V. B. CHAMBERLAIN.

CLEANING MACHINE.

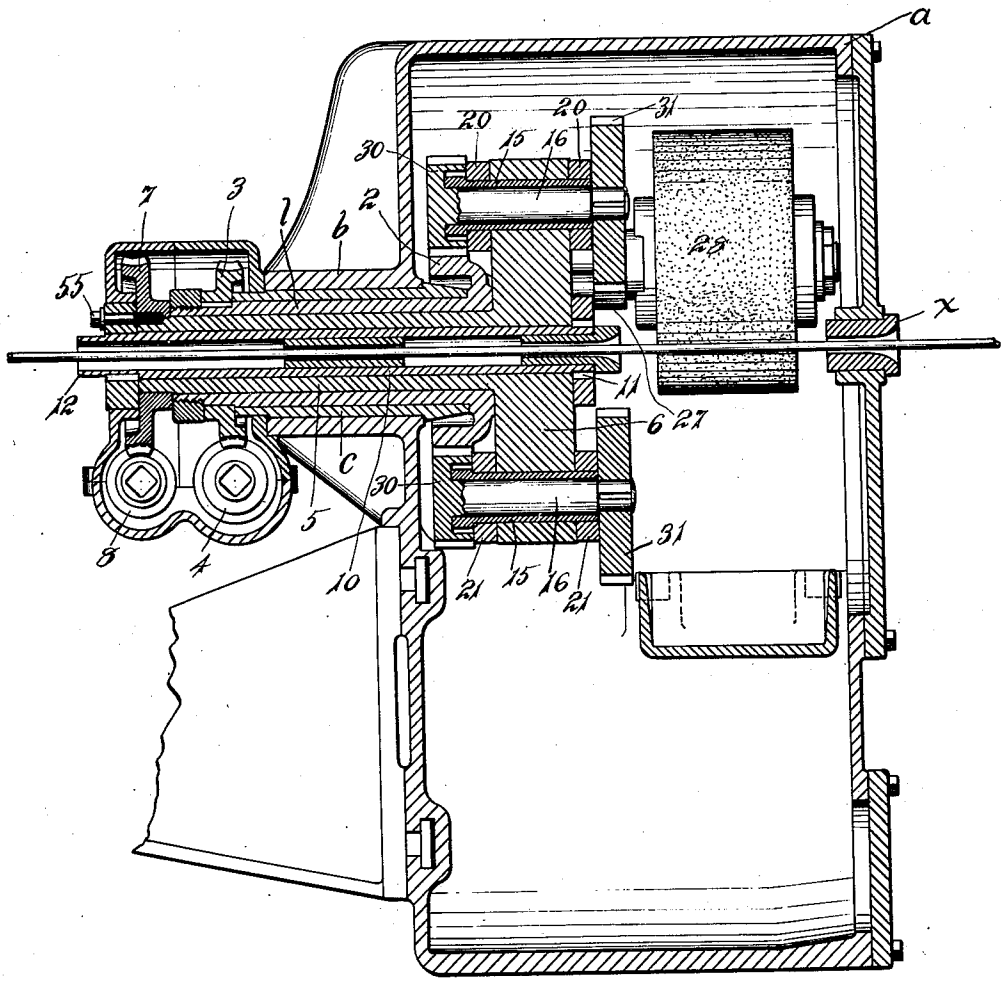
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1,215,482.

Patented Feb. 13, 1917.

3 SHEETS—SHEET 1.

Fig. 1.



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3 SHEETS—SHEET 2.

Fig. 2.

