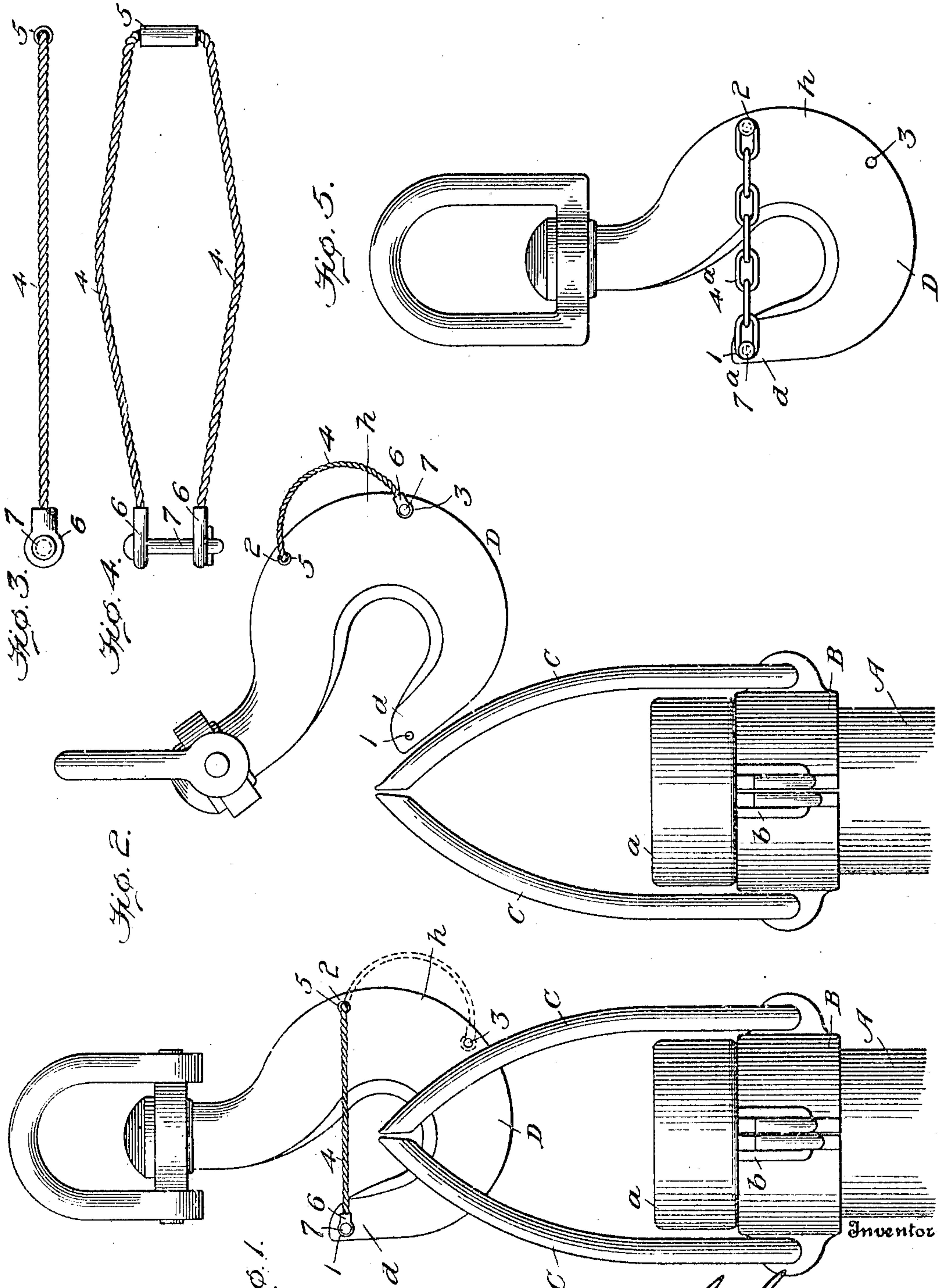


L. C. SANDS.  
TUBING AND CASING HOOK.  
APPLICATION FILED JUNE 24, 1909.

950,641.

Patented Mar. 1, 1910.



Witnesses

Edwin L. Bradford  
J. P. Ritter

334

Louis C. Sands  
J. W. Ritter, Jr.

Attorney



# UNITED STATES PATENT OFFICE.

LOUIS C. SANDS, OF PITTSBURG, PENNSYLVANIA.

TUBING AND CASING HOOK.

950,641.

Specification of Letters Patent.

Patented Mar. 1, 1910.

Application filed June 24, 1909. Serial No. 504,055.

*To all whom it may concern:*

Be it known that I, LOUIS C. SANDS, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Tubing and Casing Hooks; 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 appertains to make and use the same.

My invention relates to that class of devices commonly termed tubing and casing hooks, which, in Artesian and oil well drilling, are used in conjunction with tubing and casing elevators for handling strings of tubing or casing.

The object of this invention is the provision of a bail and guard for the hook, whereby the handling of the hook and its engagement with the elevator are facilitated, and its accidental disengagement therefrom prevented, thus adding to the safety of the operator.

