

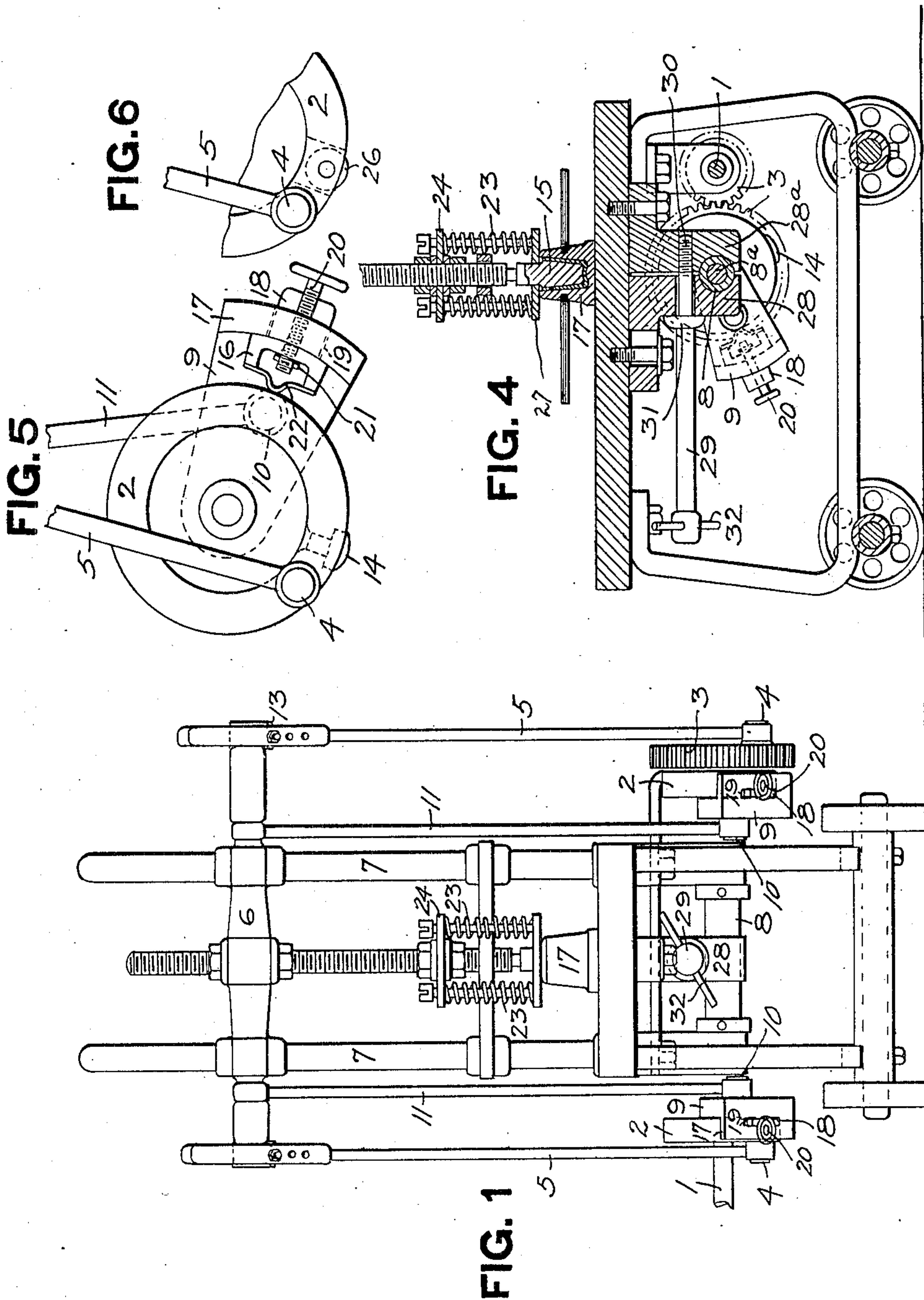
No. 844,600.

PATENTED FEB. 19, 1907.

H. B. KOEHLER.  
GLASS PRESS.

APPLICATION FILED MAY 31, 1906.

2 SHEETS—SHEET 1.



WITNESSES.

J. R. Keller  
W. A. Keller

INVENTOR.

Henry B. Koehler,  
By Kay. J. Foster, Attorney.

