

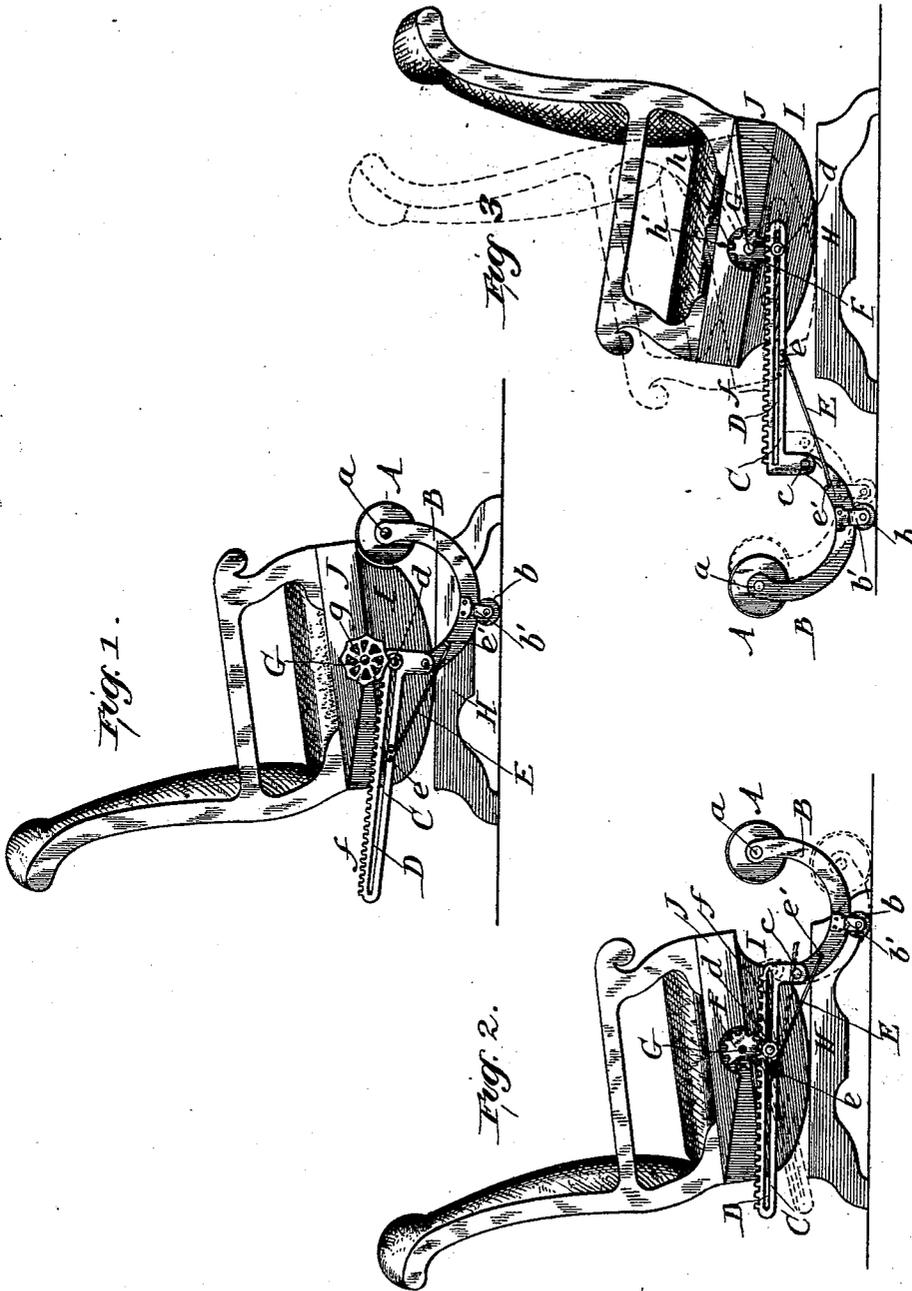
(No Model.)

3 Sheets—Sheet 1.

L. E. ARMSTRONG.  
FOOT REST FOR ROCKING CHAIRS.

No. 513,169.

Patented Jan. 23, 1894.



