

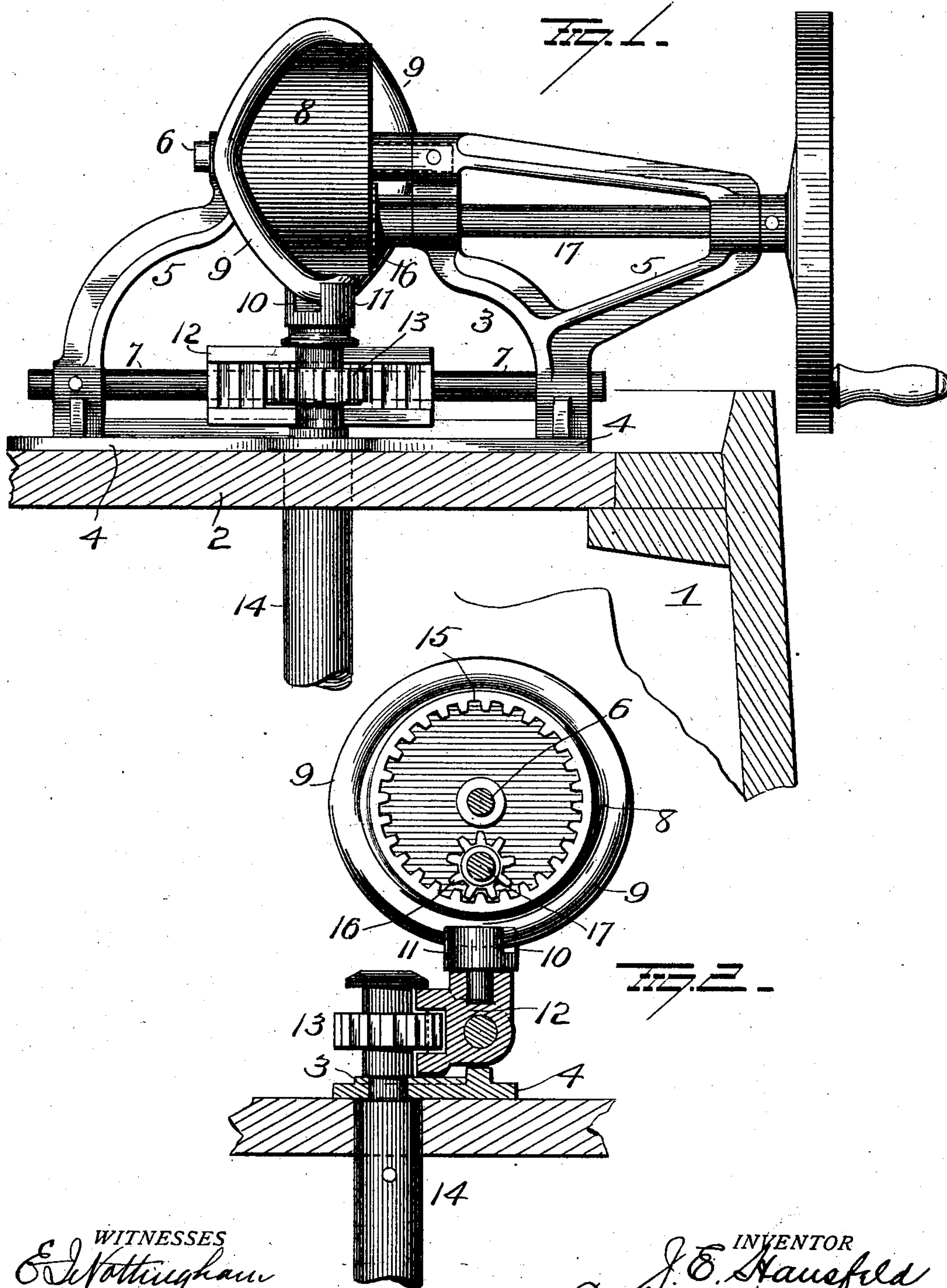
No. 720,140.

PATENTED FEB. 10, 1903.