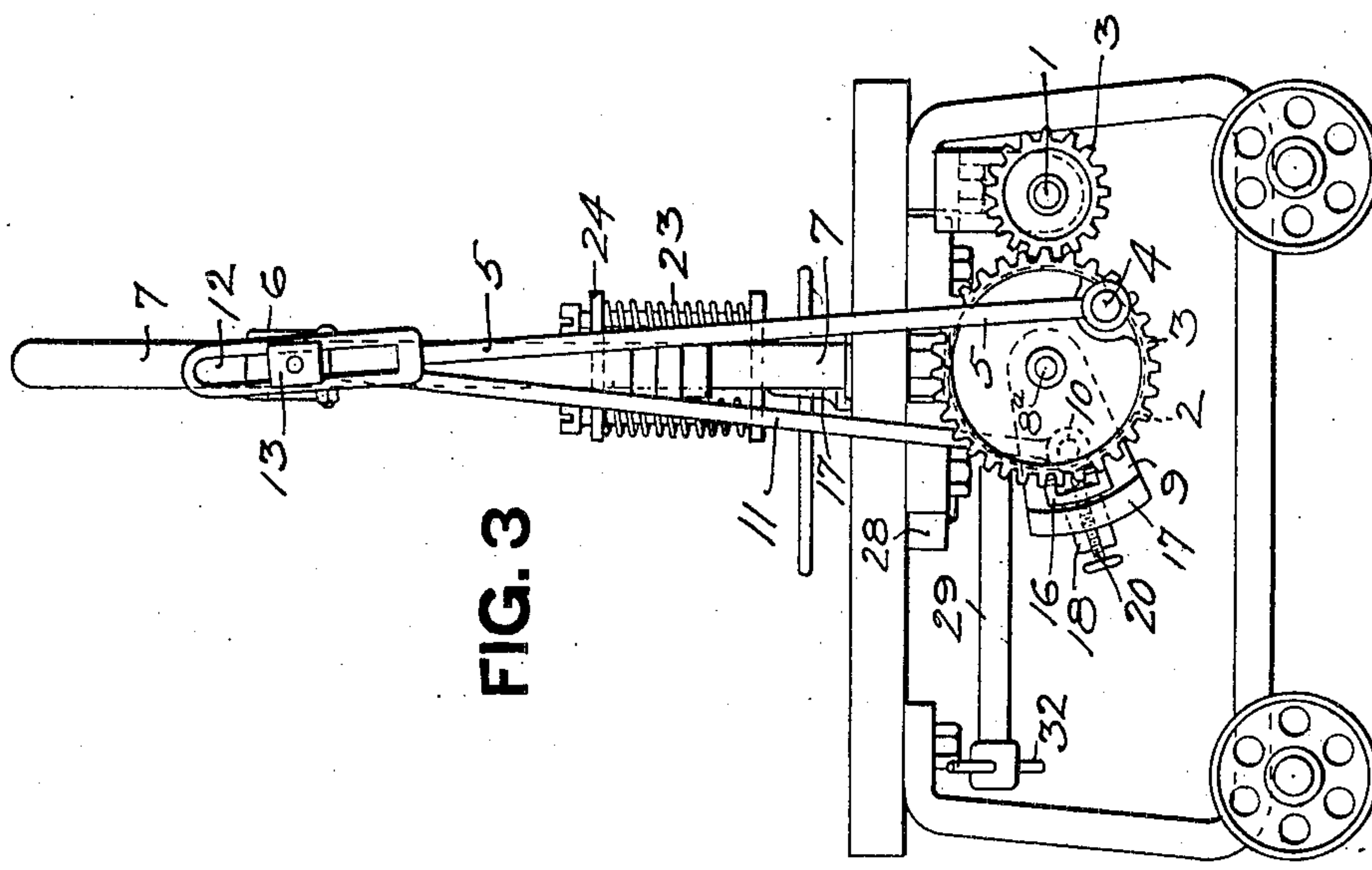
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# 3G-LTE

