawn toward each other, for the purpose set 25 forth.

5. As an improved article of manufacture, the within-described pulley A, consisting of a transversely-divided rim composed of wooden segments *a b c*, &c., and a split spoke bar and 30 hub, B, the meeting faces whereof are slightly separated, and clamp-bolts G, whereby said parts may be drawn forcibly together, substantially as set forth.

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Witnesses:

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