These tubing and casing hooks are often required to sustain great loads and strains in handling strings of tubing or casing, and are therefore made correspondingly heavy, the average weight being between one hundred pounds and three hundred pounds, while frequently they will greatly exceed that, even up to eighteen hundred pounds in weight. Again, when in use for lowering strings of tubing or casing into the well, in case of lodgment of the casing at any point in the well the slack in the cable incident thereto tends to the disengagement of the hook from the elevator, and when thus released from control the casing may again start and being unrestrained may be damaged by coming in violent contact with the bottom of the well. It is therefore obvious that to protect both the operator and the casing from injury, it is desirable to have not only means for facilitating the manipulation of the hook when not loaded and for insuring proper engagement of the hook with the bails or reins of the elevator without exposing the hands of the operator, but also to have means for preventing the accidental disengagement of the hook from the bails or reins of the elevator when loaded. To effect these several purposes I combine with a hook, a member so mounted thereon as when it is in one position it will engage the point of the hook and constitute a guard

to confine the elevator reins within the bight of the hook, and when in another position it will constitute a bail at the back of the hook whereby the hook may be controlled and guided into engagement with the bails of the elevator, and such a construction embodies the main feature of my invention.

There are other, minor, features of invention residing in particular combinations and elemental construction, all as will hereinafter more fully appear.

In the drawings chosen for the purpose of illustrating my invention, the scope of which will be pointed out in the claims, Figure 1 is a view in side elevation of a double swivel tubing or casing hook embodying my invention in its preferred form, shown in connection with an elevator and the upper end of a string of casing constituting the load on the hook. In this figure the flexible member is shown in full lines arranged as a guard to prevent the disengagement of the hook from the elevator, and in dotted lines as arranged to constitute a bail for manipulating the hook. Fig. 2 is a view similar to Fig. 1, showing the flexible member in full lines arranged as a bail for use in manipulating the hook, the hook being disengaged from the elevator. Fig. 3 is a detached side elevation of the preferred form of the flexible member. Fig. 4 is a detached plan view of the preferred form of flexible member shown in Fig. 3, and, Fig. 5 is a view in side elevation of a single swivel hook, and a modified form of flexible guard and bail member.

Like symbols refer to like parts wherever they occur.

I will now proceed to describe my invention more fully so that others skilled in the art to which it appertains may apply the same.

In the drawings, A indicates the upper end of a string of casing and *a* the coupling thereon, B the hinged members of an elevator, *b* the latch therefor, and C C the bails or reins of the elevator with which the tubing or casing hook D engages.

The tubing or casing hook D may be of the usual or any approved form of double or single swivel hook, and of such size or weight as the service demanded of it requires. At the point *d* of the hook provision is made for detachably securing one end of a flexible guard and bail member 4, as at 1, while opposite thereto at the back *h* of the hook provision is made for the attachment of



said flexible guard and bail member 4, as at 2, and below the said last named point of attachment 2 at the back *h* of the hook provision is made for detachably securing the flexible guard and bail member, as at 3, when shifted from its connection with the point of the hook. A section of wire cable is preferably employed for the flexible guard and bail member, and in such case it is passed through an opening at 2 in the back *h* of the hook, is provided at midlength, where it passes through the hook, with a sleeve or guard 5 to protect it against wear, and at its ends with eyes 6, 6 for the reception of a bolt 7 which passes through a hole at 1 in the point *d* of the hook, whereby the end of the flexible member 4 is detachably connected with the point *d* of the hook when arranged as a guard. By removing the bolt 7 from the hole in the point *d* of the hook and the eyes 6, 6 on the ends of the flexible member 4, said ends of the flexible members may be shifted down to the lower hole 3 at the back *h* of the hook and secured at said point by the bolt 7 so as to constitute a bail for manipulating the hook. In lieu of the wire cable flexible member, a chain as indicated at 4<sup>a</sup> in Fig. 5 may be employed either on one or on both sides of the hook and secured by bolts 7<sup>a</sup> or equivalent means so as to be readily attachable to and detachable from the point *d* and back *h* of the hook D as hereinbefore specified.

It will be obvious to those skilled in the art of well drilling that the provision of a flexible guard and bail attachment for tubing and casing hooks will be of material advantage to the operator in enabling him to avoid physical discomfort and danger in manipulating the hook, as well as guarding against loss from accidental disengagement of the casing hook and elevator in handling strings of casing.

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

1. The combination with a hook, of a movable member mounted on the back thereof, and means for detachably connecting said

member with the point of the hook to form a guard and also with the back of the hook at a second place to form a bail for the hook.

2. The combination with a hook, of a flexible member movably mounted on the back thereof, and means for detachably connecting said flexible member with the point of the hook to form a guard and also with the back of the hook to form a bail for the hook.

3. The combination with a hook having holes at its point and at its back, of a flexible member provided with eyes said member attached to the back of the hook, and a bolt or pin for detachably connecting said flexible member with the point of the hook through one of said holes to form a guard and also with the back of the hook through the other hole to form a bail.

4. The combination with a hook having holes at the point and at the back thereof, a section of wire cable attached to the back of said hook and having eyes at its ends, said cable constituting a flexible member, and a bolt or pin for detachably connecting said flexible member with the point of the hook through one of said holes to form a guard and also with the back of the hook through the other hole to form a bail therefor.

5. The combination with a hook having a hole at its point and a plurality of holes at its back, of a section of wire cable which passes through one of said holes at the back of the hook and constitutes a flexible member, a guard for said flexible member where it passes through the hook, and means for detachably connecting the ends of said flexible member with the point of the hook through one of said holes to form a guard and with the back of the hook through the other hole to form a bail therefor.

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

LOUIS C. SANDS.

Witnesses:

A. G. HEGGEM,  
R. A. STEWART.