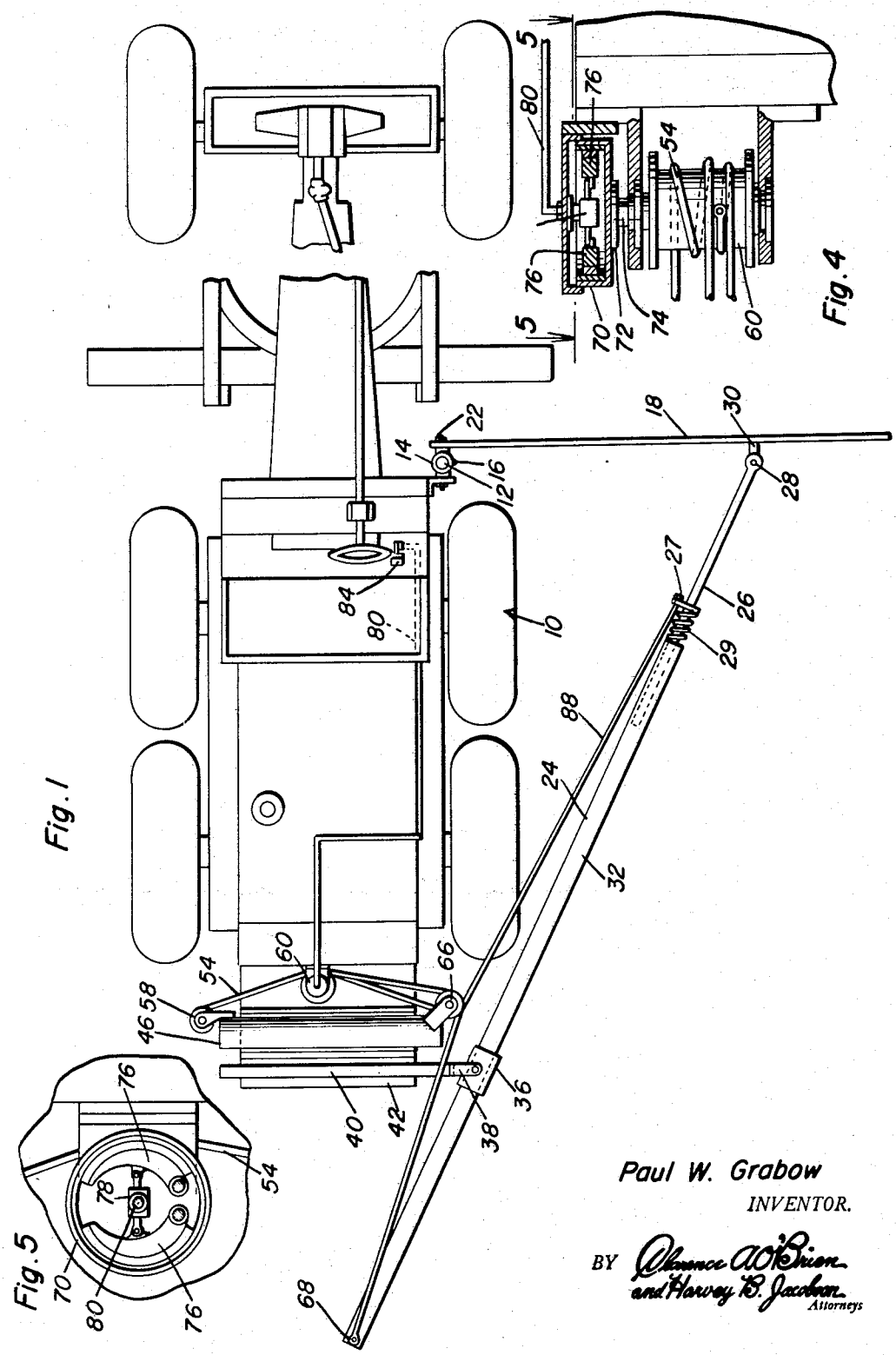
June 19, 1956 P. W. GRABOW 2,750,688

WING ASSEMBLY FOR ROAD GRADERS

Filed Nov. 29, 1954 2 Sheets-Sheet 1



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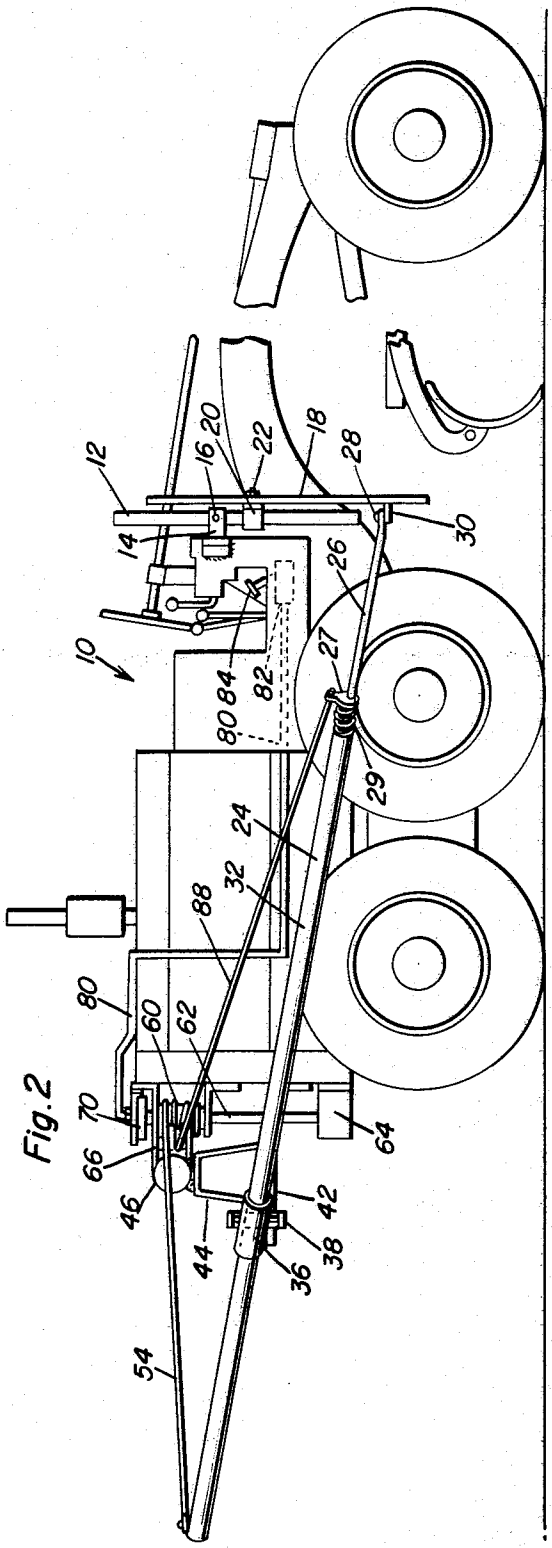


Fig. 2

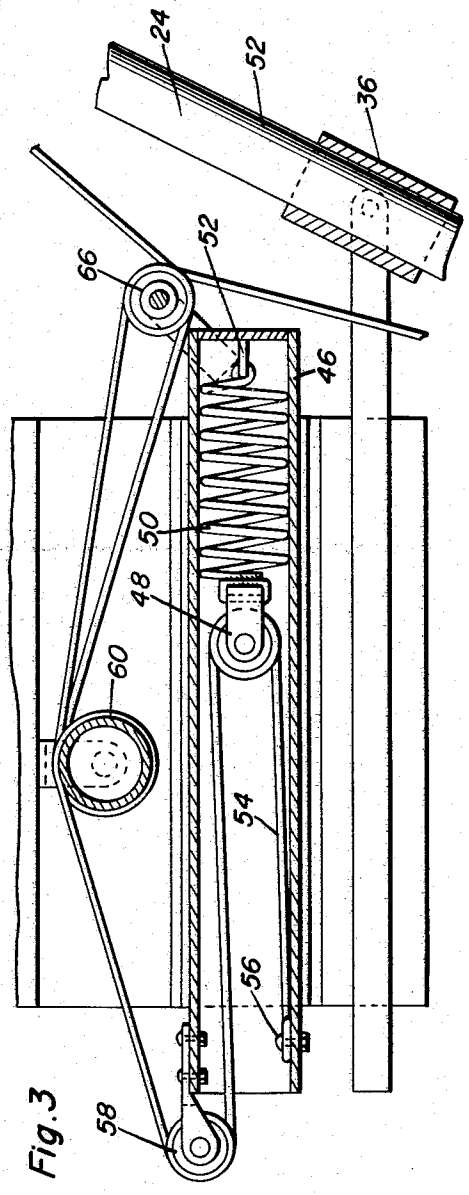


Fig. 3

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United States Patent Office 2,750,688 Patented June 19, 1956

2,750,688

WING ASSEMBLY FOR ROAD GRADERS

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Application November 29, 1954, Serial No. 471,725

1 Claim. (Cl. 37—155)

This invention relates to an attachment for a road grader and like machinery, and more particularly to a novel method of mounting and controlling a wing blade.

The primary object of the present invention resides in the provision of novel means for adjustably mounting and controlling the position of a wing blade on a road grader or similar machine.

A further object of the invention resides in the provision of means for adjusting a wing blade by the operator of a road grader or like vehicle without necessitating the operator's leaving his seat.

The construction of this invention features a telescopic rod which is slidably received in a sleeve carried by a bracket mounted on the road grader. A winch is provided which has a cable entrained therearound which is connected to the telescopic rod. There is also provided means for maintaining the cable taut at all times, and brake means associated with the winch whereby means for absorbing shocks imparted on the wing blade are provided while also holding the wing blade in the selected position due to the fact that the cable is maintained taut at all times.

Still further objects and features of this invention reside in the provision of an attachment for a road grader which is capable of being utilized for various purposes, such as a snow plow, auxiliary surfacing equipment, and the like, which is strong and durable, and which is highly efficient in operation while being inexpensive to construct and install.

