

No. 826,695.

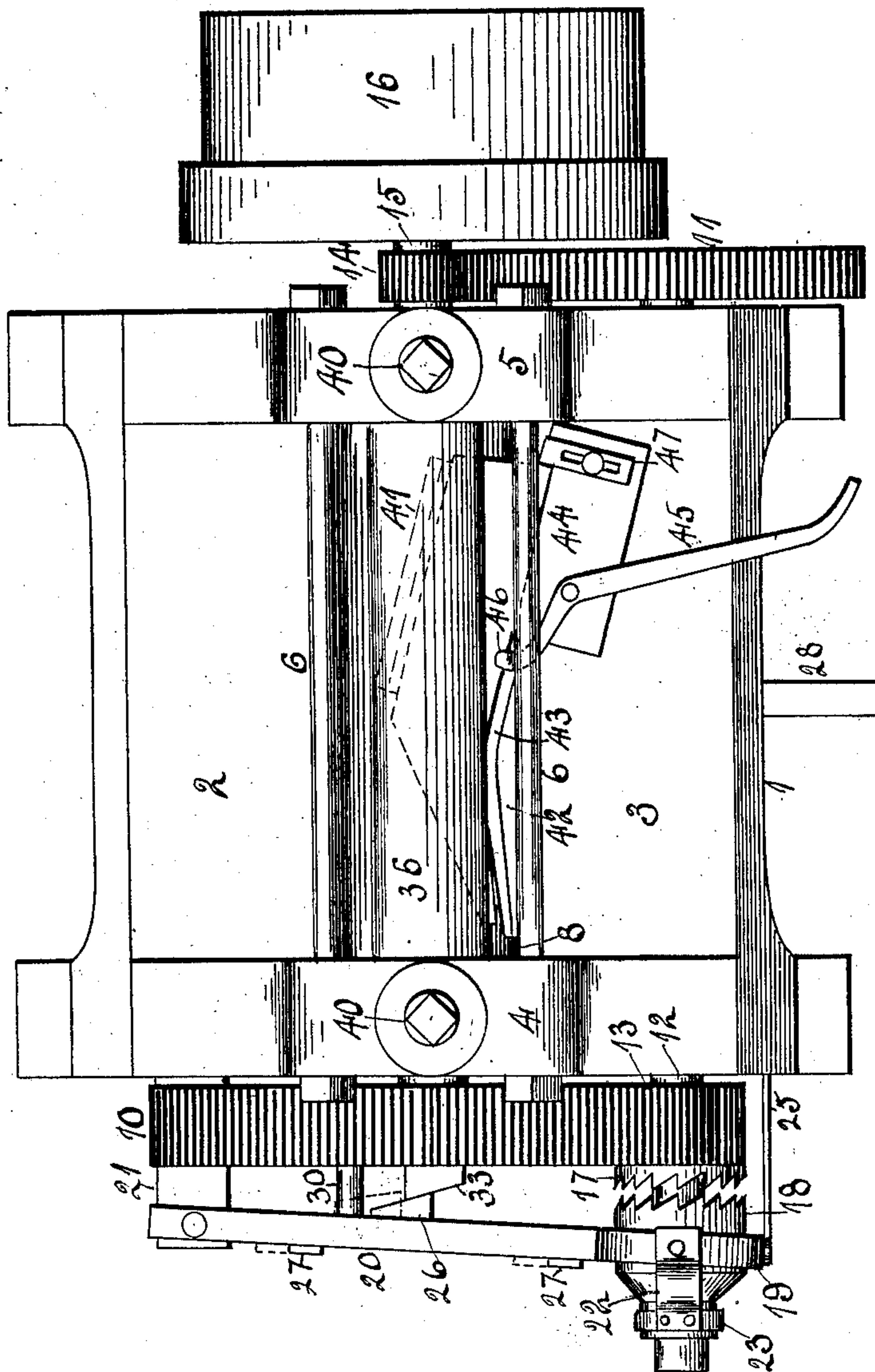
PATENTED JULY 24, 1906.

C. F. SPERY.
MACHINE FOR ROLLING PLOWSHARES.

APPLICATION FILED OCT. 22, 1903.

3 SHEETS—SHEET 1.

Fig. 1.



