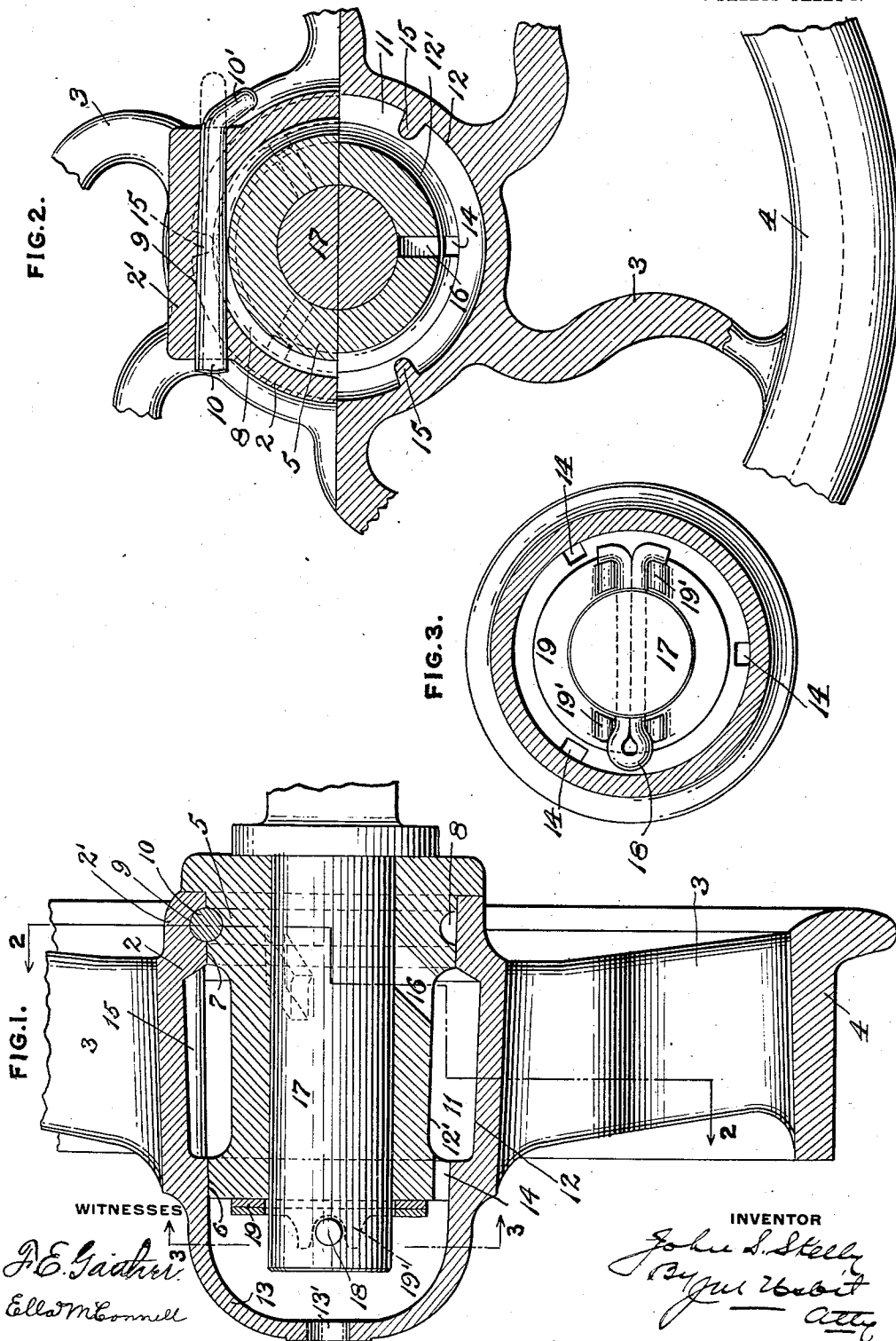


1,058,110.

J. S. SKELLY.
MINE CAR WHEEL.
APPLICATION FILED DEC. 7, 1912.

Patented Apr. 8, 1913.

