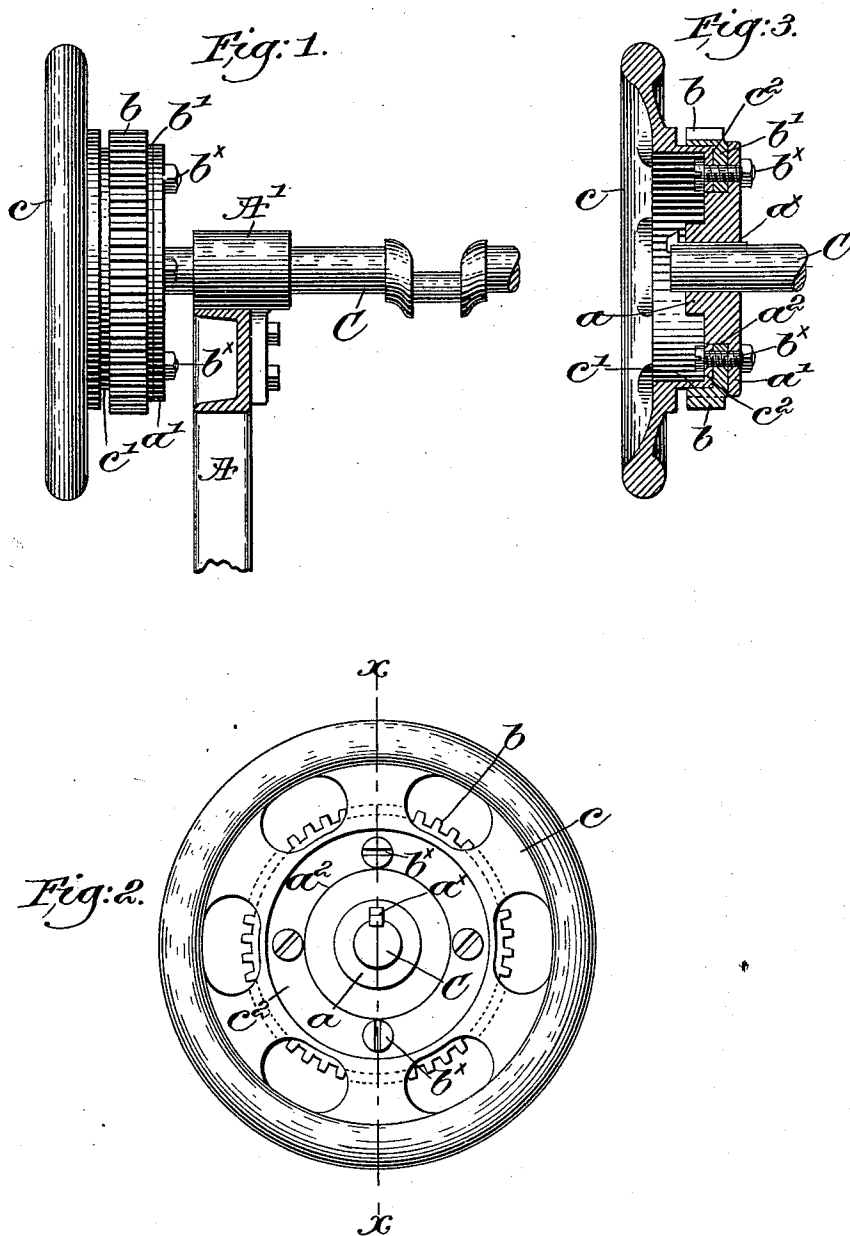


(No Model.)

A. F. McCANN.
LOOM GEAR.

No. 583,655.

Patented June 1, 1897.



Witnesses:
Edward F. Allen.

Thomas J. Drummond.

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UNITED STATES PATENT OFFICE.

ANDREW F. McCANN, OF FALL RIVER, MASSACHUSETTS.

LOOM-GEAR.

SPECIFICATION forming part of Letters Patent No. 583,655, dated June 1, 1897.

Application filed February 2, 1897. Serial No. 621,682. (No model.)

