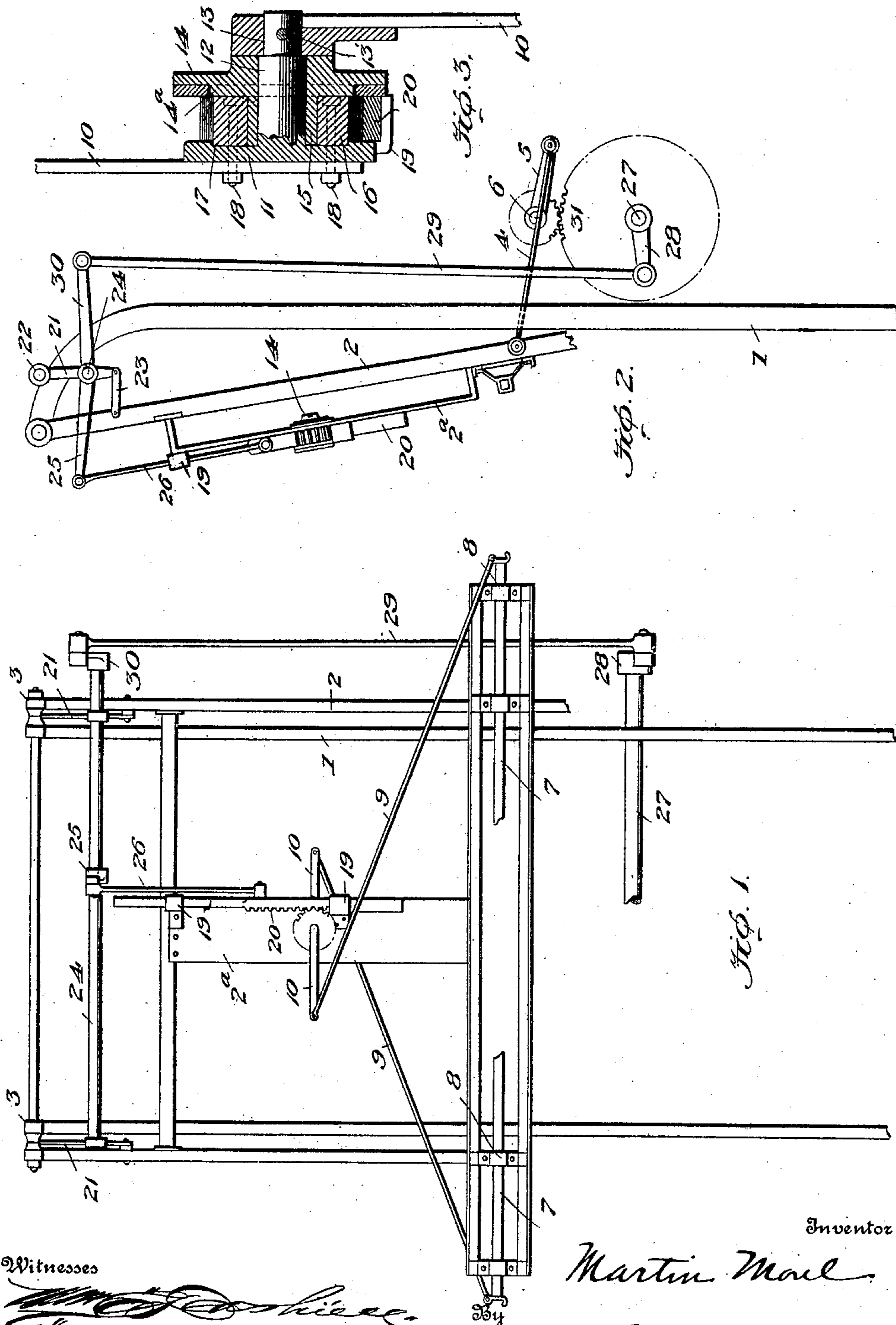


No. 878,148.

PATENTED FEB. 4, 1908.

M. MOUL.
SHUTTLE MOTION FOR LOOMS.
APPLICATION FILED APR. 29, 1907



Witnesses

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UNITED STATES PATENT OFFICE.

MARTIN MOUL, OF HANOVER, PENNSYLVANIA.

SHUTTLE-MOTION FOR LOOMS.

No. 878,148.

Specification of Letters Patent.

Patented Feb. 4, 1908.

Application filed April 29, 1907. Serial No. 370,853.

