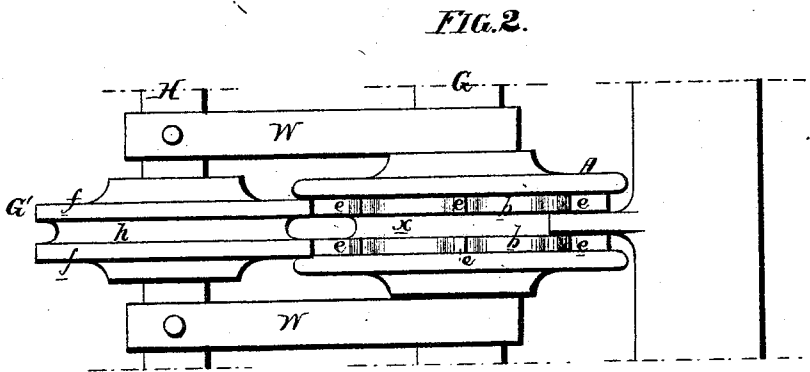
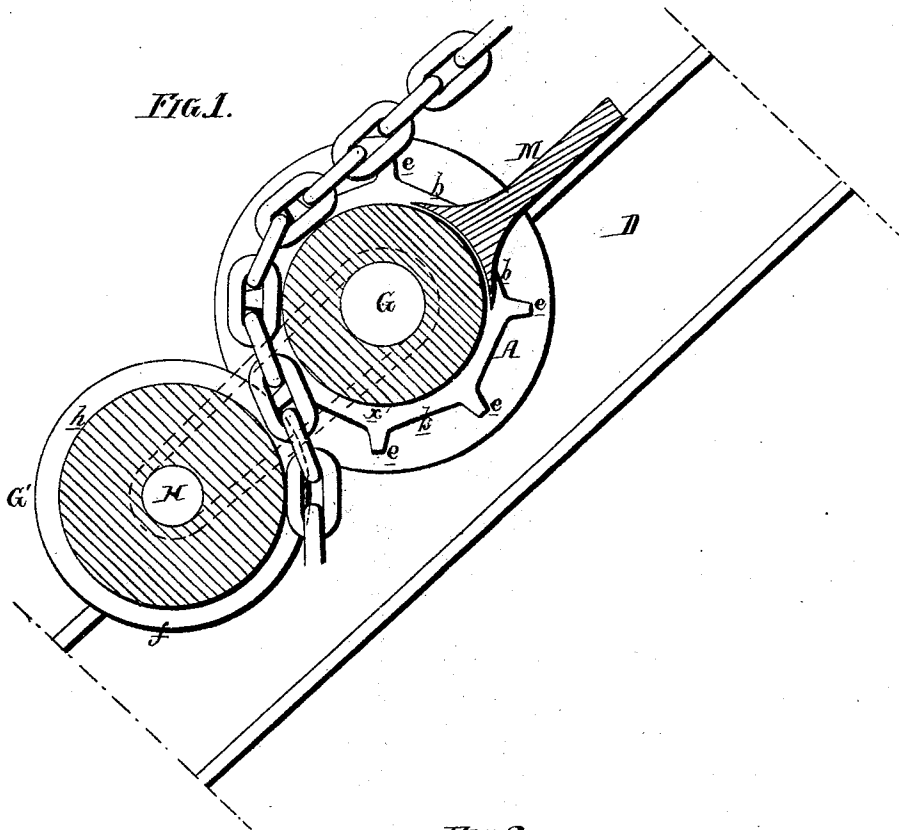


F. FARREL.

Hoisting Apparatus.

No. 141,551.

Patented August 5, 1873.



WITNESSES.

Thomas McHugh
Harry Smith

Franklin Farrel
by his Attys.
Hanson & Son.

UNITED STATES PATENT OFFICE.

FRANKLIN FARREL, OF ANSONIA, CONNECTICUT.

IMPROVEMENT IN HOISTING APPARATUS.

Specification forming part of Letters Patent No. 141,551, dated August 5, 1873; application filed January 22, 1873.

To all whom it may concern:

Be it known that I, FRANKLIN FARREL, of Ansonia, New Haven county, Connecticut, have invented an Improvement in Hoisting Apparatus, of which the following is a specification:

The object of my invention is to simplify the construction of cranes and other hoisting apparatus; and this object I attain by dispensing with the usual cumbrous barrel round which it has been the practice to coil the hoisting-chain, and by employing a chain-wheel adapted to a chain having alternate long and short links, as shown in the vertical section, Figure 1 of the accompanying drawing, and in the plan view, Fig. 2, so that the wheel may be of more substantial character and better fitted to perform its duty than ordinary wheels of this class.

The chain-wheel A is secured to a shaft, G, which is arranged to revolve in suitable bearings on beams D D, which may form the jib of a swivel-crane or part of the frame-work of any other hoisting apparatus. The chain-wheel A has the usual central groove *x* for receiving such of the links of the chain as are presented edgewise to the said wheel, and on each side of the groove are ledges or sockets *b* for the lodgment of such of the links as are presented flatwise. Chain-wheels of this class have long been in use, but always in connection with ordinary chains having all the links precisely alike, in consequence of which the projections or teeth between the sockets were narrow and proportionately weak—a defect the remedying of which is one of the main objects of my invention. The chain illustrated in Fig. 1 has alternate long and short links, the former being presented edgewise and entering the central groove *x* of the wheel, and the short links being presented flatwise, so as to take their places in the sockets. The result of this arrangement will be an increased thickness of the projections *e*, which conse-

quently form substantial teeth for bearing against the ends of the short links where the wheel is operated to hoist the chain. In connection with the chain-wheel A I use a follower-wheel, G', which is arranged to revolve freely on a shaft, H; this follower-wheel having a groove, *h*, bounded by two rims, *f f*, so adapted to the chain as to maintain the latter in effective contact with the wheel A, and thus insure the certain hold by the latter of the chain at the point where it is carried between the two wheels. In order to maintain the two wheels at all times in their proper relative position, so as to insure the proper action of the chain-wheel on the chain, I connect the two shafts G and H together by two links, W W, shown in Fig. 2, and in dotted lines in Fig. 1, one link being arranged on each side of, and as close as possible to, the wheels, and these links effectually resist all tendency of the shafts to yield or spring apart under the action of the chain. In order to prevent the chain from being carried round with the chain-wheel A, I employ a clearer, M, secured in any suitable manner to the beams D D, or to any permanent frame-work of the hoisting apparatus; the clearer projecting into the groove *x* of the chain-wheel, so as to keep the latter clear of all obstructions and prevent the carrying round of the chain and the jamming of its links.

I claim as my invention—

The combination of a chain having alternate long and short links and a chain-wheel, A, adapted to said chain, and having radial teeth *e*, which enter the spaces between the short links, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FRANKLIN FARREL.

Witnesses:

WM. A. STEEL,
HUBERT HOWSON.