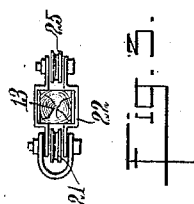
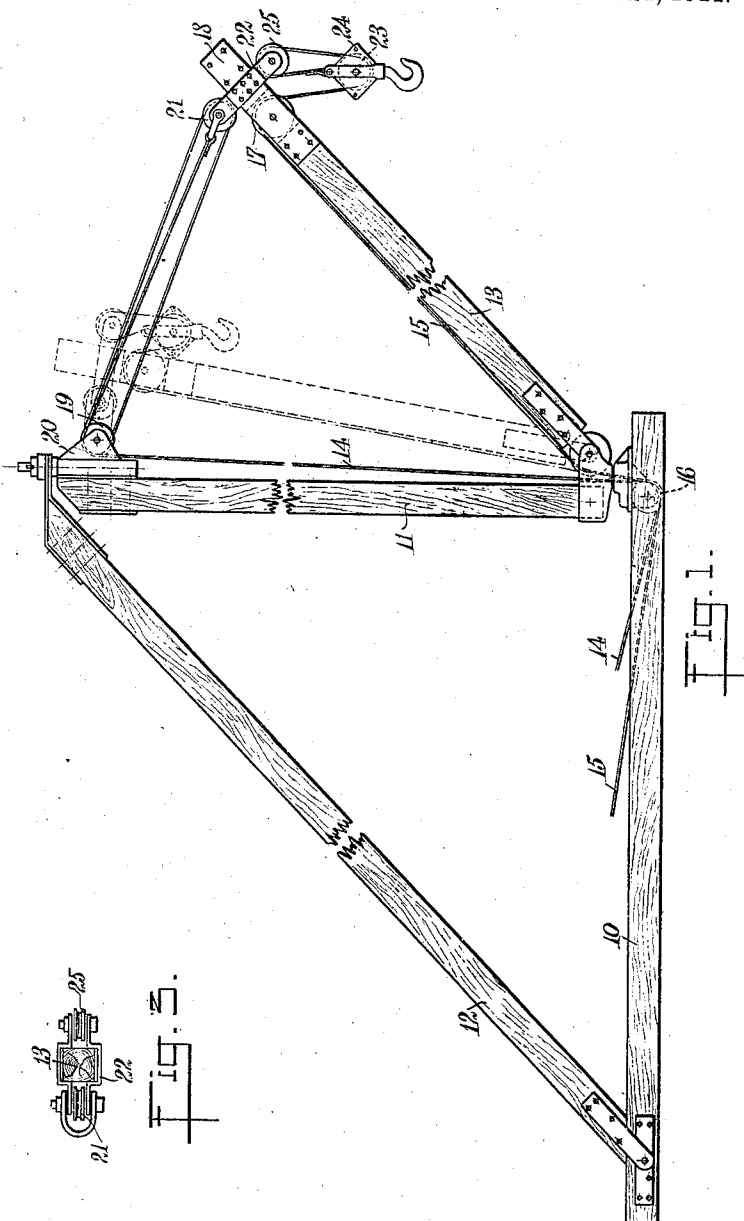
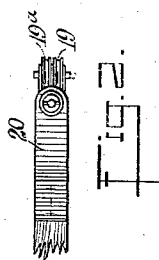


984,898.

G. FRINK.
DERRICK.
APPLICATION FILED AUG. 26, 1910.

Patented Feb. 21, 1911.



WITNESSES:
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DERRICK.

984,898.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, GERALD FRINK, a citizen of the United States, and a resident of Seattle, in the county of King and State of Washington, have invented a new and useful Improvement in Derricks, of which the following is a full, clear, and exact description.

The invention relates to derricks, and more particularly to the pulley features thereof.

While the invention is shown as applied to a derrick of the stiff leg type, it may also be applied to derricks of other types, as, for example, to guy derricks.

The objects of the invention are to reduce cost, to render the arrangement of the pulleys more compact than heretofore, to enable the boom to be brought in closer to the mast without fouling blocks, and with the same length of boom to secure a higher lift.

