

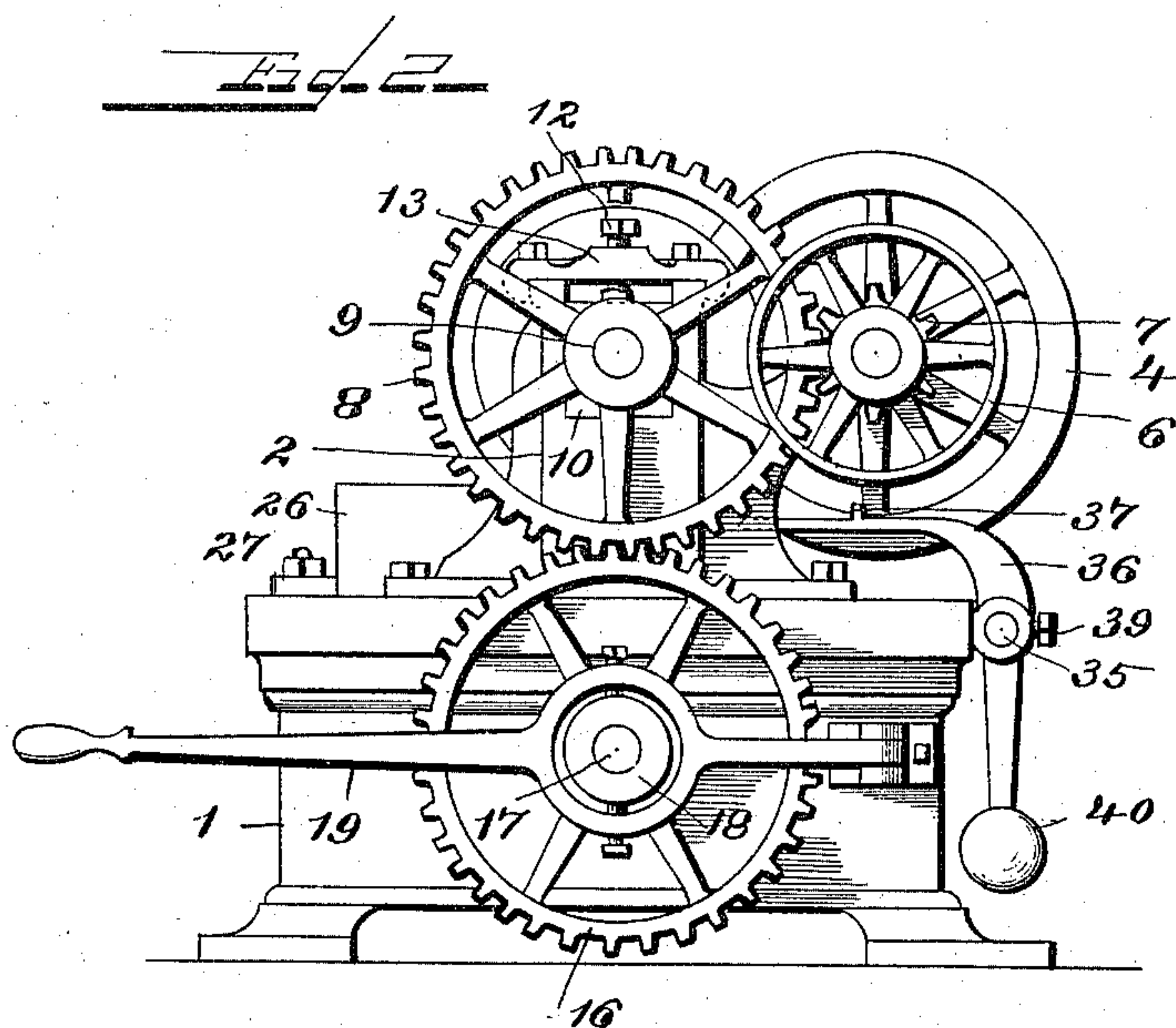
