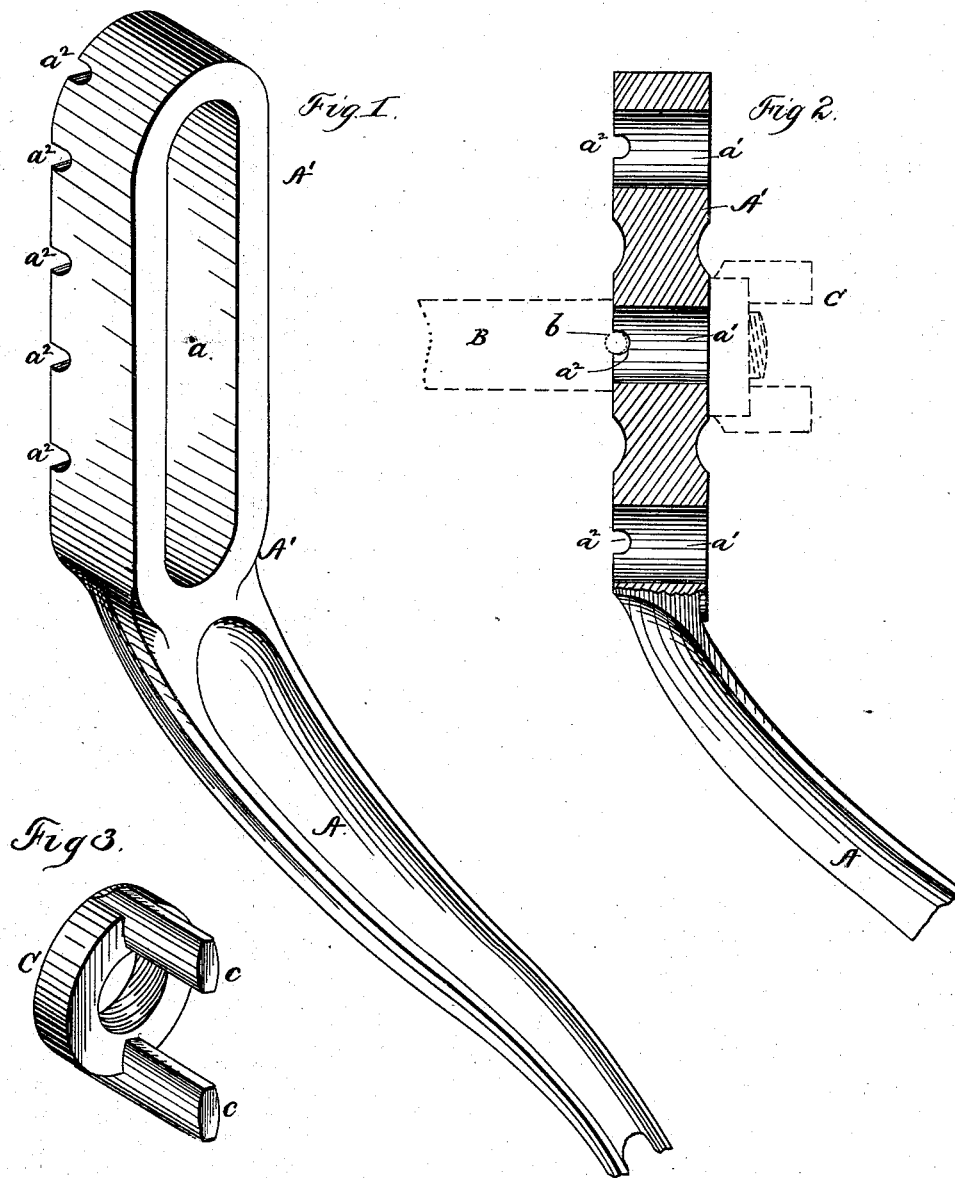


(No Model.)

F. F. ADAMS.
CRANK AND CRANK FASTENING.

No. 264,815.

Patented Sept. 19, 1882.



Witnesses
W. R. Eddins.
Robt H. Porter.

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ATTY'S

UNITED STATES PATENT OFFICE.

FRANKLIN F. ADAMS, OF ERIE, PENNSYLVANIA, ASSIGNOR TO F. F. ADAMS
& CO., (LIMITED,) OF SAME PLACE.

CRANK AND CRANK-FASTENING.

SPECIFICATION forming part of Letters Patent No. 264,815, dated September 19, 1882.

Application filed March 24, 1882. (No model.)

To all whom it may concern:

Be it known that I, FRANKLIN F. ADAMS, a citizen of the United States, residing at Erie, in the county of Erie and State of Pennsylvania, have invented new and useful Improvements in Cranks and Crank-Fastenings; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings and the letters or figures of reference marked thereon.

My invention relates to the construction of cranks and crank-fastenings, and especially to such of said devices as are applied to hand machines, and particularly to clothes-wringers, roller washing-machines, mangles, &c.

