(No Model.)

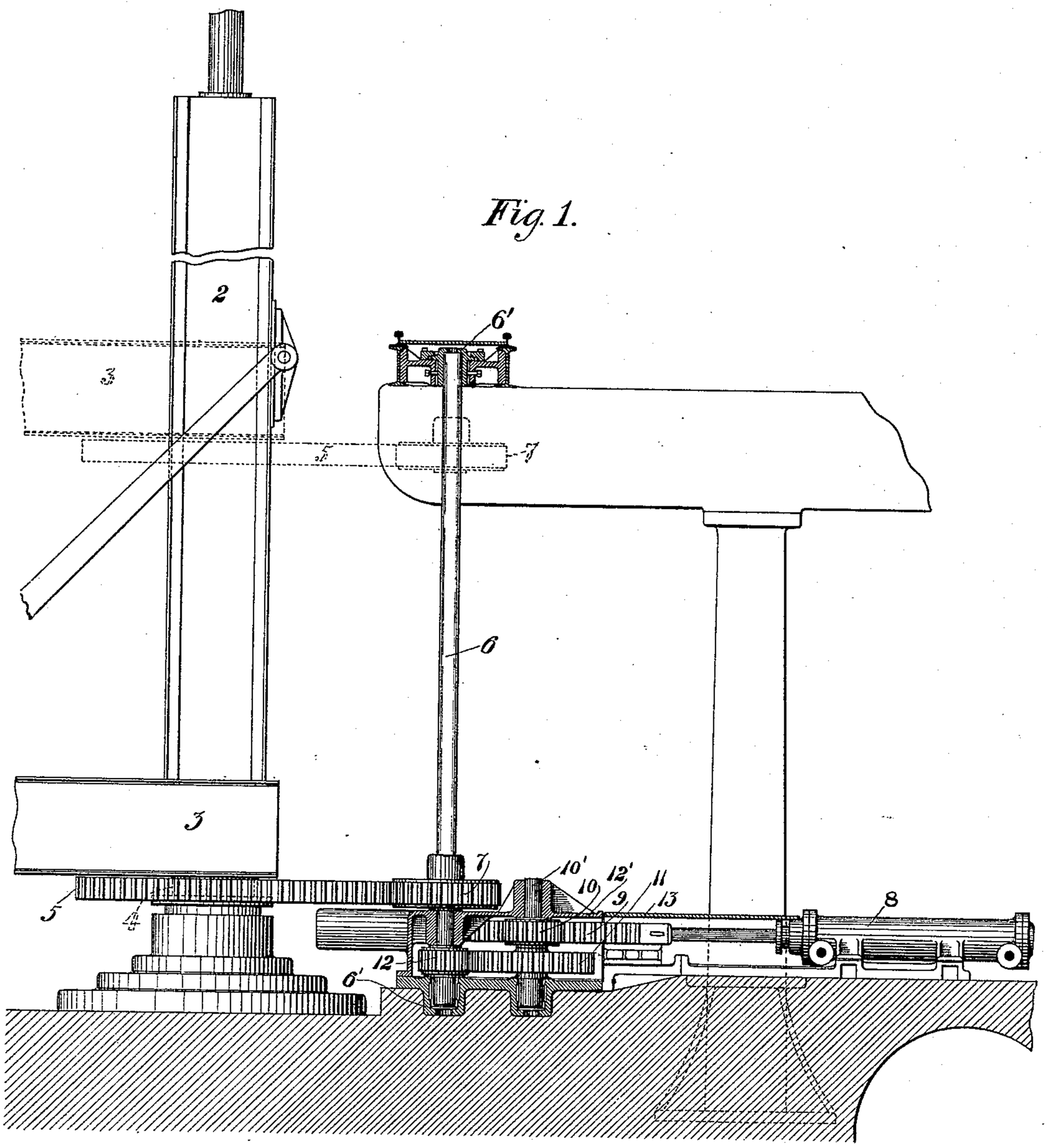
2 Sheets—Sheet 1.