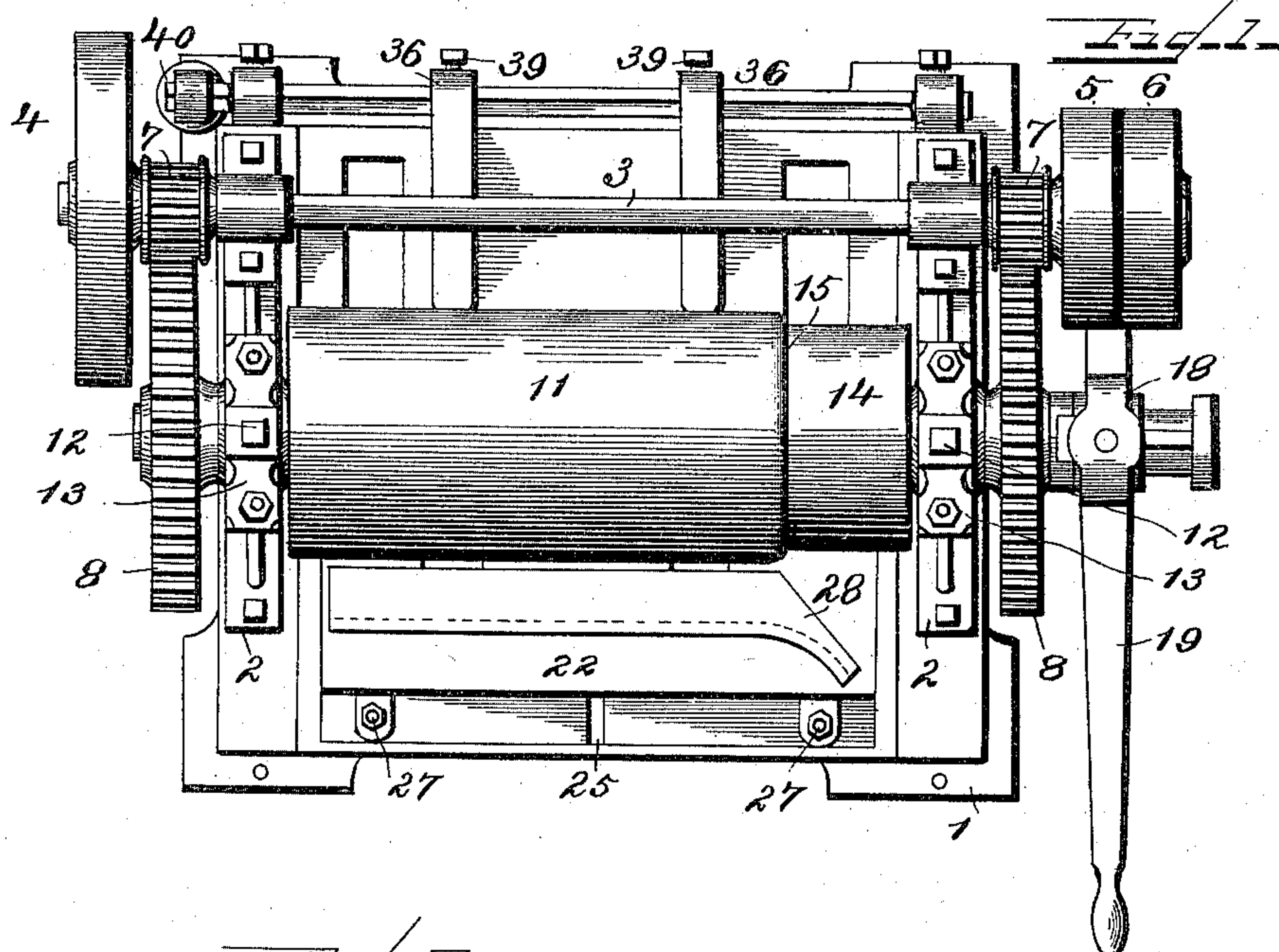
(No Model.)