These, together with the various ancillary objects and features of the invention which will become apparent as the following description proceeds, are attained by this wing assembly for road graders, a preferred embodiment of which has been illustrated in the accompanying drawings, by way of example only, wherein:

Figure 1 is a plan view showing the invention as operatively installed on a road grader;

Figure 2 is a side elevational view illustrating the wing assembly as installed;

Figure 3 is an enlarged horizontal sectional view of the winch and associated means for controlling the position of the telescopic rod;

Figure 4 is a sectional detail view illustrating the construction of the winch and the brake means provided therefor; and

Figure 5 is a sectional detail view as taken along the plane of line 5—5 in Figure 4.

With continuing reference to the accompanying drawings, wherein like reference numerals designate similar parts throughout the various views, reference numeral **10** generally designates a road grader on which the wing assembly comprising the present invention is adapted to be installed. As is conventional, there is vertically adjustably mounted on the road grader **10** a standard **12** by means of a collar or bracket **14**, there being a fastener as at **16** for adjusting the position of the standard **12**.

The wing blade **18** is adjustably secured at one end for pivotal movement relative to the standard **12** by means of

a bracket **20** which is engaged about the standard **12** and which is secured by means of a fastener **22** to the blade **18**. A telescopic rod **24** has one telescopic section **26** pivotally attached, as at **28**, to a lug or ear **30** attached to the blade **18** towards the outer end of the blade **18**. The telescopic section **26** can be a rod received within the tubular section **32** of the telescopic rod **24**, or may be a tube (not shown) received in overlying relationship on the section **32** of the telescopic rod **24**. A collar **27** is secured on the telescopic section and a spring **29** yieldingly engaging said collar urges said telescopic section **26** outwardly.

The telescopic rod **24** is slidably received in a sleeve **36** carried by the bifurcated end **38** of a bracket **40** adapted to be welded or otherwise secured to a mounting plate **42** on the grader **10**.

By means of a stand or other suitable support **44** secured to the mounting plate **42**, there is supported on the grader a cylinder **46** within which a pulley **48** is received. The pulley **48** is secured to one end of a spring **50**, the other end of the spring **50** being secured to an eye **52** carried by the cylinder **46**.

A cable **54** having one end secured by means of a fastener **56** to the cylinder **46** is entrained about the pulley **48** and is further entrained about another pulley **58** mounted outwardly of the cylinder **46**. The cable **54** is then entrained about a winch **60** connected by a suitable shaft **62** to the power take-off **64** of the road grader **10**. The cable **54** is engaged about a pulley **66** and thence at its other end is secured, as by fasteners **68**, to the rearmost end of the telescopic rod **24**.

Brake means are provided for the winch **60** and include a brake drum **70** connected by a plate **72** and shaft **74** to the winch **60**. Brake shoes **76** actuated by a hydraulic cylinder **78** mounted within the drum **70** are provided, the cylinder **78** being connected through hydraulic lines **80** to a master pressure cylinder **82** and the brake control **84**. The brake mechanism therefore controls the position of the winch **60**.

The operation of this device is quite simple. With the driver occupying the driver's seat of the road grader, adjustment of the wing blade **18** is quite simple. Actuation of the power take-off **64** of the road grader will cause the winch **60** to operate, the brake mechanism having been released. This will cause movement of the telescopic rod **24** within the sleeve **36** due to operation of the cable **54**. This will cause the blade **18** to pivot relative to the standard **12**, as may be desired. It is noted that the blade **18** is vertically maintained in its desired position due to the operation of the rod **24**.

The spring **50** continuously maintains the cable **54** taut, and hence, the blade **18** in a forwardmost position and functions as a take-up device for the cable **54** as it is payed or wound in by the winch **60**.

The pulley **66** is a double pulley and a cable **88** is entrained therearound and terminally connected to the winch **60** and the collar **27**. This cable **88** prevents flopping of the wing blade **18** in conjunction with spring **29** and serves to form a resilient mounting for the wing blade **18**.

From the foregoing, the construction and operation of the device will be readily understood and further explanation is believed to be unnecessary. However, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction shown and described, and accordingly, all suitable modifications and equivalents may be resorted to, falling within the scope of the appended claim.

What is claimed as new is as follows:

A wing assembly for a road grader comprising a standard adapted to be adjustably carried by a road grader, a wing blade adjustably pivotally mounted at one end

thereof on said standard, a bracket adapted to be secured to a road grader and including a pivotally mounted sleeve, a rod pivotally attached to said wing blade, said rod being slidably received in said sleeve, a winch adapted to be carried by a road grader, a cable entrained about said winch secured to said rod for adjusting the position of said rod in said sleeve, and brake means for holding said winch to maintain the adjusted position of said rod in said sleeve, a cylinder adapted to be carried by a road grader, a pulley in said cylinder, said cable being entrained about said pulley, and a spring terminally secured to said pulley and said cylinder for continually holding said cable taut.

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