To all whom it may concern:

Be it known that I, MARTIN MOUL, a citizen of the United States, residing at Hanover, county of York, and State of Pennsylvania, have invented certain new and useful Improvements in Shuttle-Motions for Looms, of which the following is a specification.

My invention relates to shuttle motions for looms.

The present invention is designed more particularly, for looms which weave wire fabrics but it is adapted for use on other looms.

The object of the present invention is the provision of novel shuttle operating means embracing gearing, pitmen, and cranks or levers, with associated parts, affording a strong, durable, simple, and efficient shuttle motion subject to none of the defects of shuttle motions heretofore employed which utilize chains or other flexible connections, the present shuttle motion being positively operated and practically impossible to get out of order.

With my improved shuttle motion, any suitable means may be employed for swinging the lathe-frame.

The invention is fully set forth hereinafter and its novel features are recited in the appended claims.

In the accompanying drawings:—Figure 1 is a front view, showing so much of a wire weaving loom as illustrates the application of my shuttle motion thereto; Fig. 2, a side elevation; and Fig. 3, an enlarged cross-section showing the rack, pinion, arms, and associated devices.

The loom frame 1 suspends the lathe-frame 2 by pivotal or hinge connections 3 whereby the lathe-frame is adapted to swing to and fro in the ordinary manner. The lathe-frame is oscillated by a pitman 4 and crank 5 which is secured to shaft 6.

The shuttle bars, which are shown at 7, play to and fro in boxes or bearings 8 and their reciprocations are effected by rods or pitmen 9 which are pivoted to the outer ends of cranks 10. One of the cranks 10 is secured to the outer face of a plate 11 which has an integral stub shaft 12 provided with a reduced part 13 to which the other arm 10 is secured by a pin 13', the arms 10 being disposed diametrically opposite each other. Secured to the cross-piece on plate 2^a of the lathe-frame 2, is a plate 14 which has an inte-

gral hollow hub 15, the plate 14 having a part 14^a which is set into an opening in the plate 2^a and extends to the face thereof. The stub shaft 12 is journaled in the plate 14 and hollow part 15. A spur gear or pinion 16 is rotatably mounted on the sleeve or hollow part 15 and its face is let into a counter sink 17 of plate 11. Bolts 18 secure the gear 16, plate 11 and outer arm 10 rigidly together.

Secured to the plate 2^a are brackets 19 for a rack 20 which meshes with the gear 16. Hangers 21 which are pivoted at 22 to frame 1, have link connections 23 to the lathe-frame 2 whereby they swing with said frame. These hangers carry a rock shaft 24 which has a lever 25, connected by a pitman 26 to the rack 20. A shaft 27, carries a crank 28 which is connected by a pitman 29 to a lever 30 carried by shaft 24, the shaft 27 driving the shuttle motion.

As shaft 27 rotates, the gearing 31 causes the rotation of shaft 6 and the oscillation of the lathe-frame. The rotation of crank 28 causes the shaft 24 to be rocked through a partial revolution which causes the rack 20 to be reciprocated a proper distance to cause the gear or pinion 16 to rotate properly to throw the cranks or arms 10 the distance required to cause the proper play of the shuttle bars 7. The continuous rotation of crank 28 is transmitted into a reciprocation of the rack 20 and oscillation of the arms 10 with incident reciprocation of shuttle bars 7.

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

1. In a shuttle motion for looms, the combination with a swinging lathe-frame, and shuttle bars carried thereby, of means carried by the lathe-frame for reciprocating said shuttle bars, a swinging hanger having a connection with the lathe-frame, means carried by the hanger for operating the shuttle bar operating means, and driving means cooperating therewith.

2. In a shuttle motion for looms, the combination with a swinging lathe-frame, of shuttle bars carried thereby, means carried by the lathe-frame for operating the shuttle bars, a swinging hanger having a connection with the lathe-frame, a lever hung from the hanger and operatively connected with the shuttle bar operating means, and means for rocking said lever.

3. In a shuttle motion for looms, the com-

ination with a swinging lathe - frame, of
shuttle bars carried thereby, means carried
by the lathe-frame for operating the shuttle
bars, a swinging hanger having a connection
5 with the lathe-frame, a lever hung from the
hanger and operatively connected with the
shuttle bar operating means, another lever for
rocking the aforesaid lever, a rotary driving

crank and a pitman connecting the driving
crank and the lever last named. 10

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

MARTIN MOUL.

Witnesses:

H. M. BANGE,

GUY W. BANGE.