

No. 822,509.

PATENTED JUNE 5, 1906.

P. J. DALTON.
APPARATUS FOR MANUFACTURING FISH PLATES.
APPLICATION FILED APR. 30, 1904.

3 SHEETS—SHEET 1.

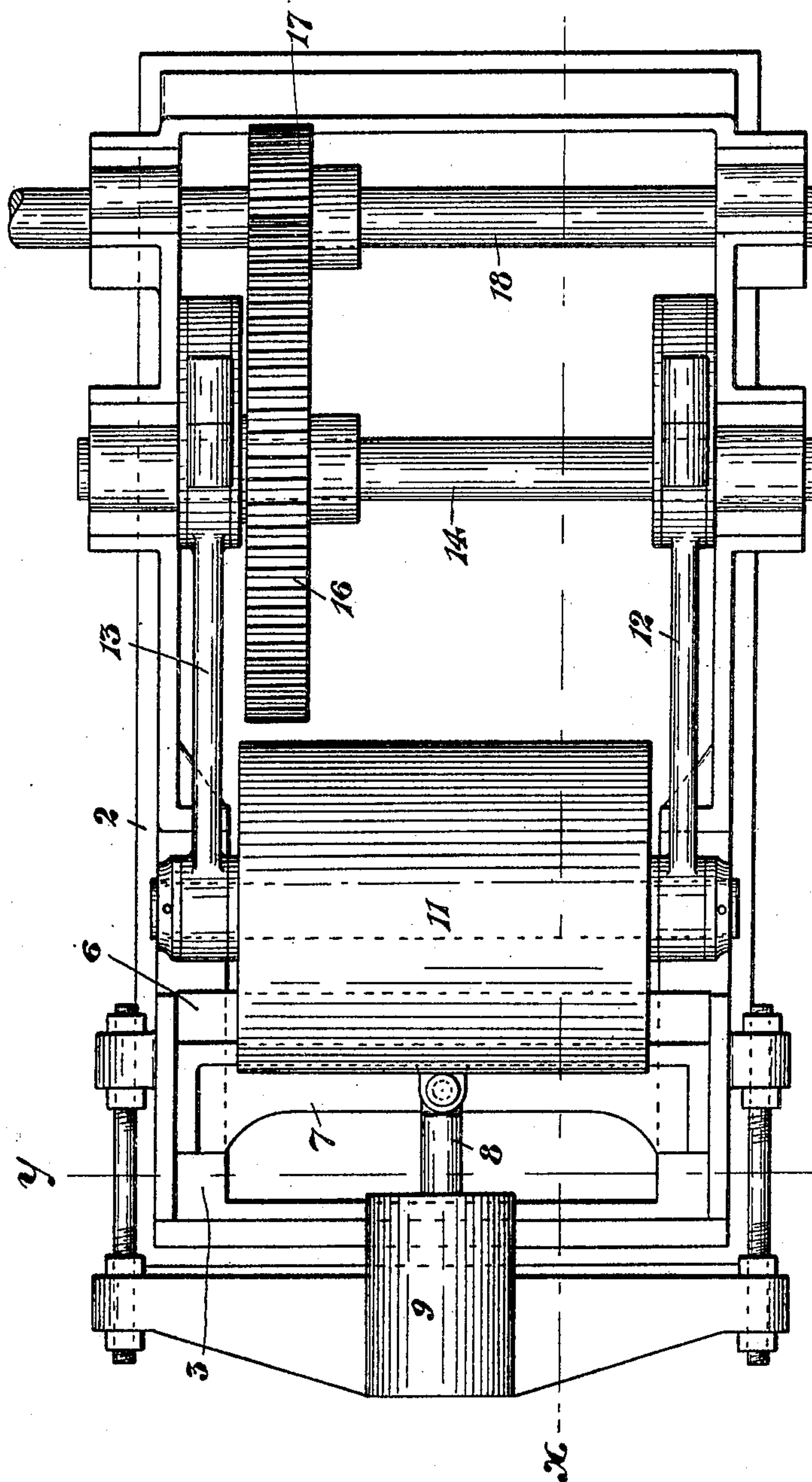


Fig. 1.

WITNESSES:

Ralph Lancaster

Russell M. Everett.

INVENTOR:

Philip J. Dalton,

BY

Charles H. Bell

ATTORNEY.

