

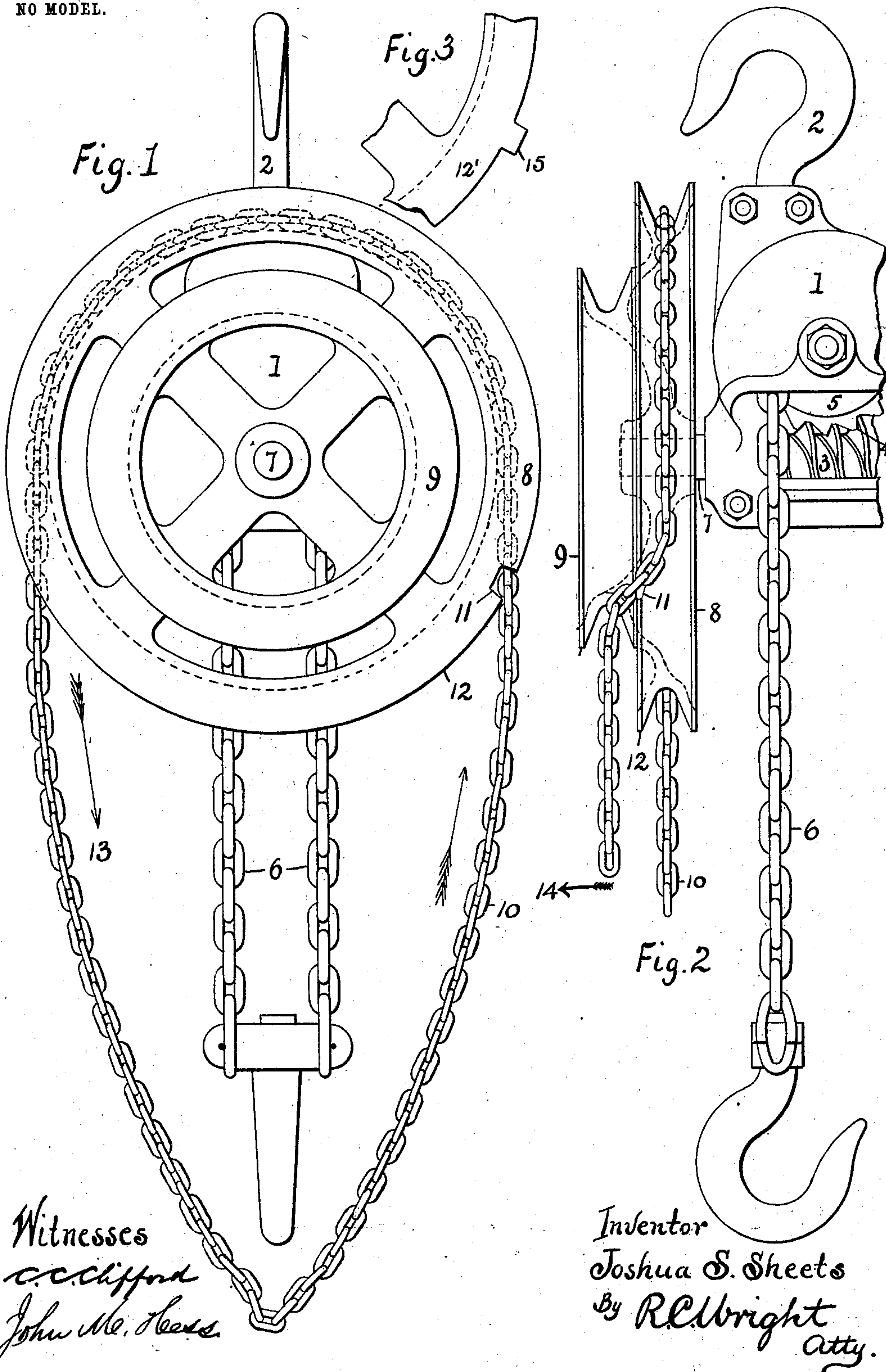
No. 721,396.

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J. S. SHEETS.
HOISTING MACHINE.

APPLICATION FILED JUNE 20, 1901.

NO MODEL.



Witnesses
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HOISTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 721,396, dated February 24, 1903.

Application filed June 20, 1901. Serial No. 65,234. (No model.)

To all whom it may concern:

Be it known that I, JOSHUA S. SHEETS, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Hoisting-Machines, of which the following is a specification.

My invention relates to improvements in hoisting-machines, and more especially to those employing manual power by means of chains or ropes passing over sheaves and where sheaves of different diameters are secured to the machine for the lifting of minimum or maximum weights, the sheaves being of different leverages, so that the one best adapted to the service may be used, the small sheave for light loads and a quick lift and the large sheave for heavy loads, which move more slowly. As the hoist is suspended at a considerable elevation, it is desirable to have a quick and ready means to change the chain or rope from one sheave to the other working from the floor where the operator stands in order to do away with the necessity of climbing up to the machine.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 is a side view of the sheave-wheels of a hoisting-machine. Fig. 2 is an edge view of the sheaves and a partial side view of the hoist. Fig. 3 is a modification.

Similar figures of reference indicate like parts in all the views.

The hoist-frame 1 has a suspension-hook 2 and incloses a worm 3, worm-wheel 4, chain-wheels 5, and hoisting-chains 6, as illustrated; but the construction shown is not wholly essential, as my improvement is adapted to any machine employing a single rope or chain on two or more sheaves whether worm-operated or otherwise. On shaft 7 of worm 3 are secured sheaves 8 9 to rotate therewith when power is applied through the medium of chain 10 or a rope similarly employed. The chain is shown on the large sheave 8, which is used for slow movement with heavy loads, and for the purpose of shifting the chain to sheave 9 a notch or depression 11 is formed in the side of rim 12, the one nearest to sheave 9, so that

when chain 10 is run in the direction of the arrows by pulling down on it at 13 and also pulling side 14 toward sheave 9, as seen in Fig. 2, the notch 11 will catch chain 10 and suspend it over sheave 9, and when a half-revolution of the sheaves has taken place the chain will be completely transferred to the small sheave 9. The chain may as readily be transferred from the opposite side of the sheave by a reverse movement of the sheaves and chain. The chain may also by the same procedure be caught by notch 11 when on sheave 9 by deflecting it toward sheave 8, and thereby be transferred to sheave 8.

In Fig. 3 I have shown a modification in which a projection 15 on rim 12' of the sheave is used to catch and transfer the chain, the projection being either an integral part of the rim or a separate part secured to the rim for the purpose.

I claim—

1. In a hoisting-machine, an inclosing case, means for its suspension, a worm and a worm-wheel, chain-wheels and a chain thereon, a shaft for the worm-wheel and chain-wheels, a shaft for the worm at right angles to the aforesaid shaft, a hub upon the worm-shaft, arms extending from the hub and supporting a plurality of sheave-rims, of different diameters, a chain to run in the grooves, and one of the said sheaves being provided with means to transfer the chain from one sheave to the other.

2. In a hoisting-machine, an inclosing case containing chain-wheels, a worm-wheel and a worm carried by suitable shafts supported by the case, means to suspend the case, a sheave having chain-grooves of different diameters and located upon the worm-shaft exterior to the case, a chain for the sheave, and one of the said grooves being provided with means to transfer the chain from one to the other.

In testimony whereof I affix my signature in presence of two witnesses.

JOSHUA S. SHEETS.

Witnesses:

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