2 Sheets—Sheet 1.

A. WOEBER.
PLATING MACHINE.

No. 598,457.

Patented Feb. 1, 1898.



WITNESSES

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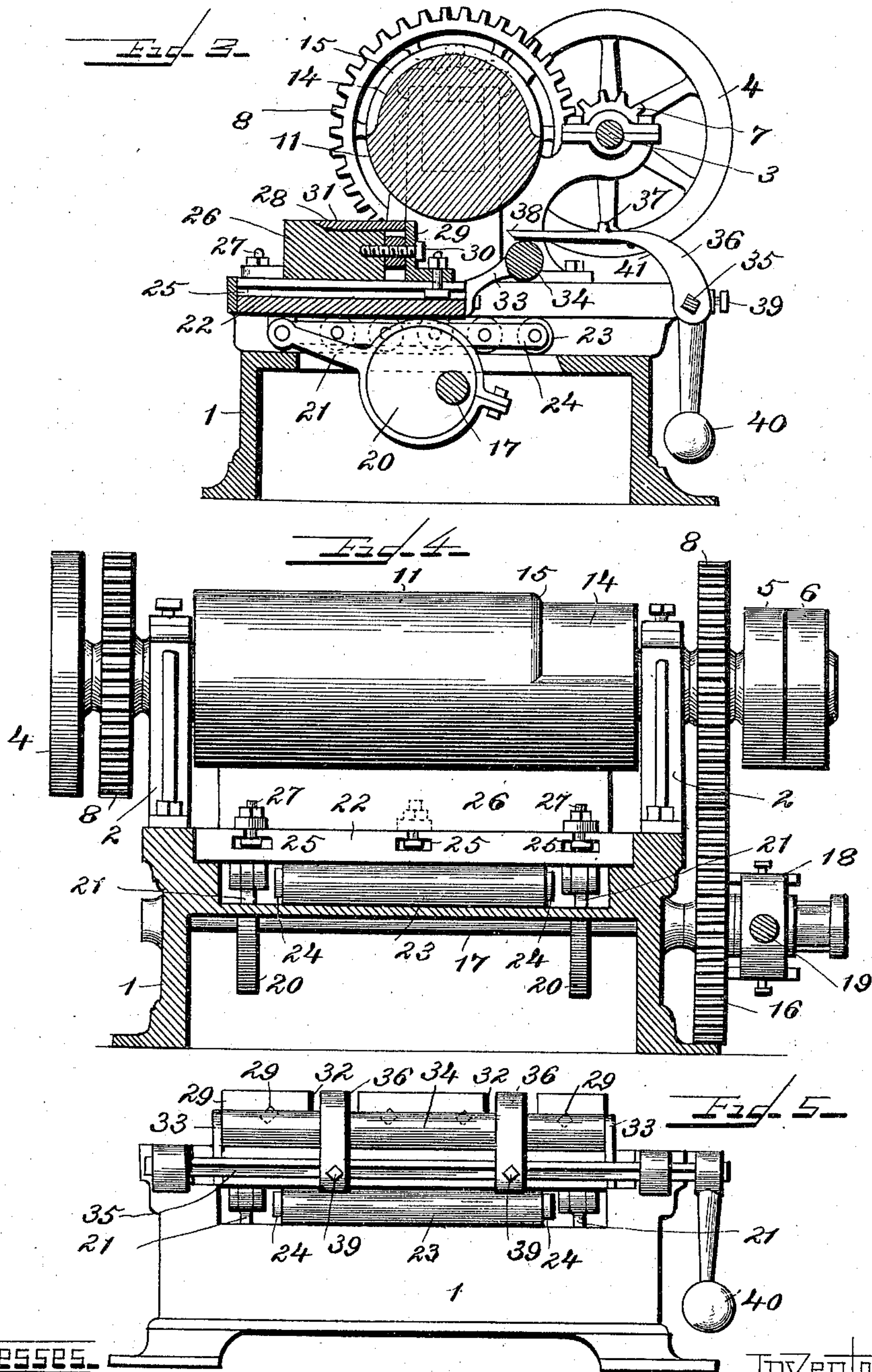
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UNITED STATES PATENT OFFICE.

AMOS WOEBER, OF MOLINE, ILLINOIS.

PLATING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 598,457, dated February 1, 1898.

Application filed September 1, 1897. Serial No. 650,259. (No model.)

To all whom it may concern:

Be it known that I, AMOS WOEBER, a citizen of the United States, residing at Moline, in the county of Rock Island and State of Illinois, have invented certain new and useful Improvements in Plating-Machines; 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 use the same.

My invention has relation to plating-machines; and it consists in the novel construction and arrangement of parts, as hereinafter described.

The machine is especially designed for plating or drawing out plowshares and cultivator-shovels. The machine is provided with a reciprocating table upon which the die is located. The die is adapted to hold the article to be plated, and the reciprocating table passes under a roll, the roll coming in contact with the upper side of the article and plating the same. The machine is provided with a suitable device for lifting the plated article out of the die and casting the same away from the machine. The article thus treated is smoother and more uniform than a similar article plated under a hammer. The machine enables a great number of articles to be treated. Thus the process is shortened, and it is not necessary for the operator to face the excessive heat.

In the accompanying drawings, Figure 1 is a top plan view of the machine. Fig. 2 is a side elevation. Fig. 3 is a longitudinal sectional view of the machine. Fig. 4 is a transverse sectional view of the machine. Fig. 5 is a rear end view of the machine, the upper portion being removed.

