(No Model.)

O. H. SMITH.

CHAIN AND LEVER POWER.

No. 362,671. Patented May 10, 1887.

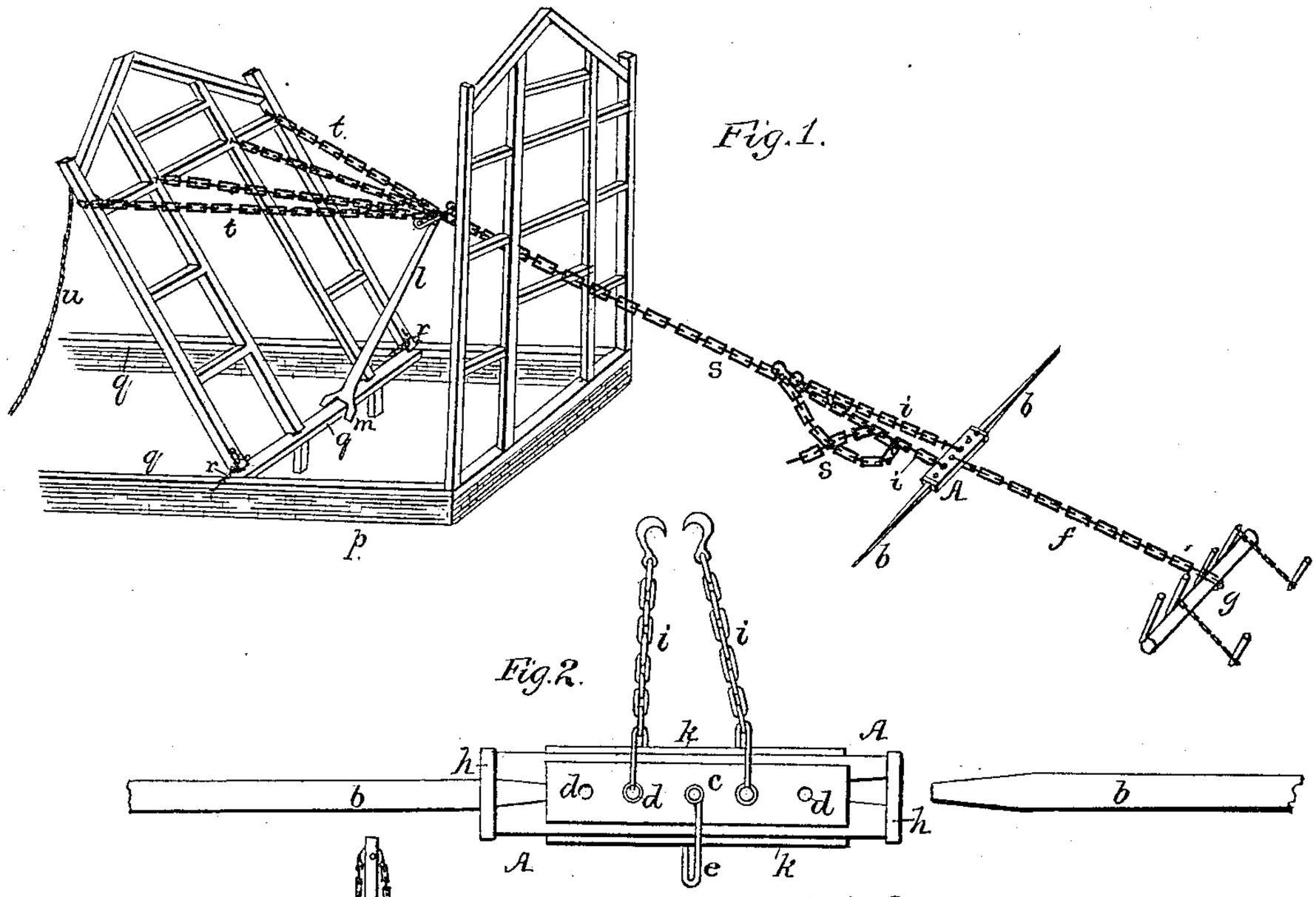

Fig. 1.

Fig. 2.