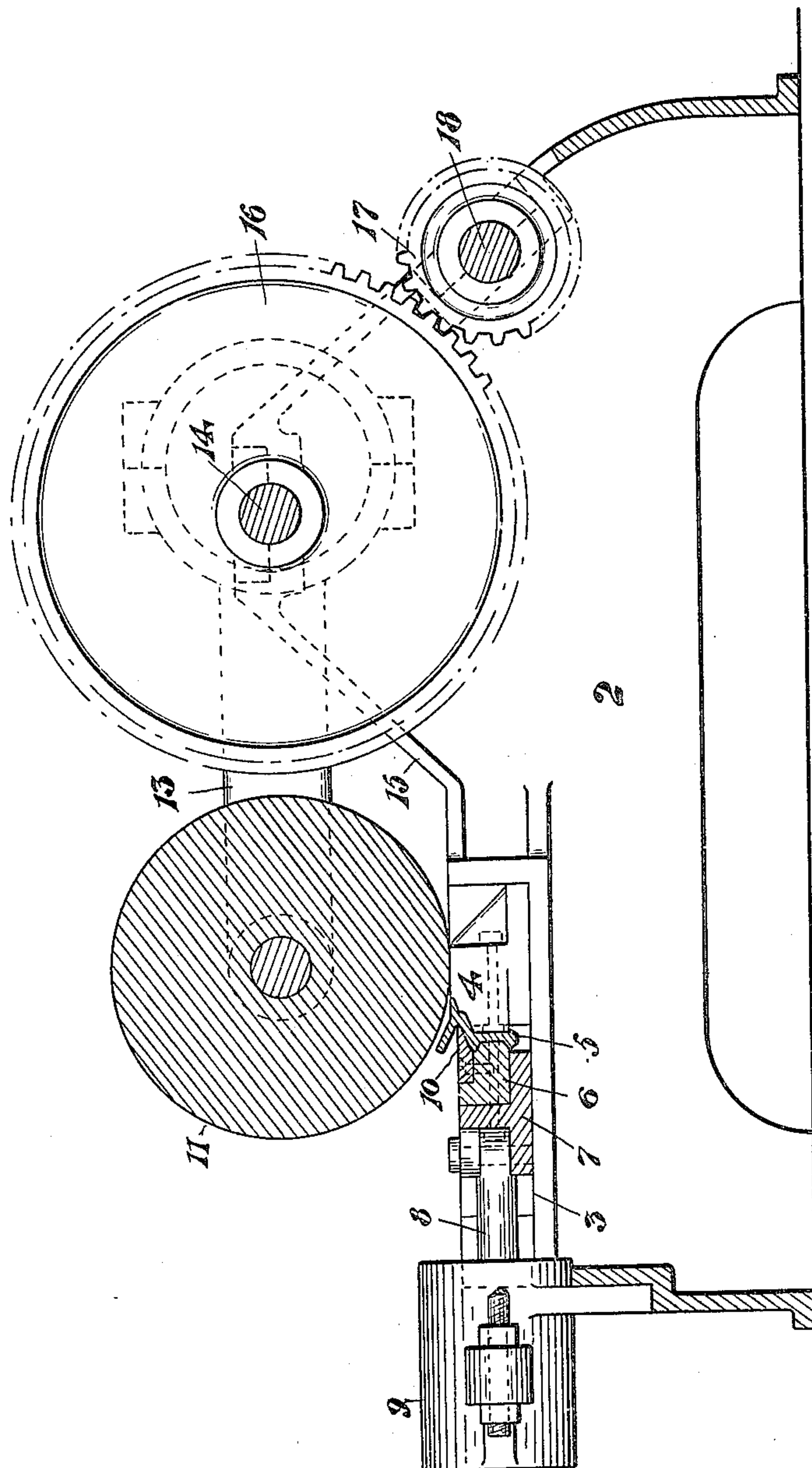
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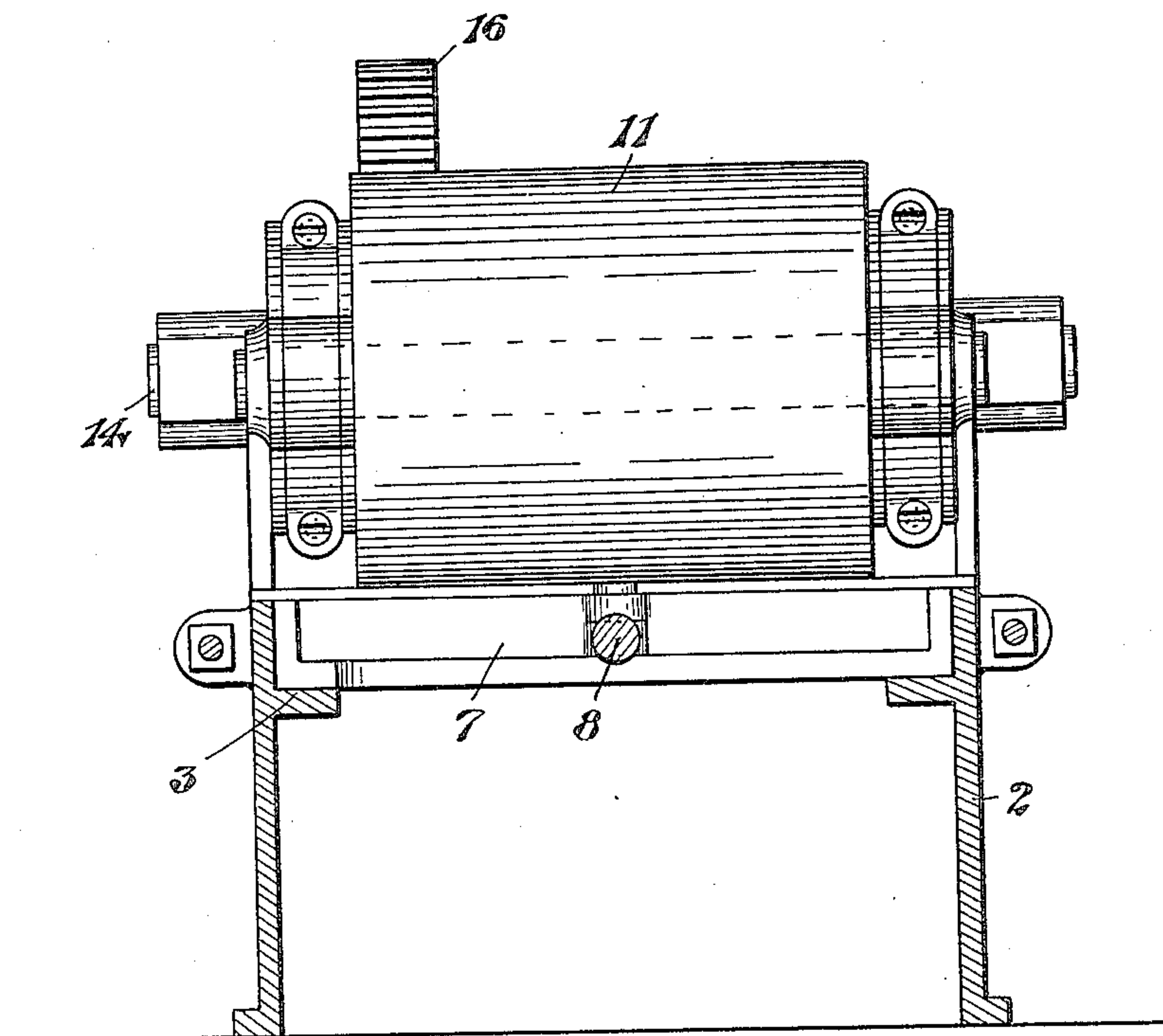


