Dec. 10, 1940. A. H. MUTSCHLER 2,224,576

SPEED REDUCING UNIT

Filed March 15, 1938

Fig. 1

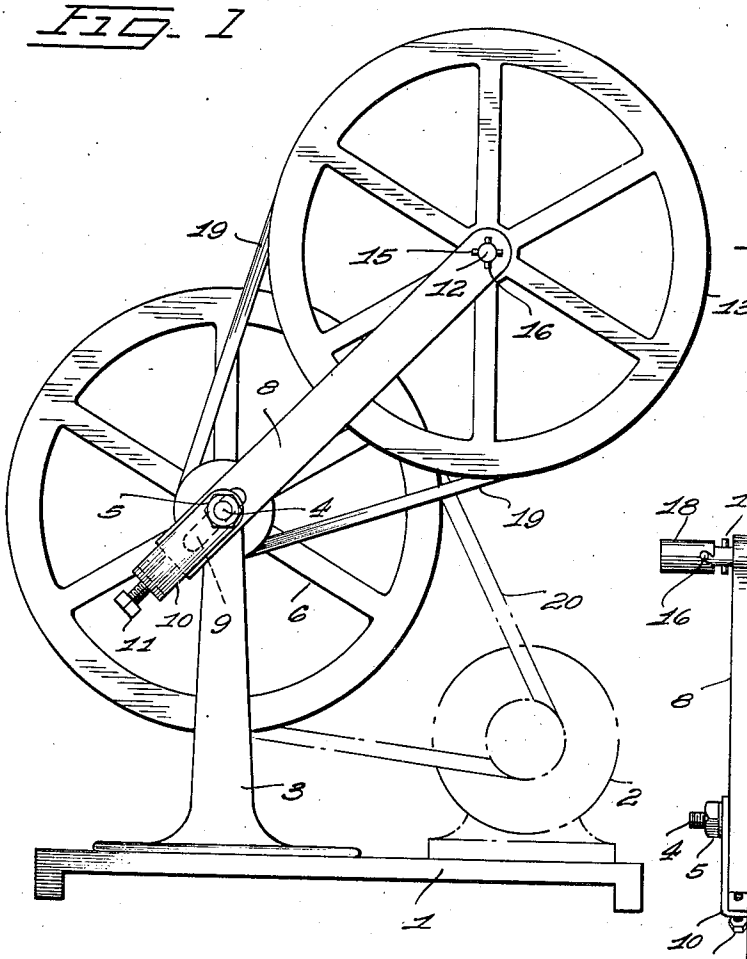


Fig. 2

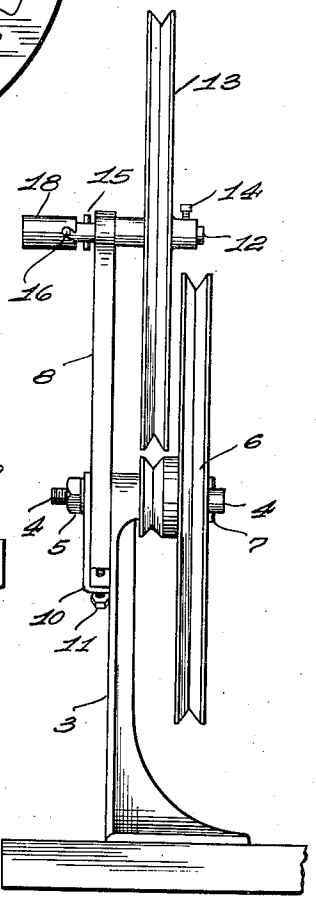
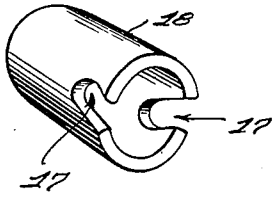


Fig. 3



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SPEED REDUCING UNIT

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Application March 15, 1938, Serial No. 196,042

1 Claim. (Cl. 74—242.14)

This invention relates to improvements in speed reducing units to propel hand operated machines such as ice cream freezers, grind stones, small meat choppers, cream separators, etc. using electricity or other motive power.

The use of V type belts makes an efficient drive, practically noiseless and expensive. The double reduction device is used because it is impracticable to use a single drive as the motor pulley drive would have to be too small and the driven pulley too large to reduce the speed from a motor to the speed of a hand operated machine.

Another object is to couple the speed reducing unit to a hand operated machine in such a manner that it is impossible for the coupling to become disengaged while the machine is in operation and eliminates the necessity of securing the machine involved, especially convenient in the case of an ice cream freezer as it can be easily released from the operating unit when it is desired to remove the top of the freezer.

In the accompanying drawing:

Figure 1 is a side elevation of the invention.

Figure 2 is an end elevation of the same.

Figure 3 is a perspective view of the coupling.

Referring to the drawing, 1 indicates a platform on which is removably attached a motor 2 and an upright support or standard 3, the upper part of which is drilled horizontally adapted to receive spindle 4 one end of which is of smaller diameter, screw threaded to receive a nut 5. The opposite end of said spindle 4 is of larger diameter and forms a bearing for double pulley 6 being held in place by pin 7. On the threaded end of spindle 4 is mounted a movable arm 8 slotted at 9 to permit of lateral movement. An adjustable angle plate 10 having an opening in the end of the longer leg adapted to fit over the end of the spindle 4 adjacent to the arm 8 and the shorter member of angle plate 10 extended beyond the end of arm 8 being tapped to receive an adjusting screw 11. The arm 8 and angle plate 10 are held in position by nut 5. The object of the screw 11 is to lengthen or shorten the reach of the arm 8.

The free end of adjustable arm 8 has a hub projecting at right angles and is drilled laterally to receive and form a bearing for the shaft 12 which is secured to pulley 13 by means of set screw 14. Shaft 12 is held in place by pin 15. A pin 16 passes through shaft 12 and projects on two sides of the same and engages slots 17 in coupling 18. The free end of coupling 18 is interiorly threaded or otherwise machined adapted to engage the machine to be operated. The coupling is slightly oversize to give a slight universal effect. The slots 17 are cut at angle to the line of drive and when engaged by pin 16 the coupling 18 is drawn unto shaft 12 and held thereon while said shaft is in motion. It can be released by reversing the shaft.

The device is operated as follows. The large member of the double pulley 6 is operated by the motor through the medium of a belt. The smaller member of the double pulley 6 conveys power to the pulley 13 by means of a belt. The coupling 17 is connected to the machine to be operated, the height of the adjustable arm can be regulated by raising or lowering it and held in the desired position by tightening the nut 5.

Having described my invention, what I claim as new and desire to secure by Letters Patent is:

In a device of the class described comprising a standard in the top of which is a spindle adapted to receive a driving pulley at one end and an adjustable arm at its opposite end, means for securing said driving pulley and adjustable arm in place, means for lengthening the reach of said adjustable arm comprising a longitudinal slot near one end of the same, an angle plate engaging said slotted arm, an adjustable screw engaging the end of said adjustable arm and angle plate for the purpose specified.

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