

July 10, 1951

R. J. HENDERSON

2,559,619

MECHANICAL GAP GEAR FOR TEXTILE ROVING FRAMES

Filed Sept. 9, 1949

FIG. 1.

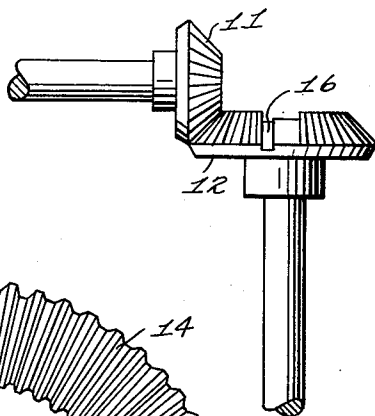


FIG. 2.

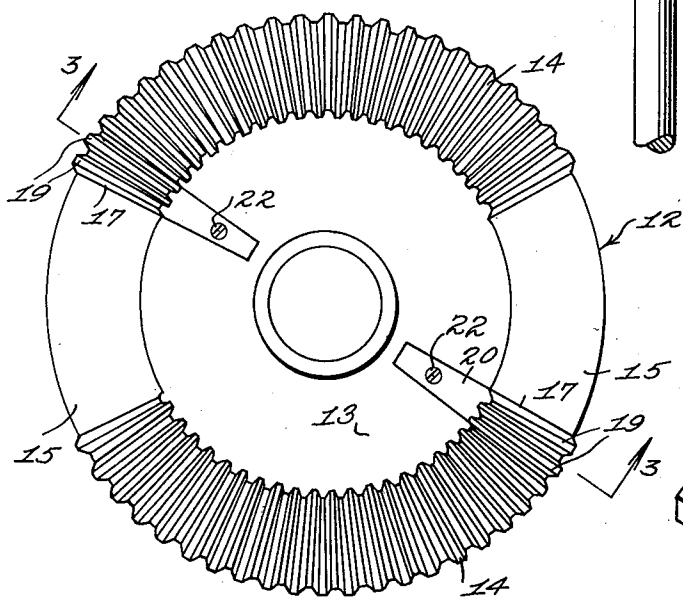


FIG. 4.

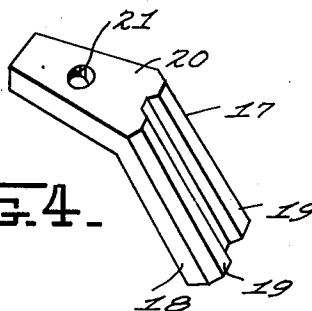
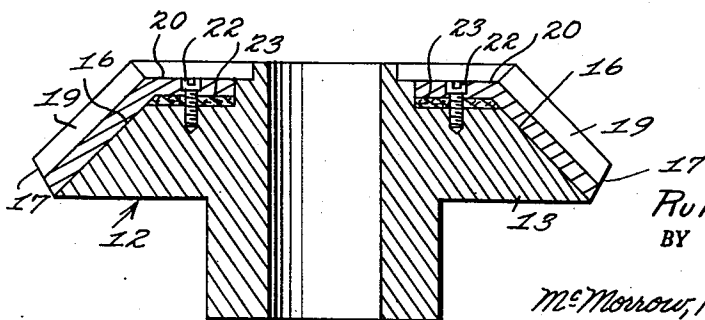


FIG. 3.



INVENTOR.
RUFUS J. HENDERSON
BY

McMorrow, Burman & Davidson
ATTORNEYS

UNITED STATES PATENT OFFICE

2,559,619

MECHANICAL GAP GEAR FOR TEXTILE
ROVING FRAMES

Rufus J. Henderson, Dyersburg, Tenn.

Application September 9, 1949, Serial No. 114,895

2 Claims. (Cl. 74-435)

1

This invention relates to bevel gears, and more particularly to an improved bevel gear construction for use in roving frames of textile mills.

A main object of the invention is to provide a novel and improved gap gear for a textile roving frame, said gap gear being provided with a replaceable section whereby a worn section may be removed and replaced without the necessity of removing the entire gear.

A further object of the invention is to provide an improved gap gear for a textile roving frame, said gap gear embodying a removable section and cushioning means between the removable section and the body of the gear, whereby a worn section may be rapidly and easily replaced, and whereby worn sections may be replaced without the necessity of removing the entire gear from the roving frame.