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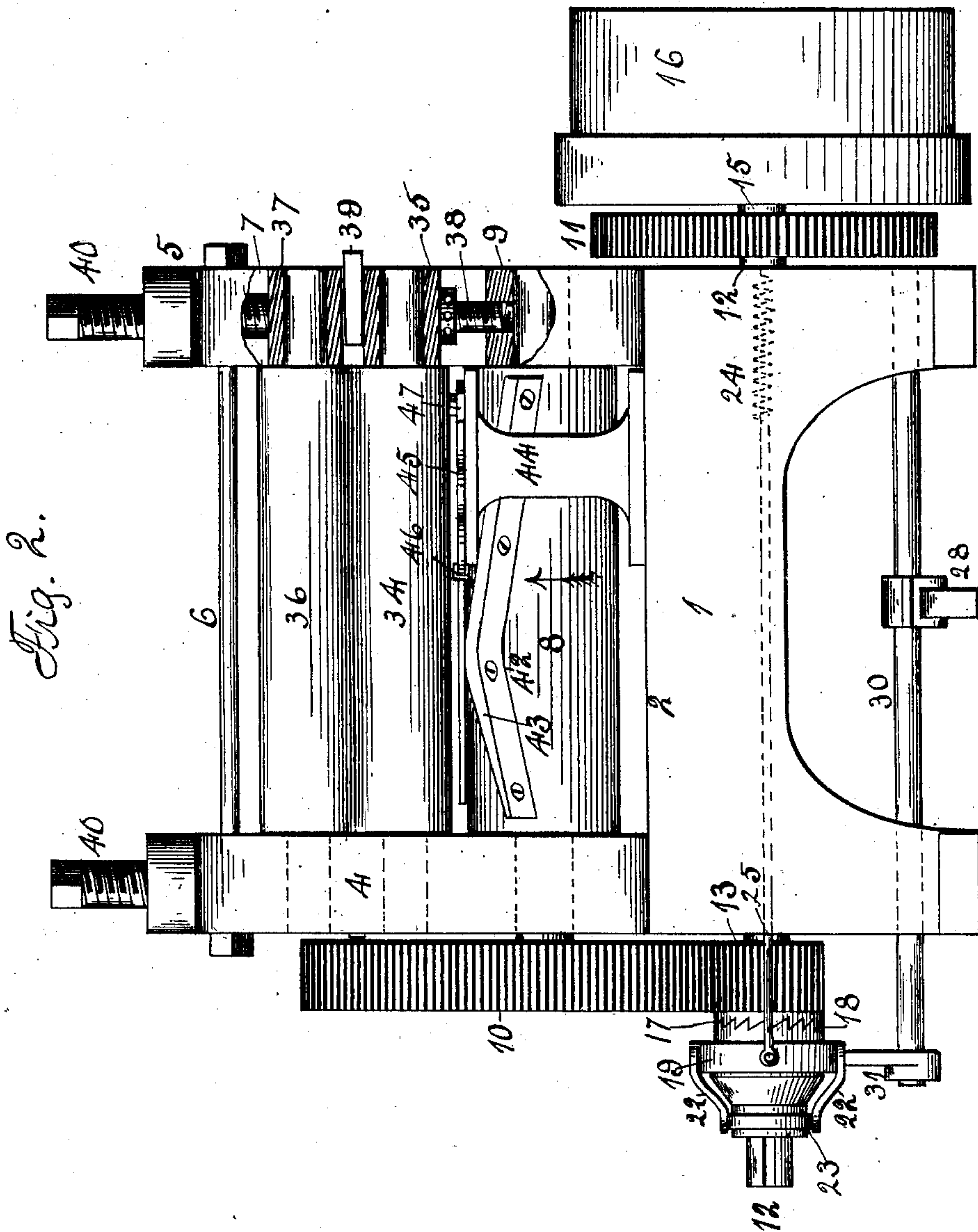
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3 SHEETS—SHEET 2.



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3 SHEETS—SHEET 3.

Fig. 4.