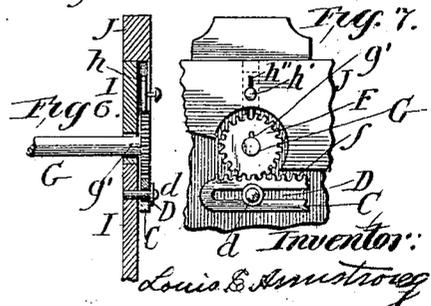
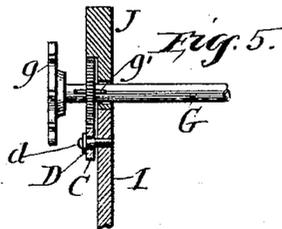
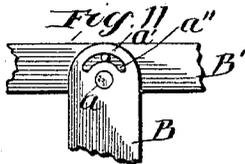
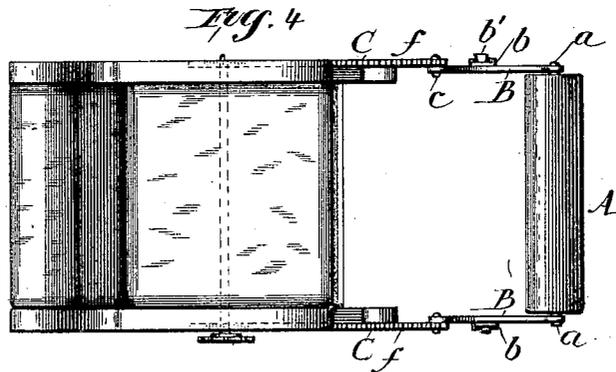
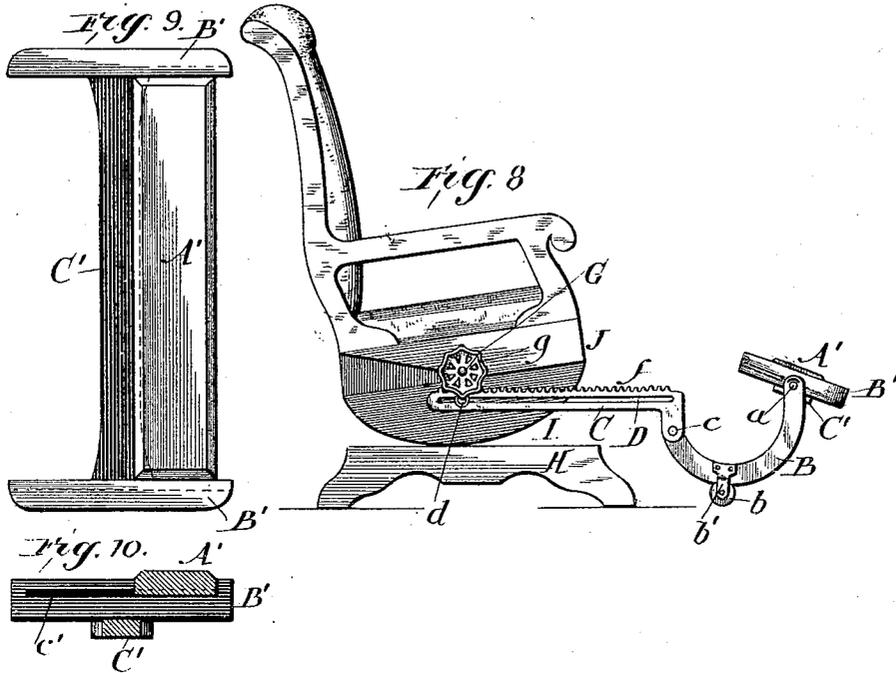
Witnesses:  
O. V. Bond.  
Geo. C. MacGregor

Inventor:  
Louis E. Armstrong

L. E. ARMSTRONG.  
FOOT REST FOR ROCKING CHAIRS.

No. 513,169.

Patented Jan. 23, 1894.



Witnesses:  
 W. Bond.  
 Jno. C. MacGregor.

