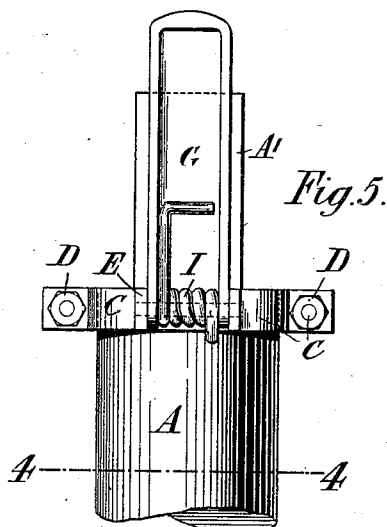
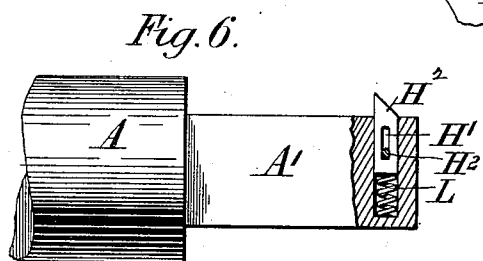
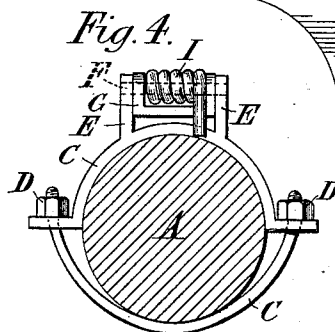
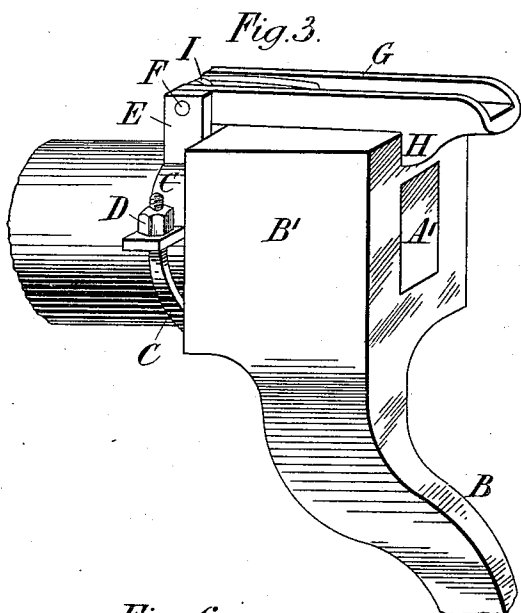
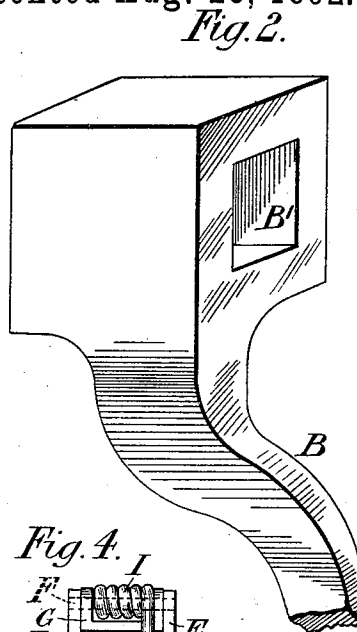
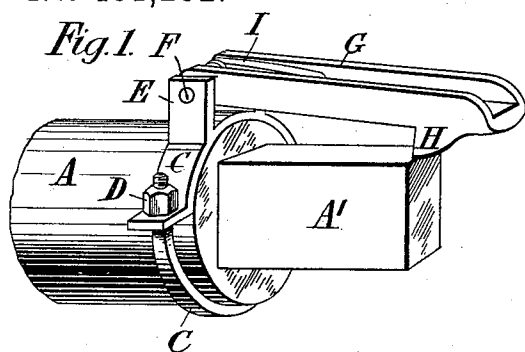


(No Model.)

T. H. HEARD & W. K. BIRKINSHAW.
CRANK HANDLE FASTENING.

No. 481,262.

