E. F. SHUSTER.

ROTARY STRAIGHTENING ARBOR.

APPLICATION FILED OCT. 25, 1917.

1,283,336.

Patented Oct. 29, 1918.

Fig. 1

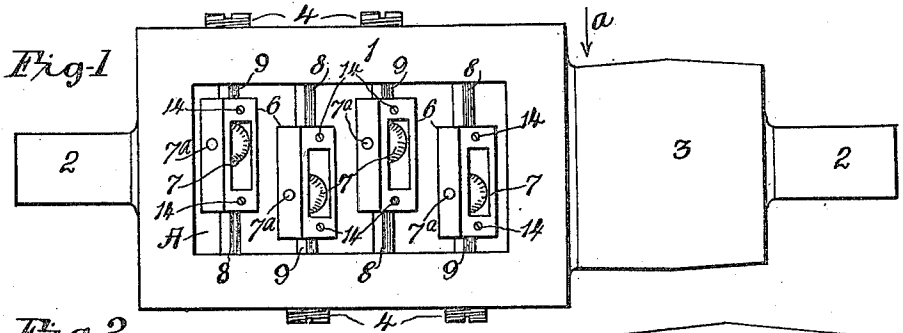



Fig. 2

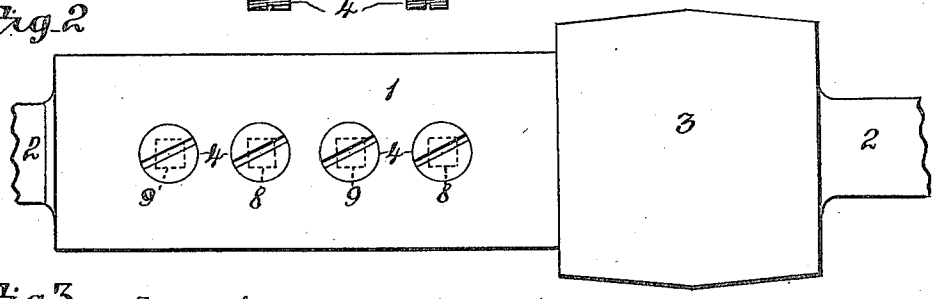



Fig. 3

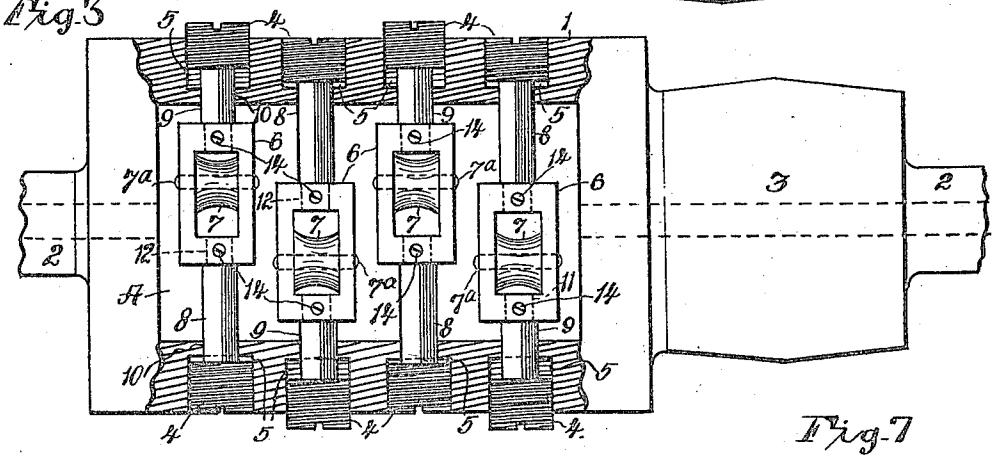



Fig. 7

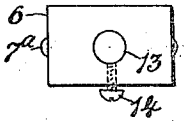



Fig. 4

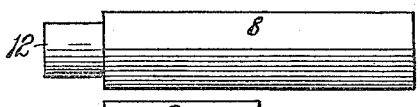



Fig. 5

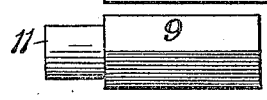
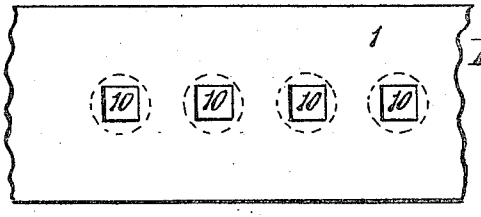



Fig. 6




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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

# UNITED STATES PATENT OFFICE.

ELMORE F. SHUSTER, OF NEW HAVEN, CONNECTICUT.

