(No Model.)

2 Sheets—Sheet 1.

D. B. HISER.

LAWN MOWER REEL.

No. 375,816. Patented Jan. 3, 1888.

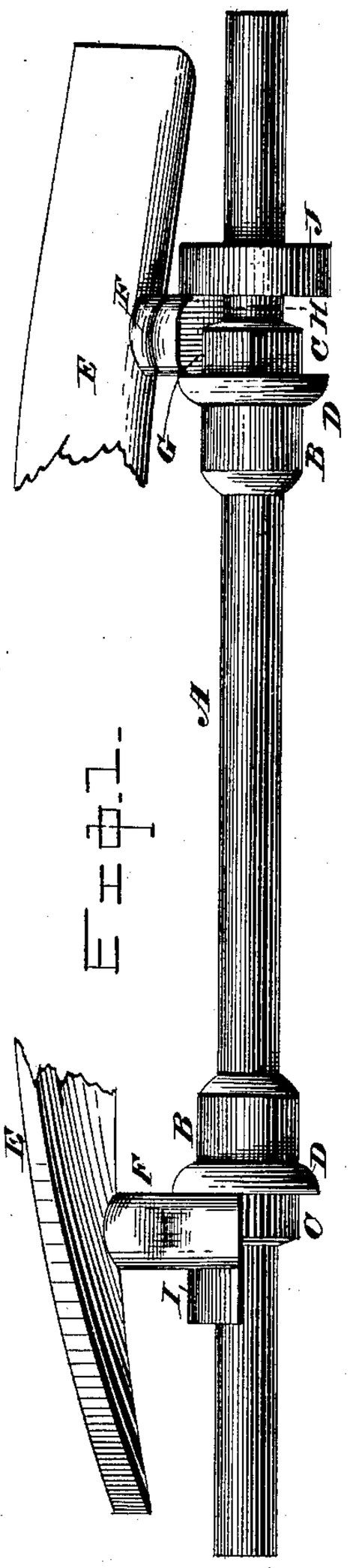

Fig. 1.

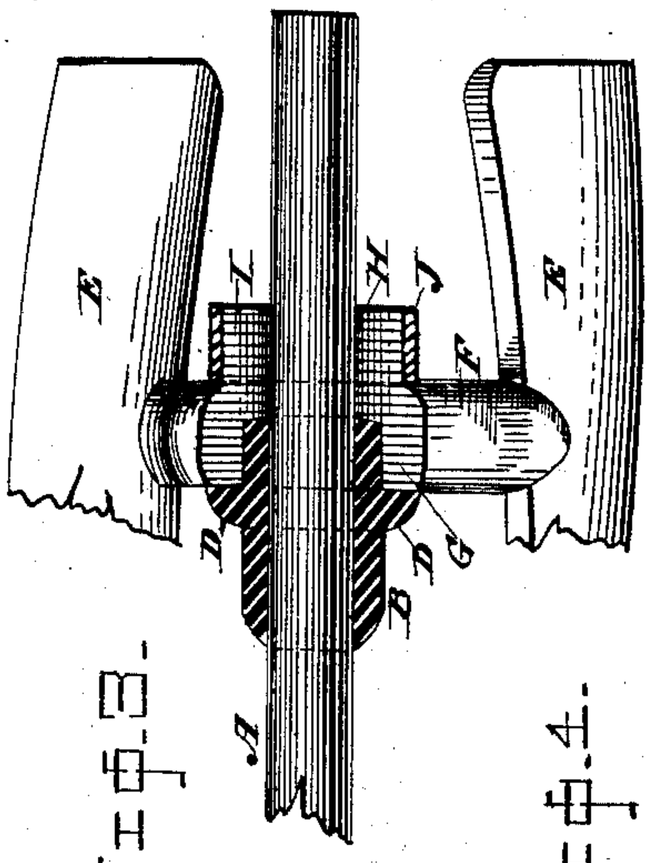

Fig. 3.

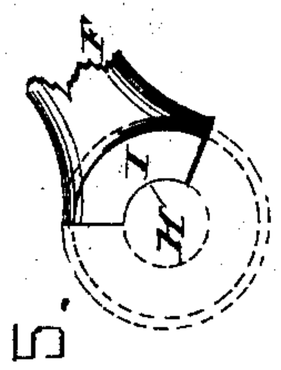

Fig. 5.