J. E. HAUSFELD.  
MECHANICAL MOVEMENT.  
APPLICATION FILED AUG. 5, 1902.

**NO MODEL.**

2 SHEETS—SHEET 1.



**WITNESSES**

WITNESSES  
E. J. Nottingham  
G. F. Downing.

INVENTOR

INVENTOR  
J. E. Hausfeld  
By A. A. Seymour  
Attorney

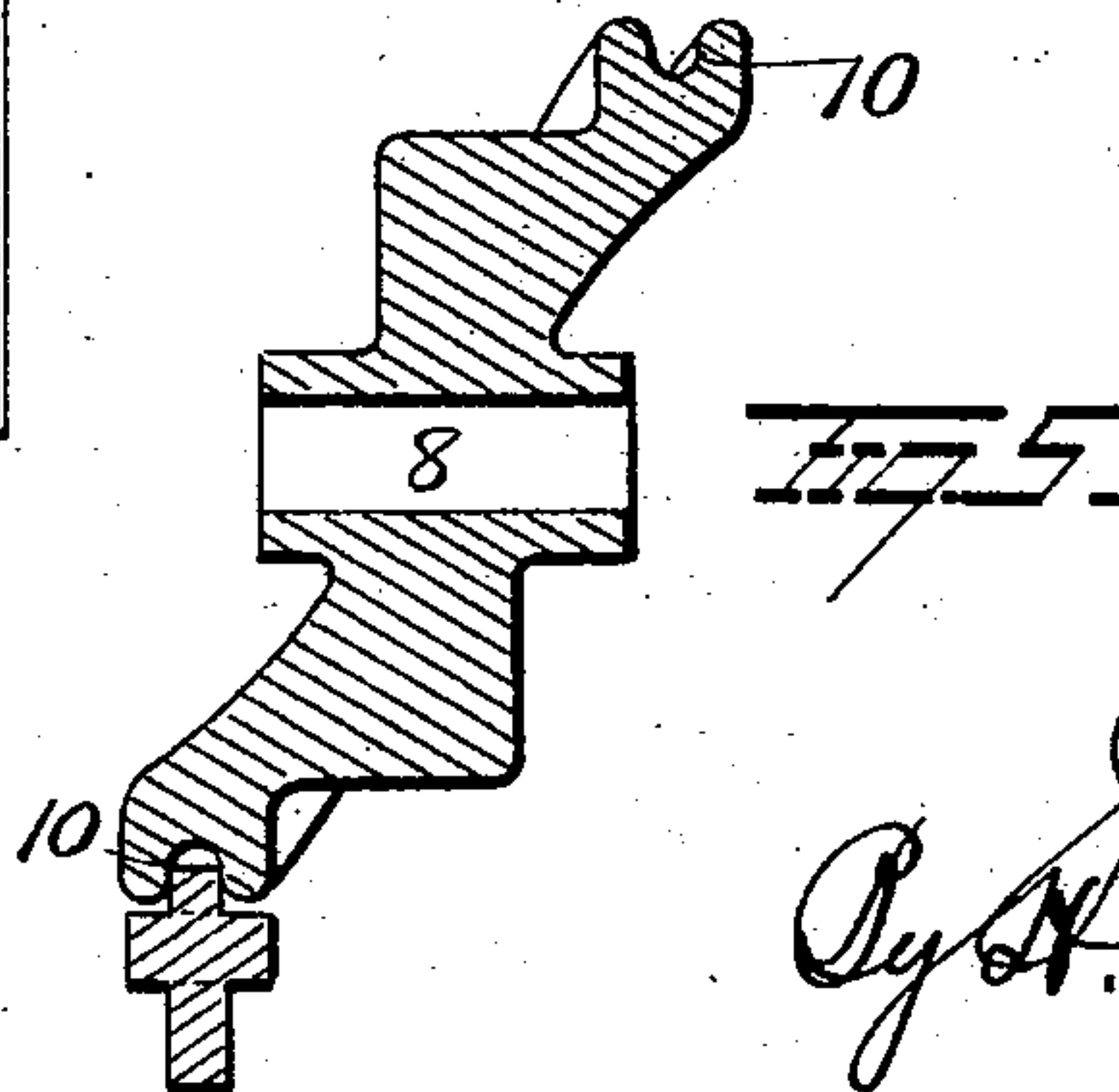
