

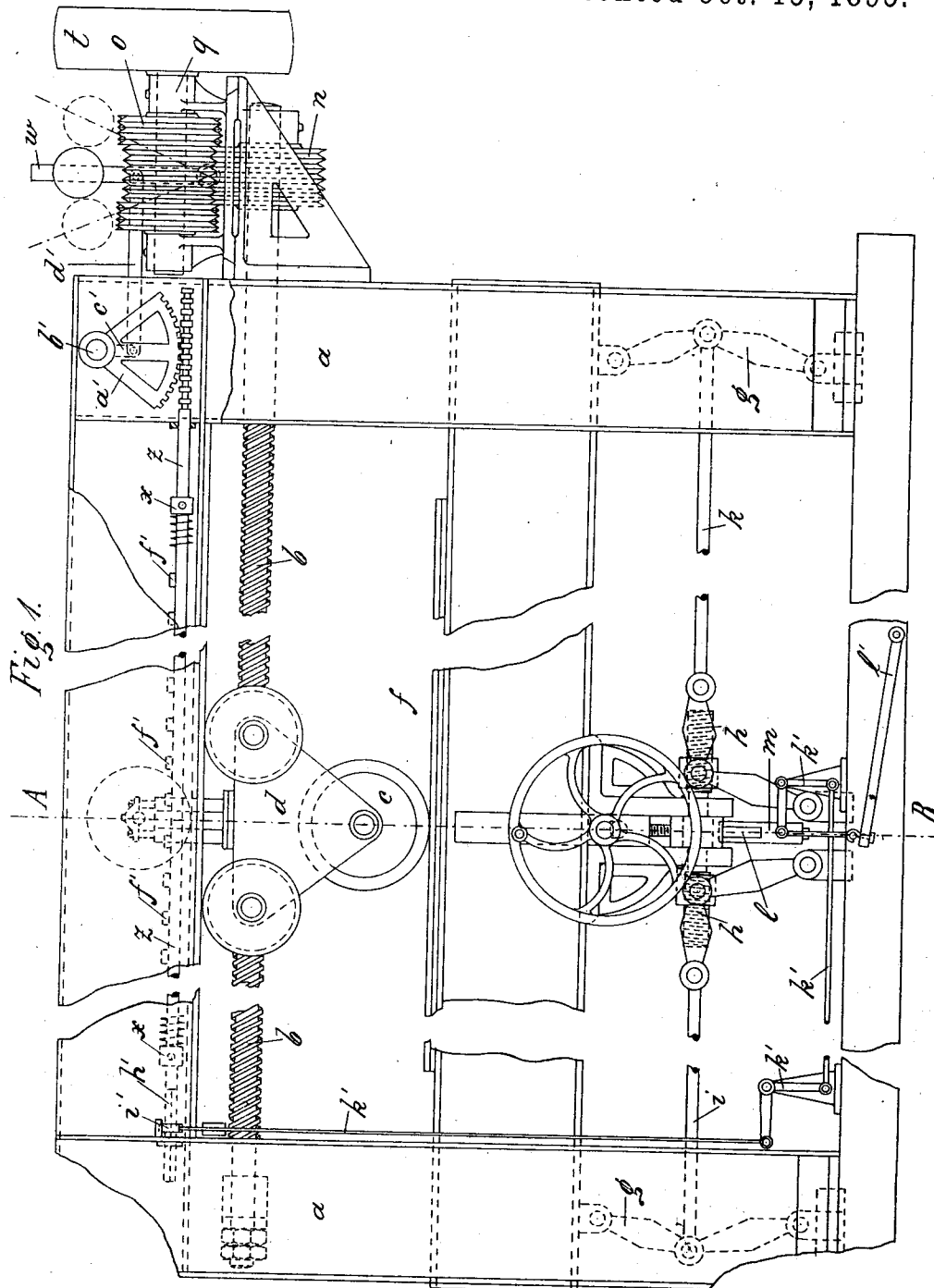
(No Model.)