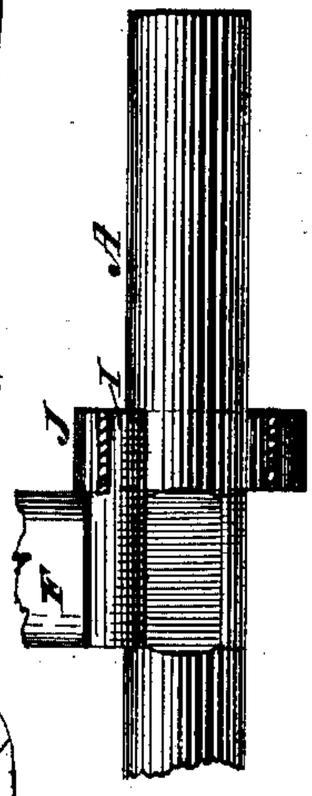

Fig. 4.

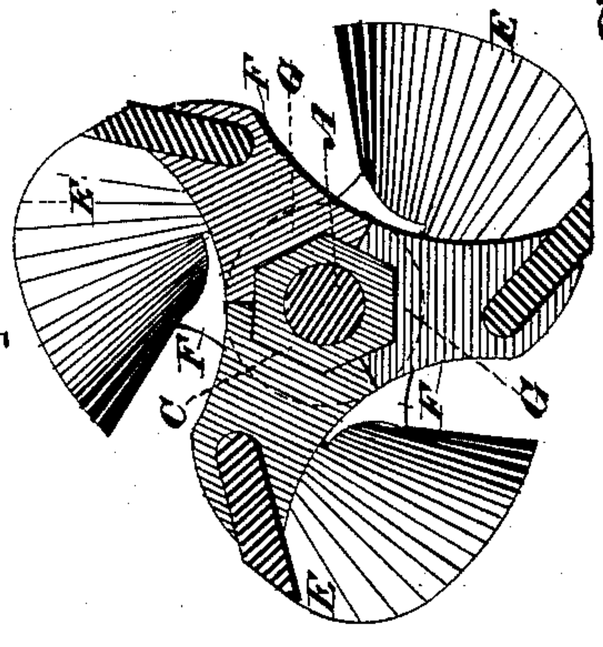

Fig. 2.

WITNESSES

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(No Model.) 2 Sheets—Sheet 2.

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LAWN MOWER REEL.

No. 375,816. Patented Jan. 3, 1888.

FIG. 1.

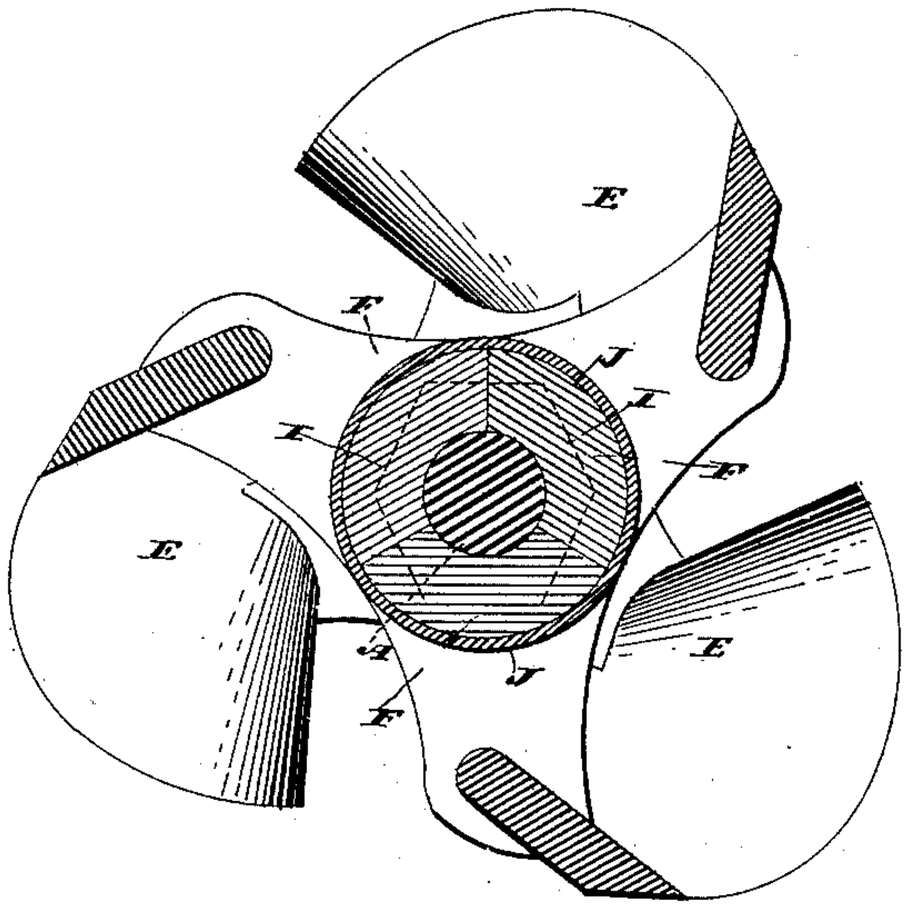


FIG. 7.