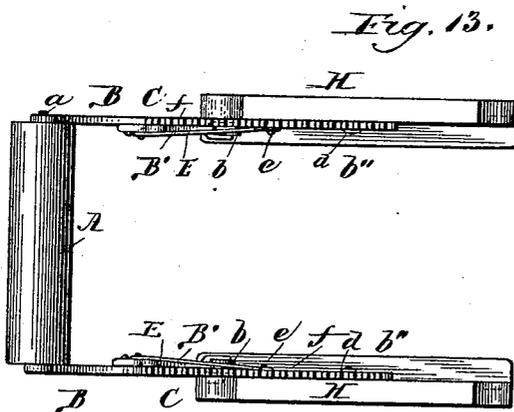
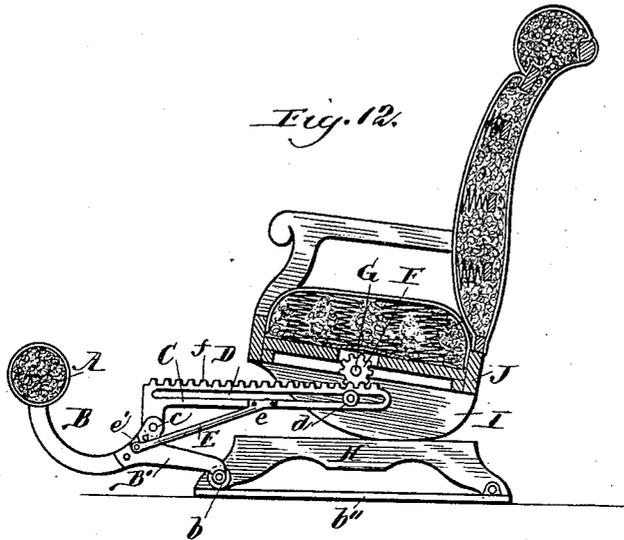
(No Model.)

3 Sheets—Sheet 3.

L. E. ARMSTRONG.  
FOOT REST FOR ROCKING CHAIRS.

No. 513,169.

Patented Jan. 23, 1894.



Witnesses  
W. P. Smith  
W. P. Smith

Inventor,  
Louis E. Armstrong

# UNITED STATES PATENT OFFICE.

LOUIS E. ARMSTRONG, OF FORT DODGE, IOWA.

## FOOT-REST FOR ROCKING-CHAIRS.

SPECIFICATION forming part of Letters Patent No. 513,169, dated January 23, 1894.

Application filed September 9, 1890. Serial No. 364,478. (No model.)

*To all whom it may concern:*

Be it known that I, LOUIS E. ARMSTRONG, a citizen of the United States, residing at Fort Dodge, in the county of Webster and State of Iowa, have invented certain new and useful Improvements in Foot-Rests for Rocking-Chairs; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, forming a part hereof, in which—

Figure 1, is a side elevation, showing the foot rest drawn back for using the chair as an ordinary rocker. Fig. 2, is a side elevation, showing the foot rest partly extended and in position for use, by the full lines, and showing, by dotted lines, the foot rest dropped on to the floor. Fig. 3, is a side elevation of the reverse side of the chair, to Figs. 1 and 2, showing the foot rest fully extended and in position for use, by the full lines, and showing by the dotted lines, the movement of the rest and chair in rocking. Fig. 4, is a top or plan view of the chair, with the foot rest extended. Fig. 5, is a detail, partly in section, showing the adjusting pinion and hand wheel, for one side of the chair. Fig. 6, is a detail, partly in section, showing the adjusting pinion and the lock therefor for the other side of the chair. Fig. 7, is a side elevation of the devices shown in Fig. 6. Fig. 8, is a side elevation, showing a sliding foot rest instead of a roller. Fig. 9, is a top or plan view of the sliding foot rest of Fig. 8. Fig. 10, is a cross-section of Fig. 9. Fig. 11, is a detail, showing the stop for the foot rest of Fig. 8. Fig. 12 is a sectional elevation showing the rollers traveling on the base rail of the chair, and the rack bars applied to the inside of the chair. Fig. 13 is a top or plan view showing the bottom of the chair, the foot rest and rack bars, arranged as shown in Fig. 12.

This invention relates to foot rests designed for attachment to and use with a rocking chair, and has for its objects to construct a foot rest which will furnish a support or rest for the limbs or feet of the occupant of the chair, and at the same time not interfere with the rocking movement of the chair, and which can be raised to support the limbs of the occu-

pant extended, or dropped to support the feet of the occupant, or be moved back, and allow the chair to be used in the ordinary manner; to enable the foot rest to travel with the oscillations of the chair, and to improve generally the construction and operation of the foot rest and its attachment to a rocking chair, and its nature consists in the several parts and combination of parts hereinafter described and pointed out in the claims.

