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BRAKING SYSTEM FOR OUTBOARD MOTOR CARRIERS

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Fig 1

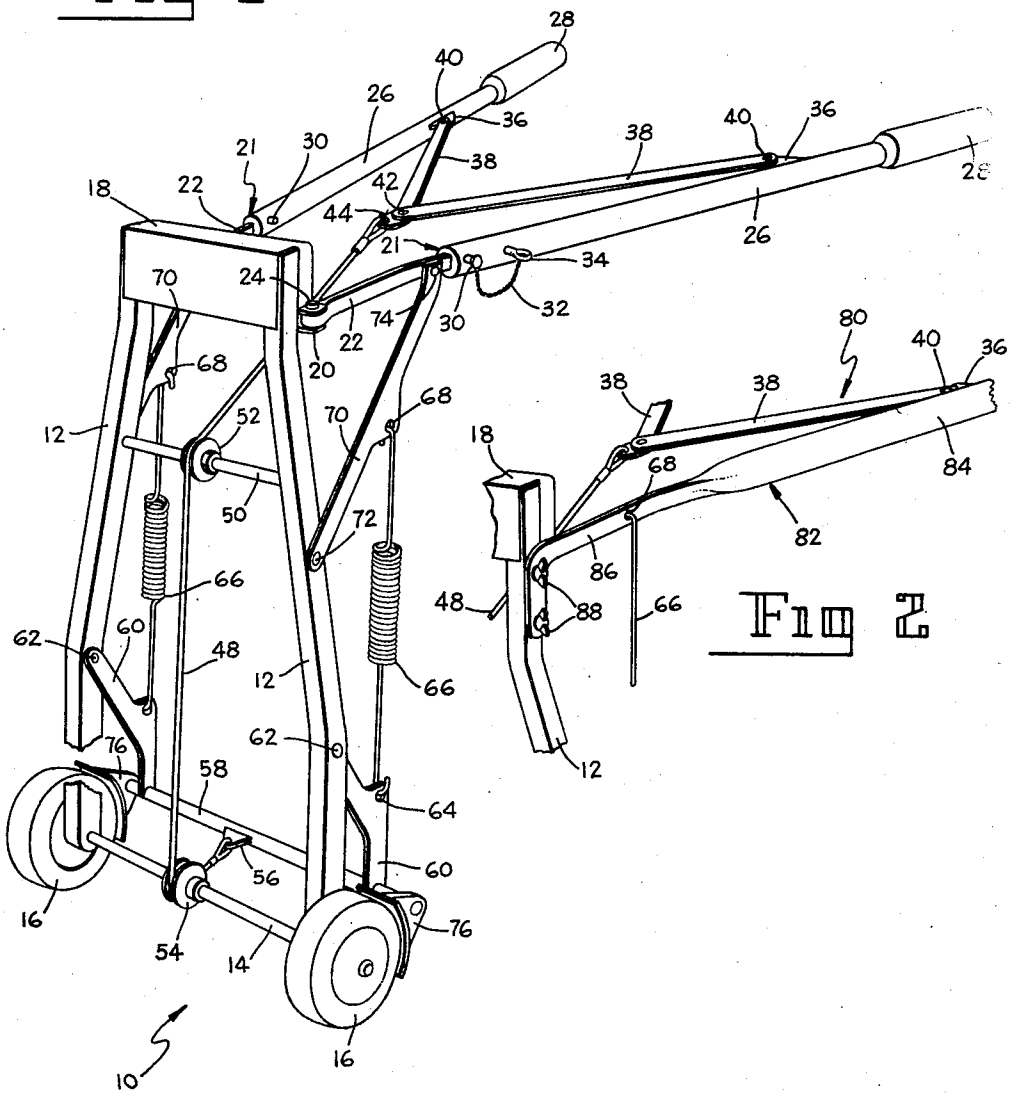


Fig 2

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BRAKING SYSTEM FOR OUTBOARD MOTOR CARRIERS

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4 Claims. (Cl. 280—47.24)

This invention relates generally to outboard motor carriers and pertains more particularly to a braking system therefor.

