

No. 688,450.

Patented Dec. 10, 1901.

J. T. WAGNER.

DEVICE FOR REMOVING SCALE FROM SHEET METAL.

(Application filed Apr. 29, 1899. Renewed June 29, 1901.)

(No Model.)

Fig. 4

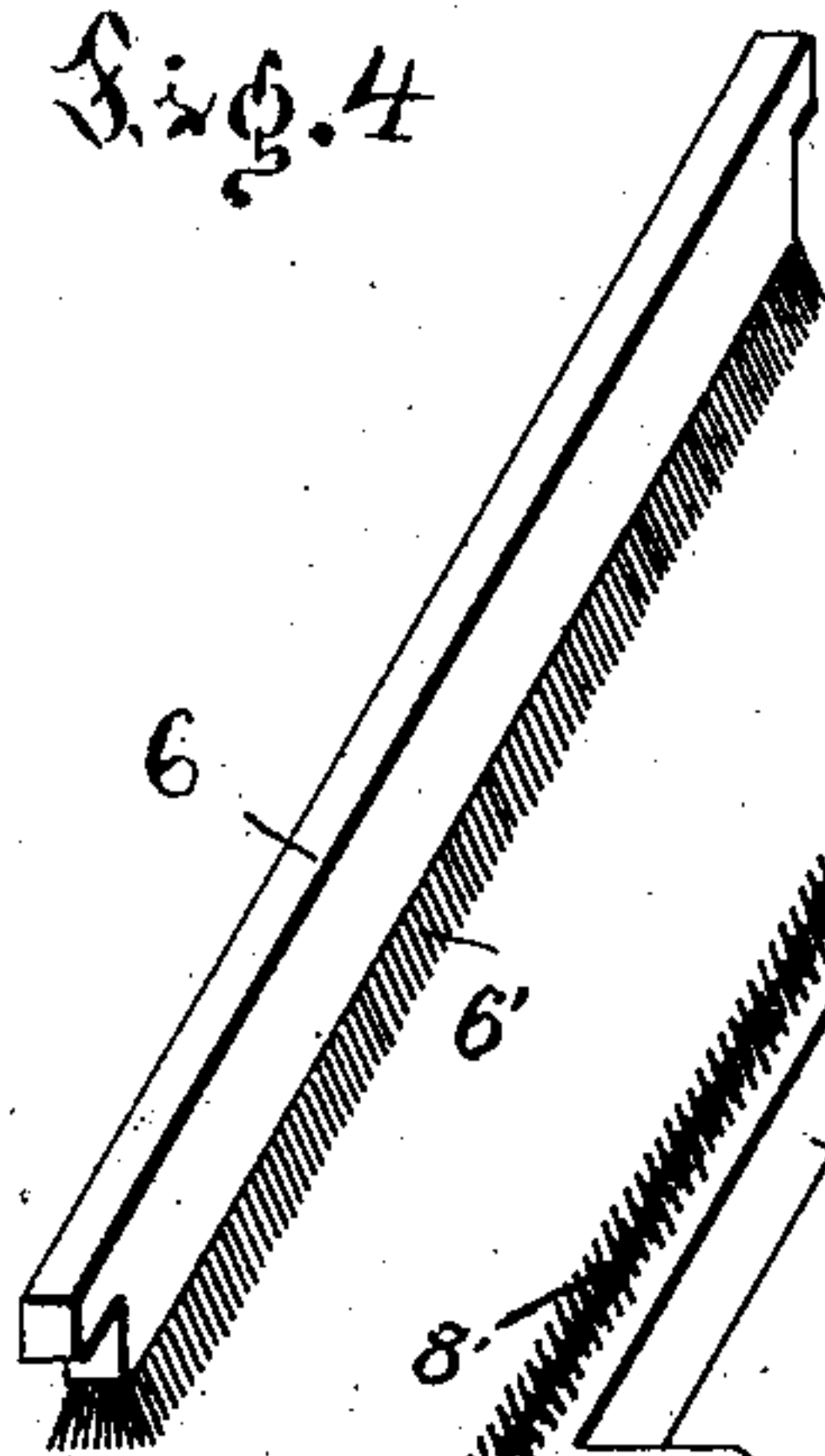


Fig. 5

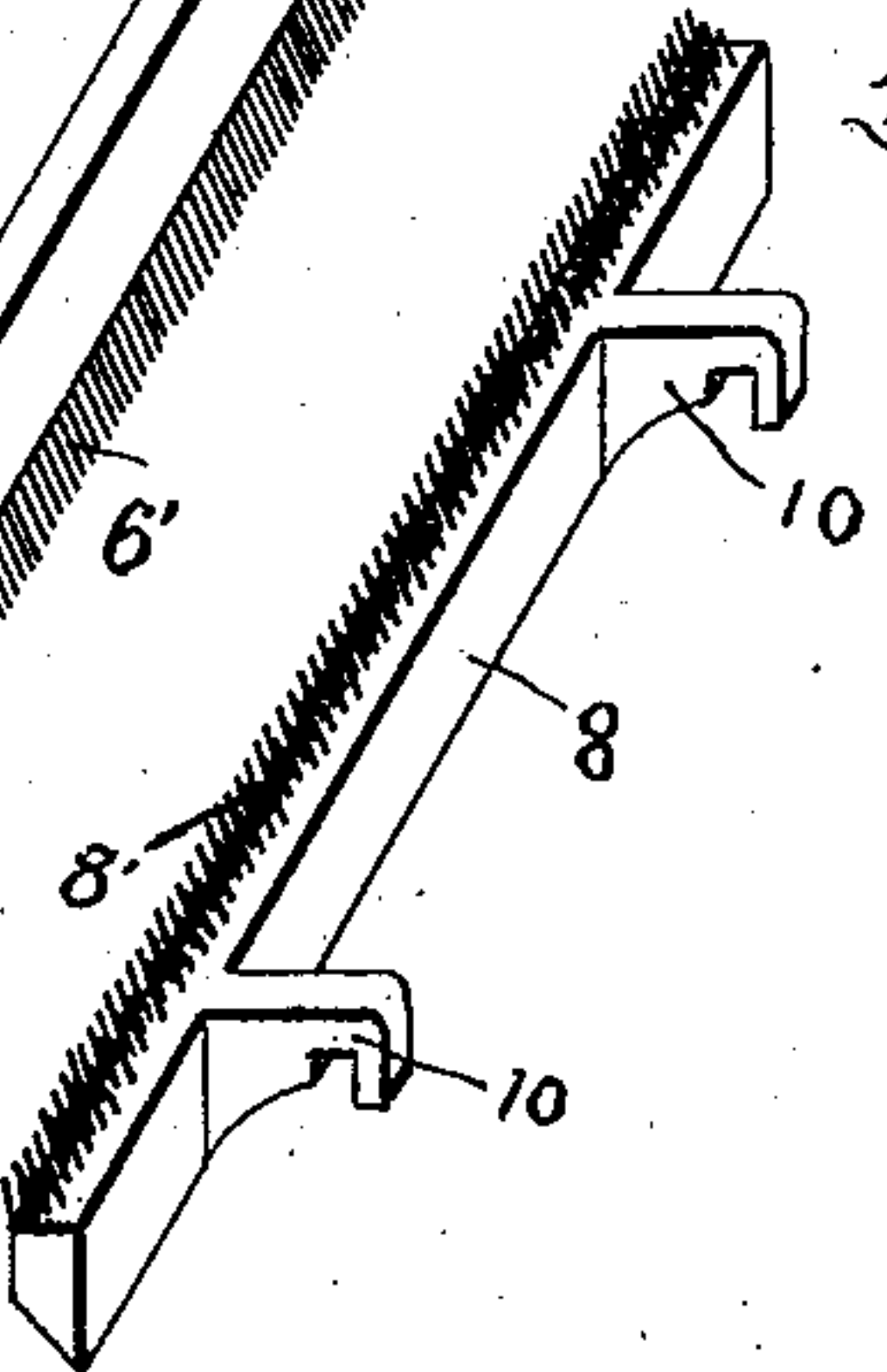


Fig. 1