# C. MERCÀDER.

## CRANE TURNING MECHANISM.

No. 487,954. Patented Dec. 13, 1892.

*Fig. 1.*




WITNESSES

A. M. McComas

W. W. Swartz.

INVENTOR

Camille Mercàder

by W. Baxendell & Sons

his Attorneys.

(No Model.) 2 Sheets—Sheet 2.

# C. MERCÀDER.

## CRANE TURNING MECHANISM.

No. 487,954. Patented Dec. 13, 1892.

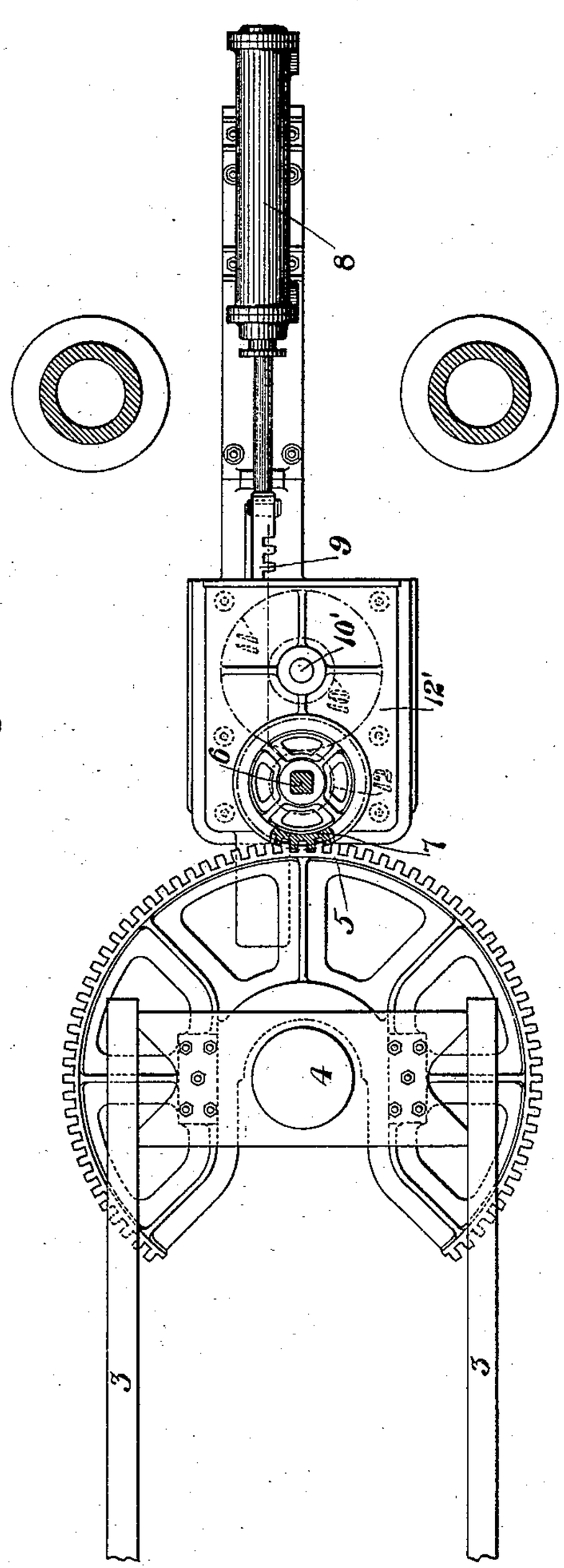



Fig. 2.

WITNESSES

J. F. McLaurin

W. W. Swartz.

INVENTOR

Camille Mercàder

by W. Baxendell & Sons

his attorneys.

# UNITED STATES PATENT OFFICE.

CAMILLE MERCÁDER, OF BRADDOCK, PENNSYLVANIA.

