

1,343,006.

W. H. SAUVAGE.
HAND BRAKE.
APPLICATION FILED AUG. 7, 1919.

Patented June 8, 1920.

Fig. 1.

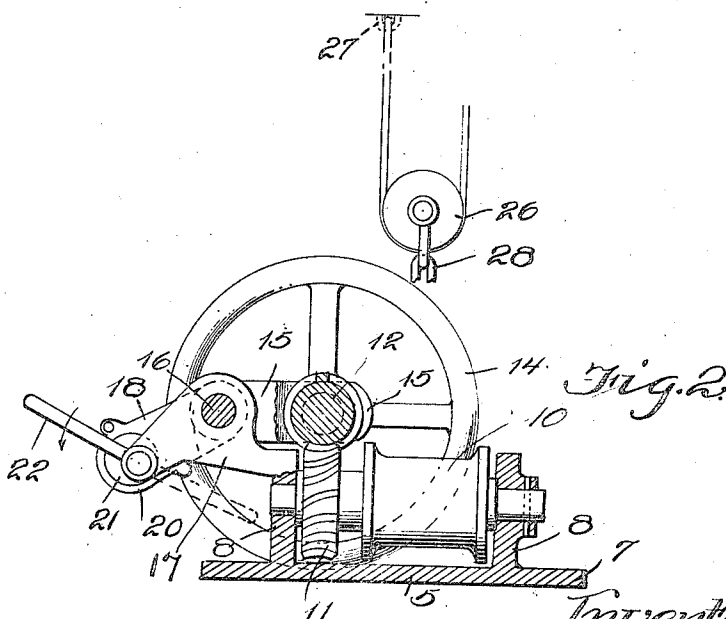
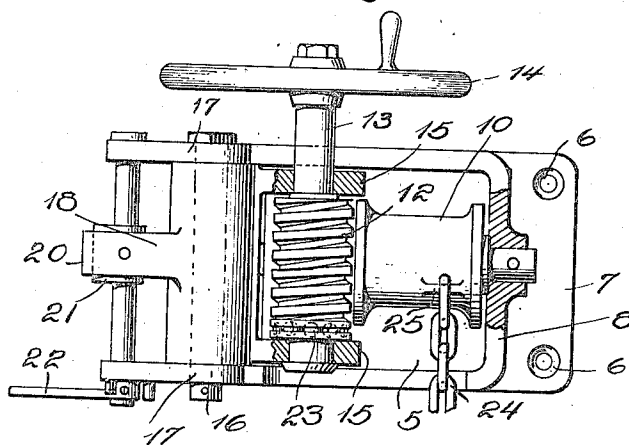


Fig. 2.

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HAND-BRAKE.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM H. SAUVAGE, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Hand-Brakes, of which the following is a specification.

This invention relates to improvements in staffless hand brakes and more particularly to hand brakes adapted to be used on railway vehicles of all kinds.

One of the objects of the present invention is to provide a safe, sure, simple and reliable hand brake which will be positive and powerful in its action and operation.

A further object is to provide a hand brake which may be easily and quickly set and released and provide the maximum power desired.

A further object is to provide a staffless hand brake having relatively few parts which may be easily, quickly and inexpensively manufactured and assembled and which will be unlikely to get out of order mechanically or be affected by atmospheric conditions.

Other objects will be in part obvious from the annexed drawings and in part indicated in connection therewith by the following analysis of this invention.

This invention accordingly consists in the features of construction, combination of parts and in the unique relations of the members and in the relative proportioning and disposition thereof, all as more completely outlined herein.

To enable others skilled in the art so fully to comprehend the underlying features thereof that they may embody the same by the numerous modifications in structure and relation contemplated by this invention, drawings depicting a preferred form have been annexed as a part of this disclosure, and in such drawings, like characters of reference denote corresponding parts throughout all the views, in which—

Figure 1 is a side elevational view showing such parts of the mechanism, partly in section, as is necessary to fully understand the invention.

Fig. 2 is a detailed view of part of the mechanism shown in Fig. 1.

Referring now to the drawings in detail, 5 denotes a casting of any desired character adapted to be secured by any suitable fastening means passing through perforations 6 in

flanges 7 to the end wall of a car for example. This casting 5 is provided with upstanding members 8 having bearings in which a winding drum 10 of desired shape is adapted to be mounted. This drum has associated directly therewith a gear or pinion 11 adapted to mesh with a worm 12 carried by a shaft 13 which is rotated by any means, such as a hand wheel 14. This shaft 13 is carried on one end of an arm 15 pivotally supported at 16 between ears 17 of the casting. The opposite side of the member 15 is provided with a curved arm 18 having a hooked portion 20 in which an eccentric cam 21 is adapted to fit. This cam 21 may be turned by means of a handle 22 and when given a 180° turn to dotted line position will cause the hook 20 to move relatively downward and carry the worm 12 out of engagement with the pinion 11. While other types of mechanism may be used for this purpose the form herein shown is preferred because of the simplicity of construction and operation.

There is preferably provided a ball or roller thrust bearing 23, as shown in Fig. 1, between the worm 12 and the bifurcated end of the member 15. A chain or other suitable flexible power transmitting means 24 is connected to the drum at point 25 and after passing through a sheave 26 has its opposite end 27 connected to any desired fixed point. The sheave 26 carries one end of chain 28. In this manner a thousand pounds pull on the chain 24 will convey 2000 pounds pull to the foundation brake rigging when high power is desired.

The operation of this device is substantially as follows:

While the mechanism herein shown and described is entirely open and exposed it is, of course, to be understood that suitable inclosing cover plates may be easily applied thereto if so desired.

When it is desired to apply the brakes, the unlocking mechanism is turned to the position shown in full line, Fig. 2, whereupon a rotation of the hand wheel will cause a corresponding turning of the worm 12 and a winding up of the chain 24 upon the drum 10. Motion will thus be transmitted through the sheave 26 and chain 28 to the foundation brake rigging. The thrust bearing 23 will permit ease and rapidity of movement. When it is desired to release the brakes, the unlocking handle 22 is turned to the dotted

line position, Fig. 2, thereby throwing the worm 12 out of mesh with the gear 11, thus allowing the chain 24 to instantly unwind from the drum.

5 It is thus seen that the present invention provides a simple and practical hand brake mechanism which will be reliable and efficient in use and operation and inexpensive to manufacture and install. In short, the
10 invention is believed to accomplish, among others, all the objects and advantages herein set forth.

I realize that considerable variation is possible in the details of construction and
15 arrangement of parts without departing from the spirit of my invention, and I

therefore do not intend to limit myself to the specific form shown and described.

What I claim is:

In a hand brake mechanism, in combina- 20
tion, a support, a drum mounted therein upon which a portion of the brake rigging is adapted to be wound, an operating shaft, a pivoted arm therefor, a worm carried
thereby, a pinion associated with the drum, 25
and means for bodily moving the worm out of engagement with the pinion, said means comprising a cam adapted to engage the pivoted arm for the shaft.

In testimony whereof I affix my signature. 30

WILLIAM H. SAUVAGE.