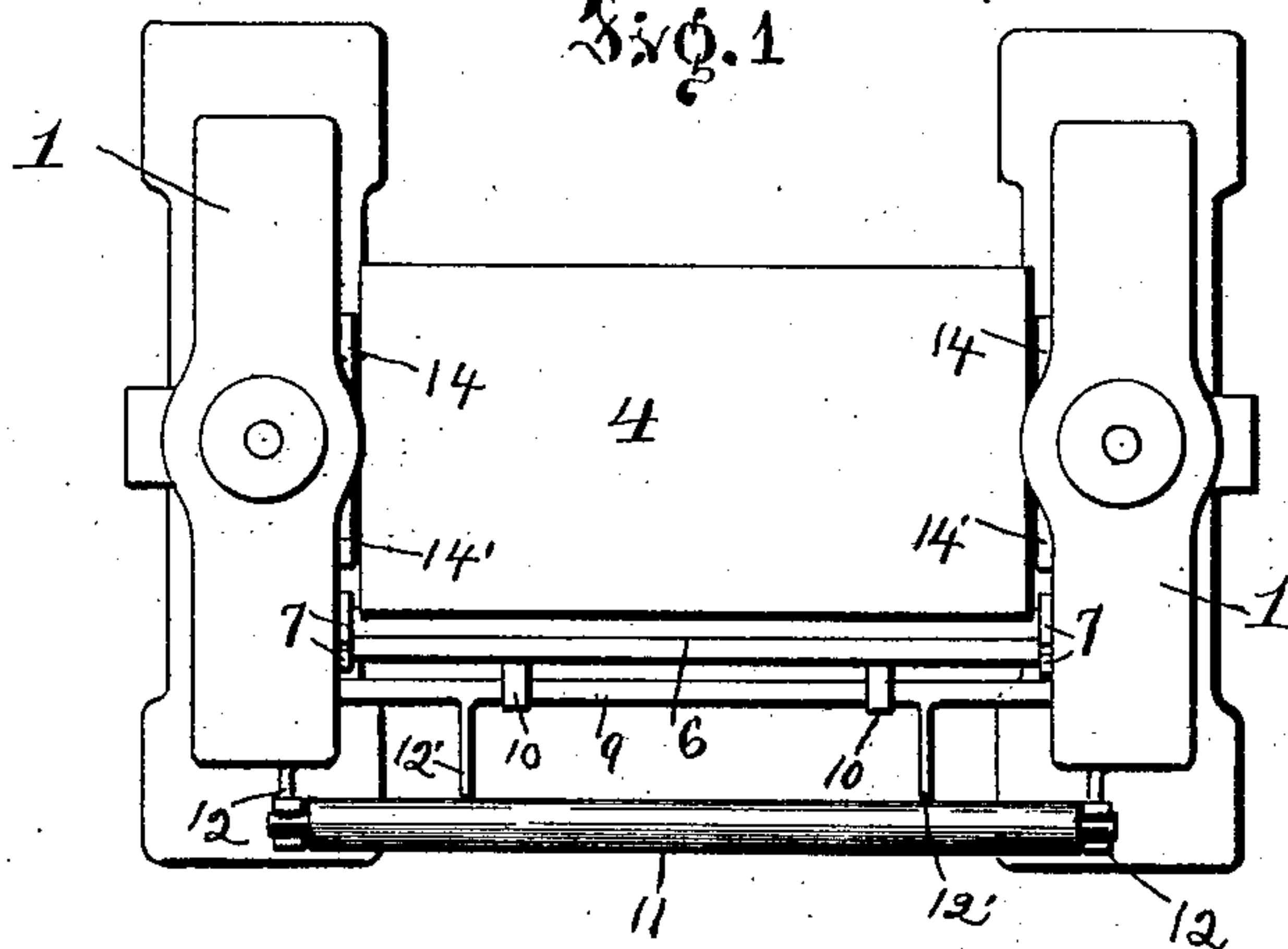


Fig. 3

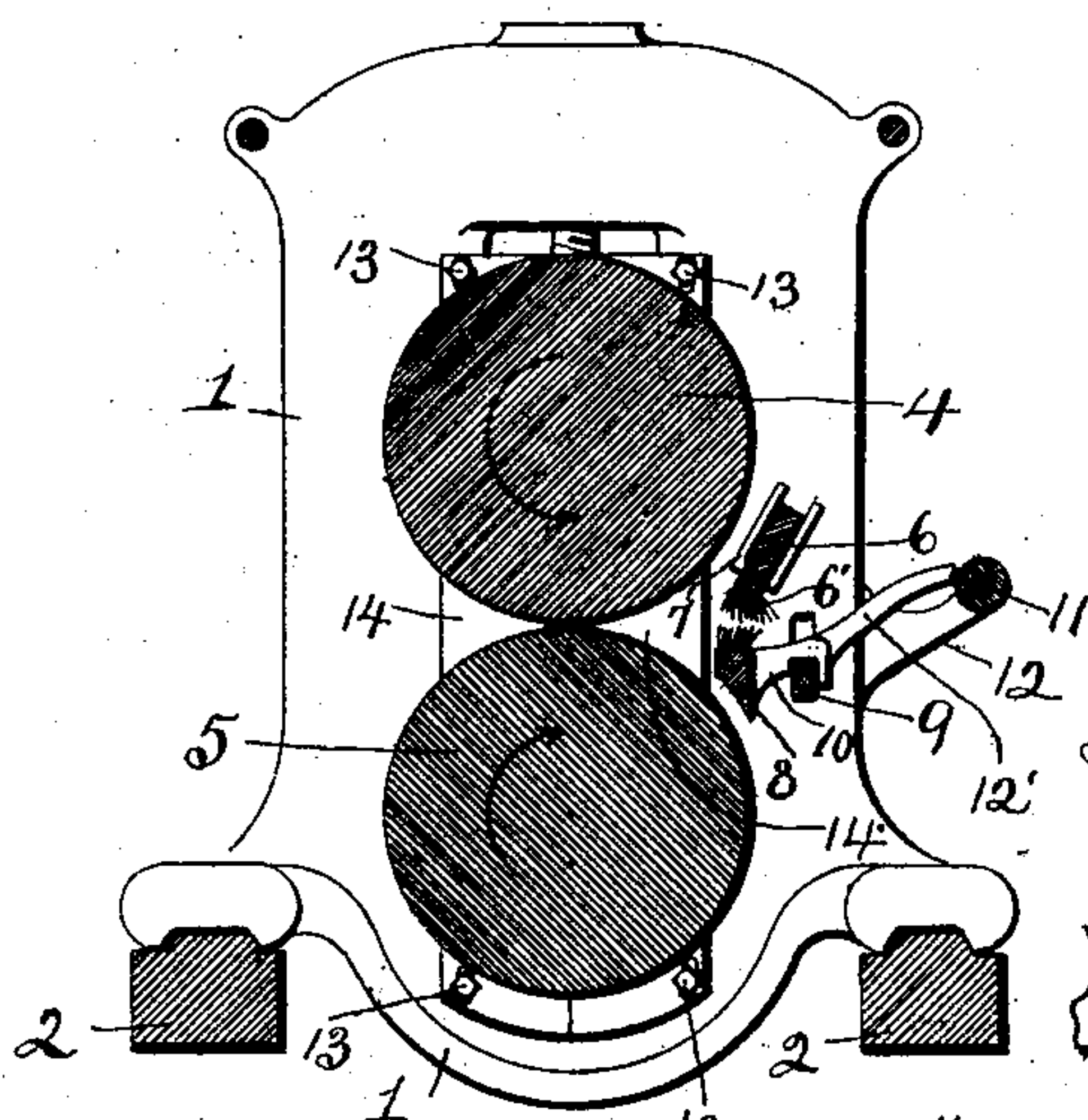


Fig. 2

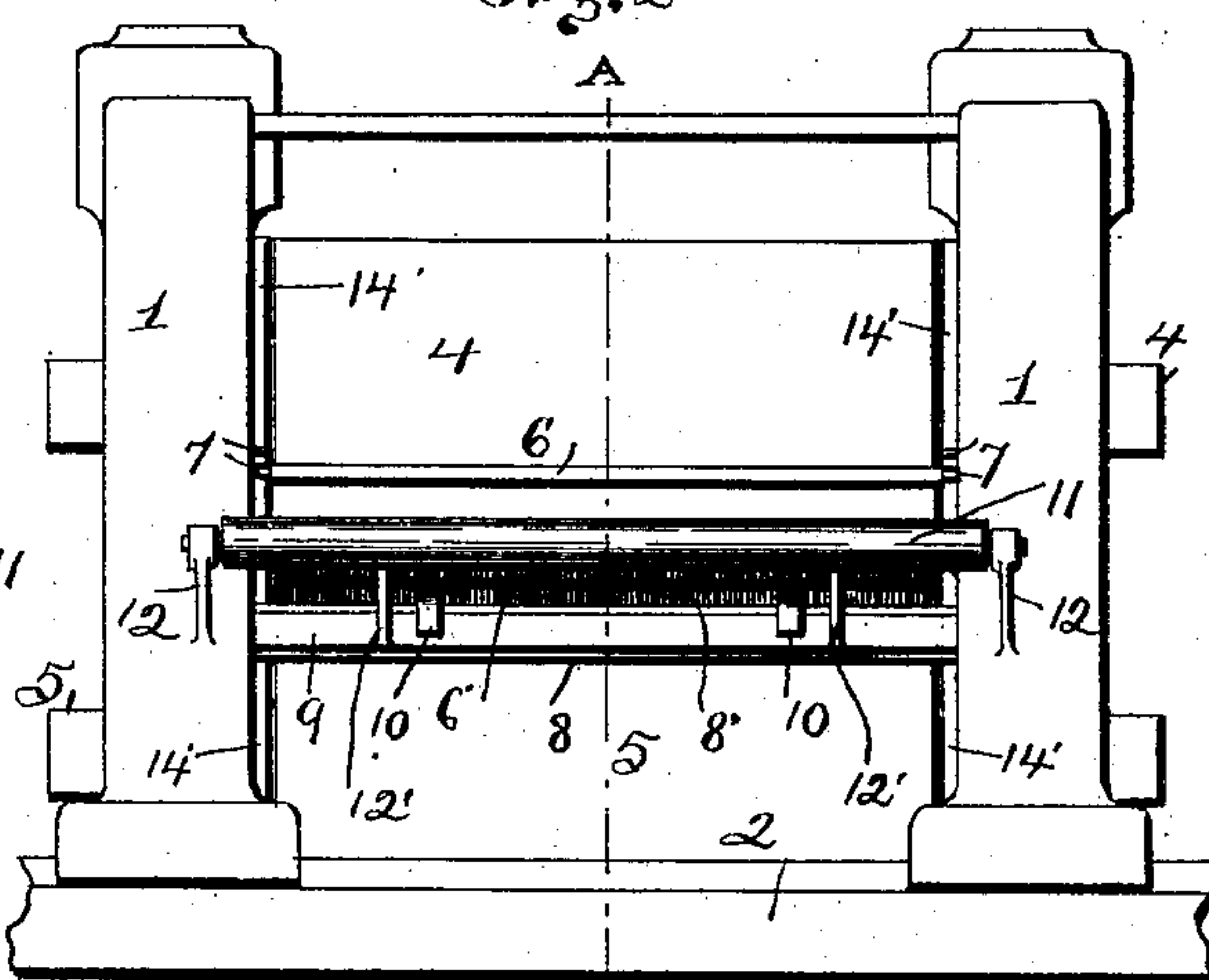


Fig. 6

