No. 824,115. PATENTED JUNE 26, 1906.

J. HEARTTAGEN.

SPEEDER CONE.

APPLICATION FILED JUNE 14, 1905.

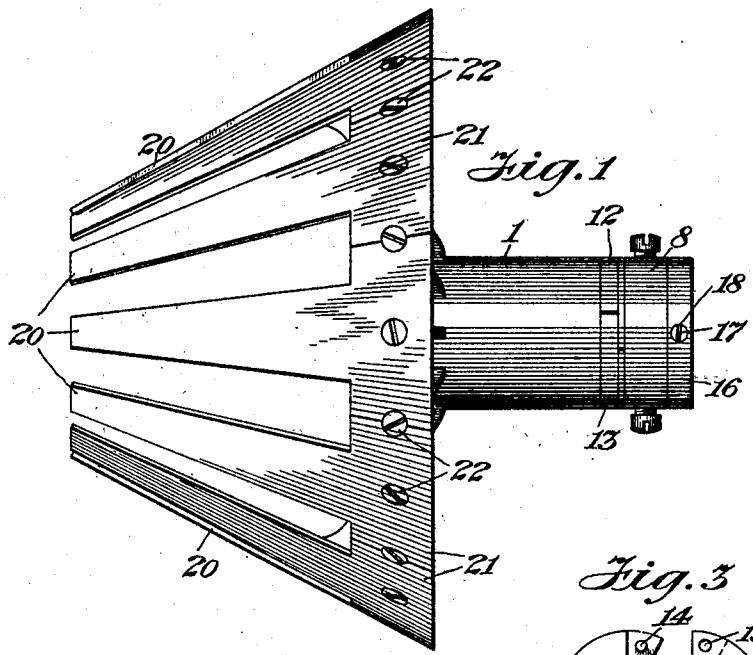



Fig. 1

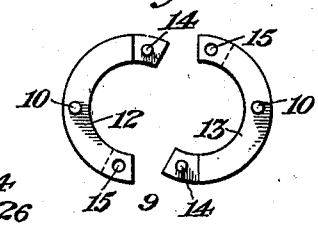



Fig. 3

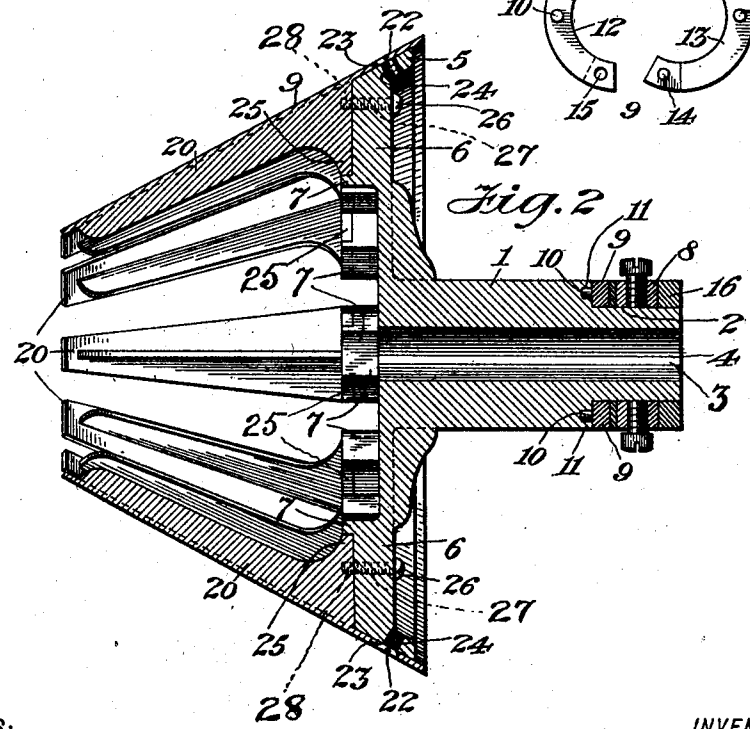



Fig. 2

WITNESSES:

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# UNITED STATES PATENT OFFICE.

JOHN HEARTTAGEN, OF ALLENTOWN, PENNSYLVANIA.

## SPEEDER-CONE.

No. 824,115. Specification of Letters Patent. Patented June 26, 1906.

Application filed June 14, 1905. Serial No. 265,117.