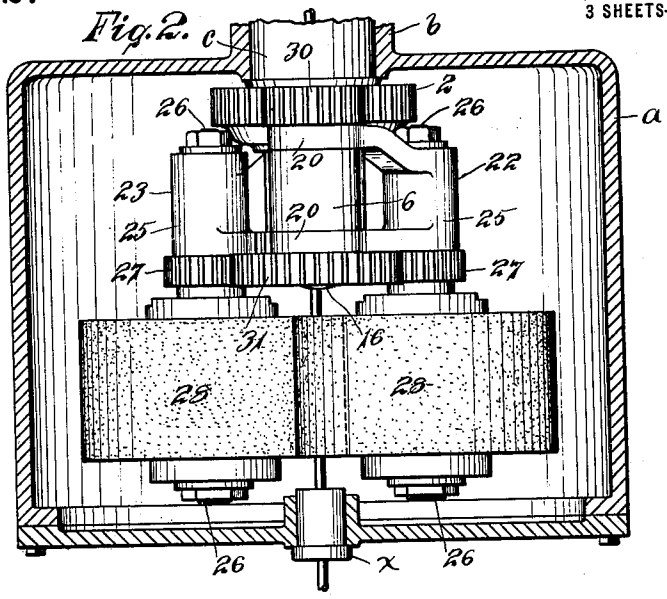
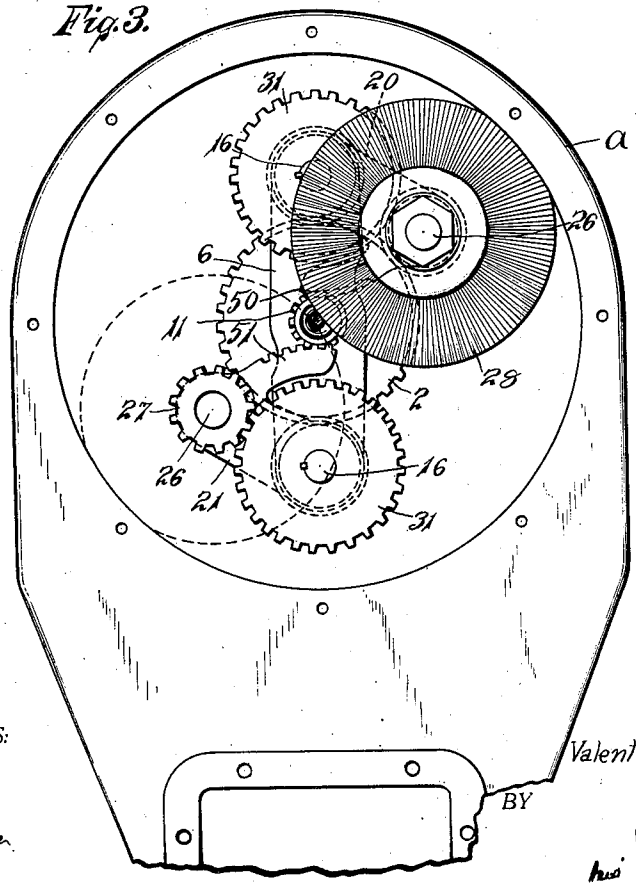


Fig. 3.



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3 SHEETS—SHEET 3.

Fig. 4.

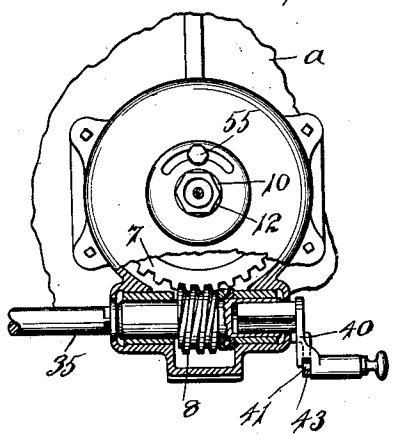


Fig. 5.

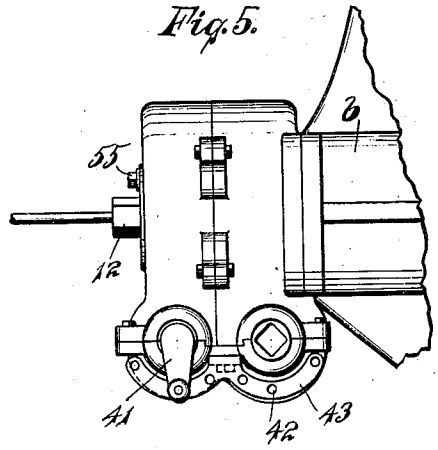
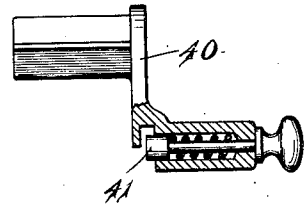


Fig. 6.



