Oct. 18, 1938. W. E. VOLLMER 2,133,910

HOIST

Filed Sept. 20, 1937

Fig. 1.

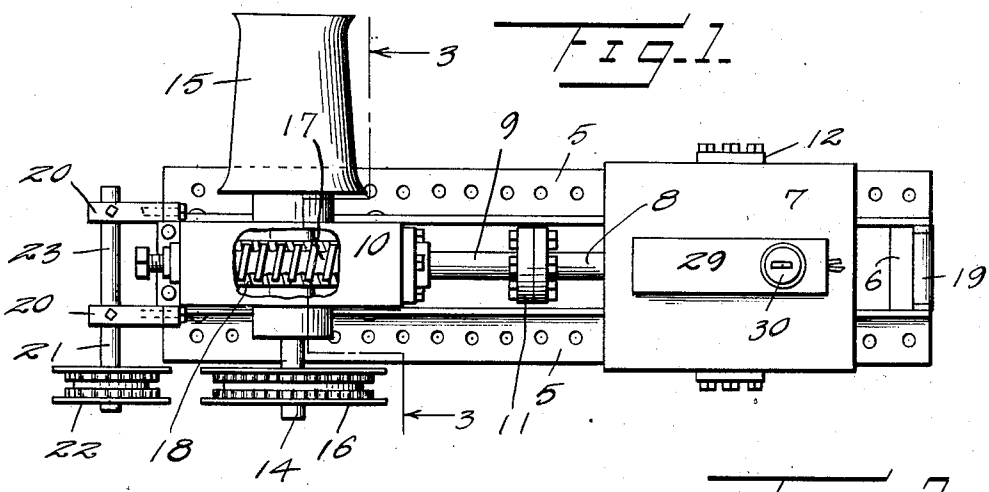


Fig. 3.

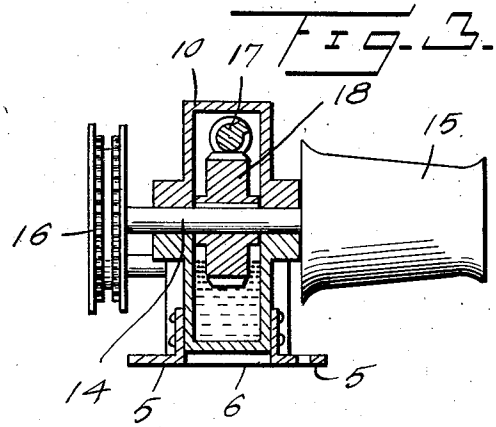


Fig. 2.

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HOIST

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Application September 20, 1937, Serial No. 164,789

1 Claim. (Cl. 254—186)

My invention relates to new and novel improvements in hoists.

One of the principal objects of my invention is to provide a hoist which is simple in construction, efficient in operation, durable in use and which lends itself to many uses.

Other objects and advantages will be apparent from the following description, appended claim and annexed drawing.

Referring to the drawing wherein like reference characters designate like parts throughout the several views:

Fig. 1 is a top plan view of my invention.

Fig. 2 is a side elevation thereof illustrating the same connected to a differential chain pulley.

Fig. 3 is a sectional view taken on a line 3—3 of Figure 1.

In practicing my invention I employ a base comprising spaced angle irons 5 connected together at the ends thereof by strap irons 6. Mounted above said base at one end thereof is an electric motor 7 having a drive shaft 8 connected to a similar shaft 9 journaled in a housing 10. The shafts 8 and 9 are connected together by a suitable coupling 11 and the motor is secured above the base by a frame 12 connected to the angle irons 5.

The housing comprises upper and lower connected sections, the upper section having the shaft 9 journaled therein while the lower section is secured between the angle irons or frame members 5 by means of suitable bolts 13. A transversely extending shaft 14 is mounted in the housing 10 subjacent the shaft 9 having ends extending without said housing on which is mounted a niggerhead 15 and a chain pulley 16 respectively. A worm 17 is secured on the shaft 9 for driving engagement with a worm gear 18 secured on the shaft 14 and a suitable lubricant is maintained within the housing to lubricate said worm, said gear and the bearings in which the shafts are journaled. The ends of the angle irons adjacent the frame 12 have pivoted therebetween a handle 19 while the opposite ends have mounted thereon a pair of bearing brackets 20 in which is journaled a shaft 21 having an idler chain pulley 22 secured thereto, the shaft 21 between the bearing brackets 20 serving as a handle 23.

As illustrated in Figure 2 of the drawing the chain pulley is connected to an endless chain 24 forming part of a differential chain hoist 25. The differential chain hoist comprises a double sheave pivoted to a connecting hook 26 and having two chain grooves differing slightly in diameter, the endless chain 24 passes over these grooves and around a single pulley 27 to which is attached a lifting hook 28. The endless chain also passes around the idler chain pulley 22 secured to the base.

Mounted on the motor is a junction box 29 having an operating switch 30 for effecting operation of the motor.

When the motor is operated shaft 9, which is connected to said motor, drives the transversely extending shaft 14 through the medium of the worm 17 and gear 18, said shaft 14 operating the niggerhead and chain pulley.

From the foregoing it will be apparent that I have provided a device which is extremely simple in construction, compact in arrangement of parts and that the same may be readily moved and adjusted to various locations, the handles 19 and 23 being employed for lifting the same.

What I claim is:

A hoist comprising a base having a pair of spaced longitudinally extending connected angle irons, a motor secured above one end of said base and having a drive shaft, a housing having upper and lower sections and extending above said base at the opposite end thereof, a transversely extending shaft journaled in said housing and having a chain pulley fixed thereon laterally of said base, a longitudinally extending shaft journaled in the upper section of said housing and effecting a drive connection between said drive shaft and said transversely extending shaft, said angle irons straddling the lower section of said housing and connected with the latter for maintaining said housing in fixed and spaced relation relative to said motor, and a handle connected to said irons at the ends thereof adjacent said housing for lifting the hoist as a unit, said handle having a shaft constituting the grip portion thereof and said shaft having an end extending laterally of the base and equipped with a chain pulley in working alignment with said first mentioned pulley for work association therewith upon operation of said motor.

WILLIAM EARL VOLLMER.