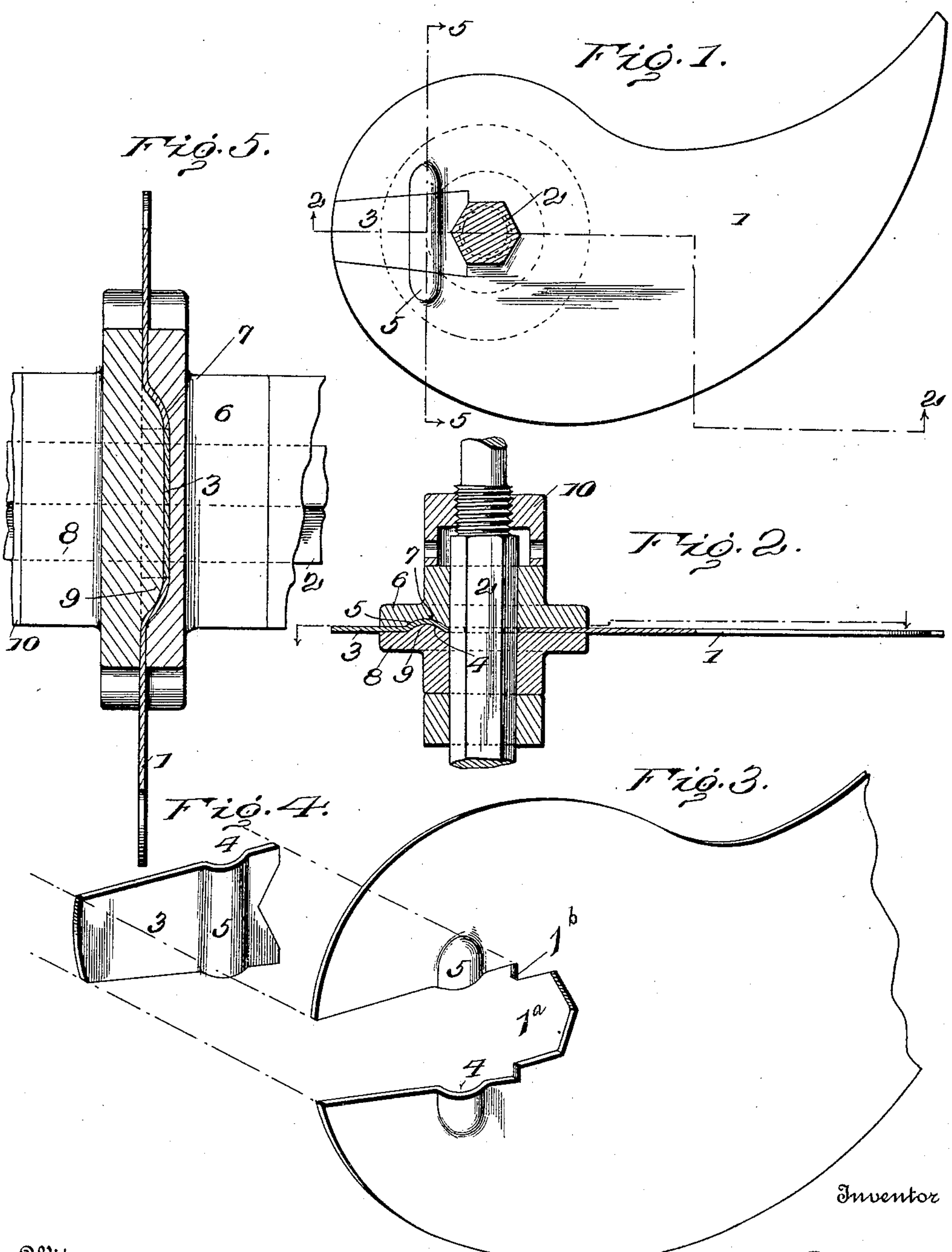
G. E. WADLEIGH.

KEYING DEVICE FOR BLADES.

APPLICATION FILED JUNE 19, 1911.

1,049,949. Patented Jan. 7, 1913.



Witnesses

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KEYING DEVICE FOR BLADES.

1,049,949. Specification of Letters Patent. Patented Jan. 7, 1913.

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To all whom it may concern:

Be it known that I, GEORGE E. WADLEIGH, of Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Keying Devices for Blades; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The primary object of my invention is to provide improved, simple and highly efficient means for securing a member, such as a band cutter blade, to its shaft in such a manner as to permit the ready and easy removal of the member without removing other members on the shaft or disconnecting the latter from its bearings.