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UNITED STATES PATENT OFFICE.

VALENTINE B. CHAMBERLAIN, OF NEW BRITAIN, CONNECTICUT, ASSIGNOR TO THE STANLEY WORKS, OF NEW BRITAIN, CONNECTICUT, A CORPORATION OF CONNECTICUT.

CLEANING-MACHINE.

1,215,482. Specification of Letters Patent. Patented Feb. 13, 1917.

Application filed November 12, 1915. Serial No. 61,054.

To all whom it may concern:

Be it known that I, VALENTINE B. CHAMBERLAIN, a citizen of the United States, and a resident of New Britain, in the county of Hartford, State of Connecticut, have invented certain new and useful Improvements in Cleaning-Machines, of which the following is a specification.

This invention relates particularly to a machine for cleaning metal rods of various cross-sectional shapes, and the object of this invention is to produce a machine of the character described of novel construction and operation.

In the drawings—

Figure 1 is a central side section of a machine embodying my invention.

Fig. 2 is a top view with the casing shown in section.

Fig. 3 is an end view, with the end of the casing removed.

Fig. 4 is a detail end view of the adjusting and locking mechanism.

Fig. 5 is a side view thereof.

Fig. 6 is a detail view of the adjusting and locking lever.

In the drawings, *a* denotes the casing within which the mechanism is housed, this casing being provided with a hub *b* lined with a sleeve *c* in which the rotating parts of the mechanism have their bearings. Mounted within this sleeve is a hollow stem 1 having at its inner end a gear 2, and keyed to its outer end a worm wheel 3 meshing with a worm 4. Within the stem 1, which may be termed a gear stem, is mounted a stem 5 having at its inner end a T-head 6 and keyed to its outer end a worm wheel 7 meshing with a worm 8. This stem 5 may be referred to as the brush stem.

Mounted within the hollow brush stem 5 is an adjusting stem 10 having at its inner end a pinion 11, and its outer end being squared as at 12 to receive a wrench. Mounted in the ends of the T-head are bushings 15, 15, and shafts 16, 16. Mounted on the bushings 15, are the bifurcated arms 20, 20, 21, 21, of the brush holders 22, 23, which are provided with hubs 25 within which are mounted shafts 26, carrying pinions 27 and the brushes 28. Mounted on the outer ends of the shafts 16 are pinions 30 meshing with the gear 2. Mounted on the inner ends of the shafts 16 are gears 31 meshing with the pinions 27 on the shafts 26.

From the foregoing description it will be seen that if the worm 4 is driven from a suitable source of power, the worm wheel 3 will cause the rotation of the gear stem 1, and through the gear 2 will cause the rotation of the pinions 30, 30, the shafts 16, 16, the gears 31, 31, the pinions 27, 27, and the brushes 28, 28.

It will also be seen that if the worm 8 is driven from a suitable source of power, the worm wheel 7 will cause the rotation of the brush stem 5, and the T-head 6. This will cause the pinions 30, 30, to run around the gear 2, and so rotate the shafts 16, 16, gears 31, 31, pinions 27, 27, and cause the rotation of the brushes 28, 28.

An interchangeable shaft connection 35 is provided for driving either one of the worms, 4, 8, but these worms are preferably never driven simultaneously, and the worm which is not being driven is locked against movement by the lever 40 which fits into the recess in the worms and is provided with a spring dog 41 which will interlock with one of the recesses 42 in the plate 43.

It will thus be seen that this machine can be operated in either one of two ways: First, the brushes can be revolved about the axis of the machine and at the same time rotated on their own axes. Second, the brushes can be held non-revoluble but rotated on their own axes. When the brushes both revolve and rotate the mechanism is adapted for operating on round or approximately round stock. When the brushes are non-revoluble and rotatable, the mechanism is adapted for action on flat, or approximately flat, stock. The stock is fed in through a guide *x* and traverses the hollow adjusting stem 10, moving in the direction of the arrows. Of course the direction of travel may be reversed.