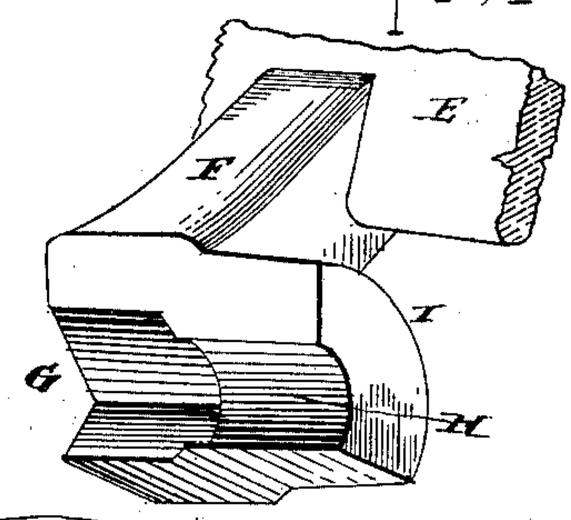
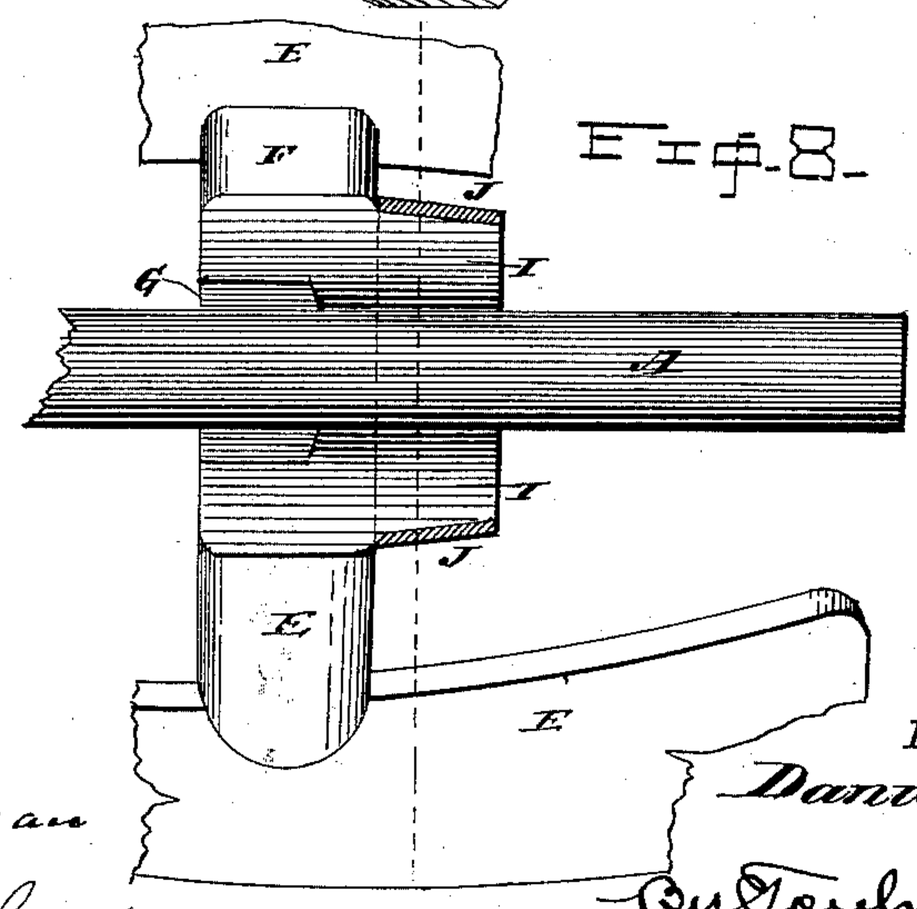


FIG. 8.



WITNESSES

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UNITED STATES PATENT OFFICE.

DANIEL B. HISER, OF SPRINGFIELD, OHIO, ASSIGNOR TO THE THOMAS MANUFACTURING COMPANY, OF SAME PLACE.

LAWN-MOWER REEL.

SPECIFICATION forming part of Letters Patent No. 375,816, dated January 3, 1888.

Application filed March 30, 1887. Serial No. 232,989. (No model.)

To all whom it may concern:

Be it known that I, DANIEL B. HISER, a citizen of the United States, residing at Springfield, in the county of Clark and State of Ohio, have invented certain new and useful Improvements in Lawn-Mower Reels, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in reels for lawn-mowers; and the invention consists in constructing the reel-shaft with angular portions and the knife-bars in separate pieces, with portions which agree in shape with the angular portions on the shaft, whereby the respective knife-bars may be separately cast and then fitted to the reel-shaft, a suitable fastening device being employed to secure them in place.