A, represents a foot rest of a cylindrical form, as shown in Fig. 1, and having at each end a center trunnion *a*, on which the rest can oscillate. This cylinder rest can be made of wood, or of a paper, metal, or other shell with end heads, and, if desired, can be covered with cloth or other material, and its diameter can be one that will furnish a support for the limbs of the occupant of the chair without any discomfort, by resting on the cylinder.

B, are arms, one for each side of the chair; each arm B, as shown, is curved, and its outer end has a bearing to receive the trunnion *a* of the foot rest A, and each arm has a roller *b* to rest on the floor, such roller being mounted in an ear or bracket *b'* attached to the arm B.

C, are sliding bars, one for each arm B, and attached to its arm by a pin or pivot *c*, in the construction shown, and each bar C has, on its upper edge, a rack *f*, by means of which and a pinion, the bar can be advanced and receded.

D, is a longitudinal slot in each bar C, which slot receives a headed pin *d*, by means of which the bar C is attached to the side of the chair so as to be free to move forward and back, carrying with it the arm B and roller rest A.

E, is a brace rod running from the bar C to the arm B, and rigidly attached to the bar C by a plate or ear *e*, and having its outer end formed with a catch to enter a slot or hole *e'* in the arm B, so that when the catch end of the brace E is in the slot or hole *e'* the arm B and bar C will be firmly connected together and form in effect one piece. The brace E can be sprung out at its end from the slot or hole *e'* in which case the arm B will not be held up but is free to drop, turning on the pivot *c*, for the roller foot rest to lie on the

floor, as shown by the dotted lines in Fig. 2. F, is a pinion, one for each bar C, the cogs of which mesh with the rack *f* of the bar C.

G, is a rod or shaft, on which are secured the pinions F, by splines *g'* or in any other suitable firm manner. This shaft is mounted in the frame work of the chair, and projects at one end beyond the side of the chair, and has attached thereto a hand wheel *g* by means of which the shaft G can be rotated in either direction to turn the pinions F, and advance and recede the bars C. The pinion F, on the opposite side of the chair to the hand wheel, *g*, is locked, so as to hold the shaft G against turning, by a catch *h*, arranged to engage between the cogs of the pinion, as shown in Fig. 7, which catch is operated by a button *h'* on a stem passing through a slot *h''* in the side piece of the chair frame, as shown in Fig. 7.

H, are the base rails of the chair, one for each side.

I, are the rockers, one for each base rail H. J, is the seat frame, to which the rockers are attached.

The chair is to have arms, a back, and seat and back cushions, as usual, and can be of the form and construction shown, or other form of base rocking chairs.

The roller foot rest is mounted by the trunnions *a*, between the outer ends of the arms B; the arms B are attached to the bars C by the pins or pivots *c*; the bars C are attached one to each side of the chair by the headed pin or screw *d*; the braces E are attached to the bars C to project forward and engage with the arms B; the rod or shaft G is placed in position in the frame of the chair, and the pinions F are keyed or otherwise secured to the rod or shaft to mesh with the racks *f* of the bars C; the hand wheel *g* or other suitable handle is attached to the end rod or shaft G on the right hand side of the chair, or the left hand, as desired, and the catch *h* is placed in the side rail of the chair to engage with the pinion F, and the rods E are hooked into or engage with the arms B to hold such arms upright and the roller foot rest elevated, and in position to receive the limbs of the occupant of the chair and when so arranged the chair and foot rest are ready for use.

In use, the foot rest is adjusted forward or back the distance required for the person using the chair to have an easy rest of the limbs thereon, and such adjustment is had by raising the catch *h* from engagement with the pinion F and turning the rod or shaft G in the proper direction through the handle *g*, for the pinions F to advance or recede the bars C and bring the foot rest A in position to furnish a support for the limbs between the knee and ankle when extended and in this position the limbs will be carried by the traveling foot rest, which will reciprocate or roll forward and back with the forward and backward rock of the chair. The foot rest will travel beneath the limbs and at the same time the limbs will travel on the foot rest, giving a

support for the limbs which will not require any exertion on the part of the occupant of the chair, except the rocking of the chair, as the limbs rest naturally and move readily on the foot rest, without any contracting and extending of the limbs, as is the case with an immovable or non-traveling foot rest with which the knees must bend and the limbs rise and fall in the forward and backward rock of the chair, and this result of an easy and natural support for the limbs is had by the reciprocating or oscillating travel of the foot rest, which rolls or turns forward with the forward rock of the chair and rolls or turns backward with the backward movement of the chair without any change in the position of the limbs which remain fully extended, and are not cramped or otherwise fatigued.