The primary object of the present invention is to provide a highly effective braking system for outboard motor carriers. In this regard the invention contemplates a braking mechanism of the foregoing character that will permit the user to apply a controlled braking action to the wheels of the carrier whenever it is found necessary to do so. In this way, even the largest outboard motors may be safely transported down relatively steep inclines without the likelihood of the person who is handling the carrier slipping. It will be recognized that slippage, while endeavoring to hold back a heavy motor, has often occurred in the past. Also, the invention permits the user to apply the brakes in order to take a rest when he is pulling the motor back up a hill.

Another object of the invention is to provide a braking system that will not destroy the collapsibility of the outboard motor carrier.

A further object is to provide a braking system in which the brakes may be applied without removing one's hands from the carrier's handles.

Still further, an object of the invention is to provide a brake equipped carrier that will be competitive in price with carriers currently found on the market having no brakes thereon.

Other objects will be in part obvious and in part pointed out more in detail hereinafter.

The invention accordingly consists in the features of construction, combination of elements and arrangement of parts which will be exemplified in the construction hereafter set forth and the scope of the application which will be indicated in the appended claims.

In the drawing:

Figure 1 is a perspective view of an outboard motor carrier illustrating one embodiment that my invention may assume, and

Figure 2 is a fragmentary perspective view depicting a modification of the invention.

Referring now in detail to Figure 1, the outboard motor carrier **10** exemplifying one embodiment of my invention comprises a pair of side frame members **12** having an axle **14** extending between their lower ends. Each end of the axle **14** has rotatably mounted thereon a wheel **16**. Extending between the upper ends of the frame members **12** is a cross member **18** which may be in the form of a block of wood of substantial thickness so that the clamps of a conventional outboard motor (not shown) may be readily engaged therewith in the same manner that such clamps engage the stern end of a boat.

A clevis **20** is welded or otherwise fixedly secured to each frame member **12** near the upper end thereof. The clevises **20** have rearwardly directed arms **21** comprised of first arm sections **22** pivotally connected thereto by means of a pivot pin **24**. The free ends of the arm sections **22** are telescopically received in additional arm sections **26** constituting the remainder of the arms **21**. Handle grips **28** are located at the distal ends of said arm sections **26**. The tubular arm sections **26** are retained in engagement with the arm sections **22** by means of removable pins **30** extending through said arm sections **22** into apertures formed in the ends of the arm sections **22**, there being a short chain **32** extending between each pin **30** and a fixed pin **34** to prevent pin loss.

The arm sections **26** are provided with inwardly directed lateral ears or lugs **36** to which are pivotally attached lever elements **38** through the medium of pins **40**. Through the agency of a common pin **42** the opposite ends of the lever elements **38** are pivotally connected to each other and to a tongue **44**.

The tongue **44** is apertured for the accommodation of the upper looped end of a cable **48**. A transverse rod **50** has its ends secured to the frame members **12**. At the center of the rod **50** is rotatably mounted a sheave or pulley **52** over which the cable **48** is entrained. The axle **14** in addition to serving as a support for the wheels **16** also functions as a support for a second sheave or pulley **54**, the cable **48** further passing about this last element.

The lower looped end of the cable **48** is engaged with an apertured ear or lug **56** affixed to a transverse rod **58** swingingly suspended by reason of a pair of rocker arms **60**. The upper ends of said rocker arms **60** are pivotally fastened to the side frame members **12** via pins **62**. The arms **60** are formed with medially located apertures **64** having received therein the lower hooked ends of coil springs **66**. The upper hooked ends of said springs **66** engage apertures **68** disposed in inclined braces **70** having attachment at their lower ends to the frame members **12** by pins **72** and at their upper ends to the arm sections **22** by pins **74**.

The extremities of the transverse rod **58** carry a pair of brake shoes **76** which are engageable with the respective peripheries of the wheels **16**. Normally, though, the coil springs **66** act in a direction to bias the shoes **76** away from the wheels **16**.

However, when the user of the embodiment wishes to apply the brakes, he merely spreads apart the arms **21** in scissors-like fashion, thereby tensioning the cable **48** and consequently pulling the transverse rod **58** nearer the axle **14**. Such movement obviously brings the brake shoes **76** against the wheels **16**, the springs **66** yielding sufficiently to permit this. It will be apparent that the operator can apply whatever force is necessary to effect the braking action, for he has a considerable amount of leverage available owing to the articulative manner in which the arms **21** and the lever elements **38** are mounted.