2 SHEETS—SHEET 1.



WITNESSES
J. E. Gaidner
Ellis McConnell

INVENTOR
John S. Skelly
By *James H. H. H.* Atty

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2 SHEETS—SHEET 2.

FIG. 5.

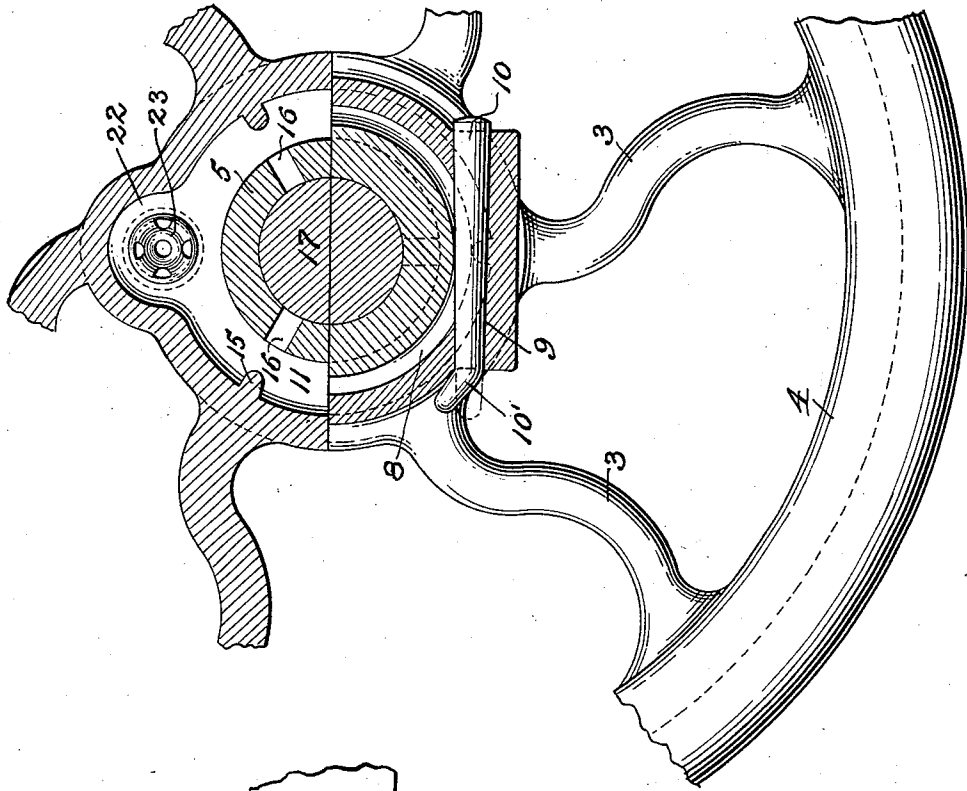
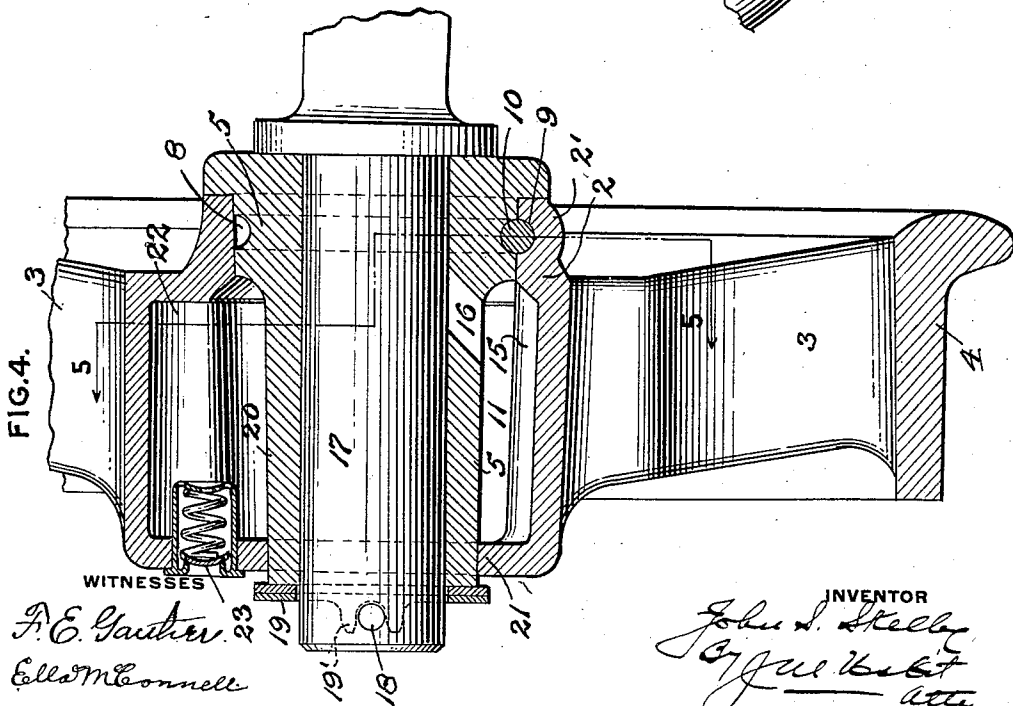