*To all whom it may concern:*

Be it known that I, JOHN HEARTTAGEN, a citizen of the United States, and a resident of Allentown, in the county of Lehigh and State of Pennsylvania, have invented certain new and useful Improvements in Speeder-Cones, of which the following is a specification.

My invention relates to a speeder-cone—an element frequently employed in connection with cement-mills, wherein there are generally two pairs of such cones, the companion of each pair being relatively reversed, so that fingers thereon intermesh, said two pairs of cones being geared together by a belt passing around the same at their intermeshing portions, the cones being in coactive relation with suitable driving provision, whereby they will serve for speeding the kilns, commonly termed "roasters," the arrangement being such that the kiln is run faster, or in the event of the roasting not being sufficiently vigorous then the kilns are to be run proportionately slower.

In some of the forms of intermeshing speeder-cones known to me the rim and hub of each are formed in a single metal casting, with the result that when one of the fingers forming the rim becomes worn or broken, which frequently occurs, the entire casting is thereby rendered useless, which not only entails great expense to furnish an entirely new cone, but also involves a great loss of time and money on account of the necessity for stopping the operation of the mill while the damaged cone is being replaced by a new cone.

The object of my invention is therefore to obviate these difficulties by providing a speeder-cone the rim being formed of detachable fingers, whereby when any of said fingers become broken or worn they may be easily and readily removed and replaced, thus effecting a great saving in time and prolonging the life of the cone.

It has for a further object to provide a separable washer for the bearing, whereby when it becomes worn it may be easily and readily removed and replaced without necessitating the removal of the cone.

It has for a further object to provide a device of the character set forth embodying advantages in point of perfect operation, simplicity, and inexpensiveness of construction and durability.

In the drawings, Figure 1 is a side view of my speeder-cone. Fig. 2 is a central longitudinal vertical sectional view thereof. Fig 3 is a detail plan view of the separable washer, showing the parts separated.

In all the figures of the drawings illustrating my invention like reference characters designate corresponding parts.

Referring to the drawings, 1 designates the hub, 2 the bearing portion on its outer end, and 3 a longitudinal bore passing through said hub and bearing portion and having a keyway 4. The inner end of the hub is provided with a tapered ring 5, connected thereto by radial arms 6, having laterally-projecting lugs forming seats 7. To prevent the outer end of the hub from becoming worn by frictional contact with the sleeve 8, employed for securing the speeder-cone in position, a hard-metal collar 9 is secured on the inner end of the bearing portion by means of pins 10 on said collar, engaging holes 11 in the outer end of the hub, said washer being formed of two parts 12 and 13, connected together by means of a pin 14 on one end of each part engaging a hole 15 in the other end of each part, whereby when worn it may be easily and readily removed from the bearing and a new washer placed thereon without removing the cone.

A sleeve 16 is removably secured on the outer end of the bearing portion by means of screws 17 passing through screw-threaded holes 18 therein into engagement with said bearing portion, thereby providing means for placing the sleeve 16 on the bearing portion or for removing it.

The rim 9 is formed of detachable spaced fingers 20 T-shaped in cross-section, their inner ends provided with contacting heads 21, secured to the ring 5 by screws 22, passing through holes 23 in said heads and into screw-threaded holes 24 in said ring, and downwardly-extending lugs 25, adapted to rest on the seats 7 and secured to the arms 6 by screw 26 passing through holes 27 in said arms and into screw-threaded holes 28 in said lugs 25.

While I have herein referred to my cone as being employed in connection with cement-mills, it may be employed in connection with any other machinery.

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

1. In a speeder-cone, the combination with the hub having a ring of a conical rim comprising a plurality of independently-detachable fingers, their inner ends having heads de-

tachably secured to the periphery of said ring and their outer ends being free and spaced apart, substantially as described.

2. In a speeder-cone, the combination with the hub having a ring and laterally-projecting seats, of a conical rim comprising a plurality of fingers their inner ends being detachably secured to said ring and having depending lugs engaging said seats and their outer ends being free and spaced apart, substantially as described.

3. In a speeder-cone, the combination, with the hub having a ring, of a conical rim comprising a plurality of independently-detachable fingers, their inner ends having laterally-projecting portions contacting with each other and being secured to said ring and their outer ends being free and spaced apart, substantially as described.

Signed at Allentown, in the county of Lehigh and State of Pennsylvania, this 18th day of May, A. D. 1905.

JOHN HEARTTAGEN.

Witnesses:

EDWD. H. STINE,

R. A. B. HAUSMAN.