To all whom it may concern:

Be it known that I, ANDREW F. McCANN, of Fall River, in the county of Bristol and State of Massachusetts, have invented an Improvement in Loom-Gears, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention relates particularly to loom-gears attached to the crank-shaft of looms; and it has for its objects the production of a gear which may be readily replaced when worn or broken, to equalize the wear upon the gear, and to insure safety to the loom attendant.

In the majority of looms as now constructed the fast and loose pulleys are mounted on one end of the crank-shaft and the crank-shaft gear and hand-wheel at the opposite end, the hand-wheel being usually required in order to insure the safety of the operative. Such gears are usually cast in one piece with the hand-wheel and keyed to the shaft with the gear-hub close to the shaft-bearing, the key being driven home from the outside, and when the gear has to be removed it is effected by the aid of a forcing apparatus, the operation usually resulting in the breakage of the hub by forcing it over the key, and the whole casting must be thrown aside. It has been proposed to make the gear and hub detachable, keying the latter to the shaft and securing hub and gear together by bolts; but when such gears have been used they have either been applied to the crank-shaft inside the pulleys, which serve as a guard, or else the hand-wheel has been keyed to the shaft outside the gear. In the former case the pulleys must be removed to detach the gear and in the latter case the hand-wheel has to be forced off over the key, breaking the hand-wheel.

By my present invention I overcome all of the foregoing objections by making the hub, gear, and hand-wheel in three separate pieces or castings, securing the gear and hand-wheel together and to the hub by suitable bolts, the hub alone being keyed to the crank-shaft. In this way the hand-wheel and gear may be removed from the hub together or separately for any needed repairs, and a guard is always present for the gear.

Figure 1 is a rear elevation of a portion of a loom-frame and crank-shaft with my inven-

tion applied thereto. Fig. 2 is a left-hand end elevation of the device shown in Fig. 1; and Fig. 3 is a vertical sectional view of the loom-gear on the line $x x$, Fig. 2.

The loom-frame A, having a bearing A' for one end of the crank-shaft C, is and may be of well-known construction.

The hub a , having a disk-like body a' , is permanently attached to the shaft beyond the loom side by a suitable key a^x , the body being shown in Fig. 3 as annularly shouldered on its outer side at a^2 .

A ring-gear b is provided with a web b' , apertured to snugly fit over the shoulder a^2 of the hub-body, to which it is detachably secured by suitable bolts b^x .

The hand or balance wheel c is herein shown as formed on an annular body c' , having at its inner end an inturned flange c^2 , which slips over the shoulder a^2 , the flat face of the wheel-flange c^2 resting against the flange b' of the gear.

The bolts b^x are extended through the adjacent flanges of the gear and wheel into the hub-body, rigidly securing the three parts together to operate as a single casting.

By the construction described a very firm and strong connection is effected between the parts, the hub by its shoulder a^2 providing a common support for the gear and wheel, while the latter effectually guards the gear and prevents accidents to the operative.

As the hub and balance-wheel will under ordinary circumstances last as long as the crank-shaft itself it is only necessary to renew the gear when worn out or to turn it relatively to the hub to present new teeth at the points of greatest wear.

I effect a great saving in repairs, reduce to a minimum the time necessary to replace a gear, usually a matter of several hours, and do away with the use of forcing mechanism, which otherwise must be kept on hand to remove broken or worn gears.

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

1. A hub having an annularly-shouldered body, a separable ring-gear to rest against the body, a hand-wheel provided with an inturned flange to embrace the shoulder of the hub, and bolts to rigidly secure said hub, gear

and hand-wheel together, substantially as described.

2. A hub having an annularly-shouldered body, a ring-gear, and an open-center hand-wheel, each having an intumed flange adapted to embrace and be supported by the shoulder, on the hub, and bolts to pass through said flanges when superposed and the hub-body, rigidly securing the parts together, substantially as described.

3. In a loom, the crank-shaft, a hub permanently secured thereto and provided with an annularly-shouldered, disk-like body, a ring-

gear having a flange to embrace said shoulder and rest against the hub-body, and a hand-wheel having an intumed flange to embrace the shoulder, said hub, gear and wheel being detachably connected by bolts, substantially as described.

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

ANDREW F. McCANN.

Witnesses:

JOHN H. BURGESS,
GEORGE E. BAMFORD.