No. 647,465. Patented Apr. 17, 1900.

A. R. BELT.

BRAKE STAFF.

(Application filed Nov. 16, 1899.)

(No Model.)

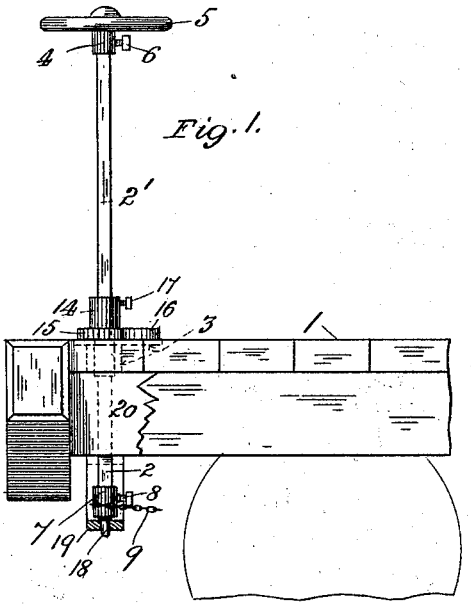


Fig. 1.

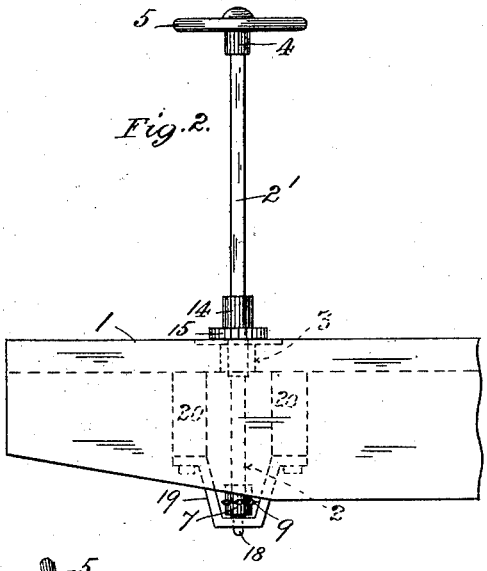


Fig. 2.

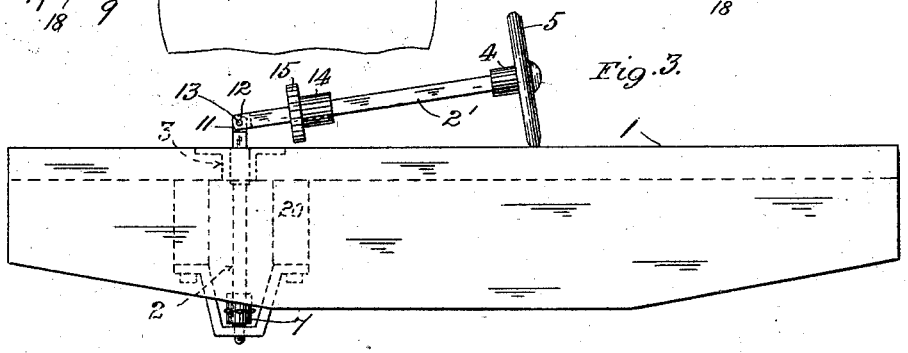


Fig. 3.

Fig. 4.

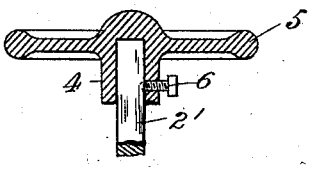


Fig. 6.

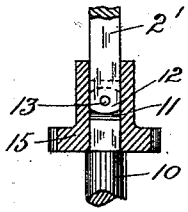


Fig. 5.

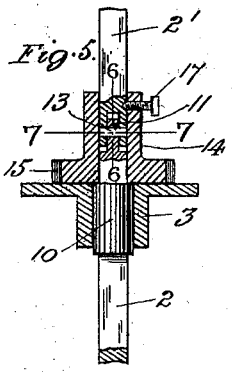


Fig. 7.

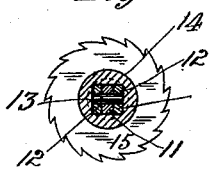


Fig. 8.

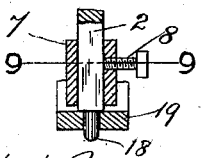
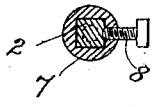


Fig. 9.



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UNITED STATES PATENT OFFICE.

ARTHUR R. BELT, OF ST. LOUIS, MISSOURI.

BRAKE-STAFF.

SPECIFICATION forming part of Letters Patent No. 647,465, dated April 17, 1900.

Application filed November 16, 1899. Serial No. 737,218. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR R. BELT, a citizen of the United States, residing at St. Louis, State of Missouri, have invented certain new and useful Improvements in Brake-Staffs, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention has relation to improvements in brake-staffs; and it consists in the novel arrangement and combination of parts more fully set forth in the specification, and pointed out in the claims.

