A. BANDURA.

MINING SHEAVE.

APPLICATION FILED OCT. 18, 1921.

1,426,271. Patented Aug. 15, 1922.

2 SHEETS—SHEET 1.

Fig. 1.

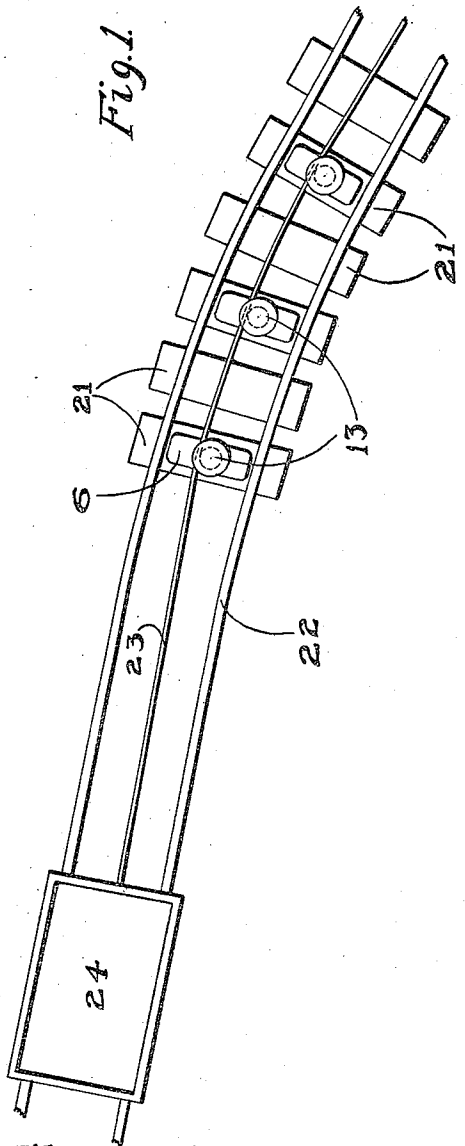
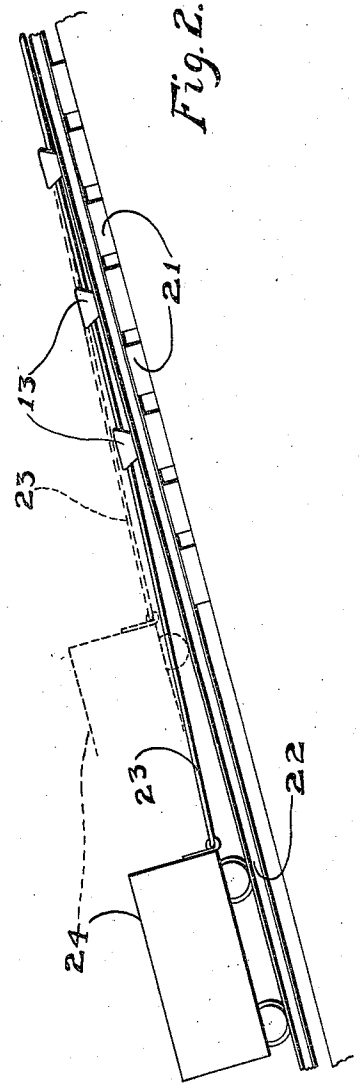


Fig. 2.



Witnesses:
R. T. Moore.
B. G. Richards

Inventor:
Andrew Bandura
By Joshua R. H. Potts
His Attorney.

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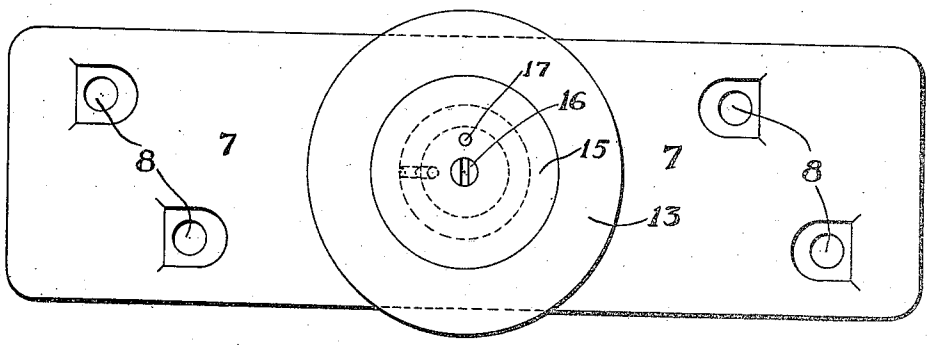


Fig. 3.