4 Sheets—Sheet 1.

G. F. BÖGEL.
LEATHER ROLLING APPARATUS.

No. 547,762.

Patented Oct. 15, 1895.



Witnesses:
William Schulz.
John Becker.

Inventor:
Georg Ferdinand Bögel
by his attorneys
Roeder & Briesen

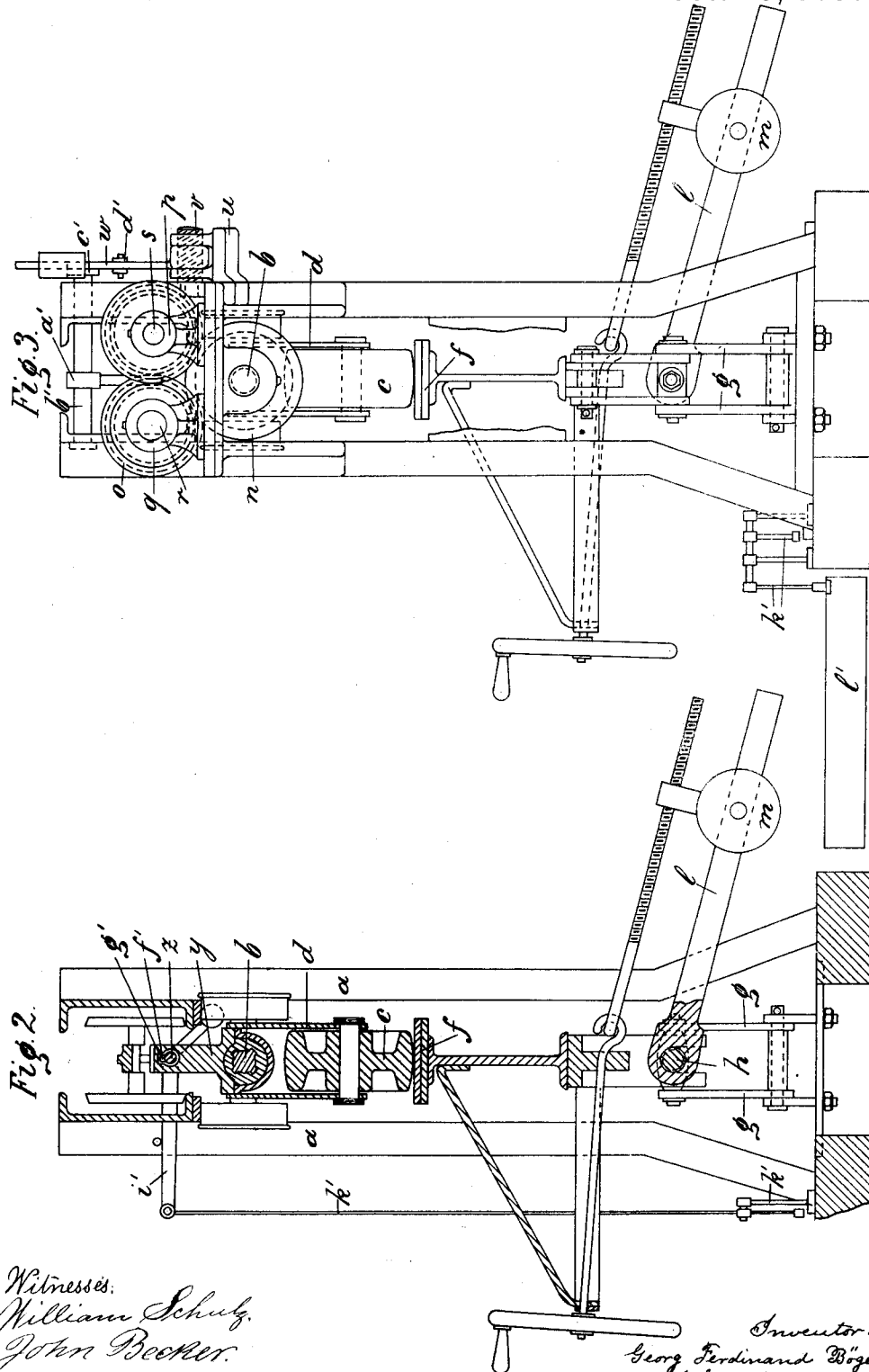
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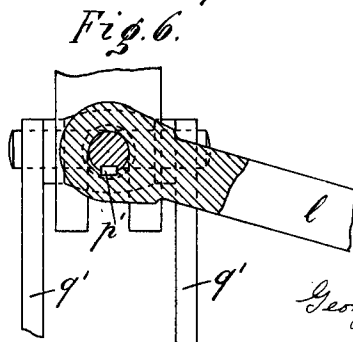
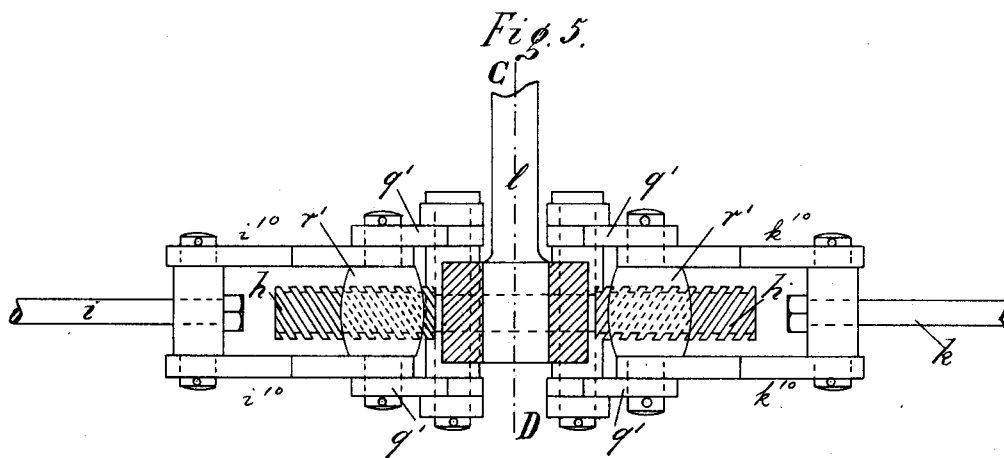