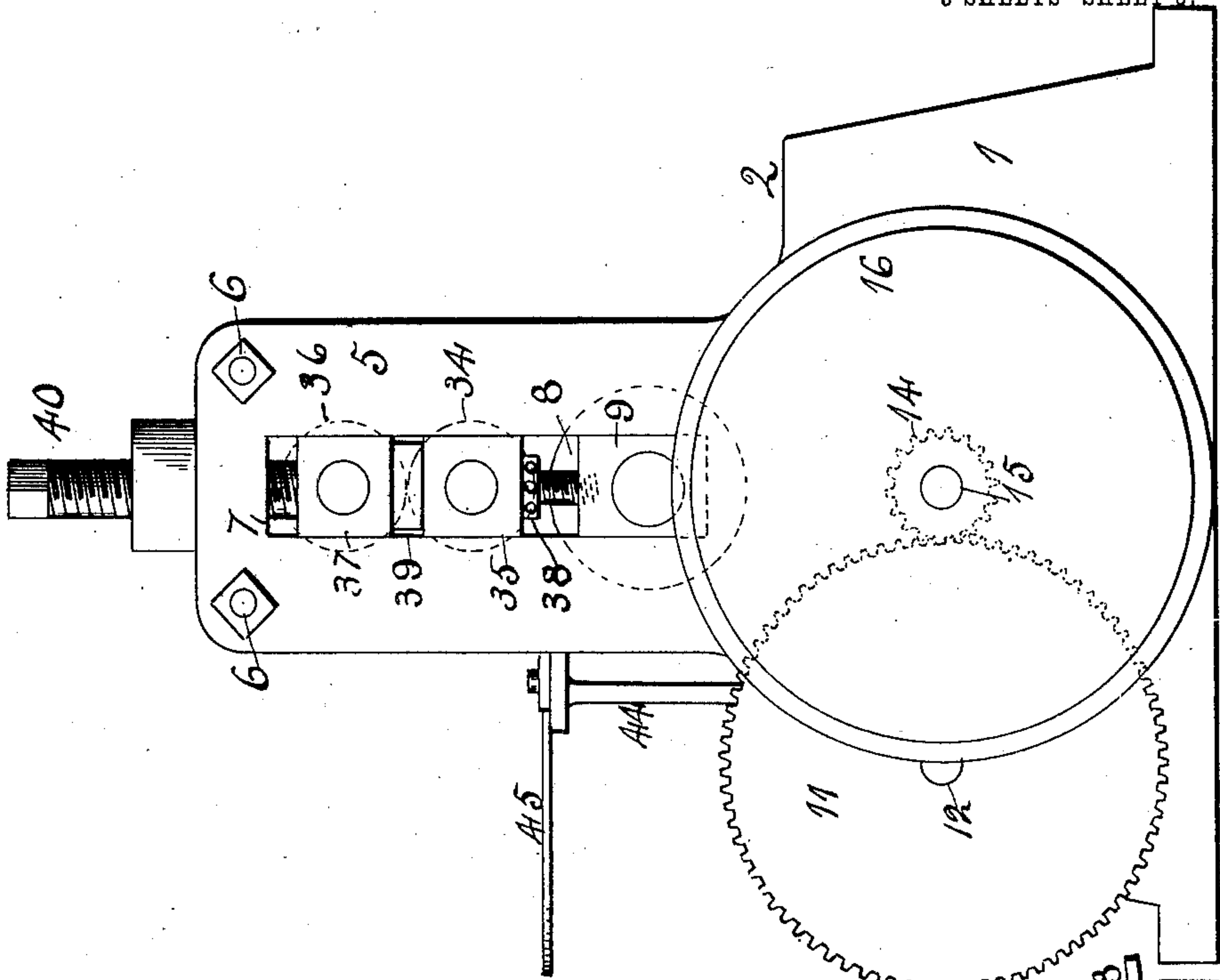
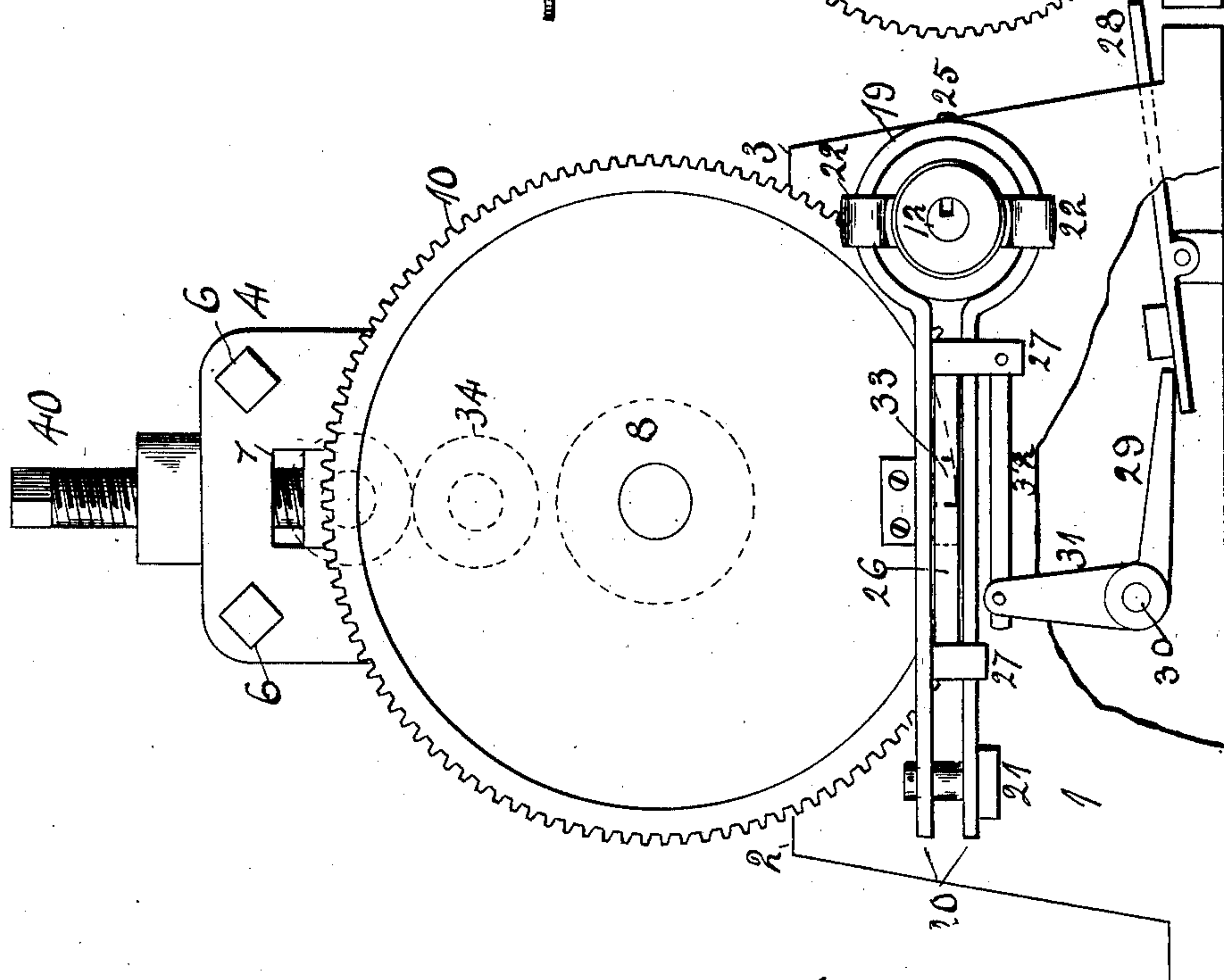


