

(No Model.)

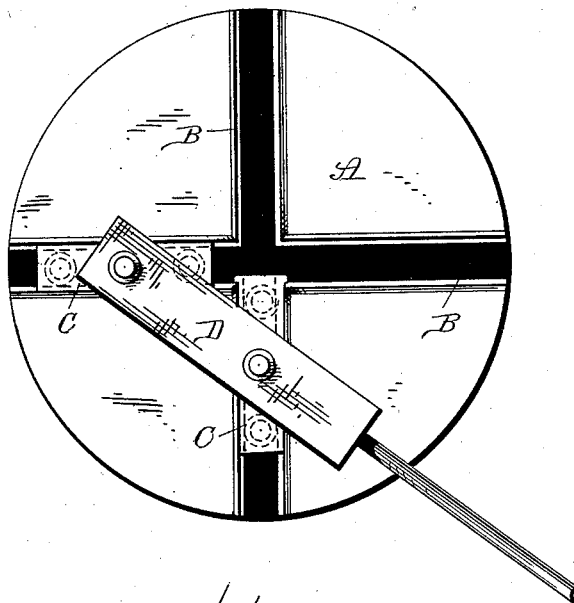
W. C. SMALSTIG.

DEVICE FOR CONVERTING MOTION.

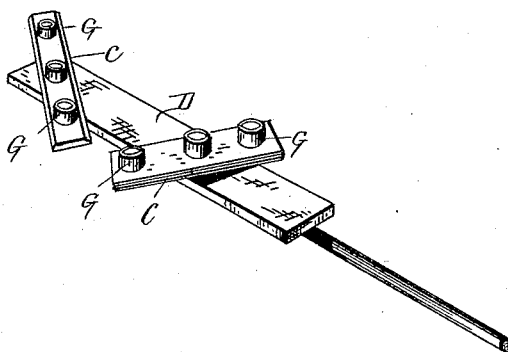
No. 302,214.

Patented July 15, 1884.

*Fig. 1.*



*Fig. 2.*



*-Witnesses-*

*Louis T. Gardner*  
*J. W. Garner*

*-Inventor-*

*W. C. Smalstig*  
*per*  
*P. A. Lehmann, atty.*

# UNITED STATES PATENT OFFICE.

WILLIAM C. SMALSTIG, OF SPRINGFIELD, MISSOURI.

## DEVICE FOR CONVERTING MOTION.

SPECIFICATION forming part of Letters Patent No. 302,214, dated July 15, 1884.

Application filed December 7, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, W. C. SMALSTIG, of Springfield, in the county of Greene and State of Missouri, have invented certain new and useful Improvements in Mechanical Move-  
ments; 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in mechanical movements for converting motion; and it consists in the combination of the wheel having the two races or ways crossing each other at right angles with the two carriages, each one of which is provided with three or more friction-rollers, as will be more fully described hereinafter.

The object of my invention is to provide the carriages with three or more friction-rollers, which are placed just far enough apart to have two of them pass over the crossing of the two races and take a firm hold upon the opposite side before the last roller crosses the opening; and thus keep each carriage moving as smoothly and evenly as possible.

Figure 1 represents a side elevation of a mechanical movement embodying my invention. Fig. 2 is a detail view of the same.

A represents a wheel, having the two races or ways B made in its face and crossing each other at right angles. In these two races are placed the two carriages C, both of which are pivoted to the rod D in the usual manner. Each of these carriages is provided with three or more friction-rollers, G, of just sufficient size to fill the races and allow the carriages to move freely back and forth without any unnecessary friction. These rollers are placed

equidistant apart, and the distance between them is regulated so that when one of the rollers has passed over the crossing of the two races the other two rollers will still maintain a firm hold upon the races on the opposite side of the crossing. After two of the rollers have passed over the crossing, the third one maintains a firm hold upon the opposite side of the crossing, and thus the carriage is prevented from having any unnecessary play or movement. By means of this construction the carriages are caused not only while in the outer ends of the races, but at the crossing of the two races, to move smoothly and evenly, and thus all that jerking and uneven movement which has heretofore been experienced in connection with a mechanical movement of this kind is entirely done away with. Each of the carriages is held in its race or groove by means of metallic holding plates or devices which catch over their outer edges in the usual manner.

Having thus described my invention, I claim—

The combination of the wheel having the two races crossing each other at right angles with the two carriages, provided with two or more friction-rollers, and the rod for connecting the carriages together, the rollers being placed in such relation to each other upon the carriages that two of them will be upon one side of the crossing, while the third one remains upon the other, substantially as shown and described.

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

W. C. SMALSTIG.

Witnesses:

WM. MCADAMS,  
E. E. MCADAMS.