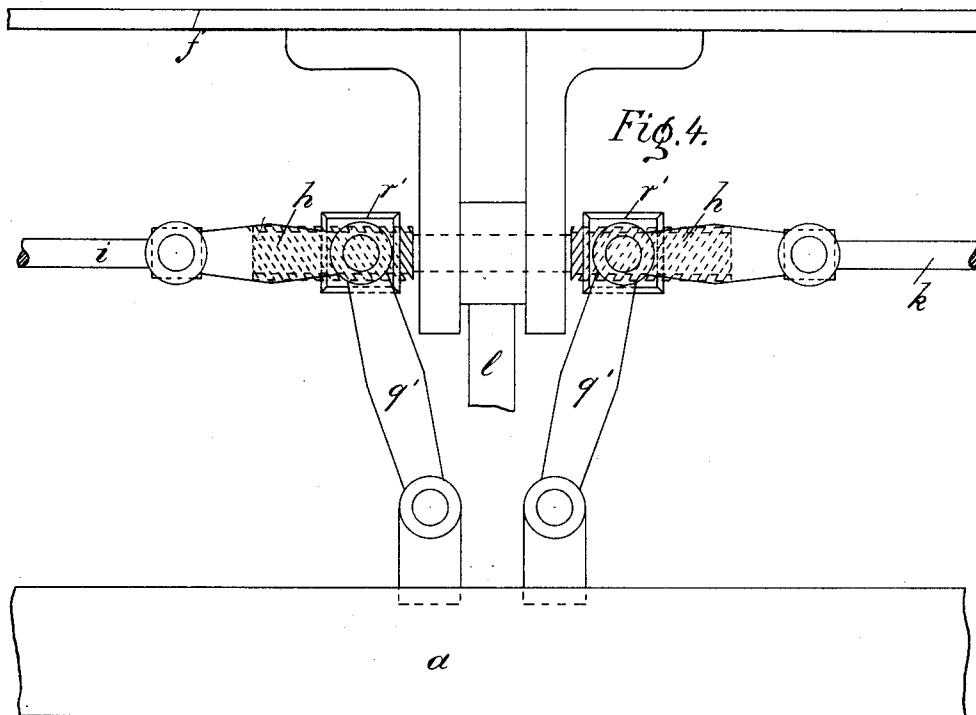
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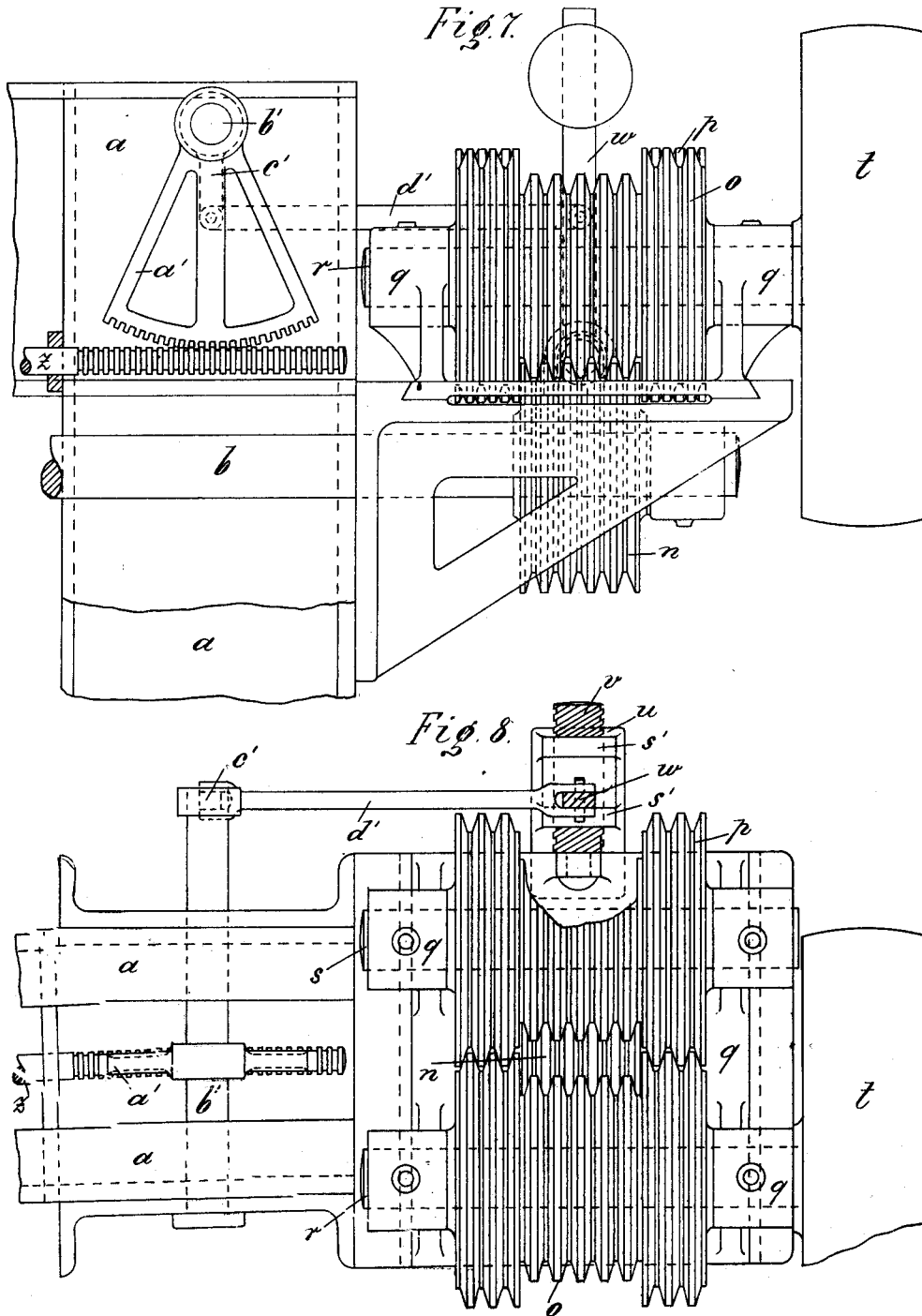
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UNITED STATES PATENT OFFICE.