In the drawings, Figure 1 is a side elevation of the platform of a flat-car having my invention applied thereto. Fig. 2 is an end view with a part of the car broken away. Fig. 3 is an end view showing the brake-staff swung downward against the car-floor; Fig. 4 is a vertical sectional detail showing the manner in which the hand-wheel is applied to the staff. Fig. 5 is a sectional detail showing the pivotal connection between the two sections of the staff and showing the normal location of the ratchet-wheel and its hub extension or sleeve, the section being taken in a plane parallel to the pivotal pin. Fig. 6 is a side elevation of the joint of the brake-staff and a sectional elevation of the sleeve or hub, the section being taken on line 6 6 of Fig. 5. Fig. 7 is a section on line 7 7 of Fig. 5. Fig. 8 is a vertical sectional detail showing the manner of securing the chain-winding sleeve, the section being taken through the middle of the sleeve; and Fig. 9 is a cross-section on line 9 9 of Fig. 8.

The object of my invention is to construct a brake-staff whose upper portion (or that extending above the floor of the car) can be swung or folded down against the car-floor in cases where the necessity arises to have such projecting portion out of the way to make room for large pieces of freight. On flat-cars this necessity becomes frequent, owing to the presence of such large pieces of freight as boilers and the like, to make room for which the entire brake-staff as now constructed must be removed from its mountings. In my present invention this necessity is entirely obviated, the portion above the floor of the car being pivotally connected to its lower extension, so as to enable the brakeman when occasion requires to fold or drop said portion against the car-floor without disturbing any other part of the staff. The present invention contemplates other improvements, which in detail may be described as follows:

Referring to the drawings, 1 represents the platform of an ordinary flat-car, on which the brake-staff is mounted. The brake-staff in the present instance is composed of a lower section 2 and an upper section 2′, pivotally coupled to the lower section at a suitable point above the car-floor. The cross-section of the staff is square, (or polygonal,) excepting those parts, of course, which must necessarily be cylindrical to allow for the rotation of the staff—such, for example, as the upper end of section 2, passing through the tubular guide-bearing 3 in the car-floor. Passed over the upper end of the section 2′ is the square socket 4 of the hand-wheel 5, the top of the staff bearing against the bottom of the socket. The wheel is prevented from slipping off by a fastening screw or bolt 6. Passed over the lower square end of the staff is a chain-winding sleeve 7, held to the staff by a fastening screw or bolt 8, to which is also secured the inner end of the brake-chain 9, the latter winding about the cylindrical peripheral surface of the sleeve. The latter when worn can be replaced by a new sleeve, thereby permitting the retention of the brake-staff proper for an indefinite period.

As stated above, the two sections of the brake-staff are coupled together pivotally. The manner of accomplishing this is as follows: The upper projecting portion of the section 2 (or that portion above the cylindrical enlargement 10 passing through the floor of the car) is provided with a central tongue 11, which is embraced by the forked or grooved lower end 12 of the section 2′. The parts when assembled are connected by a pin 13, passing, respectively, through the fork members and through the center of the tongue. This permits the swinging or folding down of the upper portion of the brake-staff, should occasion require it, for reasons heretofore assigned. Normally the two sections of the staff are held rigidly together by the tubular extension or hub 14, forming an integral part of the ratchet 15, when the latter occupies its lowest position—that is, when

it is in engagement with the pawl 16. The hub 14 extends a suitable distance above the pivotal pin 13, (see Figs. 1, 2, and 5,) thereby preventing the swinging of the upper portion of the staff about the pin. The hub is held in place by the retaining bolt or screw 17. When it is desirable to swing the upper portion of the staff downward, the hub and ratchet are loosened and slipped a suitable distance along the staff, allowing the latter to fold downward. (See Fig. 3.) The hand-wheel under these circumstances can also, if necessary, be removed. The lower pivot or spindle 18 of the staff rests at the base of a strap 19, secured to the timbers 20, as usual.

By making the staff square (or polygonal) in cross-section a stronger staff results and the hand-wheel and chain-winding sleeve can better be retained thereon than would be the case with a cylindrical staff.

It is apparent, of course, that the present construction can be altered in many details without departing from the spirit of my invention.

Having described my invention, what I claim is—

1. A brake-staff composed of a square or polygonal bar, a detachable chain-winding sleeve passed over the lower end of the same, a bolt or screw for securing the parts, the free end of the chain being adapted to be secured to said bolt, substantially as set forth.

2. A brake-staff comprising a lower stationary section, and an upper section pivotally connected thereto above the floor of the car, a detachable chain-winding sleeve passed over the lower end of the lower section, a bolt for securing said sleeve to the said lower section, and a brake-chain adapted to wind about the said sleeve, the end of the chain being secured to said bolt, substantially as set forth.

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

ARTHUR R. BELT.

Witnesses:
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GEO. L. BELFRY.