Further objects and advantages of the invention will become apparent from the following description and claims, and from the accompanying drawings, wherein:

Figure 1 is a side elevational view showing a driving gear meshing with a gap gear according to the present invention, the gap gear being shown with the removable wear teeth detached from the gap gear;

Figure 2 is an enlarged top plan detail view of the gap gear of Figure 1, the removable wear teeth being shown fastened in normal operating position;

Figure 3 is a cross-sectional view taken on line 3-3 of Figure 2;

Figure 4 is an enlarged detail perspective view of a removable wear tooth section employed with the gap gear of Figures 1 and 2.

Referring to the drawings, Figure 1 discloses a drive gear 11 meshed with a gap gear 12 in the usual manner employed on roving frames of textile mills. As shown in Figure 2, the gap gear 12 comprises a gear body 13 having integral bevel teeth 14 arranged in opposite groups on the body of the gear, said groups being separated by respective gaps shown at 15, 15. The body of the gear is formed with recesses, indicated at 16, adapted to receive removable wear sections 17, said sections 17 being located at the leading ends of the respective gear tooth groups 14, 14. As shown in Figure 4, each wear section 17 comprises an inclined body portion 18 formed with the bevel teeth 19, 19 and a lug portion 20, angled with respect to body 18, said lug portion being formed with an aperture 21. As shown in Figure 3, the wear section 17 is secured in its recess 16 with the lug 20 overlying the body of

2

the gap gear 13, the wear section being secured to the body of the gap gear by a machine screw 22 passing through the aperture 21 and threaded into the gear body 13. Disposed between the lug 20 and the gear body 13 is a cork pad 23 which acts as a cushion to soften the shock of impact which occurs when the drive gear 11 engages the wear section 17.

The wear sections 17, 17 are preferably made of suitably-hardened metal, having higher resistance to wear than the remainder of the gap gear, whereby said wear sections will resist the impact shock developed when the drive gear 11 engages said wear sections. When the wear sections have been worn to an inoperative condition, said wear sections may be easily replaced by unfastening the screws 22, removing the worn sections and replacing same with new sections. It is thus apparent that the gap gears may be repaired, as required, without the necessity of removing said gap gears from their shafts.

While a specific embodiment of an improved gap gear for textile roving frames has been disclosed in the foregoing description, it will be understood that various modifications within the spirit of the invention may occur to those skilled in the art. Therefore, it is intended that no limitations be placed on the invention except as defined by the scope of the appended claims.

What is claimed is:

1. A gap gear for the roving frame of a textile mill comprising a frusto-conical body having spaced groups of integral teeth about the conical face thereof and extending between the end faces thereof, said body being provided with a recess extending along one end face of said body and said conical face contiguous to the leading teeth of each of said groups, a wearing element disposed within each of said recesses, and securing means extending through each of said wearing elements and receivable within said conical body for detachably securing said wearing element on said conical body, each of said wearing elements comprising a lug portion overlying said one face of said body and provided with means for the extension therethrough of said securing means, and an angular tooth section overlying said conical face and co-extensive with said leading teeth of each of said groups and forming continuations thereof.

2. A gap gear for the roving frame of a textile mill comprising a frusto-conical body having spaced groups of integral teeth about the conical face thereof and extending between the end faces thereof, said body being provided with a

3

recess extending along one end face of said body and said conical face contiguous to the leading teeth of each of said groups, a wearing element disposed within each of said recesses, and securing means extending through each of said wearing elements and receivable within said conical body for detachably securing said wearing element on said conical body, each of said wearing elements comprising a lug portion overlying said one face of said body and provided with means 5 for the extension therethrough of said securing means, an angular tooth section overlying said conical face and co-extensive with said leading teeth of each of said groups and forming continuations thereof, and a resilient cushion pad 15

4

interposed between each of said lug portions and said one end face of said body to absorb impacted shock developed when a drive gear engages said wearing elements.

RUFUS J. HENDERSON.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

| Number | Name | Date |
|-----------|-----------------|---------------|
| 670,386 | Howland-Sherman | Mar. 19, 1901 |
| 921,008 | Scherling | May 11, 1909 |
| 1,043,012 | Hudson | Oct. 29, 1912 |