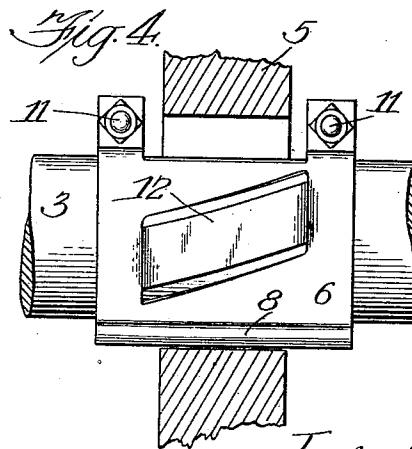
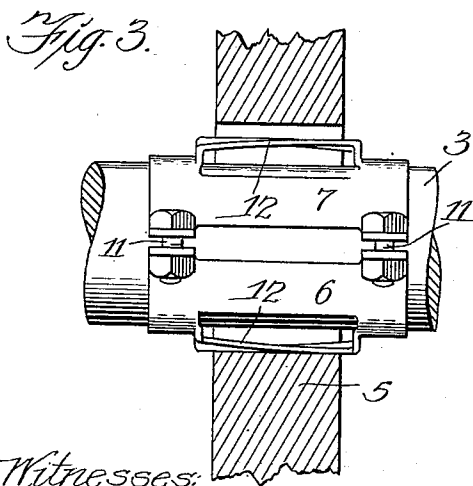
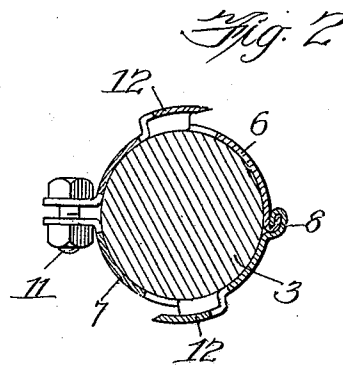
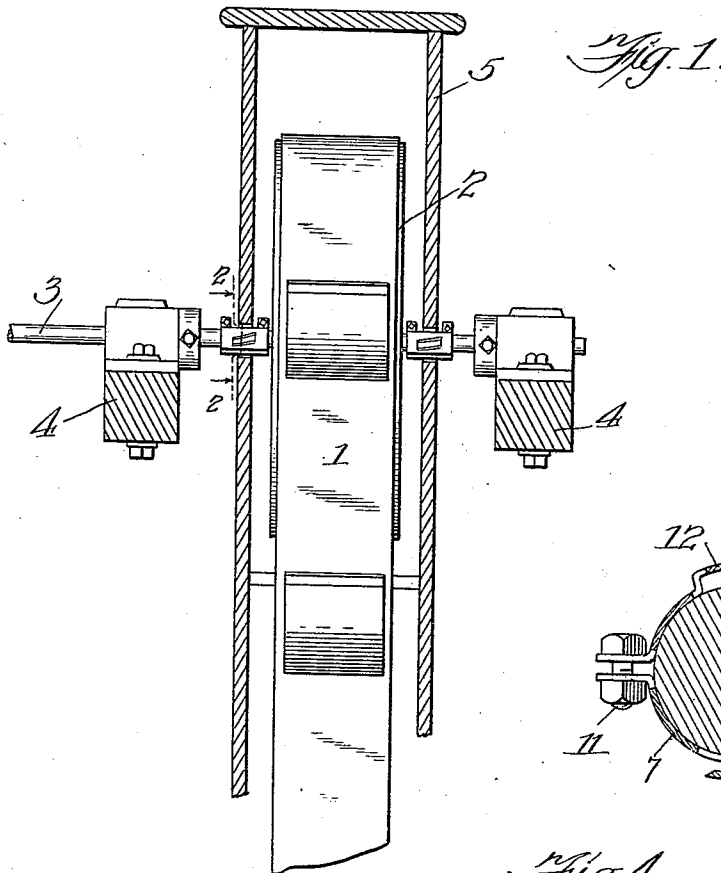


C. COOK.
SHAFT COLLAR.
APPLICATION FILED JAN. 3, 1911.

992,544.

Patented May 16, 1911.



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UNITED STATES PATENT OFFICE.

CHARLES COOK, OF MANHATTAN, KANSAS.

SHAFT-COLLAR.

992,544.

Specification of Letters Patent.

Patented May 16, 1911.

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To all whom it may concern:

Be it known that I, CHARLES COOK, a citizen of the United States, residing at Manhattan, in the county of Riley and State of Kansas, have invented new and useful Improvements in Shaft-Collars, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof.