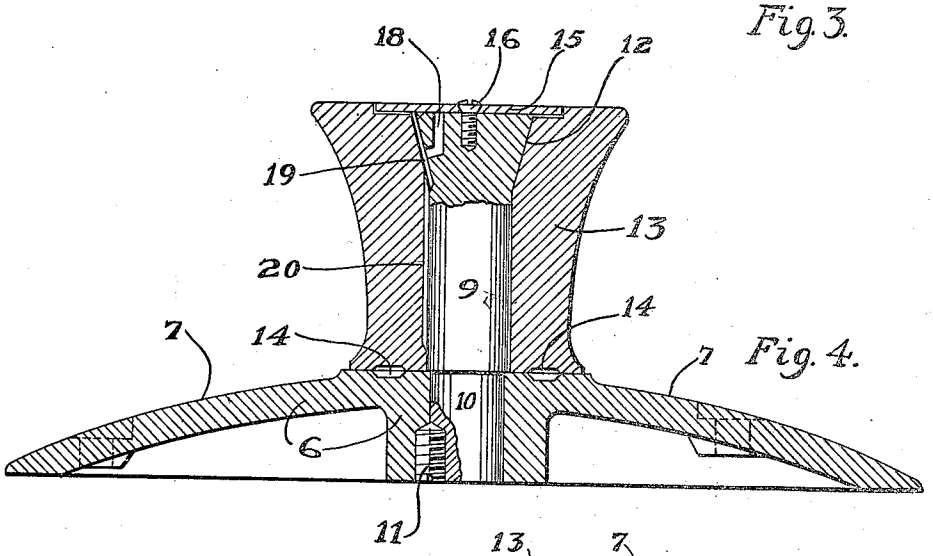


Fig. 4.

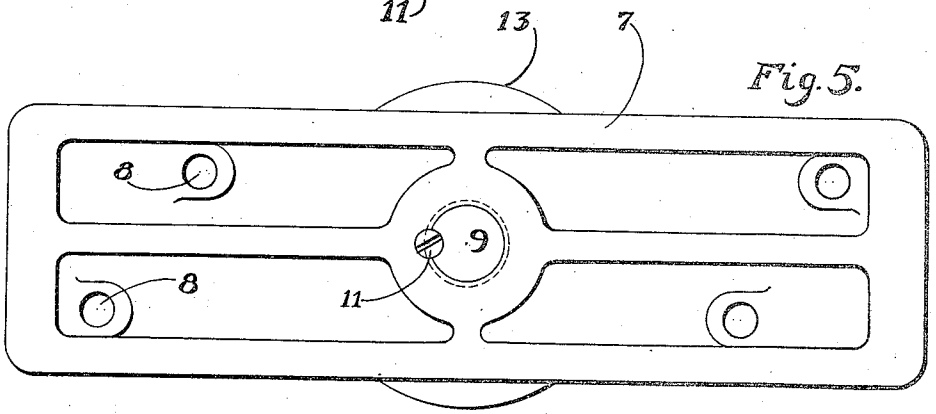


Fig. 5.

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UNITED STATES PATENT OFFICE.

ANDREW BANDURA, OF CHICAGO, ILLINOIS.

MINING SHEAVE.

1,426,271. Specification of Letters Patent. Patented Aug. 15, 1922.

Application filed October 18, 1921. Serial No. 508,477.

To all whom it may concern:

Be it known that I, ANDREW BANDURA, a citizen of the United States, and a resident of the city of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Mining Sheaves, of which the following is a specification.

My invention relates to improvements in mining sheaves adapted for guiding cables in mines, and has for its object the provision of an improved construction of this character which is highly efficient in use.

Other objects will appear hereinafter.

The invention consists in the combinations and arrangements of parts hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawings forming a part of this specification, and in which,

Fig. 1 is a top plan view of a portion of a track in a mine equipped with sheaves embodying the invention,

Fig. 2 is a side view of the same,

Fig. 3 is an enlarged top plan view of one of the sheaves detached,

Fig. 4 is a vertical section of the sheave, and

Fig. 5 is a bottom plan view of the same.

