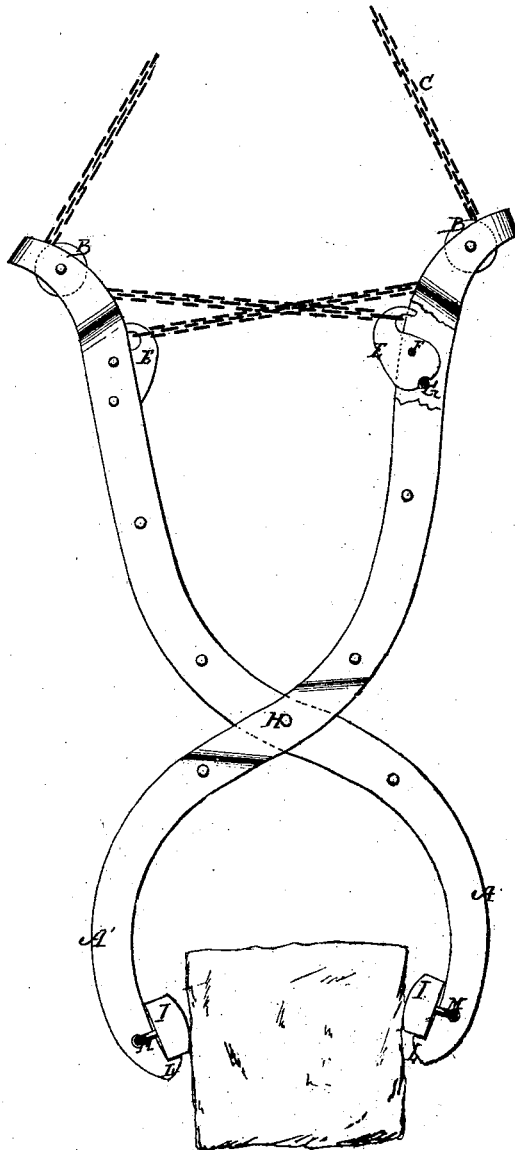


Ziegler & Cable,

Grapple.

No. 113,126.

Patented Mar. 28. 1871.



Witnesses:

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UNITED STATES PATENT OFFICE.

ELIAS ZIEGLER AND CHARLES CABLE, OF HARMONY, PENNSYLVANIA.

IMPROVEMENT IN GRAPPLING-HOOKS.

Specification forming part of Letters Patent No. **113,126**, dated March 28, 1871.

To all whom it may concern:

Be it known that we, ELIAS ZIEGLER and CHARLES CABLE, of Harmony, in the county of Butler and State of Pennsylvania, have invented a new and Improved Hoisting Apparatus; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification.

This invention relates to improvements in hoisting apparatus for lifting heavy stones and other heavy weights; and it consists in an improved grappling-tongs, constructed and arranged as hereinafter described.

The drawing represents my improved tongs in side elevation.

The arms A and jaws A' of the tongs are each made of a flat bar of metal, bent double and riveted together, except at the upper end and at the parts where they are pivoted, being arranged at a sufficient distance apart at the upper end to receive the grooved rollers B, over which the chain C works, said rollers being mounted on pivots D, passing through the two parts of the said arms and below the rollers. They also receive the flat chain-hooks E between them, said hooks being secured by one bolt, F, passing through them, and another, G, engaging a notch in the end. At the pivot H the parts of the said arms are separated, so that one part of each passes between the two parts of the other. These arms and jaws are pivoted together, so as to receive

the clamping-strain edgewise. The jaws have oval-faced blocks I linked to them above the ends, which have hooks L, to support the blocks when clamped against the weight to hold it for raising, and take the strain off the links M, which are intended mainly for attaching the blocks to the jaws. Said blocks are used to prevent the jaws from injuring the sides of dressed stones or other articles subject to such injury while being clamped to be raised. They are made to oscillate on the jaws for adjusting their surfaces fairly to the side of the block to be raised.

The chain is connected at each end to one of the arms by the hook thereon, and passed over the roller of the opposite arm, so that the lifting force is applied in a manner calculated to cause the jaws to clamp the stone with the greatest force due to the weight of the load.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

As an improvement in mechanism for operating the grappling-hooks of hoisting apparatus, the pivoted rolls B and hooks E, located between bars A A', combined, as described, with chains C, arranged as and for the purpose specified.

ELIAS ZIEGLER.
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Witnesses:

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