Patented Aug. 23, 1892.



Witnesses
W. H. Murray
E. Jensen.

Inventors
Thomas H. Heard and
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by W. H. Babcock Atty.

UNITED STATES PATENT OFFICE.

THOMAS HODDER HEARD AND WILLIAM K. BIRKINSHAW, OF DERBY,
ENGLAND.

CRANK-HANDLE FASTENING.

SPECIFICATION forming part of Letters Patent No. 481,262, dated August 23, 1892.

Application filed October 20, 1891. Serial No. 409,351. (No model.) Patented in England February 6, 1890, No. 1,975.

To all whom it may concern:

Be it known that we, THOMAS HODDER HEARD and WILLIAM KIRKLEY BIRKINSHAW, subjects of the Queen of England, residing at Derby, England, have invented certain new and useful Crank-Handle Fastenings, of which the following is a specification, the same having been patented in Great Britain by Letters Patent No. 1,975, dated February 6, 1890.

10 This invention relates to means for securing the handles of cranes and other such apparatus to their shafts, and will be best understood by reference to the accompanying drawings, in which—

15 Figure 1 is a perspective view showing one of our clip devices attached to a shaft from which the crank-handle has been removed. Fig. 2 is a perspective view of a portion, the socket end, of the crank-handle. Fig. 3 is a 20 perspective view showing the handle secured on the shaft, according to our invention. Fig. 4 is a section on the line 4 4 of Fig. 5, which is a plan of Fig. 1. Fig. 6 is an elevation, partly in section, illustrating a modification 25 of the invention.

Like letters indicate like parts throughout the drawings.

A is the shaft, which, as usual, is squared at A' to receive the winch-handle B, the 30 socket B' of which fits onto the squared end A'.

C is a ring preferably formed in two halves, which may be drawn together by the nuts D screwing onto the threaded ends of one of the halves, so as to tightly grip the shaft A. The 35 ring, however, may be formed of one piece, one threaded end passing through an opening in the other end, the two ends being drawn together by a single nut.

On the ring C are cast or otherwise secured 40 two lugs E, forming a jaw standing practically at right angles to the body of the ring. These lugs E may have holes or recesses, through which passes a pin F from one lug to the other. This pin passes through and forms the pivot 45 of an arm G, on the outer end of which is formed a projecting catch H. The pin F also carries a spring I, which constantly bears upon the arm G.

When it is desired to secure the crank-handle to its shaft, the operation is as follows:

The crank-handle B is slipped onto the square end A' of the shaft A, lifting the arm G out of the way until the projecting catch H of the arm, under the influence of the spring I, slips 55 over the outer face of the handle and firmly secures it on its shaft. It is impossible for the handle to work off the shaft until the arm G is moved clear of handle by the hand or otherwise.

In place of the arm G and catch H the 60 square end A' of the shaft may be provided with a catch H², as shown in Fig. 6, which is kept in its raised position by a spring L. The catch is provided with a slot H', through which passes a pin to regulate its extent of motion. 65 Any other suitable locking device may, however, be employed.

We claim—

1. In combination with a shaft and a crank-arm fitting thereon, a spring-pressed catch at- 70 tached to said shaft and taking position outside of the said crank-arm to prevent the separation of the latter from the shaft, substantially as set forth.

2. In combination with a crank-arm and the 75 shaft on which it fits, a ring gripping the said shaft and a spring-pressed catch attached to the said ring and arranged to overlap the socket end of the said crank-arm and hold it in place by contact with its outer face, sub- 80 stantially as set forth.

3. In combination with a crank-arm and the shaft on which it fits, a ring gripping the said shaft and provided with a pair of raised lugs, a shaft mounted in said lugs, a spring wound 85 on the said shaft, and an arm pivoted on the said shaft and receiving the pressure of the said spring, the said arm being provided with a catch which fits against the outer face of the socket end of the crank-arm and holds it 90 in place, substantially as set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

THOMAS HODDER HEARD.
WILLIAM K. BIRKINSHAW.

Witnesses:

FRANK M. CLARK,

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