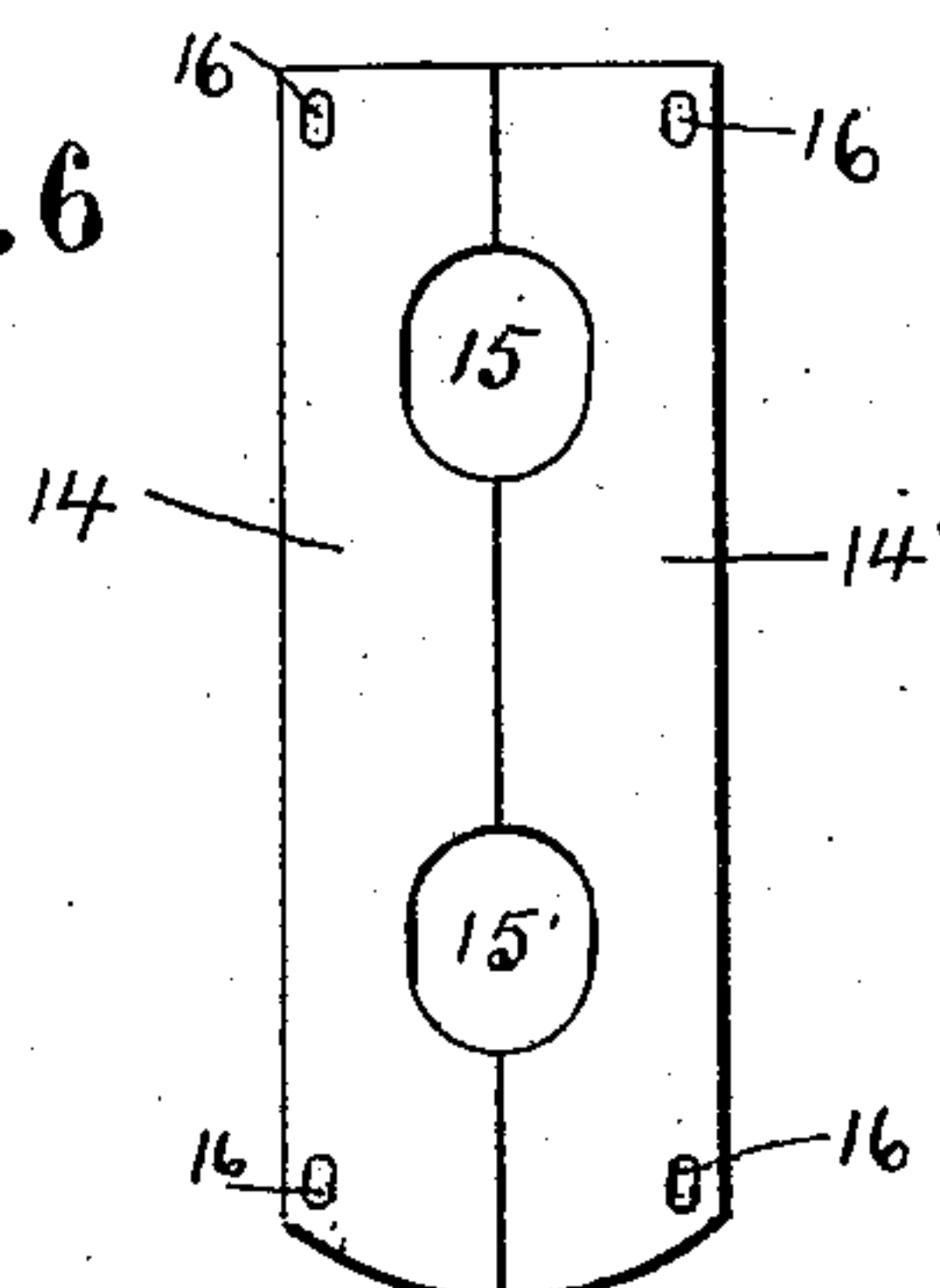
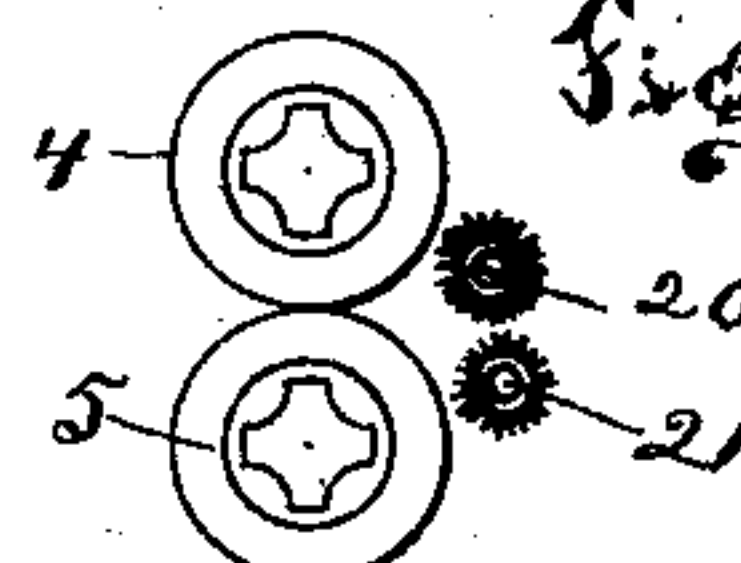


Fig. 7



WITNESSES:

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UNITED STATES PATENT OFFICE.

JAMES T. WAGNER, OF APOLLO, PENNSYLVANIA.

DEVICE FOR REMOVING SCALE FROM SHEET METAL.

SPECIFICATION forming part of Letters Patent No. 688,450, dated December 10, 1901.

Application filed April 29, 1899. Renewed June 29, 1901. Serial No. 66,528. (No model.)