Fig. 3.

WITNESSES:

Ralph Lancaster

Russell M. Everett

INVENTOR:

Philip J. Dalton,

BY

Charles H. Bell,
ATTORNEY.

UNITED STATES PATENT OFFICE.

PHILIP J. DALTON, OF JOLIET, ILLINOIS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE RAIL JOINT COMPANY, A CORPORATION OF NEW YORK.

APPARATUS FOR MANUFACTURING FISH-PLATES.

No. 822,509.

Specification of Letters Patent.

Patented June 5, 1906.

Application filed April 30, 1904. Serial No. 205,666.

To all whom it may concern:

Be it known that I, PHILIP J. DALTON, a citizen of the United States, residing at Joliet, in the county of Will and State of Illinois, have invented certain new and useful Improvements in Apparatus for Manufacturing Fish-Plates; 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, reference being had to the accompanying drawings, and to numerals of reference marked thereon, which form a part of this specification.

This invention relates to the manufacture of rail-joint connecting-plates of the continuous type, and more particularly to such manufacture as illustrated in United States Patent No. 729,488, issued May 26, 1903, to Richard B. Charlton, the objects of the present invention being to facilitate the bending of the base member of the fish-plate into final position, to effect such bending without kinking the base member, to thus secure an even and regular seat for the rail-base, to obtain greater durability of the bending apparatus, and to obtain other advantages and results, some of which may be hereinafter referred to in connection with the description of the working parts.