FIG. 4.



UNITED STATES PATENT OFFICE.

JOHN S. SKELLY, OF MONONGAHELA, PENNSYLVANIA.

MINE-CAR WHEEL.

1,058,110.

Specification of Letters Patent.

Patented Apr. 8, 1913.

Application filed December 7, 1912. Serial No. 735,423.

To all whom it may concern:

Be it known that I, JOHN S. SKELLY, a resident of Monongahela, in the county of Washington and State of Pennsylvania, have invented certain new and useful Improvements in Mine-Car Wheels, of which the following is a specification.

This invention relates to the type of mine car wheel illustrated in Patent No. 1,015,351, granted to me January 30, 1912, wherein the wheel is provided with a separable hub or journal box which may be renewed whenever the bearing becomes too worn for efficient service.

The purpose of the invention is to so construct the parts that they will fit together accurately and maintain such relation so long as they are serviceable, together with improved means for securing the parts in interfitting relation.

In the accompanying drawings, Figure 1 is a longitudinal sectional elevation of a closed-end or "cap" wheel constructed in accordance with the invention, and Figs. 2 and 3 are cross-sections on line 2—2 and 3—3, respectively, of Fig. 1. Fig. 4 is a sectional elevation similar to Fig. 1, illustrating the invention applied to an open-end wheel. Fig. 5 is a cross-section on line 5—5 of Fig. 4.

In the "cap" wheel type, Figs. 1, 2 and 3, 2 designates the hub, and 3 the spokes which extend therefrom to tread or rim 4. The bore of hub 2 is of sufficient size to receive the supplemental hub or journal box 5. The hub bore and the outer periphery of box 5 taper toward the front or outer side of the wheel and are shaped to have a wedging fit at the outer end of box 5, as indicated at 6, and a similar fit at the inner ends of box 5 and hub 2, as indicated at 7. The parts are so dimensioned that some force is required to assemble them into their final position, and when the latter is attained a circumferential semi-circular groove 8 in box 5 registers with a transverse key passage 9 in hub 2 which intersects the hub bore. Passage 9 preferably tapers from end to end, and after the parts have been accurately and tightly fitted together by the driving fit above referred to a tapered key 10 is driven into passage 9 and is held in place by bending down its end extremity at 10'. A substantial portion of the key occupies semi-circular groove 8 as shown, at one point the groove being occupied by

half of the circular key, as shown in Fig. 2, and as the taper of the key has a driving fit in groove 8 as well as in key passage 9, the parts are accurately and permanently fastened together. As groove 8 encircles the box, neither the latter nor the wheel need to be turned to any particular position when being assembled. The pin passage and groove are preferably located at the inner end of the hub, thereby placing pin 10 at the inner side of the wheel and out of the way. Hub 2 is preferably enlarged slightly as indicated at 2' to provide sufficient metal around pin passage 9.