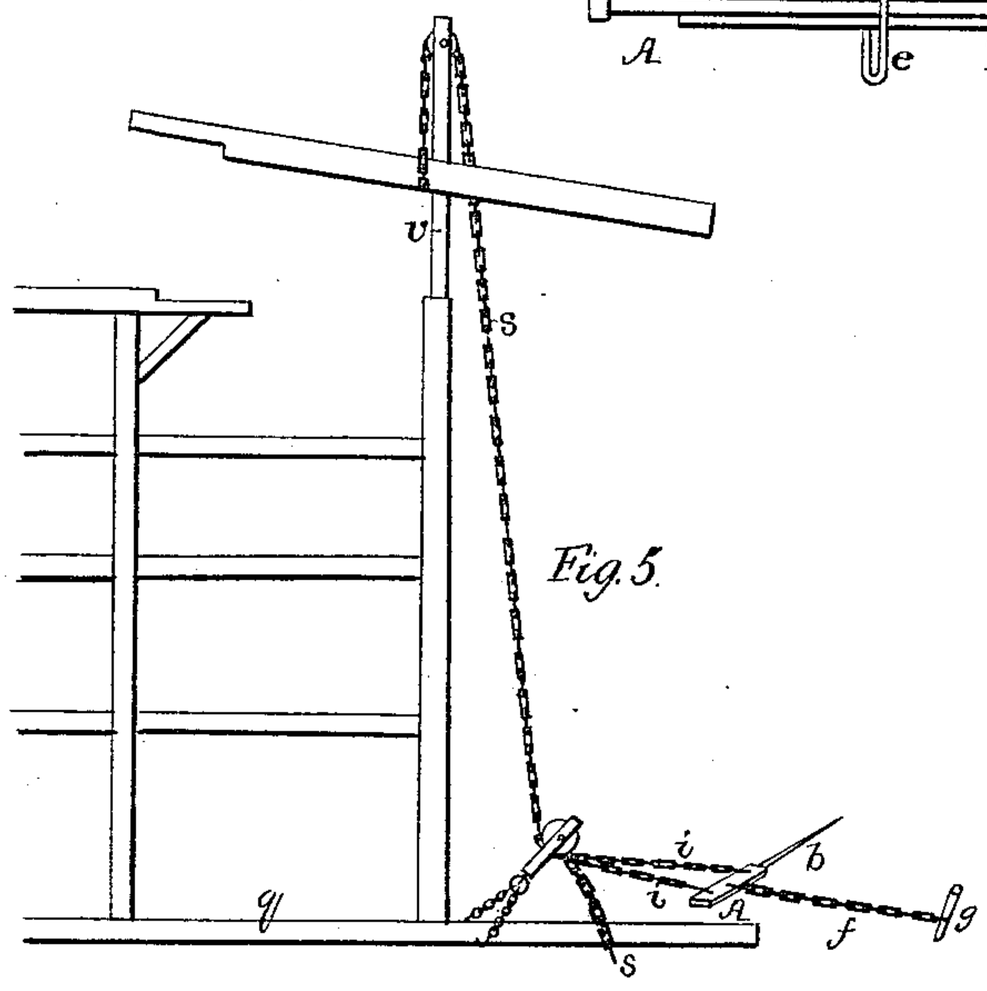

Fig. 5.

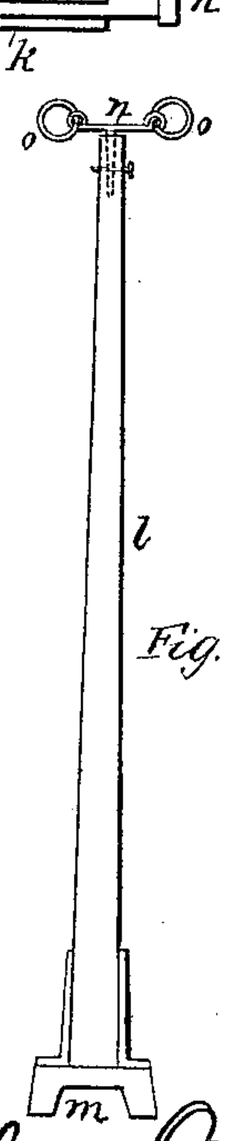

Fig. 3

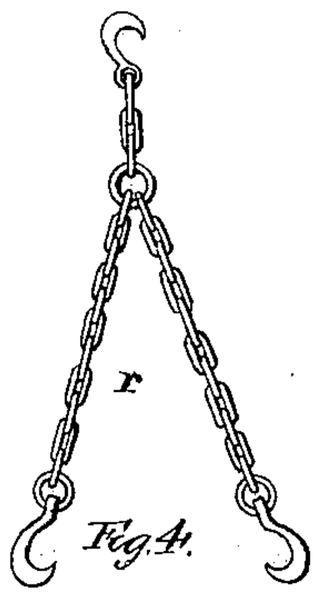

Fig. 4.

Witnesses
L. B. Brock
B. Fugitt.

Inventor
Orlando H. Smith
By his Attorney
A. B. Brock

UNITED STATES PATENT OFFICE.