To all whom it may concern:

Be it known that I, JAMES T. WAGNER, a citizen of the United States of America, residing at Apollo, in the county of Armstrong and State of Pennsylvania, have invented certain new and useful Improvements in Devices for Removing Scale from Sheet Metal; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to certain new and useful improvements in a device for removing scale from sheet metal.

The invention has for its object the provision of a means of removing the scale from sheet metal during the process of rolling the same into marketable material.

The device consists in applying a pair of heavy wire brushes to the housings at the rear of the rolls, so that the sheet of metal in issuing from the rolls may pass between them and remove said scale from both sides of the sheet.

The device is not alone practical, but is comparatively simple in structure and inexpensive to manufacture.

Other improvements are combined with the housings and rolls to prevent the lubricating material upon the bearings from working onto the surfaces of the rolls.

With these objects in view the invention finally consists in the novel construction, combination, and arrangements of parts, as will be hereinafter more fully described in detail.

In describing the same in detail reference is had to the accompanying drawings, wherein like numerals of reference designate like parts, and in which—

Figure 1 is a plan view of a pair of rolls and housings having my improvements thereon. Fig. 2 is a rear elevation of the same. Fig. 3 is a sectional side elevation through the rolls and brushes on the line A B of Fig. 2. Fig. 4 is a perspective view of the top brush. Fig. 5 is a perspective view of the lower brush. Fig. 6 is a face view of one of the roll-protecting plates. Fig. 7 is an end view of a pair of rolls with brushes of rotary form, being a modification.

In the drawings the numeral 1 designates a pair of housings arranged upon a bed-plate

2, said housings having in connection therewith a pair of plain-faced sheet or plate rolls 4 and 5. These parts being old in the art of iron and steel manufacture are not of my invention and may therefore be of any approved form.

To remove the scale which forms upon the surface of the plate during the process of manufacture and at the time when the plate issues from the rolls, I arrange a brush formed of a metal bar 6, having a number of steel wires 6', attached at its under side to the housings. Said brush-bar has shouldered ends, which engage within a pair of U-shaped brackets 7, arranged upon the inner sides of the housings at the rear of the rolls, said brush being capable of moving upward to adjust itself when the plate passes beneath it. The lower brush-bar 8 is also constructed of metal and is provided with wires 8' upon its upper side. This brush is suspended upon a bar 9, reaching across between the housings, by the hook-shaped lugs or hangers 10, which are formed upon the brush-bar. Slightly elevated above the meeting-point of the rolls and brushes is placed the roller 11, whose ends are reduced in diameter to form bearings and are fitted into brackets 12 upon the housings. The bar 9 is provided with a pair of guide-arms 12', which extend upward to the roller and serve to guide the metal sheet up over the roller after passing through the rolls and brushes.

To prevent the lubricating material from working onto the surface of the rolls, I attach by set screws or bolts 13 to the inner sides of the housings a plate formed of the two sections 14 and 14', having openings 15 and 15' to engage over the reduced necks of the rolls. These openings and those 16 for the bolts are made elongate or elliptic in form, the object of which is that the rolls may be adjusted.

At Fig. 7 a variation is shown by placing with the rolls 4 and 5 a pair of rotary brushes 20 and 21.

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

1. The combination with a pair of rolls and their housings, of a pair of brushes extending between the housings at the rear of and par-

allel with the rolls, a bar 9 fitted within open-
ings at the inner sides of the housings and
provided with arms 12', the roller 11 support-
ed by brackets upon the rear of the housings
5 and parallel with the rolls, the plates 14 and
14' having elongated openings 16 whereby
they are adjustably attached to the inner
sides of the housings, and the elongated open-
ings 15 and 15', to engage over the reduced
10 portions of the roll-necks, as shown and set
forth.

2. The combination with a pair of rolls and
their housings, of the brackets 7, the brush 6
supported within the said brackets, the bar
15 9 having the arms thereon, the openings in the
housings to support said bar, the brush 8

having hooks thereon to engage said bar, the
roller 11 at the rear of the housings, the
plates 14 and 14' having elongated openings
to adjustably secure the same to the inner 20
sides of the housings, and the elongated open-
ings 15 and 15' to engage over the reduced
portion of the roll-necks, all arranged as shown
and set forth.

In testimony whereof I have hereunto af- 25
fixed my signature in the presence of two sub-
scribing witnesses.

JAMES T. WAGNER.

Witnesses:

WILLIAM H. HARRISON,
RICHARD S. HARRISON.