The base 1 is provided on opposite sides with the uprights 2 2. The horizontal shaft 3 is journaled in the uprights 2 2. The said shaft 3 is provided with a fly-wheel 4 and at the opposite end with a fixed pulley 5 and a loose pulley 6. The machine is operated by means of a belt adapted to pass around either of the pulleys 5 or 6. The shaft 3 is also provided with the small gear-wheels 7 7, said gear-wheels being located beyond the outer sides of the uprights 2 2. The gear-wheels 7 7 mesh with the large gear-wheels 8 8, the said gear-wheels 8 8 being attached to the ends of the

shaft 9, the said shaft 9 passing through the journals 10 10 and supporting the roll 11. The bolts 12 12 are externally threaded and pass through internally-threaded perforations in the caps 13 13, the lower ends of the bolts 12 12 being journaled to the upper sides of the bearings 10 10. Thus by turning the bolts 12 12 the bearings 10 10 may be raised or lowered. One end of the roll 11 is cut away, as at 14, and is provided with a rounded shoulder 15, said shoulder extending half-way around the periphery of the roll 11. The cut-away section 14 also extends half-way around, as indicated in Fig. 3. The function of the cut-away section 14 will be hereinafter explained.

At the right-hand side of the machine the gear-wheel 8 meshes with the gear-wheel 16, the said wheel 16 being loosely mounted on the shaft 17. A clutch 18 is located on the shaft 17. The said clutch is adapted to be operated by the lever 19. The clutch when engaging the hub of the wheel 16 makes the said wheel rigid with the shaft 17. The shaft 17 is provided with the eccentrics 20. The pitmen 21 at one end surround the eccentrics 20, as shown in Fig. 3, and at their other ends are connected to the reciprocating table 22. The rollers 23 are adapted to work on the upper face of the base 1, the shafts of the rollers 23 being journaled in the said arms 24. The reciprocating table 22 rests upon the upper portions of the rollers 23, as shown in Fig. 3. The upper face of the table 22 is provided with a number of ordinary bolt-slots 25. A die 26 is located on the upper surface of the table 22, and the said die 26 is held firmly in position by means of a number of bolts 27, which pass through suitably-perforated lugs attached to the die 26, the lower ends of the bolts being secured in the slots 25, as shown in Fig. 4. The upper face of the die 26 is provided with a suitable recess 28, (see Fig. 1,) the said recess being adapted to receive the article to be treated. The shape of the recess varies according to the contour of the article to be treated. Therefore the die may be provided with a recess of any desired shape. The rear edge of the die 26 is provided with a perpendicular plate 29, the said plate being secured to the body portion of the die by means of a bolt 30, as shown in Fig. 3. In

said figure, 31 represents an article located in the upper recess of the die, the plate 29 coming in contact with the rear edge of the article 31, thus holding it in position. The upper edge of the plate 29 is provided with the recesses 32, (see Fig. 5,) the function of which will be hereinafter described. The rear edge of the table 22 is provided with the rearwardly-extending arms 33, between the ends of which is journaled a roller 34. At the back of the machine the horizontal rod 35 is journaled. The said rod 35 is preferably squared and is adapted to carry the fingers 36, the fingers 36 extending up from the rod 35, the forward ends of the said fingers being substantially horizontal, as shown in Fig. 3. The upper sides of the fingers 36 are provided with the lugs 37 and the forward ends 38 of the fingers are pointed. A set-screw 39 holds the fingers in their proper positions upon the rod 35. The rod 35 is provided with a weight 40, the said weight being adapted to hold the rod and the fingers 36 in their normal positions.

The machine is operated as follows: A suitable die is secured to the upper face of the table 22. The belt supplying the power to the machine surrounds the fixed pulley 5. Thus the shaft 3, the fly-wheel 4, the gear-wheels 7 7, the gear-wheels 8 8, and the roll 11 are rotating. The clutch 18 is disengaged from the hub of the wheel 16, and thus the shaft 17 and the table 22 are at rest. The article to be plated is placed in the upper recess of the die 26, and when the roll 11 is in the proper position the operator manipulates the lever 19 and throws the clutch 18 into engagement with the hub of the wheel 16. Thus the shaft 17 is caused to rotate, and the eccentrics 20, through the pitmen 21, cause the table 22 to pass over the friction-rollers 23 and thus carries the die 26 under the roll 11, the periphery of the roll coming in contact with the article located in the recess 28. The upper surface of the said article is plated when the plate 29 is advanced far enough, the pointed ends 38 of the fingers 36 entering the recesses 32 of the plate 29, the ends 38 of the said fingers passing under the article just plated. The roller 34 passes under the under sides of the fingers 36, and when the said roller comes in contact with the end of the curved surface 41 (see Fig. 3) of the said fingers 36 the ends 38 of the said fingers are elevated, and thus the article is lifted from the die 26 and is thrown away from the machine, the lugs 37 preventing the article from slipping along the upper sides of the fingers 36. As the table 22 and the roller 34 pass from the front of the machine the weight 40 will cause the upper ends of the fingers 36 to assume their normal horizontal positions. By adjusting the bearings 10 by means of the bolts 12 the roll 11 may be shifted to suit the article being plated. In any instance this adjustment is but very slight and does not affect the meshing of the gear-wheels 7 and 8 or 8 and 16. When it is desired to plate the