The purpose of this invention is to provide means for preventing danger of fire resulting from friction of the upper shaft of the grain elevator upon the housing, which frequently results from the settling of the building structure.

It consists in the elements and features of construction shown and described as indicated in the claims.

In the drawings:—Figure 1 is a partly sectional edge elevation of a grain elevator equipped with this invention, section being made in vertical plane through the housing and adjacent beams of the building. Fig. 2 is a section at the line 2—2 on Fig. 1 upon an enlarged scale. Fig. 3 is a detail side elevation of a portion of the upper elevator shaft and the collar thereon which constitutes this invention. Fig. 4 is a similar view showing the shaft turned ninety degrees from the position shown in Fig. 1.

Fig. 1 in the drawings shows a customary construction of grain elevators comprising an endless belt conveyer, 1, passing about a pulley, 2, on the upper shaft, 3, the lower shaft and foundation supports not being shown in the view.

4, 4 represent joists of the building structure upon which the journal boxes of the shaft, 3, are mounted. The housing, 5, of the elevator conveyer belt is customarily supported upon a foundation independent of that which supports the building structure comprising the joists, 4; and the settling of the foundations of the building usually exceeds the settling of the support of the housing, 5, causing a tendency of the shaft, 3, which in original construction has adequate clearance where it penetrates the side walls of the housing, 5, to be brought down into contact with the lower edges of the openings in the housing wall through which it extends; and in such case, the friction of the shaft revolving upon the wood

of the side wall of the housing results frequently in heating the wood to the point of ignition, and this is a fruitful cause of fires in grain elevators and flour mills.

The present invention consists in a collar constructed so as to be applied to the shaft, 3, at the point where it passes through the housing, such collar being provided with a cutter or cutters adapting it to cut a clear path for itself in the housing walls, when, in any case, the settling of the building brings the shaft down so as to require more clearance. The collar, as illustrated in the drawings, comprises two members, 6 and 7, adapted to be applied upon the shaft and secured together clamping the shaft. Preferably, these two members have each at one end a hook, 8, said hooks being engaged with each other, the other end of each member having at each side a lug, 9, projecting radially, that end of the member being cut away between the lugs forming a recess or notch, 10. Bolts, 11, 11, taking through the lugs, 9, 9, of the two members serve to clamp them together on to the shaft. The length of the collar exceeds the thickness of the wall of the housing, 5, by an amount somewhat more than the width of the lugs, 9; that is to say, the recess or notch, 10, is wider than the thickness of said casing wall. Upon either or both members of the collar there is provided a cutter, 12, preferably struck up from the metal of the collar so as to present a cutting edge oblique both to the path of rotation and the longitudinal dimension of the collar, the collar being apertured at both sides of this cutter so as to give free clearance to the shaving which the cutter may cut from the wood of the housing as the shaft revolves when the settling of the building has brought the collar down to a point where its cutter engages the wood. The cutter, 12, is upset or struck off from the collar a distance greater than the space occupied by the joint between the two members formed by the hooks, 8, 8, so that the cutter makes a clear path for that joint; and the lugs, 9, 9, being spaced apart farther than the thickness of the wall housing, 5, are not liable to come into contact therewith.

I claim:—

1. A shaft collar comprising two mem-

105

bers provided with means for clamping them together upon the shaft, one of said members having struck outwardly from it a transversely-extending cutter and having 5 apertures at both sides of such cutter.

2. A shaft collar comprising two members, each adapted at one end to be engaged with each other for clamping upon the shaft, and having at the other end at the 10 sides radially-projecting lugs and bolts for engaging the lugs to clamp the collar on the shaft, one of said members having intermediate its ends a cutter extending transversely in the interval between the paths of 15 rotation of the lugs.

3. In combination with a housing, a shaft extending there-through; a collar mounted on the shaft at the portion thereof which extends through the housing wall, and a

cutter carried by the collar at the plane of 20 the housing and extending there-through.

4. In combination with a housing, a shaft extending there-through; a collar mounted on the shaft at the portion thereof which 25 penetrates the housing wall; cutters projecting from the collar in the plane of the housing, and means for securing the collar to the shaft projecting therefrom at opposite sides of the housing wall.

In testimony whereof, I have hereunto 30 set my hand, in the presence of two witnesses, at Chicago, Illinois, this 29th day of December 1910.

CHAS. COOK.

Witnesses:

CHAS. S. BURTON,
JEAN ELLIOTT.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