This invention has special reference to reels in which there are more than two—as three—knife-bars, which are found to be difficult to cast in one piece on account of the shape, making it slow and tedious, and almost impracticable, to withdraw the pattern from the mold. By my invention, however, each knife-bar is separately cast and the difficulties above enumerated avoided.

In the accompanying drawings, forming a part of this specification, and on which like reference-letters indicate corresponding features, Figure 1 represents an elevation of my improved reel with two of the knife-bars removed, showing the third one applied to the shaft and illustrating the angular portions of the shaft; Fig. 2, a vertical transverse sectional view through the knife bars and shaft; Fig. 3, a detail view of a portion of the shaft with one of the knife-bars removed and the collar on the shaft in section; Fig. 4, a view of the reel-shaft with an angular portion formed directly thereon; Fig. 5, a detail view of one of the spokes; Fig. 6, a vertical transverse sectional view on the line *a a* of Fig. 8; Fig. 7, a detail perspective view of a portion of one of the knife-bars, showing its spoke and the construction of the inner end thereof; Fig. 8, a detail view of a portion of the shaft with one of the knife-bars removed and the band which holds the spokes to the shaft in section, showing the band and the hub-like projections which it encircles slightly tapered, and the collar removed from the shaft to more clearly illustrate the form of the inner ends of the spokes.

The letter A designates the reel-shaft, which is constructed of iron or steel, preferably the former, and is provided at suitable points with cast-iron hubs B, cast or otherwise secured thereon, and of such configuration as to lend some ornamentation to the shaft, and provided with a hexagonal, octagonal, square, or other angular portion, C, and a collar, D. It is obvious, however, that these hubs may be omitted, and that the angular portions may be formed by flattening the sides of the reel-shaft, as illustrated in Fig. 4.

The letter E refers to the several knife-bars of the reel, the same being of the usual spiral contour, and by preference constructed of cast-iron and having spokes F. The inner ends of these spokes are segmentally formed, so that the series, when brought together, envelop the reel-shaft, and the inner faces of the inner ends are constructed with angular portions G and curved portions H, (see Figs. 2 and 5,) the former fitting the angular portions of the hubs or of the shaft and the latter fitting the cylindrical portions of the shaft. These spokes are further provided with lateral hub-like projections I, (in which the curved portions H are formed,) over which is fitted a metallic band, J. The exterior of the hub-like projections I is by preference slightly tapered, and the interior of the band J correspondingly tapered, as seen in Figs. 7 and 8, so that the band may be driven upon them so as to draw the spokes firmly against the shaft. The band J, I also apply, by preference, while hot, so as to avail myself of the contraction due to cooling as a means of strongly binding the spokes upon the shaft.

It will now be observed that each knife-bar is separate from the other, and may therefore be cast with perfect feasibility, while if all are united in a reel of more than two knife-bars the difficulties already expressed relative to withdrawing the pattern from the mold are constantly met with, entailing loss of time and consequent expense.

I have shown and described one way—viz., the band—for securing the spokes upon the

shaft; but it is obvious that other means might be adopted for this purpose, and I wish, therefore, to be understood as not confining myself to a band, though it is preferred. I have also stated that the spokes and shaft are to be angular, and this is preferred; yet, if the spokes are drawn tightly enough upon the shaft, the angular portions may be omitted and the curved portions of the inner ends of the spokes retained and clamped upon the round shaft.

The term "knife-bars," used in this specification, means those parts of the reel to which the cutting-blades are secured as distinguished from the blades themselves.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A lawn-mower reel constructed with its shaft separate from the knife-bars and having angular portions on the periphery of said shaft, and with its knife-bars separate from each other and having integral spokes, each spoke having an angular portion corresponding to the angular portion on the periphery of the shaft, and fastening devices which secure the spokes to the shaft.

2. In a lawn-mower reel, the combination, with three separate knife-bars, each having spokes with angular portions and hub-like projections, of the reel-shaft having like angular portions, and bands fitted upon said hub-like projections to hold the spokes to the shaft.

3. In a lawn-mower reel, the combination, with the round shaft thereof and cast-metal hubs secured thereto and having collars and angular portions, of three separate knife-bars, each having spokes with angular and curved portions in their inner ends and hub-like projections, and fitted to the hubs and the shaft, and metallic bands fitted upon the hub-like projections to clamp the spokes in place.

In testimony whereof I affix my signature in presence of two witnesses.

DANIEL B. HISER.

Witnesses:
WILBER COLVIN,
A. A. YEATMAN.