entire upper surface of the article, the lower portion of the roll 11, as shown in Fig. 3, is used. When it is desired to perform what is generally known as "center-plating," the upper portion of the roller, as shown in Fig. 3, is used. To accomplish this, the operator manipulates the lever 19 at the proper time to bring the article located in the die 26 in contact with either the upper or lower portions of the roll 11, as shown in Fig. 3. In center-plating a cutting-knife is used. (This knife is not shown in the drawings.) The knife is generally brought to the middle of the roller, and the end of the article being treated projects beyond the rounded shoulder 15 and remains in its original state, while the balance of the article is plated and trimmed. In plating plowshares the straight side of the roll is used, and thus the share is plated along its entire upper surface at one time. The recess 28 in the die 26 may be provided at its forward edge with an inclined surface, as shown in Fig. 3, and thus the edge of the article may be tapered and plated at one operation.

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

1. In a machine such as described, a roll suitably journaled, a reciprocating table adapted to pass under said roll, a die carried by said table, suitable recesses located in the back of the die, fingers adapted to pass through said recesses and beneath the article in the die, a suitable means for elevating said fingers and lifting the article from the die, a suitable means for operating the roll and the table.

2. In a machine such as described, a roll suitably journaled, a reciprocating table adapted to pass under said roll, a die carried by said table, an adjustable plate located at the back of the die, said plate having suitable recesses, fingers located behind the roll, the ends of said fingers adapted to enter the recesses of the die-plate and pass beneath the article, a suitable means for elevating said fingers and lifting the article from the die, a suitable means for operating the roll and the table.

3. In a machine such as described, a roll suitably journaled, a reciprocating table adapted to pass under said roll, a die carried by the table, recesses located in the back of the die, a roller supported by said table, fingers pivotally mounted, the ends of said fingers adapted to enter the recesses in the back of the die and pass beneath the article within the die, the roller journaled to the table adapted to elevate said fingers and lifting the article from the die, a suitable means for operating the roll and the table.

4. In a machine such as described, a roll suitably journaled, a reciprocating table adapted to pass under said roll, a die carried by said table, recesses located at the rear edge of said die, a roller carried by the table, fingers pivotally mounted, the upper ends of said fingers being substantially horizontal, lugs located on the upper surfaces of said fingers,

the ends of the fingers adapted to enter the recesses in the back of the die and pass beneath the article, the roller carried by the table adapted to come in contact with the under sides of the fingers and elevate the same together with the article, a suitable means for operating the roll and the table.

5. In a machine such as described, a roll suitably journaled, a reciprocating table adapted to pass under said roll, a die carried by said table, the rear edge of the die having suitable recesses, a roller carried by said table, fingers pivotally mounted, the ends of said fingers adapted to enter the recesses in the back of the die and pass beneath the article, a suitable means for elevating the ends of the fingers together with the article, a means adapted to cause the fingers to assume their normal positions when the table retreats.

6. In a machine such as described, a roll suitably journaled, a table adapted to pass under said roll, a die carried by said table, said die having at its rear edge suitable recesses, a roller carried by said table, fingers pivotally

mounted, the ends of said fingers adapted to pass within the recesses of the die and beneath the article, the roller of the table adapted to elevate the fingers and lift the article, a weight connected to the fingers and adapted to cause the fingers to assume their normal positions when the table retreats, a suitable means for operating the plating-roll and the table.

7. In a machine such as described, a roll suitably journaled, a reciprocating table adapted to pass under said roll, a die located on said table, said die having in its upper surface a recess adapted to contain the article to be treated, an adjustable plate adapted to form the rear edge of the recess, said plate being secured to the body of the die.

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

AMOS WOEBER.

Witnesses:

A. J. SMITH,

S. T. CHURCHILL.