The circumferential oil chamber 11 is formed by recessing hub 2 at 12 and by forming a similar circumferential depression 12' in box 5, the chamber thus provided being located between joints 6 and 7. The outer end of hub 2 is closed by cap 13 which is formed with the central oil inlet 13', and the oil is passed from the cap-inclosing space to oil chamber 11 through grooves 14 in the box portion of joint 6.

Projecting from the bottom of chamber-forming depression 12 are ribs 15 which as the wheel rotates tend to throw or deflect oil inwardly toward ports 16 which conduct it to journal 17. Without these deflecting ribs the centrifugal action would tend to swirl the oil uninterruptedly in the oil chamber and retard its passage to the journal.

In assembling the parts of the "cap" type, wheel box 5 is first placed on axle or journal 17 and secured by key 18, suitable washers 19 having been interposed, the outer washer being provided with the key-embracing lugs 19'. The wheel is then passed onto the box and after the latter and hub 2 are wedged together the locking key 10 is driven into place, as above described.

In the open-end type of wheel shown in Figs. 4 and 5, the construction at the inner end of hub 2 and box 5 are the same as above described. But the encircling chamber-forming depression in the outer face of box 5 extends to the outer end of the latter, as indicated at 20, and instead of being provided with cap 13 the outer side 21 of hub 2 is drawn inward to closely fit box 5 and forms the outer end wall of the oil chamber 11. Also, in this adaptation the oil chamber may be formed with enlargement 22 into which the oil is inserted, the inlet being provided with the spring closure 23, the latter

being unseated and opened by pressure from the spout of a suitable oiling device.

In the open-end adaptation the wheel and its inserted hub are assembled before the wheel is mounted on the journal, the wheel holding key 18 and washers 19 being positioned after the wheel has been placed on the car. In this adaptation it will be understood, however, that the placing of box 5 in the wheel hub involves the same close and accurate fit as in the first described construction, the fit of hub end wall 21 on the outer portion of the box being the same in this regard as joint 6 of the first described construction.

I claim:—

1. The combination of a wheel hub formed with a key passage extending transversely of and intersecting the hub bore, an axle box within the hub and formed with a peripheral groove adapted to register with the pin passage, and a key entered in said passage with a portion of the key located in the box groove.

2. The combination of a wheel hub, an axle box within the hub with the contacting surfaces of the hub bore and the box tapered to provide a wedging fit, the hub formed with a key passage extending transversely of and intersecting its bore, the box formed with a circumferential groove with the groove and key passage adapted to register when the hub and box are fitted together, and a key entered in the passage with a portion of the key located in the box groove.

3. The combination of a wheel hub, an axle box within the hub with the contacting surfaces of the hub bore and the box tapered to provide a wedging fit, the hub formed with a circular key passage extending transversely of and intersecting its bore, the box formed with a groove semi-circular in cross-section with the groove and passage adapted to register when the hub and box

are fitted together, and a key circular in cross section entered in said passage with the key fully fitting the semi-circular hub groove at a point in the length of the latter.

4. The combination of a wheel hub formed adjacent its inner end with a key passage extending transversely of and intersecting the hub bore, an axle box within the hub and formed adjacent its inner end with a groove adapted to register with the key passage, and a key at the inner side of the wheel entered in the key passage with a portion of the key located in the box groove.

5. The combination of a wheel hub, an axle box within the hub with the contacting surfaces of the hub bore and the box tapered to provide a wedging fit, the hub adjacent its inner end formed with a key passage extending transversely of and intersecting the tapered hub bore, the tapered exterior of the box grooved adjacent its rear end with the groove adapted to register with the key passage when the hub and box are wedged together, and a key at the inner side of the wheel and entered in the key passage with a portion of the key located within the box groove.

6. The combination of a wheel hub, an axle box within the hub, the hub formed with an external enlargement and with a key passage extending through said enlargement transversely of and intersecting the hub bore, the box formed with a groove adapted to register with the key passage when the hub and box are fitted together, and a key entered in the passage with a portion of the key located in the box groove.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN S. SKELLY.

Witnesses:

J. M. NESBIT,

F. E. GAITHER.