To these ends the invention consists in a derrick having sheaves mounted in fixed bearings in certain places and in certain relations, thus doing away with the pivotally-supported blocks usually employed.

The invention is illustrated in the accompanying drawings, wherein like characters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of a stiff leg derrick embodying the invention; Fig. 2 is a detail view of the iron at the top of the mast and the two sheaves mounted therein, and Fig. 3 is an end view of the boom.

In the drawings, the numeral 10 indicates the bottom sill, 11 the mast, 12 the stiff leg, and 13 the boom, all of which are or may be as usually constructed. As is usual, the boom rope 14 and the hoisting rope 15 may pass under a sheave or sheaves 16 mounted in the bottom sill, and the hoisting rope may thence pass along the boom and over a sheave 17 mounted between longitudinally-disposed, spaced side irons 18 secured rigidly to the outer end of the boom.

In accordance with the invention, the boom rope 14 passes upward and over a sheave 19 mounted in an iron 20 fixed to the top of the mast, thence about a sheave 21 mounted in irons 22 secured rigidly to the end of the boom, thence back to the mast, where it may pass about the same sheave 19, but preferably about a sheave 19^a, in axial alinement therewith and mounted in the same iron 20, as shown in Fig. 2, and

thence back to the irons 22, where the end of the rope is suitably attached. Thus, pivotally supported blocks for the rope 14 are eliminated, whereby the boom may be swung close to the mast without danger of fouling.

In accordance with the invention, the hoisting rope 15, after passing about the usual sheave 23 in the usual hoisting block 24, passes over a sheave 25 mounted in the same irons 22 in which the sheave 21 is mounted. Thus, a pivotally-supported block is eliminated at this point, whereby a higher lift may be attained and cost is materially reduced.

In the best construction, the irons 22 extend transversely of the boom, projecting in front and rear thereof, and are spaced laterally by being secured to opposite sides of the boom. Thus, two simple bars constitute the irons for both sheaves 21 and 25.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. In a derrick, the combination with a mast and a boom, of a sheave mounted in a fixed bearing on the mast, irons fixed to the outer end of said boom, sheaves mounted in fixed bearings in said irons at the upper and lower sides of the boom, a boom raising rope extending upward from below and passing around the sheave on the mast and the sheave at the upper side of the boom, and a hoisting rope passing over the sheave at the lower side of the boom.

2. In a derrick, the combination with a mast and a boom, a sheave mounted in fixed bearings near the outer end of the boom, and a raising and lowering block, of bars fixed to opposite sides of the end portion of the boom, the ends of said bars projecting beyond the upper and lower sides of the boom, sheaves mounted in the projecting portions of said bars, and a hoisting rope passing over the first mentioned sheave on the boom, thence about the sheave in said block, thence about the sheave at the lower side of the boom, and thence to a point of attachment on said block, and a boom raising rope passing about a sheave on the mast and the sheave at the upper side of the boom.

3. In a derrick, the combination with a mast and a boom, of a sheave mounted in fixed bearings near the outer end of the boom, transverse bars secured to opposite sides of the said boom between the said

sheave and the end of the boom, the opposite ends of each bar projecting beyond the upper and lower sides of the boom, and sheaves mounted in the projecting portions of said bars at the upper and lower sides of the boom.

4. In a derrick, the combination with the bottom sill, the mast and the boom, of sheaves mounted in fixed bearings at the upper part of the mast, a sheave mounted in fixed bearings on the boom near the outer end thereof, sheaves mounted in fixed bearings and located at the upper and lower sides of the boom between the end of the boom and the first mentioned sheave on the boom, a raising and lowering block provided with a sheave, a boom raising rope extending up-

ward from the bottom sill and passing about the sheaves on the mast and the sheave at the upper side of the boom, and a hoisting rope passing under a sheave on the bottom sill and extending upward over the first mentioned sheave on the boom, thence around the sheave on the block, and thence passing over the sheave at the lower side of the boom, the end of said hoisting rope being secured to said block.

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

GERALD FRINK.

Witnesses:

H. C. COFFIN,
C. F. BRIDGE.