The object of my invention is to provide a crank which can be attached to the shaft at various points upon itself, so as to give more or less leverage, as desired, and to provide a fastening which can be quickly and easily adjusted without the use of any special tools for the purpose.

In the particular class of machines named it is desirable that the crank be as short as possible, for the operation of the machine will then require less movement of the arm; but as the work to be done often requires much more power at one time than another, or, rather, one class of work on the same machine requires more power than another class of work, to exert this extra power a longer crank is desirable, while when light work is being done the short crank is preferable. For instance, in washing it is the general practice to wash the thick heavy clothes together or in one batch and the light stuffs in a separate batch, (and so of ironing with a mangle,) and, as it requires much more power to run a thick, heavy cloth or garment through the wringer than a light or small cloth or garment, it is desirable that the crank be capable of extension in order to do the heavy work with ease. To accomplish this is the object of my invention.

I am aware that wringer-cranks have been made adjustable for this purpose; but, so far as I am aware, it has been done by a slipping or sliding joint in the middle part of the crank. Such a construction is necessarily weak and liable to become so loose and disjointed as to be impracticable. I make the point of adjust-

ment at the point of attachment to the shaft, and provide means whereby it may be done easily, quickly, and surely.

I am aware that cranks have been made adjustable by providing a series of holes or a slot in which to attach the handle—as, for instance, in engine-cranks and in many classes of machines; but such an adjustment in a wringer-crank would be unwieldy, as it would leave at times an end sticking out back of the hand, which would be catching upon the sleeve or arm of the operator. I therefore provide the head of the crank with a series of openings or a continuous slot, whereby the crank can be attached to the shaft so as to have various lengths. I also provide a jam-nut for holding the crank in place upon the shaft, which can be turned by the thumb and finger, or, if too tight for that, by any common implement—such as a poker, lid-lifter, or even a small stick or a nail—thereby enabling the operator to adjust the crank without the use of a wrench or some special instrument, and thereby avoiding the necessity of keeping a special instrument at hand to avoid the annoyance of a search for it.

My device is shown in the accompanying drawings, as follows:

Figure 1 shows a crank, A, with a head, A', having a slot, *a*, therein. Fig. 2 shows a crank, A, with a head, A', having a series of shaft-openings, *a'*, therein. Fig. 3 shows the jam-nut C with peculiar-shaped ears *c c*.

In Fig. 2 the shaft B and jam-nut C are shown in dotted lines. The inside of the crank-head A' is provided with notches *a² a²*, &c., at each point at which the crank may be adjusted upon the shaft. These notches fit over a pin, *b*, on the shaft, and when the jam-nut is in place and screwed up the crank cannot move upon the shaft. Such a fastening of itself is not new.

The nut used upon the shaft usually is a common wrench-faced nut. Where the crank is to be adjusted, as in this instance, such a nut is impractical without having a wrench constantly at hand. A common thumb-and-finger nut cannot always be operated without the use of a wrench.

The nut I use has two horns or ears, *c c*, of considerable length, and so placed as to leave considerable space between them, and they

have their inner sides straight or at right angles, or substantially so, to the body of the nut. There are about a kitchen or laundry generally a number of implements—such as a poker, a stove-lid lifter, a shovel-handle, &c., or small sticks of wood—any of which can be used to serve as a wrench to screw up and unscrew this nut by simply placing it between the horns *c c* and using it in the manner of a wrench, and some one or other of these various implements is always sure to be at hand, while special implements are generally *non est inventus* when wanted. Hence the utility of this construction is apparent.

Where the crank-head is slotted as shown in Fig. 1, its adjustment can be effected without removing it from the shaft, for the nut *C* can be loosened sufficiently to free the crank from the pin *b*, and the crank can then be moved to another point and again secured in place.

I am aware that wrist-pins having a vertical plate provided with a lip upon its upper end have been combined with a rod provided with a series of serrated teeth in which the lip is adapted to be fixed, and a vertical slot in which the wrist-pin can be moved to adjust the plate upon the teeth, and the whole clamped together after being adjusted by a clamping-nut upon the wrist-pin. This device differs from

mine in that the lip, when the device is clamped tightly together, will slip from the teeth, whereas in mine slots are provided, and the clamping-nut is upon the same plane, so that the tighter the nut is drawn the less liability of the pin slipping out of the slots.

What I claim as new is—

1. A hand-crank having its head provided with a slot, *a*, and notches *a² a² a²*, &c., in combination with a shaft having a transverse pin, *b*, so placed as to enter said notches, and a jam-nut, *C*, in the same plane as the pin, substantially as and for the purposes set forth.

2. A hand-crank having its head provided with two or more notches at which the said crank may be attached to the shaft provided with transverse pins *b*, in combination with a jam-nut in the same plane as the pin, and which is provided with parallel ears or horns *c c*, of sufficient length to extend beyond the end of the shaft and afford a bearing for a lever inserted between said horns, substantially as and for the purposes set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 20th day of March, 1882.

F. F. ADAMS.

Witnesses:

JNO. K. HALLOCK,
ROBT. H. PORTER.