ORLANDO H. SMITH, OF ELLICOTTVILLE, NEW YORK.

CHAIN AND LEVER POWER.

SPECIFICATION forming part of Letters Patent No. 362,671, dated May 10, 1887.

Application filed January 15, 1887. Serial No. 224,501. (No model.)

To all whom it may concern:

Be it known that I, ORLANDO H. SMITH, of Ellicottville, in the county of Cattaraugus and State of New York, have invented certain new and useful combinations of improvements to be used in connection with the Improvement in Chain and Lever Power; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to lever-powers for the raising of barns and other objects.

The invention consists of the following construction and combination of parts, which will first be fully described, and the points of novelty then set forth in the claims.

Figure 1 represents a perspective view of a device embodying my invention. Fig. 2 is a plan of the lever-beam. Fig. 3 is a detail view of the crane-post. Fig. 4 is a detail view of one of the grapple-chains. Fig. 5 is an elevation showing my invention applied in a different manner than that exhibited in Fig. 1.

In the drawings, A represents a leverage-beam.

b b are the removable handles, having tapering bearings which fit in correspondingly-shaped sockets in the opposite ends of beam A.

c is a heavy iron plate, one of which is bolted on the opposite side from that shown.

e is a clevis and bolt passing through the middle or central hole of beam A.

f is a chain, which is attached to clevis *e* and leads to some anchorage, as *g*, Figs. 1 and 5.

d d are a series of holes on each side of the central hole and clevis, *e*, for the purpose of adjustably securing the clevises and lever-chains *i i* according to leverage power desired.

k k are iron strengthening-plates on opposite sides of the lever-beam.

h h are iron bands on each end of beam A, for holding the frame-timber from splitting or injury.

l represents the crane-post.

m is the foot of the post, made so as to straddle the sill or beam upon which it is placed.

n represents a T-piece having a pintle, which is received in the top of the post, and projecting arms, in the ends of which rings *o o* are swiveled. Over the top of this T-piece or gudgeon *n* the chains or ropes pass used in raising a section of a building, as in Fig. 1.

In Fig. 1 is shown my invention applied for raising a "bent" or upright frame section of a barn or other building.

p is the barn-foundation. *q* are the sills.

The posts of the bents have tenons which fit into mortises in the sills. For the purpose of protecting the tenons during the process of raising, I place blocks of wood under the shoulders of the posts to protect the tenons from injury. (Not shown.) The grapple-chain *r* has the short link, and its spike-hook then driven into the post, as in Fig. 1, and the longer ends of the grapple are then straddled around the posts and driven into the bottom of the sills *q*, Fig. 1. This forms a firm bearing, upon which the bent may be raised into position.

s is the main-link chain, into which the grapple-lever chains *i i* are hooked at one end and at the other fastened to the branch chains *t t*, secured to the bent at several places. The crane-post has its foot *m* placed upon the sill *q*, and the chains pass over its upper end when the bent is flat. When the bent is raised to nearly a vertical position, the crane falls out, and is then no longer needed.

u u are ropes which hold the bents in position temporaily when raised.

In Fig. 5 a modified use of my invention is indicated. The main chain *s* here passes under a pulley secured to the sills by a grapple-chain, and over a pulley on the top of a rigidly-secured crane, *v*, for the purpose of raising timbers into place. In this instance only one handle or lever *b* is employed.

In operation, as in Fig. 1, when the lever-beam is oscillated in one direction a pull is exerted by one of the chains *i* and the other chain *i* is slackened. This slackened chain is then carried forward and its hook placed in the farthest link in chain *s* that it will reach. When the lever-beam is oscillated in the opposite direction, a pull is exerted by the chain that was previously slack, and the taut one is slackened, when it is in its turn unhooked and

carried to the farthest link in the main chain that it will reach.

By repeating the above operation the bent is gradually raised by a series of pulls into a vertical position.

I claim as new and desire to secure by Letters Patent—

1. A lever-power comprising a lever-beam having a series of holes on each side thereof, a central clevis or fulcrum pivoted to the beam, clevis-lever chains adjustably secured in said holes, whereby a variable lever-power is obtained, and a removable lever or levers secured to the beam, the whole in combination, as described.

2. The crane-post having a bifurcated foot and a T-shaped gudgeon at the top, having a pintle and rings upon the top bearing-surface.

In testimony that I claim the foregoing I have hereunto set my hand, this 8th day of January, 1887, in the presence of two witnesses.

ORLANDO H. SMITH.

Witnesses:
H. L. McCoy,
W. A. Fox.