GEORG FERDINAND BOGEL, OF ALTONA, GERMANY.

LEATHER-ROLLING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 547,762, dated October 15, 1895.

Application filed March 13, 1895. Serial No. 541,620. (No model.) Patented in Germany July 4, 1894, No. 79,593.

To all whom it may concern:

Be it known that I, GEORG FERDINAND BÖGEL, a subject of the King of Prussia, German Emperor, and a resident of Altona, Germany, have invented certain new and useful Improvements in Leather-Rolling Apparatus, (for which I have obtained a patent in Germany, No. 79,593, dated July 4, 1894,) of which the following is a specification.

Leather-rolling apparatus with elastic carriages as hitherto constructed are open to the objection that they do not work with a constant or uniform pressure, because the unevenness of the material being rolled causes at one time a greater and at another time a less tension of the springs, thereby increasing or reducing the working pressure. Furthermore, with such rolling apparatus there is a continual swaying or surging of the table, according as the carriage is working on the right-hand or on the left-hand half of the path of the rolls, so that either the table or the framing is liable to be bent or broken or there is produced an injurious vibration of the building in which the machine is situated. Moreover, the driving-belt is subjected to great wear in consequence of its running in a fork, which is shifted first to the fixed pulley and then to the loose pulley, and vice versa, the belt is caused to jump violently, and the reversing operation makes an unpleasant noise. A further disadvantage is that when the operator has to roll the hoofs or the heads of a skin, in which case a complete passage along the path of the rolls is not necessary, he is obliged with one hand to guide the leather underneath the roll and with the other to reverse with a comparatively great exertion of force in consequence of the usually inconvenient position of the reversing-lever.

Now the present invention has for its object to obviate these drawbacks and to provide a rolling apparatus which shall work with any desired but always uniform pressure, shall be adapted to be set up at any desired spot without damaging the building wherein it is placed, and in which, while using one belt and one belt-pulley, the roll-carriage can be moved to and fro and can be reversed with a small expenditure of power in any desired position, because the operator has only

to turn the reversing-lever, whereupon the reversal is automatically effected by the carriage.

In the accompanying drawings, Figure 1 is a side elevation showing a construction of rolling apparatus according to this invention. Fig. 2 is a section on the line A B of Fig. 1. Fig. 3 is an end elevation, the belt-pulley being omitted. Fig. 4 is a detail elevation of the mechanism for pressing the table upward; Fig. 5, a plan thereof; Fig. 6, a section on line C D, Fig. 5. Fig. 7 is an elevation of the shifting mechanism, and Fig. 8, a plan thereof.

