

A. C. CAMPBELL.
COTTER PIN.
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1,019,595.

Patented Mar. 5, 1912.

Fig. 1

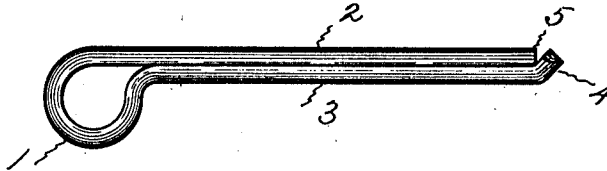


Fig. 2

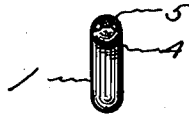


Fig. 3

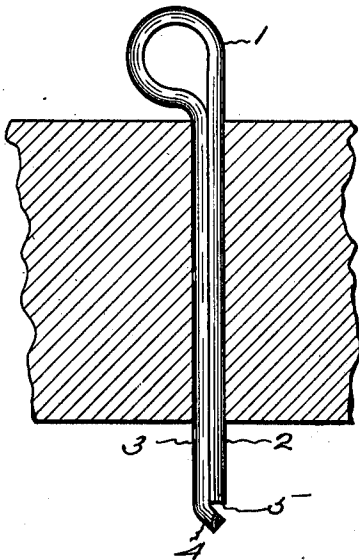
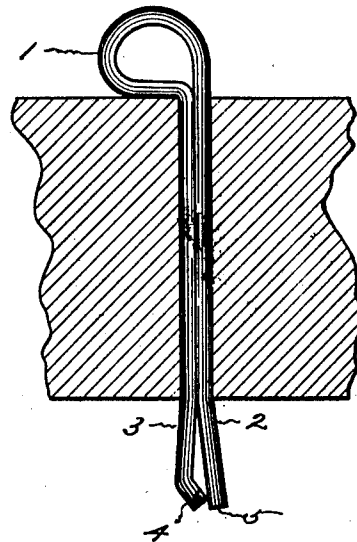


Fig. 4



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UNITED STATES PATENT OFFICE.

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COTTER-PIN.

1,019,595.

Specification of Letters Patent.

Patented Mar. 5, 1912.

Application filed December 21, 1911. Serial No. 667,161.

To all whom it may concern:

Be it known that I, ANDREW C. CAMPBELL, a citizen of the United States, residing at Waterbury, in the county of New Haven and State of Connecticut, have invented a new and useful Improvement in Cotter-Pins, of which the following is a specification.

This invention relates to those devices which are designed to be driven through holes for the purpose of preventing the removal of the parts through which they are driven, or pieces placed upon the parts through which they are driven.

The object of the invention is to provide a cotter-pin which is easy to manufacture, simple to use, and which is so constructed that when it is driven into a hole it automatically locks itself in place. To accomplish this object, a length of the usual wire is doubled upon itself so as to form an eccentric eye at one end and have one limb longer than the other, and the tip of the long limb is bent at an angle across the tip of the short limb in such manner that when the pin is driven into place, the short limb will be forced forward along the long limb, causing its tip to be driven past the bent tip of the long limb and thus spread the free ends of the limbs to a diameter that is greater than the diameter of the hole through which they were driven.

Figure 1 of the accompanying drawings shows a side view of a cotter-pin which embodies the invention. Fig. 2 is a view looking toward the tip end of the pin in its normal condition. Fig. 3 shows a pin in its normal state thrust into a perforation in a piece of metal. Fig. 4 shows a view of the same after the pin has been fully driven in and the short limb forced forward so as to separate the free ends of the limbs and lock the pin in place.

These pins may be made on a suitable automatic wire forming machine of lengths cut from a coil of half round stock of any diameter and the required length. The wire is doubled upon itself to form an eye 1 at one end and bring the flat surfaces together and provide the short limb 2 and the long limb 3. The eye is offset or made eccentric so that when it is given a blow, the force of the blow will tend to drive the short limb farther forward. The tip 4 of the long limb is bent at an angle—approximately 45 degrees—across the tip 5 of the short limb.

When the wire is cut for the purpose of severing a length from the coil for making the pin, the end which is to form the tip of the long limb is tapered or beveled so that when this tip is bent across the tip of the short limb, the transverse section of the end will be approximately a circle of the same diameter as the diameter of the two limbs, which is usually approximately a little less than the diameter of the hole into which the pin is to be thrust.

These pins can be made as rapidly and cheaply as the common cotter-pin which has limbs of equal length, and the tips of which have to be separated and bent apart by a suitable instrument after the pin has been driven in place.

After one of these improved pins has been thrust into a hole for fastening the part in which it is placed, or for holding a piece on that part, it can be given a light blow with a hammer. As the eye is offset on the side of the long limb, the engagement of the eye with the stock at the side of the hole prevents that limb from being driven farther in, thus the force of the blow is transmitted to the short limb which is driven farther in and as its tip passes the bent or offset tip of the long limb, the free ends of the pin are wedged apart so that they occupy a space that is greater in diameter than the hole through which the pin was driven. In this simple manner the pin is automatically locked in position and cannot be removed until the process is reversed by driving back the short limb, or unless the bent tip is straightened.

The invention claimed is:

1. A cotter-pin made of a piece of half round wire bent so as to provide an off-center eye at one end and have two limbs of unequal length that extend with the flat surfaces adjacent, the tip of the long limb being bent at an angle across the tip of the short limb, whereby when the eye is given a blow, the short limb will be driven longitudinally of the long limb, and by the engagement of the tips cause a separation of the limbs and increase the normal diameter of the pin.

2. A cotter-pin made of a piece of half round wire bent so as to provide an eye at one end and have two limbs of unequal length that extend with the flat surfaces adjacent, the tip of the long limb being bent

at an angle across the tip of the short limb, whereby when the short limb is driven longitudinally of the long limb, by the engagement of the tips a separation of the limbs
5 and an increase in the normal diameter of the pin is caused.

3. A cotter-pin made of a piece of wire bent so as to form an off-center eye at one end and have two limbs of unequal length,
10 the tip of the long limb being bent at an angle across the tip of the short limb, whereby, when the eye is given a blow, the short limb will be driven longitudinally of the long limb and by the engagement of the

tips the normal diameter of the pin is increased. 15

4. A cotter-pin made of a piece of wire bent so as to provide an eye at one end and have two parallel limbs of unequal length, with the tip of the long limb bent across the
20 tip of the short limb in such manner that forcing the short limb longitudinally will cause the tips to engage and result in a separation of the free ends of the limbs.

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Witnesses:

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