The invention consists in the improved apparatus for manufacturing fish-plates and in the arrangements and combinations of parts of the same, all substantially as will be hereinafter set forth, and finally embraced in the clauses of the claim.

Referring to the accompanying drawings, in which like numerals of reference indicate corresponding parts in each of the several figures, Figure 1 is a plan of my improved apparatus. Fig. 2 is a vertical longitudinal section upon line *x*, Fig. 1; and Fig. 3 is a vertical transverse section on line *y*, Fig. 1.

In said drawings, 2 indicates a bed or frame of any suitable construction adapted to rigidly support the working parts of my improved machine. At one end portion of said bed or frame 2 is provided a horizontal slideway 3, having at its inner end a fixed though adjustable die member adapted to receive the outer surface or side—i. e., that side which normally lies away from the rail—of a fish-plate 5 as it lies in inverted position in the machine. Upon the outer portion of

said slideway 3 is arranged a second transverse die member 6, adapted to cooperate with the first die member 4 described and engage the inner or opposite surface of the upright portion of the fish-plate 5, so that said portion is clamped firmly between the said die members. Said outer die member 6 is carried upon a block or slide 7, to which is attached the connecting-rods 8 of a piston working in a pneumatic cylinder 9 and by means of which reciprocatory motion can be imparted to said die member 6. Upon the top of said die member 6 is secured a tongue 10, which projects beyond the face of the die and is adapted to lie within the doubled portion of the fish-plate 5.

In operation, therefore, a fish-plate which has been sheared from a bar rolled into proper cross-sectional disposition of metal, but left with the doubled portion of the fish-plate open at an angle greater than the normal, is gripped by its upright portion between the said die members 4 6, as shown in Fig. 2, the upturned base member projecting free above the tongue 10. For bending said base member into normal position and pressing it flat upon the said tongue 10 I provide a roller 11, which is adapted to travel upon the upper surfaces of the die members holding the fish-plate and by its weight press the said base member flat. Said roller is preferably pivoted between arms 12 13, eccentrically connected at their opposite ends to a shaft journaled in upward extensions 15 of the bed or frame 2. A large gear 16 upon said shaft 14 meshes with a driving-pinion 17 upon a driving-shaft 18, journaled at a lower point in the bed 2 for reciprocating the roller.

The roller 11 is of small enough diameter so that it first engages and exerts its pressure upon the base member at a point near its attachment to the fish-plate and then rides farther up on the base member as said base member is brought into final position, thus closing the said base member without distortion or kinking such as would occur if the pressure was first brought to bear on the outer or free end of said base member. Moreover, the base member is not so likely to be cracked when bent as in my improved machine, and, furthermore, the wear on the roller is very slight and is uniform.

Having thus described the invention, what I claim as new is—

1. In a machine for forming fish-plates, the combination with dies adapted to engage opposite sides of the vertical portion of a fish-plate in vertical position, one of said dies being movable with respect to the other and one of them having a tongue adapted to enter the doubled portion of the fish-plate, of a roll adapted to travel across the upper surfaces of said dies and tongue, a driving-shaft, and arms eccentrically connected at one end to said shaft and pivotally connected at the other end to said roll.

2. In a machine for forming fish-plates, the combination with die members adapted to grasp the upright portion of a fish-plate and hold the same in inverted position with its base member exposed, of a gravity-roller arranged parallel to said die members and adapted to travel across said base member, a shaft carrying eccentrics at opposite ends, and eccentric-straps with arms extending to the opposite ends of said roller to reciprocate said roller.

3. In a machine for forming fish-plates, the combination with means for clamping a fish-plate in inverted position with its base mem-

ber exposed, of a roller adapted to travel across said base member of a shaft 14 having eccentrics at opposite ends, eccentric-straps extending to the opposite ends of the roller to operate the same and pulleys for rotating said shaft 14, substantially as set forth.

4. In a machine for forming fish-plates, a bed or face providing a horizontal slideway at one end and raised journal-bearings at the other, opposite die members, one adjustable in said slideway, adapted to clamp a fish-plate in inverted position with its base member exposed, a rotary shaft in said raised bearings, eccentrics on said shaft, arms extending from said eccentrics, and a roller mounted between said arms in position to travel upon said die member in the slideway.

In testimony that I claim the foregoing I have hereunto set my hand this 25th day of April, 1904.

PHILIP J. DALTON.

Witnesses:

WILLIAM GRINTON,
EDWIN I. MUNROE.