The letter *a* represents the frame of the machine, in which is journaled a screw-spindle *b*. This spindle is engaged by a nut *m'*, adapted to be moved by the revolution of the spindle and forming the support for a reciprocating carriage *d*. This carriage is provided at its lower end with a pressure-roller *c* and at its upper end with two pair of wheels *n'*, that engage the hanging track *o'*. Below the carriage is arranged a table *f*, which serves to receive the leather to be pressed and which rests upon two toggle-levers *g*. These levers are connected by rods *i* *k* and yokes *i'* *k'* with nuts *r'*, that engage a right-and-left screw *h*. The nuts are furthermore pivotally connected to arms *q'*. To the screw *h* is secured tightly by key *p'* a lever *l*, carrying a movable weight *m*, that may be adjusted by a screw, hand-wheel, or in other manner. The weight *m* has a tendency to draw the lever *l* down and to consequently revolve the screw *h*. The revolution of screw *h* will tend to draw the nuts *r'* together, and the latter, by yokes *i'* *k'* and rods *i* *k*, will stretch the toggles *g*, so as to hold the table *f* with a uniform pressure against the roller *c*. The to-and-fro movement of the roll-carriage is effected by means of a single belt passing over the belt-pulley *t*. For this purpose a fluted roll *o* is mounted on the shaft *r* of the belt-pulley, while another and corresponding fluted roll *p* is fixed on a second shaft *s*, which is carried in the same bearing. The outer portions of these fluted rolls are always in engagement, while their middle portions are alternately (according to the position of the bearing *q*) brought into engagement with a fluted roll *n*, fixed on the screw-

spindle *c*, so as to rotate the said fluted roll *n* either in a right-hand or in a left-hand direction.

In order to allow of the alternate engagement of *o* or of *p* with *n*, the bearing *q* is made movable by being connected to a screw-spindle *v*, which is arranged in a bracket *u* of the framing and can be shifted by partially rotating a lever *w*, which is provided with a corresponding female screw-thread and is prevented from moving axially by means of projections or stops *s'* on the bracket. This partial rotation of the lever and the consequent shifting of the bearing *q* are produced automatically by the roll-carriage at the end of the roll-path. It can also be effected by the roll-carriage in any position of the latter after the operator has rotated the reversing-lever. For this purpose there is arranged parallel with the screw-spindle *c*, and so as to be capable of movement in the framing *a*, a rod *z*, which is provided with loose collars or rings *x* and is embraced by a keyhole-slot in an upper extension *y* of the carriage. One end of this rod is formed as a round toothed rack and gears with a toothed arc *a'*, on whose axle *b'* there is fixed a crank *c'*, which is connected to the lever *w* by means of the guide-rod *d'*. In order to enable the reversing operation to be effected in any desired position of the roll-carriage, the rod *z* is provided with a number of noses or projections *f'*, over which the upper extension of the carriage is normally adapted to slide by means of a suitable recess *g'* formed in it, but against which noses or projections *f'* the extension of the carriage strikes when the rod is rotated out

of its ordinary position. In order to enable this rotation to be effected, that end of *z* which is not formed as a toothed rack is formed with a square portion *h'*, over which a lever *i'* is placed. This lever *i'* is connected with a treadle *l'* by means of suitable rods and bent levers *k'*.

I claim—

1. The combination in a leather rolling apparatus of a work table with a pair of toggle levers, two horizontal arms connecting said levers, nuts connected to said arms, a right and left screw engaged by the nuts, a lever keyed to the screw, and a sliding weight supported by the lever, substantially as specified.

2. In a leather rolling apparatus the combination of a reciprocating carriage having a driving spindle *b*, with a movable bearing *q*, fluted rollers *o*, *p*, hung in said bearing, a roller *n*, fixed to spindle *b*, and adapted to be engaged by either of the rollers *o*, *p*, substantially as specified.

3. In a leather rolling apparatus the combination of a reciprocating carriage having a standard provided with a key hole slot, with a rocking rod *z*, passing through said slot and having projections *f'*, and collar *x*, mechanism for rocking said rod by the operator, a toothed arc *a'*, a rack on said rod for rocking said rod and a shifting mechanism operated by said arc, substantially as described.

Signed at Hamburg, in Germany, this 26th day of February, A. D. 1895.

GEORG FERDINAND BÖGEL.

Witnesses:

MAX FOUQUET,

MAX VON BADINSKI.