For the purpose of describing and claiming this invention the arms **21** and the grips **28** will collectively be considered to constitute handle means, since it is through the agency of these elements that the carrier **10** is handled and controlled. The telescoping connection of the arm sections **22**, **26** of course permit the sections **26** to be disengaged by removing the pins **30**, the cable **48** readily flexing so as to allow the sections **26** and lever arms **38** to be brought into substantial parallelism with the frame members **12**. In this way the carrier **10** can easily be stowed in an automobile trunk or other compartment until needed. Further, it will be appreciated that the braces **70** are relatively thin in a transverse direction, thereby permitting easy pivoting of the arm sections **22** about the pins **24**, the braces readily flexing when this is done so that the cable **48** will be pulled to apply the brakes.

Considering now the embodiment of Figure 2 which has been assigned the reference numeral **80**, it can be

seen that there is a basic similarity between this modification and the earlier described embodiment **10**. For this reason, the embodiment **80** has been only fragmentarily pictured, sufficient identity of parts and reference numerals where such identity exists serving to orient the reader.

While in the embodiment **10** the handle means comprised of the arms **21** were made separable through the employment of the arm sections **22** and **26**, in the instant embodiment **80**, however, unitary arms **82** are utilized. These arms **82** are generally tubular in the region designated by the numeral **84** but are pressed into a substantially flat state in the region denoted by the numeral **86**. Owing to the fact that the flat regions **86** reside in vertical planes, the arms **82** are easily flexed to tension the cable **48**.

Because the arms **82** are detachably connected to the side frame members **12** by reason of wing nuts **88**, it will be appreciated that removal of these nuts **88** will permit virtually complete collapse of the carrier **80**.

In use, the carrier **80** is operated in an identical way to the carrier **10**. Thus, the spreading of the arms **82** is responsible for tensioning the cable **48** to apply the brakes **76**. Of course the thinness of the regions **86** permit ready flexing in a horizontal direction, yet resist deflection because of their greater vertical height in an up and down direction. Proper dimensioning of the regions **86** obviate the need for the braces **70** mentioned in the earlier described embodiment **10**.

As many changes could be made in the above construction and many apparently widely different embodiments of the invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative and not in a limting sense.

It is also to be understood that the language used in the following claims is intended to cover all of the generic and specific features of the invention herein described and all statements of the scope of the invention which, as a matter of language, might be said to fall therebetween.

What is claimed:

1. An outboard motor carrier comprising a pair of side frame members, an axle element extending between the lower ends of said frame members, a pair of wheels mounted on said axle element for supporting said frame

members, a cross member extending between an upper section of said frame members to which an outboard motor is clamped during transportation thereof, a rocker arm pivotally connected to each frame member at a locus spaced from said wheels, a brake shoe attached to the free end of each rocker arm, a transverse rod element extending between the free ends of said rocker arms so as to cause said brake shoes to move in unison, a cable having one end connected to said transverse rod, a first pulley mounted on said axle element intermediate said wheels, a second pulley mounted for rotation above said first pulley, handle means including a pair of arms capable of being laterally deflected, said handle arms being connected to said frame members adjacent the ends of said cross member and extending in a generally normal direction away from said frame members by which a person can maneuver the carrier, and cable tensioning means supported by said handle means including a pair of lever elements having adjacent ends connected to the other cable end and having opposite ends connected to said handle arms near the free ends thereof for urging said brake shoes against said wheels, said cable being entrained over said first and second pulleys.

2. An outboard motor carrier in accordance with claim 1 including spring means connected to one of said arms for normally retracting said brake shoes, operation of said cable tensioning means overcoming said spring means.

3. An outboard motor carrier in accordance with claim 1 in which said handle arms are pivotally attached to said side frame members.

4. An outboard motor carrier in accordance with claim 1 in which said handle arms are fixedly attached to said side frame members but include relatively thin regions so as to permit lateral flexing thereof.

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