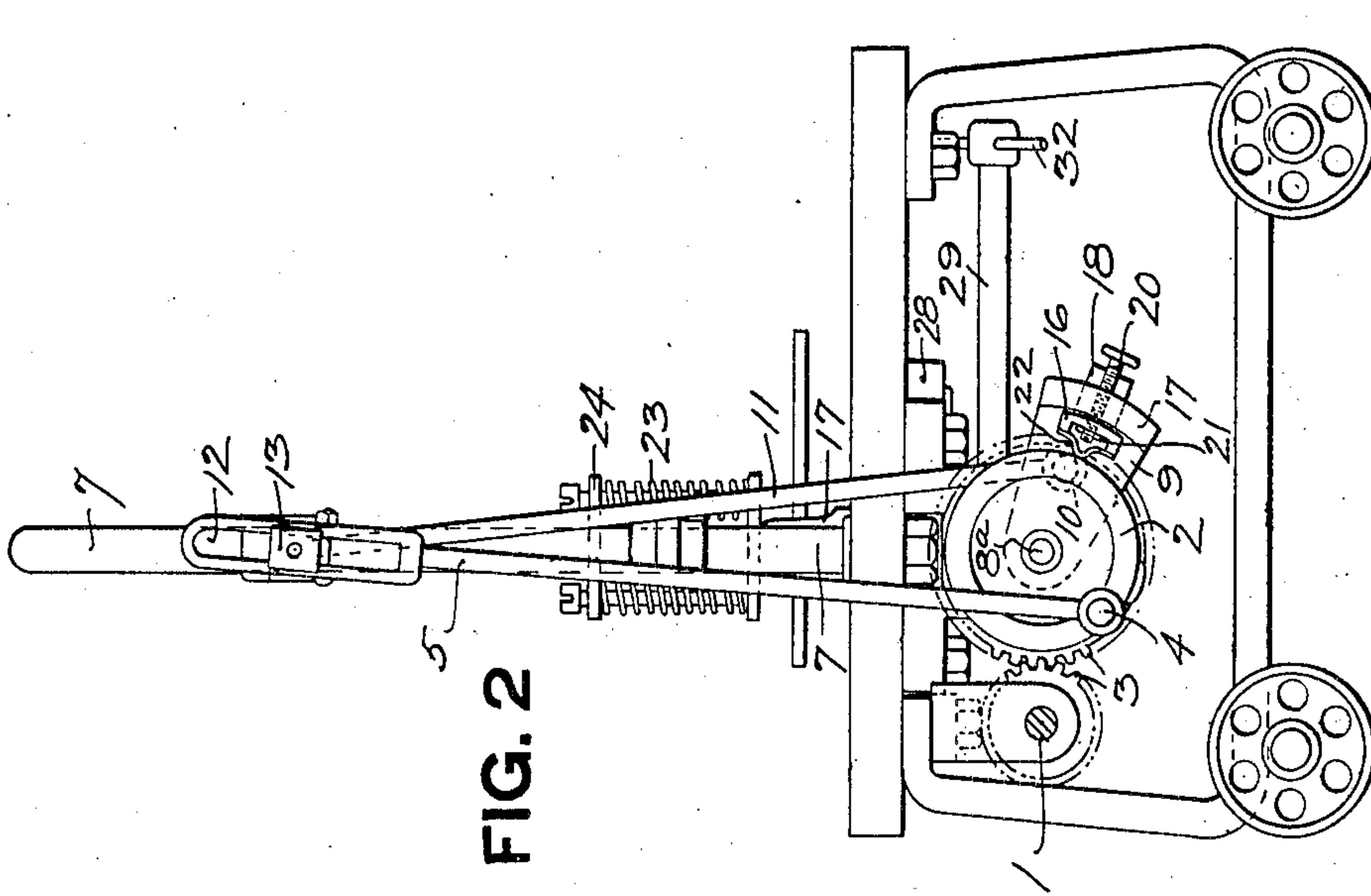


Fig. 2

**WITNESSES.**

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# UNITED STATES PATENT OFFICE.

HENRY B. KOEHLER, OF ROCHESTER, PENNSYLVANIA.

## GLASS-PRESS.

No. 844,600.

Specification of Letters Patent.

Patented Feb. 19, 1907.

Application filed May 31, 1906. Serial No. 319,586.

*To all whom it may concern:*

Be it known that I, HENRY B. KOEHLER, a resident of Rochester, in the county of Beaver and State of Pennsylvania, have invented a new and useful Improvement in Glass-Press; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to presses for molding glass articles.

The invention described herein relates to certain improvements in glass-presses, said improvements being applicable to the ordinary single-plunger presses and also to multiple-plunger presses in which a series of plungers are so mounted as to be capable of being shifted in succession to position for actuation by the operating mechanism.