The preferred form of construction as illustrated in the drawings comprises a base 6 preferably formed of cast steel or other suitable metal and having its upper surface 7 sloping upwardly from each end toward the middle, suitable spike holes 8 being provided in said base for securing the same to the ties of a track. The base 6 is provided centrally with a vertical stud shaft 9 provided at its bottom with a reduced extension 10 fitting a corresponding socket in said base and secured in place by means of a set screw 11 as shown. The stud shaft 9 is provided at its top with a conical head 12 and a sheave roller 13 also preferably of steel, is fitted to said shaft as shown. The roller 13 is upwardly flaring in form and seats at the bottom on the upper central surface of the base 6, grooves 14 being provided in said base and in said roller to relieve the friction. A dust plate 15 is rotatably secured to the top shaft 9 by means of a central screw 16, said dust plate being let into the top of the roller 13 so as to come substantially flush with the upper surface thereof. The dust plate 15 is also provided with an oil hole 17 arranged to be shifted into registration with an oil passage 18 leading to oil grooves 19 and 20 in shaft 9 and roller 13 and whereby oil may be supplied to the shaft 9 but dust excluded from the bearing.

In use, a plurality of the sheaves are secured to the ties 21 of the track 22 at a curve in said track and serves to keep the draw cable 23 in proper position for drawing the car 24 up said track, said track being arranged on an incline as indicated. It will be observed that as the car approaches each sheave the cable 23 will be automatically withdrawn from the approached sheave as indicated in dotted lines in Fig. 2. As the cable works upwardly on each sheave it exerts an upward force against the sheave and this upward thrust or force is adequately resisted by the conical head 12 of the corresponding stud shaft, thus preventing upward movement of the sheave roller. As the cable works upwardly on each sheave the strain thereon is transferred to the conical bearing surface of the head 12, thus affording ample bearing surface to resist the strain thereof. The upward slope of the upper surface 7 of each base 6 serves to direct the cable into proper engagement with each sheave as the drawing force is applied thereto and the upwardly flaring form of each sheave roller 13 tends to retain the draw cable in engagement therewith until automatically withdrawn therefrom by the action of the approach of the car.

While I have illustrated and described the preferred form of construction for carrying my invention into effect, this is capable of variation and modification without departing from the spirit of the invention. I, therefore, do not wish to be limited to the precise details of construction set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

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

1. A mining sheave comprising an arched base; a support formed centrally beneath said arched base, said support providing a bearing; and a sheave roller mounted in said bearing, substantially as described.

2. A mining sheave comprising an arched base; a support formed centrally beneath said arched base, said support providing a bearing; and a sheave roller mounted centrally in said bearing, said roller being up-

wardly flaring from a point adjacent one end to the other, substantially as described.

3. A mining sheave comprising a support; and a sheave roller mounted on said support, said roller being outwardly flared and having its periphery uniformly concaved from one end to the other, substantially as described.

4. A mining sheave comprising a vertical stud shaft provided at its top with a conical head; and a sheave roller fitting said shaft, substantially as described.

5. A mining sheave comprising a vertical stud shaft provided at its top with a conical head; and a sheave roller fitting said shaft, said roller being upwardly flaring in form, substantially as described.

6. A mining sheave comprising a vertical stud shaft provided at its top with a conical head; a sheave roller fitting said shaft; and a dust plate secured to the top of said shaft and overlying the juncture between said roller and shaft, substantially as described.

7. A mining sheave comprising a vertical stud shaft provided at its top with a conical head; a sheave roller fitting said shaft, said roller being upwardly flaring in form; and a dust plate secured to the top of said shaft and overlying the juncture between said roller and shaft, substantially as described.

8. A mining shaft comprising a vertical stud shaft provided at its top with a conical head; a sheave roller fitting over said shaft, said roller being upwardly flaring in form; and a dust plate rotatably secured to the top of said shaft and overlying the juncture between said roller and shaft, said dust plate being provided with an oil hole, and said shaft and roller being provided with oil passages and grooves to receive oil entering through said oil hole, substantially as described.

9. A mining sheave comprising a base having its upper surface sloping upwardly from each end toward the middle; a vertical stud shaft mounted centrally on said base and provided at its top with a conical head; a sheave roller fitting over said shaft, said roller being upwardly flaring in form; and a dust plate rotatably secured to the top of said shaft and overlying the juncture between said roller and shaft, said dust plate being provided with an oil hole, and said shaft and roller being provided with oil passages and grooves to receive oil entering through said oil hole, substantially as described.

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

ANDREW BANDURA.

Witnesses:
JOSHUA R. H. POTTS,
CLARENCE E. THREEDY.