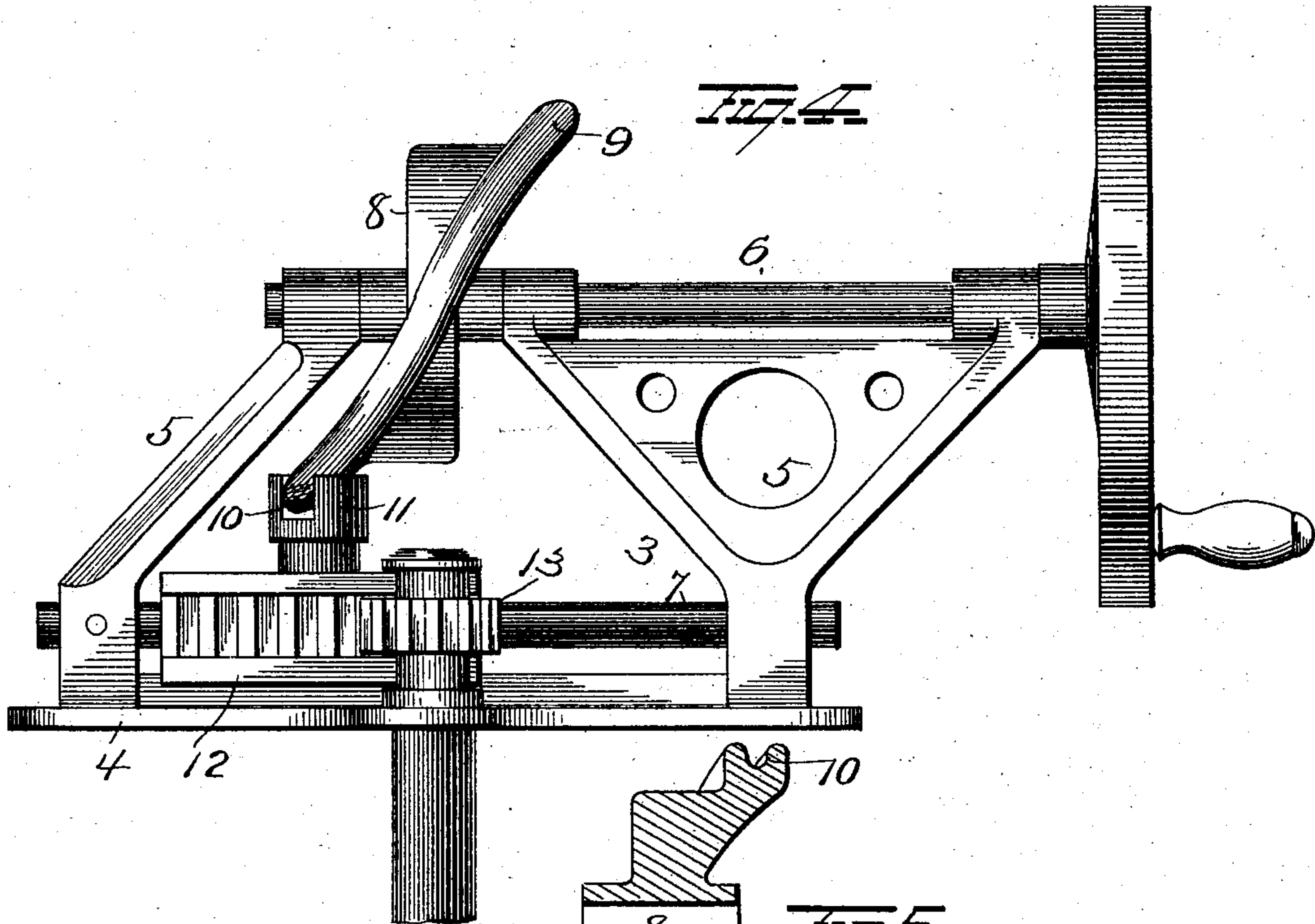
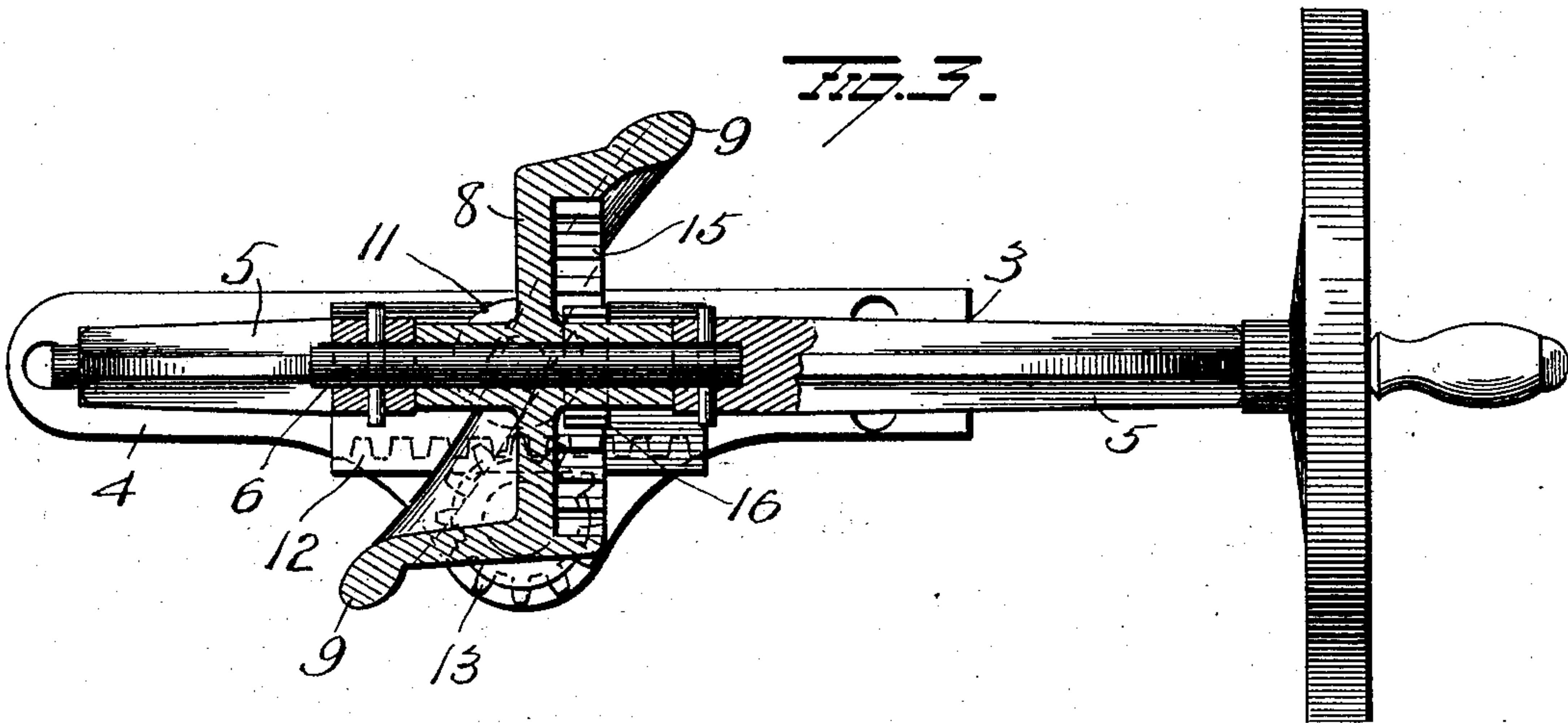
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C. F. Downing.