The pin *d* is located at or near the center of oscillation of the body of the chair, so as to give only a slight travel of the arms B and bars C, with the rock of the chair, as indicated by the full and dotted lines in Fig. 3, and such travel in no wise interferes with the ease and comfort of the foot rest as a whole, but accommodates the foot rest to the changing position of the chair, and maintains the same relative position between the chair and foot rest, allowing the limbs to ride on the rest in the best position possible for comfort and ease in connection with the reciprocating travel of the rest itself.

The rest A, instead of having a reciprocating travel by rolling forward and back, can have such travel through a sliding movement, and such construction of rest is shown in Fig. 8, in which A' is a rest made of a flat piece of wood or other suitable material, supported at each end by a tenon which enters a groove *c'* in an end-piece B', and the end pieces B' are connected together by a cross-piece C', as shown in Figs. 9 and 10. The frame formed by the end-pieces B', cross-piece C', and carrying the sliding foot rest A', is supported between the outer ends of the arms B, by trunnions *a*, and in order to hold the frame against tipping vertically, a pin *a'* on each end-piece B' projects into a semicircular slot *a''* in the end of the arms B, as shown in Figs. 8 and 11.

The sliding foot rest and chair are used the same as the rolling foot rest and chair, the only difference being that in one case the reciprocating movement is had by the sliding of the foot rest forward and back with the rocking movement, and in the other case such reciprocating movement is had by the rolling forward and back of the foot rest.

The chair with the foot rest applied thereto can be made into and used as an ordinary rocker by withdrawing or receding the foot rest to the position shown in Fig. 1, so that the foot rest lies under, or partially under, the front of the seat, in which position it is out of the way, and does not interfere with sitting in and using the chair, with the feet resting on the floor, and to bring the rest into

the position shown in Fig. 1, the catch *h* is raised by the knob *h'*, releasing the pinion *F*, and then turning the hand wheel *g* or other handle to rotate the rod or shaft *G* and withdraw the foot rest into the position shown in Fig. 1.

The foot rest can be dropped from its elevated position to rest on the floor and be used for a rest for the feet, as shown by the dotted lines in Fig. 2, to do which all that is required to spring the braces *E* from their engagement with the arms *B*, releasing such arms, which drop down, allowing the roller rest to lie on the floor, where it is free to roll, and will not interfere with the rocking movement of the chair; and where it is desired to have the rest at all times in an elevated position, the arms *B* and bars *C* can be made of a single piece.

The rollers *b* furnish a traveling support for the foot rest, by which an easy movement is had and at the same time less wear is had by the travel back and forth on the carpet or floor, and instead of having the rollers *b* run on the carpet or floor, such rollers can be arranged to travel on the base rails *H* of the chair.

The bars *C*, are shown applied to the outside of the chair, but they could be applied to the inside, or they could be located in slots formed in the rockers *I*, if so desired, without departing from the essential feature of the invention, which is a foot rest which reciprocates or moves forward and back in unison with the movements of the chair in rocking, and on and by which the limbs of the occupant of the chair will rest and be carried in an easy and natural extended position.

An arrangement of the rollers *b*, traveling on the base rails of the chair, and the bars *C* located inside of the chair, is shown in Figs. 12 and 13, and with the construction there shown, an arm *B'* is attached at its front end to the arm *B* and extended rearwardly, and carries the roller *b*, which runs upon a track *b''* secured to the base rails *H* on the inside, which track is of sufficient length to allow of the forward and back adjustment of the foot rest, with the roller *b* running on its track *b''*.