The invention comprises the novel features hereinafter set forth and claimed.

Figure 1 is a front elevation of a press embodying my invention. Fig. 2 is a side view thereof. Fig. 3 is a view of the opposite side. Fig. 4 is a vertical sectional view showing the plunger down in the mold in the act of pressing. Fig. 5 is an enlarged detail view, and Fig. 6 is a modified form.

The power-shaft 1 is mounted in suitable bearings secured to the frame of the press. Secured to the projecting ends of said power-shaft are disks 2 and gears 3. The said gears 3 are provided with wrist-pins 4, which are connected up by rods 5 to the outer ends of the cross-head 6, which is guided in its vertical movement by columns 7, secured to the bed of the press. A hollow shaft 8 surrounds the shaft 8<sup>a</sup>, and secured to projecting ends of said hollow shaft are cranks or arms 9, which are also provided with wrist-pins 10. These pins 10 are connected by rods 11 to the cross-head 6. The ends of the connecting-rods 5 are provided with slots or loops 12, said slots being provided with bearings 13, working in the slots 12. In this manner I provide for the adjustment of the bearings 13, cross-head 6, and the plunger 15 and also provide for the control of the rest or dwell of the plunger 15 while in the mold 17, as hereinafter set forth.

Mounted or secured on the disks 2 are enlargements 14, said enlargements sloping from their enlarged mid-portions both ways to the periphery of the disk, so as to provide for the gradual engagement and disengagement of said enlargements with the shoes or knockers 16 on the cranks or arms 9. The

cranks or arms 9 have the overhanging portions 17, and mounted in these overhanging portions are the adjustable shoes or knockers 16. An upwardly-projecting guiding-lug 18 on the knockers passes up through openings 19 in the projecting portions 17. Adjusting-screws 20 pass down through threaded openings in the projecting portions 17, the lower end of said screws engaging the knockers 16, said shoes being connected to said screws by the pin 21. These shoes or knockers are hollow, and their bottom faces are formed of thinner metal than the sides or top, and the metal is curved to form the spring-ribs 22, which engage the enlargement 14 on the peripheries of the disks 2 and being rounded permit more readily their engagement with the sloping ends of said enlargement in the manner hereinafter set forth.

On the hollow shaft 8 I provide a brake to resist or counteract the pressure of the springs 23 on the spring-plate 24 to keep said springs from withdrawing the plunger 15 from the mold 17 before the glass in said mold has set. This brake comprises the sectional bearing-blocks 28 28<sup>a</sup>, operated by the threaded bar 29. The inner end of said bar has the threaded portion 30, which engages a threaded seat in the block 28<sup>a</sup>. A shoulder 31 on the rod bears against the block 28. By turning the bar 29 by the handle 32 the blocks 28 and 28<sup>a</sup> are tightened up or loosened.

In Fig. 6 I illustrate a modified form of my device in which the enlargement 26 on the disk 2 is in the form of an antifriction wheel or roller set in the periphery of the disk, so as to project slightly beyond the same.

When my improved press is in use, the glass is inserted in the mold in the ordinary manner and the power is applied from a suitable motor to drive the shaft 8<sup>a</sup> by means of gears 3. The disks 2, having their enlargements 14 in engagement with the shoes or knockers 16, will carry the hollow shaft 8 in the same direction, and so draw down on the connecting-rods 11 and lower the plunger 15 into the mold 17. The glass is then pressed until the glass rises to the ring 27, whereupon the spring-ribs 22 on the shoes 16 will relax and allow the enlargements 14 to pass said knockers, and consequently the hollow shaft 8, carrying the cranks or arms 9 comes to a full stop. During this period the plunger 15 also remains stationary and rests in the glass without pressing or strain-



ing the same until the glass is properly set. Upon the further rotation of the shaft 1 the connecting-rods 5 will raise the cross-head 6, and with it the plunger 15; and also connecting-rods 11 on cranks or arms 9. The connecting-rods 11 and connecting-rods 5 move in opposite directions until they reach the place of beginning.

The brake or rubber on hollow shaft 8 prevents spring-plates 24 from drawing the plunger from the mold until the above operation is completed.

By my invention I provide a simple device by means of which the plunger is raised and lowered and remains in a state of rest or dwells in the glass until the same is properly set, while at the same time the device is positive in its action and the adjustable spring shoes or knockers are readily adjustable according to conditions.