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J. E. Hausfeld  
By H. A. Seymour  
Attorney



# UNITED STATES PATENT OFFICE.

JOSEPH E. HAUSFELD, OF CINCINNATI, OHIO, ASSIGNOR TO ERNST H. HUENEFELD, OF CINCINNATI, OHIO.

## MECHANICAL MOVEMENT.

SPECIFICATION forming part of Letters Patent No. 720,140, dated February 10, 1903.

Application filed August 5, 1902. Serial No. 118,531. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH E. HAUSFELD, of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and  
5 useful Improvements in Mechanical Movements; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and  
10 use the same.

My invention relates to an improved mechanical movement, and more particularly to improved mechanism for alternately rotating a driven shaft in opposite directions by means  
15 of a driving-shaft continuously revolved in one direction, the object of the invention being to provide improved means specially adapted for operating the alternating rotary dasher of a washing-machine; and my invention  
20 consists in the parts and combinations of parts, as will be more fully described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in elevation disclosing my improvements. Fig. 2 is a view in transverse section  
25 of the same. Fig. 3 is a longitudinal section, and Figs. 4 and 5 are views of modifications.

1 represents a washing-machine having an ordinary cover 2, on which is secured the  
30 frame or bracket 3, carrying my improvements. This frame or bracket comprises a bed-plate 4, secured to cover 2, and end sections 5, having aligned openings for the cam-shaft 6 and guide-rod 7. The cam-shaft 6 is  
35 mounted in the upper end of the frame or bracket 3 and supports the single endless cam 8. This cam is provided in the constructions shown in Figs. 1, 2, and 3 with a single continuous-cam flange 9, which latter rests and  
40 moves within the slot 10 of stud 11. This stud is swiveled centrally in the upper face of the rack-bar 12, the latter being of such length as to give the dasher the requisite rotary movement in both directions. This rack-  
45 bar 12 is slidingly mounted on the guide-rod 7, which latter is secured at its ends in the frame or bracket 3 and meshes with the pinion 13 on the upper end of the dasher or driven shaft 14. The cam 8 is provided with  
50 the internal or annular gear-wheel 15, concentric with cam-shaft 6, which gear-wheel

is engaged by the pinion 16 on drive-shaft 17. It is evident, however, that instead of connecting up the cam by means of the internal gear 15 and pinion 16 the cam-shaft 6 may  
55 be extended beyond the machine and provided with a suitable hand-wheel, as shown in Fig. 4, and it is also evident that instead of providing the cam 8 with a cam-flange 9 the cam may be provided with a groove and  
60 the stud 10 with a feather or spline fitting in said groove, as shown in Fig. 5.

With either construction shown it is evident that during one half of the revolution of the cam 8 the rack-bar 12 will be moved in  
65 one direction, thus rotating the dasher or driven shaft 14, and during the other half of the revolution the rack-bar will be moved in the reverse direction, thus reversing the direction of rotation of the driven shaft or  
70 dasher.

The parts thus described are exceedingly simple, require but little finishing, and may be quickly and easily assembled and are particularly adapted for producing rotary move-  
75 ment in opposite directions of the dasher of a washing-machine. It is also evident that other changes in the construction and relative arrangement of the several parts might be made without avoiding my invention, and  
80 hence I would have it understood that I do not restrict myself to the particular construction and arrangement of parts shown and described; but,

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

1. The combination with a driven shaft, a pinion thereon and a rack-bar arranged to mesh with the pinion and provided with a  
90 swiveled stud, of a continuously-driven cam constructed to engage the swiveled stud on the rack-bar and reciprocate the latter, substantially as set forth.

2. The combination with a driven shaft, a  
95 pinion thereon and a rack-bar arranged to mesh with the pinion and provided with a swiveled stud, of an endless-cam flange constructed to fit within a groove in the swiveled stud, and means for rotating the cam,  
100 substantially as set forth.

3. The combination with a driven shaft, a

pinion secured to the shaft, a rack-bar mesh-  
ing with the pinion and a swiveled stud at-  
tached to the rack-bar, of a driving-shaft, a  
pinion secured thereto, an internal gear with  
5 which said pinion meshes, said internal gear  
being provided with an endless-cam flange  
which engages the swiveled stud on the rack-  
bar, substantially as set forth.

In testimony whereof I have signed this  
specification in the presence of two subscrib- 10  
ing witnesses.

JOSEPH E. HAUSFELD.

Witnesses:

CHARLES E. PFAU,  
J. P. BAUER, Jr.