Fig. 3.



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UNITED STATES PATENT OFFICE.

CHARLES F. SPERY, OF ROCKFORD, ILLINOIS, ASSIGNOR TO LEWIS A. WEYBURN, OF ROCKFORD, ILLINOIS.

MACHINE FOR ROLLING PLOWSHARES.

No. 826,695.

Specification of Letters Patent.

Patented July 24, 1906.

Application filed October 22, 1903. Serial No. 178,099.

To all whom it may concern:

Be it known that I, CHARLES F. SPERY, a citizen of the United States, residing at Rockford, in the county of Winnebago and State of Illinois, have invented certain new and useful Improvements in Machines for Rolling Plowshares, of which the following is a specification.

This invention relates to metal-rolling machines, and is especially designed for rolling plowshares to form the cutting edge thereof.

The object of the invention is to provide an improved construction and arrangement of bearings for the die and pressure-rollers, with means arranged between the said bearings for the die and pressure-rollers for equalizing the pressure on said bearings.

In the accompanying drawings, Figure 1 is a plan view. Fig. 2 is a front elevation. Figs. 3 and 4 are end elevations.

The main supporting-frame comprises a base 1, having shelves 2 and 3, two end uprights 4 and 5, connected by rods 6. Each end upright is provided with a vertical opening 7. The main roll 8 is supported in bearings 9 in the openings 7, and to one end is secured a toothed wheel 10. A shaft 12 extends in the lengthwise direction of the machine and has a toothed wheel 11, secured to one end, and a toothed wheel 13, loosely mounted on its other end. This shaft 12 is driven by the pinion 14 on the shaft 15, meshing with the toothed wheel 11. The shaft 15 is driven by a belt connecting the pulley 16 with the main motive power. A pinion 13 meshes with the toothed wheel 10, and as it is loosely mounted on the shaft 12 motion from the shaft will not be transmitted to the main roll 8 until a clutch mechanism, now to be described, is thrown in. The pinion has a ratchet-toothed face 17, forming one member of the clutch. On the shaft 12 is located the other member 18 of the clutch and is constantly driven by a feather connection therewith. A band 19 is located around the member 18 of the clutch, having its arms 20 pivoted to a support 21, extending from the main frame and held separated. Arms 22 have a connection with the band 19 and their free ends connected to a ring 23, located in an annular groove in the member 18 of the clutch. A coiled spring 24 has one end connected to the main frame and its other end