What I claim is—

1. In a press for molding glassware, the combination of a mold, a plunger, a cross-head, a power-driven shaft, a friction wheel or disk on said shaft, a rotary sleeve on said shaft, a friction member carried by said sleeve and adapted to be engaged by said wheel during part of the revolution of said wheel or disk, and connections between said wheel or disk and said cross-head and between said friction member and said cross-head.

2. In a press for molding glassware, the combination of a mold, a plunger, a cross-head, a power-driven shaft, a disk or wheel on said shaft, a rotary sleeve on said shaft, a crank or arm carried by said sleeve adapted to be engaged by said wheel during part of the revolution of said wheel, and connections between said disk and said cross-head and between said crank or arm and said cross-head.

3. In a press for molding glassware, the combination of a mold, a plunger, a cross-head, a power-driven shaft, a disk or wheel on said shaft having an enlargement on its periphery, a rotary sleeve on said shaft, a crank or arm carried by said sleeve adapted to be engaged by said enlargement, and connections between said disk and said cross-head and between said crank or arm and said cross-head.

4. In a press for molding glassware, the combination of a mold, a plunger, a cross-head, a power-driven shaft, a disk or wheel on said shaft having an enlargement on its periphery, a rotary sleeve on said shaft, an arm carried by said sleeve, a shoe or knocker on said arm adapted to be engaged by said enlargement, and connections between said disk and said cross-head and between said arm and said cross-head.

5. In a press for molding glassware, the combination of a mold, a plunger, a cross-head, a power-driven shaft, a disk or wheel on said shaft having an enlargement on its

periphery, a rotary sleeve on said shaft, an arm carried by said sleeve, an adjustable shoe or knocker on said arm adapted to be engaged by said enlargement, and connections between said wheel and said cross-head and between said arm and said cross-head.

6. In a press for molding glassware, the combination of a mold, a plunger, a cross-head, a power-driven shaft, a disk or wheel on said shaft having an enlargement on its periphery, a rotary sleeve on said shaft, an arm carried by said sleeve having a rounded shoe or knocker adapted to be engaged by said enlargement, and connections between said disk and said cross-head and between said arm and said cross-head.

7. In a press for molding glassware, the combination of a mold, a plunger, a cross-head, a power-driven shaft, a disk or wheel on said shaft having an enlargement on its periphery, a rotary sleeve on said shaft, an arm carried by said sleeve having an overhanging portion, a shoe or knocker in said overhanging portion adapted to be engaged by said enlargement, and connections between said wheel and said cross-head and between said arm and said cross-head.

8. In a press for molding glassware, the combination of a mold, a plunger, a cross-head, a power-driven shaft, a disk or wheel on said shaft having an enlargement on its periphery, a rotary sleeve on said shaft, an arm carried by said sleeve, a hollow shoe or knocker on said arm having a rounded bottom face adapted to be engaged by said enlargement, and connections between said disk and said cross-head and between said arm and said cross-head.

9. In a press for molding glassware, the combination of a mold, a plunger, a cross-head, a power-driven shaft, a disk or wheel on said shaft, a rotary sleeve on said shaft, an arm carried by said sleeve, means for carrying said arm by the engagement of said wheel therewith for part of the revolution of said wheel, means for holding said arm in that position after released from said wheel, and connections between said wheel and said cross-head and between said arm and said cross-head.

10. In a press for molding glassware, the combination of a mold, a plunger, a cross-head, a power-driven shaft, a disk or wheel on said shaft, a rotary sleeve on said shaft, an arm carried by said sleeve, means for carrying said arm by the engagement of said wheel therewith for part of the revolution of said wheel, and a brake on said sleeve for holding said arm in that position after released from said wheel, and connections between said wheel and said cross-head and between said arm and said cross-head.

11. In a press for molding glassware, the combination of a mold, a plunger, a cross-head, a power-driven shaft, disks on said

shaft, connecting-rods between said disks  
and said cross-head, said connecting-rods  
being provided with loops or slots, said cross-  
head being provided with adjustable bearings  
5 mounted in said loops or slots and adapted to  
regulate or adjust the stroke or dwell of said  
plunger.

In testimony whereof I, the said HENRY  
B. KOEHLER, have hereunto set my hand.

HENRY B. KOEHLER.

Witnesses:

L. P. BETTS,  
N. WURZEL, Jr