The brush holders 22, 23, are provided with segmental gears 50, 51, which mesh at opposite sides of the pinion 11 on the adjusting stem 10, and by turning this adjusting stem by the application of a wrench to its squared end 12, the brushes can be adjusted toward and away from one another by swinging the holders 22, 23, on the bushings 15. The angular position of the brushes may be adjusted in order to bring them to a

proper operative position on the sides of flat stock by rotating the worm 8 by the lever 26, which turns the T head, and it can be locked in adjusted position by the set screw 55.

The foregoing description is predicated upon one embodiment of the invention which has been selected for illustration, but I am aware that the structure may be modified in various details without departing from the spirit of the invention as defined in the appended claims. The term "gears" is used in the specification and claims to describe a convenient form of drive or driving connection, but I wish it to be understood that by this term I intend to include any suitable driving connection, such for instance as chain and sprockets, friction devices, etc.

I claim as my invention:

1. In a machine of the character described, a rotatable gear, revoluble brush holders, brushes carried thereby, driving connections between said brushes and said gear, independent means operable one at a time for rotating said gear or for revolving said brush holders, and an axial passage for stock.

2. In a machine of the character described, a sleeve having a gear at one end and driving means at its opposite end, a second sleeve mounted within the first, brush holders at one end of said sleeve and driving means at its opposite end, means for driving said brush holders and said gear independently of one another, driving connections between said brushes and said gear, and means for adjusting said brushes toward and away from one another.

3. In a machine of the character described, a sleeve having a gear at one end and driving means at its opposite end, a second sleeve mounted within the first, brush holders at one end of said sleeve and driving means at its opposite end, means for driving said brush holders and said gear independently of one another, driving connections between said brushes and said gear, and means for adjusting the angular position of said brushes.

4. In a machine of the character described, a casing, a bearing, a pair of hollow stems, one mounted within the other and supported in said bearing, a gear at the inner end of the outer stem, a T-head at the inner end of the inner stem, shafts mounted in the ends of said T-head, pinions at the outer ends of said shafts meshing with said gear, gears at the inner ends of said shafts, brush holders mounted at the ends of said T-head, shafts carried by said brush holders, pinions on said shafts meshing with the last mentioned gears, and brushes on said shafts driven by said pinions.

5. In a machine of the character described, a casing, a bearing, a pair of hollow stems, one mounted within the other and supported in said bearing, a gear at the inner end of the outer stem, a T-head at the inner end of the inner stem, shafts mounted in the ends of said T-head, pinions at the outer ends of said shafts meshing with said gear, gears at the inner ends of said shafts, brush holders mounted at the ends of said T-head, shafts carried by said brush holders, pinions on said shafts meshing with the last mentioned gears, brushes on said shafts driven by said pinions, and means for driving said stems one at a time and for holding the undriven stem.

6. In a machine of the character described, a casing, a bearing, a plurality of hollow stems located one within another and mounted in said bearing, a gear at the inner end of the outer stem, a T-head at the inner end of the intermediate stem, and a pinion at the inner end of the inner stem, driving means at the outer ends of the outer and intermediate stems, brush holders mounted at the ends of said T-head, means operable by the pinion at the inner end of the inner stem for adjusting said brush holders toward and away from one another, brushes carried by said holders, and driving connections between said brushes and the gear at the inner end of outer stem.

7. In a machine of the character described, a casing, a bearing, a plurality of hollow stems located one within another and mounted in said bearing, a gear at the inner end of the outer stem, a T-head at the inner end of the intermediate stem, and a pinion at the inner end of the inner stem, driving means at the outer ends of the outer and intermediate stems, brush holders mounted at the ends of said T-head, means operable by the pinion at the inner end of the inner stem for adjusting said brush holders toward and away from one another, brushes carried by said holders, driving connections between said brushes and the gear at the inner end of the outer stem, and means for driving the outer and intermediate stems one at a time and for holding the undriven stem.

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