connected to the band 19 through the rod 25. The action of this spring 24 is to hold the member 18 of the clutch in engagement with the toothed face 17 of the other member. Between the arms 20 is located a block 26 in a manner to slide in connection therewith and held from displacement by the depending projections 27, attached to it. A foot-lever 28 has a pivotal connection with the main frame intermediate its ends. Its inner end engages the arm 29, connected to a shaft 30, and to this shaft is connected an arm 31, having a connection with the projection 27 by the link 32. By means of the foot-lever the block 26 can be moved in its connection with the arms 20.

From the outer face of the toothed wheel 10 extends a wedge-shaped block 33.

When the main roll 8 is at rest, the clutch members are disengaged and held so by the wedge-shaped block 33 engaging the block 26, which in turn through the arms 20 hold the member 18 of the clutch separated from the member 17 and against the action of the spring 24. When it is desired to impart motion to the roller 8, a downward pressure of the foot-lever 28 through the arms 29 and 31 and link 32, the block 26 will be moved toward the rear of the machine free of the block 33, which will allow the arms 20 to move on their pivotal connection, and the spring 24 will draw the member 18 of the clutch into engagement with the member 17 of the clutch, and as the member 18 is constantly rotating a rotary movement will be imparted to the pinion 13 and through the toothed wheel 10 to the main roller 8 until the main roller has made a complete revolution, when the wedge-shaped block 33 will engage the block 26 and force the member 18 of the clutch from its engagement with the other member, thereby stopping the movement of the main roller 8.

Above the main roller 8 is located a smaller roller 34, held in boxes 35, located in the openings 7 in the uprights of the main frame, and above this roller is located a similar roller 36, held in boxes 37. The roller 34 is held separated the proper distance from the main roller 8 by the adjusting-screws 38, located between the boxes of the two rollers and by means of which the proper adjustment can be obtained. Wedges 39 are placed between the boxes of the rollers 34

and 36, and screws 40, having a connection with the main frame, bear against the boxes of the top roller 36. As great pressure is brought to bear upon the rollers, it is necessary that the pressure be equally borne by the bearings of the two rollers 34 and 36. I have therefore employed the wedges 39, located between the bearings of the rollers 34 and 36, by means of which the pressure can be equalized.

To the outer surface of the main roller 8 is secured a gage 41, also a die 42. This die is located diagonally to the length of the roll and has one edge 43 reduced in thickness in a tapering manner and is of a form corresponding to the edge of the plowshare to be reduced in thickness, forming the advancing edge of the die.

To the upper face of the main frame is secured a stand 44, supporting a lever 45, having a forked end 46. A stop 47 is also supported by the stand.

The plowshare to be operated upon is first heated and then placed between the main roller 8 and the roller 34 against the gage 41 and stop 47 and held in place by the lever 45. The foot-lever is depressed, which will move the clutch into engagement and set in motion to slowly rotate the main roller 8 in the direction indicated by the arrow.

I claim as my invention—

1. In a metal-rolling machine, the combination with the uprights having the vertical

slots therein, of bearings in the lower ends of said slots, a die-roller journaled in said bearings, bearings slidably disposed in said slots at a point above the first-mentioned bearings, a pressure-roller journaled in said sliding bearings, a third set of bearings slidably disposed in said slots above the pressure-roller bearings, a supporting-roller journaled in said last-mentioned bearings and in facial contact with the pressure-roller, and means arranged between the bearings for the pressure and supporting rollers to equalize the pressure on said bearings.

2. In a metal-rolling machine, the combination with the uprights having the vertical slots therein, of bearings in the lower ends of said slots, a die-roller journaled in said bearings, bearings slidably disposed in said slots at a point above the first-mentioned bearings, a pressure-roller journaled in said sliding bearings, a third set of bearings slidably disposed in said slots above the pressure-roller bearings, a supporting-roller journaled in said last-mentioned bearings and in facial contact with the pressure-roller, and wedges arranged between the bearings for the pressure and supporting rollers to equalize the pressure on said bearings.

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