## CRANE-TURNING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 487,954, dated December 13, 1892.

Application filed August 30, 1892. Serial No. 444,518. (No model.)

*To all whom it may concern:*

Be it known that I, CAMILLE MERCÁDER, of Braddock, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Crane-Turning Mechanism, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a view showing, in side elevation, partly in vertical section, the mast of a crane provided with my improved turning mechanism. Fig. 2 is a plan view partly in horizontal section.

Like symbols of reference indicate like parts in each.

The object of my invention is to provide means for turning cranes which shall be especially applicable to ladle-cranes and which shall be the cause of saving labor in their operation.

In the drawings, 2 represents the mast of a ladle-crane, and 3 is the jib, composed of horizontal beams which project from the mast and are adapted to support the burden of the crane. The mast and jib are adapted to be moved vertically by a lifting cylinder and plunger which in the construction illustrated are set in a pit in the mill-floor, the head of the plunger 4 being shown by dotted lines projecting above the same in Fig. 1. The mast is rotary on a vertical axis, the bottom journal being preferably constituted by the plunger which supports the mast and is itself rotatory in the lifting-cylinder.

The construction of the parts above described does not constitute an element of limitation of my claims.

The means for rotating the crane are as follows: 5 is a gear-wheel fixed to the crane-mast and movable vertically with it. 6 is an upright shaft set near to the mast and journaled in top and bottom bearings 6′. It has a pinion 7 set thereon with a traveling connection, which may be a feather and spline, but is preferably constituted by squaring the shaft and the interior of the pinion's hub, so that the pinion may be capable of sliding vertically on the shaft while maintaining its operative relation thereto. The pinion 7 is in gear with the gear-wheel 5, and the two wheels are connected by the fitting of the periphery of one between annular flanges on the other, so that as the wheel 5 moves vertically with the crane it shall carry the pinion 7 with it and shall continue to be in gear therewith in every position of the crane-jib. This is illustrated in Fig. 2, in which part of the flange of the pinion 7 is shown as broken away. In Fig. 1, by full lines, the jib is shown in its lowest position, and by dotted lines it is shown in its highest position.

The shaft 6 is driven by a motor 8, connected with it by gearing preferably constructed as follows: The motor, which may be a cylinder and plunger, has a rack 9 meshing with a pinion 10 on whose shaft 10′ is a gear-wheel 11, meshing with a gear-wheel 12 on the shaft 6, so that by projecting the plunger of the motor the shaft 6 shall be rotated and, as will appear from the drawings, such rotation is communicated to the crane-mast and will turn the same in any position of the jib. The moving parts of the motor, the gearing connecting it with the crane-mast, and the bearings of the shaft 10′ are inclosed in a box 12′, having a cover 13. These exclude dirt and cinder from the gearing, and thus prevent injury to the latter.

By putting the turning mechanism at the base of the crane all the disadvantages which have resulted from the supporting of the crane-turning motor by the roof structure of the building are avoided and a cheaper and better arrangement is had.

Without limiting myself with strictness to the described construction of the parts, I claim as new—

1. Turning mechanism for cranes, comprising an upright shaft, a traveling power connection between the crane and shaft, and means for turning the shaft, substantially as and for the purposes described.

2. Turning mechanism for cranes, comprising an upright shaft, a traveling power connection between the crane and shaft, and a motor situate on the mill-floor and connected with the shaft, substantially as and for the purposes described.

3. Turning mechanism for cranes, comprising an upright shaft, a traveling pinion on the shaft, and gearing on the crane meshing

therewith, and means for turning the shaft, substantially as and for the purposes described.

4. A crane having a lifting-mast and jib, a turning motor set at the base of the mast, and a traveling power connection between the motor and mast, substantially as described.

In testimony whereof I have hereunto set my hand this 18th day of August, A. D. 1892.

CAMILLE MERCÁDER.

Witnesses:
THOMAS W. BAKEWELL,
W. B. CORWIN.