The pinions *F* are secured on the shaft or rod *G*, and the shaft or rod is locked against turning by the engagement of the catch *h* with one of the pinions. The shaft *G* and the pinions are located so that when the chair is normal, these parts are in a central vertical line, or nearly so, of the center of rock for the chair. The pinions *F* each mesh with a rack *f* of each bar *C*, and each pinion, with the forward tip or rock of the chair, will have a backward turn by reason of the shaft *G* being locked and the pinions being attached to such shaft, and this backward turn of the pinions through the engagement of the cogs of each pinion with the cogs of its rack bar *f* will draw each bar *C* backward, and with the backward tip or rock of the chair, each pinion *F* has a forward turn, and such forward turn

through the engagement of the pinions with the racks *f*, will carry the bars *C* forward. This forward and backward travel of the bars *C* will give a corresponding travel to the arms *B*, which carry the foot-rest, so that such arms have a travel forward and back independent of the forward and back travel communicated to the foot-rest by the limbs of the occupant of the chair, and this forward and back travel of the bars *C* and the arms *B* will be to the limit of the turning of the pinions *F* and the number of teeth of the pinions, which are thereby brought into mesh with the teeth of the racks *f*, and is indicated for the back travel of the bars *C* and arms *B* by the dotted lines in Fig. 3, in which figure the chair is shown rocked forward by dotted lines.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination with a rocking chair, of a foot rest for the limbs of the occupant having a reciprocating rolling or forward and back movement of its own communicated thereto by the limbs resting thereon coincident with the rocking movements of the chair, arms supporting and carrying the foot rest, and means for connecting the arms with the chair giving a forward and back travel independent of the reciprocation of the foot rest, substantially as and for the purposes specified.

2. The combination with a rocking chair, of a foot-rest for the limbs of the occupant, having a rolling reciprocating movement or forward and back travel of its own communicated thereto by the limbs resting thereon, from the rocking movements of the chair, arms carrying and supporting the foot-rest and having a forward and back travel independent of the reciprocation of the foot-rest, and sliding bars connecting the arms with the chair, substantially as and for the purposes specified.

3. The combination, with a rocking chair, of a foot-rest for the limbs of the occupant, having a reciprocating or forward and back travel communicated thereto by the limbs resting thereon from the rocking movements of the chair, arms carrying and supporting the foot-rest, sliding bars pivoted to the arms and connected to the chair, and moving the foot-rest forward and back independent of its reciprocation, and braces connecting the supporting arms and the sliding bars, for holding the arms elevated and allowing the arms to drop, substantially as and for the purposes specified.

4. The combination with a rocking chair, of a foot rest for the limbs of the occupant having a reciprocating or forward and back travel of its own, communicated thereto by the limbs resting thereon from the rocking movements of the chair, arms supporting and carrying the rest, sliding bars connected with the arms and each having a slot and rack, a pin entering the slot and a pinion engaging the rack of each sliding bar, connecting the bars to the chair and giving the foot rest arms a forward

and back travel, substantially as and for the purposes specified.

5 The roller rest A, for the limbs of the occupant of a rocking chair, and supporting arms B, carrying the trunnions of the rest A, in combination with the sliding bars C, carrying the arms B, and each having a longitudinal slot D, and adjustably attached to a rocking chair, for supporting the limbs of the occupant in an outstretched position, substantially as and for the purposes specified.

6 The roller rest A, for the limbs of the occupant of the rocking chair, and having a reciprocation given thereto by the limbs resting thereon, and supporting arms B, carrying the trunnions of the rest A, in combination with the sliding bars C, carrying the arms B, and each having a longitudinal slot D, for adjustable attachment to a rocking chair, pivots *c* connecting the arms B and the sliding bars C, and braces E, detachably connecting the arms B and sliding bars C, substantially as and for the purposes specified.

7 The roller rest A, for the limbs of the oc-

cupant of a rocking chair, and having a reciprocation from the limbs resting thereon, and supporting arms B carrying the trunnions of the rest A, in combination with the sliding bars C, carrying the supporting arms B, and each having a rack *f*, and pinions F, engaging the racks *f*, for moving the bars C and adjusting the relation of the foot-rest to the chair, substantially as and for the purposes specified.

8 The roller rest A, for the limbs of the occupant of a rocking chair, and having a reciprocation from the limbs resting thereon, and supporting arms B, carrying the trunnions on the rest A, in combination with the sliding rack bars C, carrying the supporting arms B, pinions E, engaging the rack bars C, rod or shaft G, hand wheel *g*, and stop *h*, substantially as and for the purposes specified.

LOUIS E. ARMSTRONG.

Witnesses:

O. W. BOND,  
JNO. C. MACGREGOR.