The invention is especially adaptable for, and I have illustrated it as applied to, band cutter blades which must frequently be removed from the shaft for sharpening purposes and thereupon replaced. By my invention such removal and replacement is quickly accomplished without interfering with the other blades on the shaft.

The invention will be hereinafter fully set forth and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in side elevation of a band cutter blade. Fig. 2 is a sectional view through the retaining thimbles of a blade. Fig. 3 is an enlarged view of a portion of a blade. Fig. 4 shows a sectional portion of a blade. Fig. 5 is a section on line 5—5, Fig. 1.

Referring to the drawings, 1 designates a band cutter blade which is formed with either a square or hexagonal opening 1^a to receive a shaft 2 of similar formation in cross section and whereon a series of blades is spirally arranged. As is well known, band cutter blades are spaced apart by spacing thimbles which, together with the blades, are clamped together preferably by a single nut on one end of the shaft. To enable any one or more of the blades to be removed from the shaft, for sharpening purposes, or for the purpose of being replaced, without the necessity of removing the remaining blades, I form each blade with a removable section or plate 3 which extends from the opening in the blade to the periphery thereof at its inner end. Preferably this removable section is wedge shaped, that is to say, its opposite longitudinal edges converge toward the periphery of the blade so as to prevent the latter from being pulled off the shaft while the wedging section is in position. This section being formed out of the blade the resultant opening takes a corresponding formation. It will be noted that the shaft opening 1^a is formed in part in the inner end of the removable section, and that the latter at such end is somewhat wider than the opening 1^a and at such end fits against lateral shoulders 1^b adjacent to the inner end of the opening, but the width of the removable section at its outer narrowed end is also greater than the width of the shaft to permit of the relative movement between the blade and the shaft.

On one side of each blade, and also on the corresponding side of the removable section thereof, I form a concavity 4, and on the opposite side I form a rib 5. The rib is produced by the formation of the concavity. The ends of the rib and concavity are rounded or blunt, so to speak, and the thimbles are likewise provided, one with a concavity and the other with a rib which are designed, respectively, to receive and enter the rib and concavity of the interposed blade. Thus, in Figs. 2 and 5, I have shown a spacing thimble 6 as having in its widened end face a concavity 7, while the spacing thimble 8 on the opposite side of the blade is provided in its widened end with a rib 9 so as to thereby firmly bind the blade between them when the end nut 10 (see Fig. 2) is tightened on shaft 2. The concavity and rib of the adjacent thimbles are formed similarly to the concavity and rib of a blade so that when nut 10 is tightened the thimbles will exert a binding action against the rounded blunt ends of the ribs in the bifurcated portion of the blade, thereby tending to bind the jaws of such bifurcated portion against the convergent edges of the removable plate. The plate 3 entirely closes the opening in the blade and hence all danger of straw catching on the inner end of the blade is obviated.

In practice, when it is desired to remove a blade to sharpen it, or for other purposes, the binding nut 10 is first loosened and the blades and their binding collars are slid longitudinally of the shaft to permit the coöperating thimbles of the particular blade to be moved in opposite directions so that such

blade may be separated from its removable section and then be readily withdrawn, the reverse steps being observed in replacing the blade.

I claim as my invention:

1. The combination with a shaft, of a member having an opening to accommodate said shaft extending to the periphery of the member and being of wedge-shape throughout a portion of its length, said opening at the periphery of the member being of greater width than that portion which accommodates said shaft, a plate fitting in said opening, and spacing thimbles on said shaft between which said member and plate are located, said member, plate and thimbles having interlocking portions.

2. The combination with a shaft, of a member having an opening to accommodate said shaft, said member also having a removable plate or section extending from said opening to the periphery of the member, said member and plate having a corrugation formed therein, and spacing thimbles on said shaft between which said member and plate are located, said spacing thimbles having, respectively, a rib and a concavity conforming to said corrugation.

3. The combination with a shaft, of a member having an opening to accommodate said shaft, said member also having a removable plate or section extending from said opening to the periphery of the member, said member and plate having a rib formed therein, the ends of said rib in said member being rounded, and spacing thimbles between which said member and plate are located, said thimbles having their opposed faces formed one to receive said rib, and the other to project into the concavity thereof.

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

GEORGE E. WADLEIGH.

Witnesses:

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