## ROTARY STRAIGHTENING-ARBOR.

1,283,336. Specification of Letters Patent. Patented Oct. 29, 1918.

Application filed October 25, 1917. Serial No. 198,444.

*To all whom it may concern:*

Be it known that I, ELMORE F. SHUSTER, citizen of the United States, residing at New Haven, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Rotary Straightening-Arbors; 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 relates to improvement in rotary straightening arbors, and it consists in certain details of construction whereby the rolls are readily adjusted to feed the wire through the arbor proportionally to the rotary speed of the arbor.

Referring to the drawings:

Figure 1 represents a side elevation of the arbor, showing the roll frames set at an angle;

Fig. 2 is an enlarged broken view of the arbor, looking in the direction of arrow *a*, Fig. 1;

Fig. 3 is an enlarged broken view partly in section of the arbor, showing the roll supporting frames in full view;

Figs. 4 and 5 are enlarged detail views of the roll frame supporting pins;

Fig. 6 is an enlarged broken inside view of one of the sides of the head; and

Fig. 7 is an enlarged end view of one of the roll frames.

The straightening arbor comprises the usual head 1 having journals 2 and pulley 3 integral therewith. 4 are the adjusting screws mounted in the threaded recesses 5 of the head. 6 are frames carrying rolls 7, journaled on pins $7^a$. The frames are located in the opening A of the head and each is mounted on a long pin 8 and a short pin 9. The main body of these pins is square in cross section and are adapted to have a free longitudinal movement in the square holes 10 in each side of the head—see Fig. 6. The inner cylindrical ends 11—12 of these pins enter holes in each end of the roll frames or supports 6; one of said holes, 13, is shown in Fig. 7. The outer ends of the pins abut the inner ends of the adjusting screws 4, which screws adjust the roll frames each side of the center of the arbor to give the proper deflection to the wire being fed therethrough.

The object of employing a short and long pin for the roll carrying frames is to avoid unduly enlarging the head, which would have to be done were two long pins used in place of a long and short one as shown. Whatever the adjustment of the frames may be to and from the center of the arbor, the pins must always remain in the angular holes provided for them in the head.

It is economy to rotate wire straightening arbors at high speed, but this speed must necessarily be timed to the ability of the rolls to deliver the wire. Owing to the inability of the old fixed roll to keep up with an unlimited arbor speed, the output was necessarily limited. This discrepancy has been overcome of late by setting the rolls at angle, and my present improvement consists in the cheap and simple arrangement whereby the rolls can be readily adjusted to conform to the rotary speed of the arbor.

The roll frames, as before mentioned, are mounted on the inner cylindrical ends of the pins 8—9, and, by simply loosening the set screws 14, can be readily rotated on the pins to set their rolls at any angle desired to deliver wire in accordance with the rotary speed of the arbor. The angular portion of the pins and their angular bearings in the frame will, as before mentioned, permit of a free longitudinal movement in adjusting the roll frames to and from the center of the arbor, but will not rotate when the roll supporting frames are angularly adjusted

Having thus described my invention, what I claim is:—

1. A rotary straightening arbor comprising a head having an enlarged central opening and oppositely located threaded recesses with angular holes at the bottom thereof communicating with the central opening, pins shaped to operatively fit said angular holes, screws in the threaded recesses to adjust the pins to and from the axial line of the arbor, roll carrying frames journaled on the inner ends of the pins and adapted thereby to be adjusted to place the rolls of the frames at any desired angle with respect to the feeding line of the wire, and means whereby the frames are secured in any of their adjusted positions.

2. A rotary straightening arbor comprising a head having an enlarged central opening and oppositely located threaded recesses

with angular holes at the bottom thereof communicating with the central opening, pins of different lengths shaped to operatively fit said angular holes, screws in the threaded recesses to adjust the pins to and from the axial line of the arbor, roll carrying frames journaled on the inner ends of the pins and adapted thereby to be adjusted to set the frame and rolls at any desired angle with respect to the feeding line of the wire, and means whereby the frames are secured in any of their adjusted positions.

In testimony whereof I affix my signature.

ELMORE F. SHUSTER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."