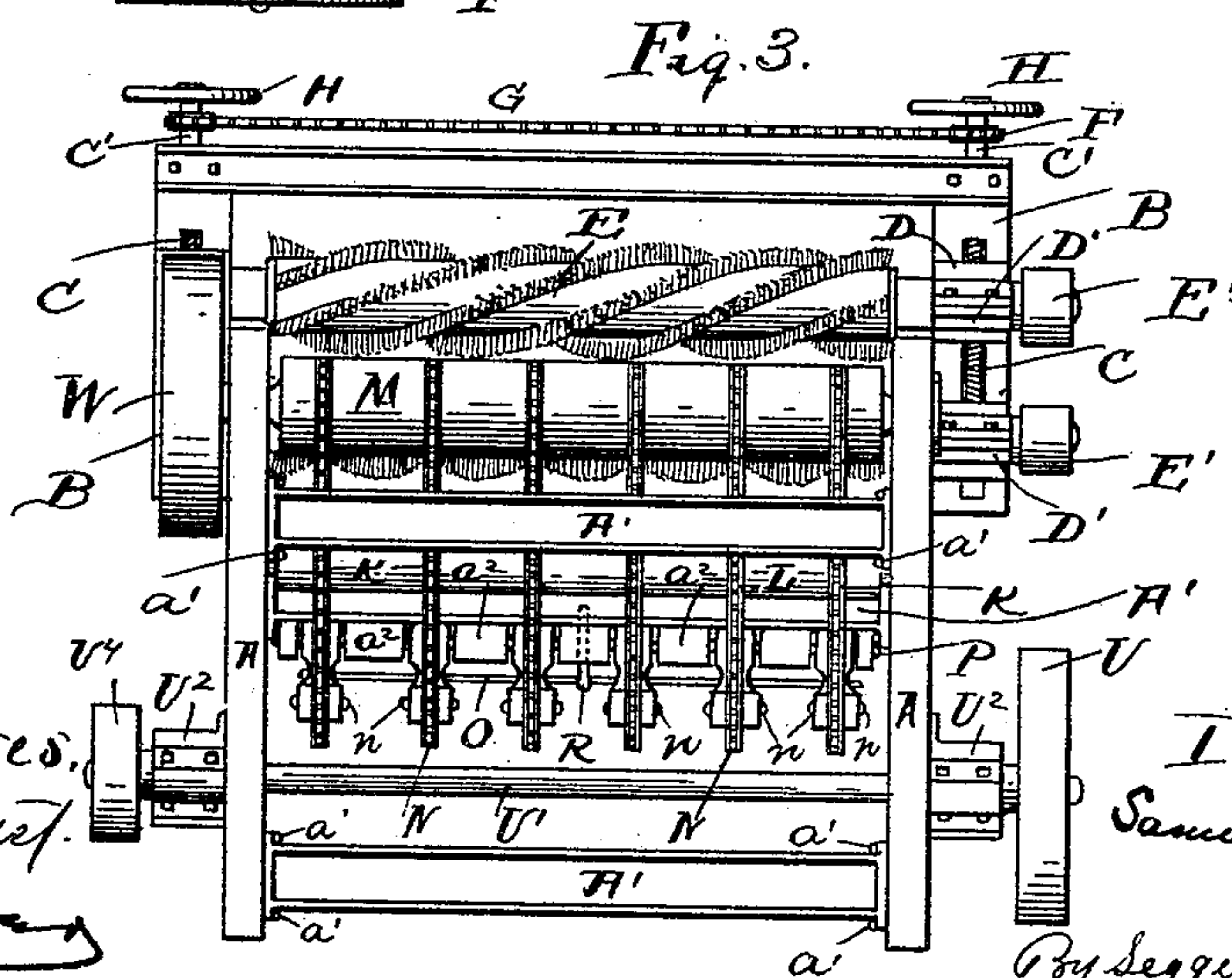
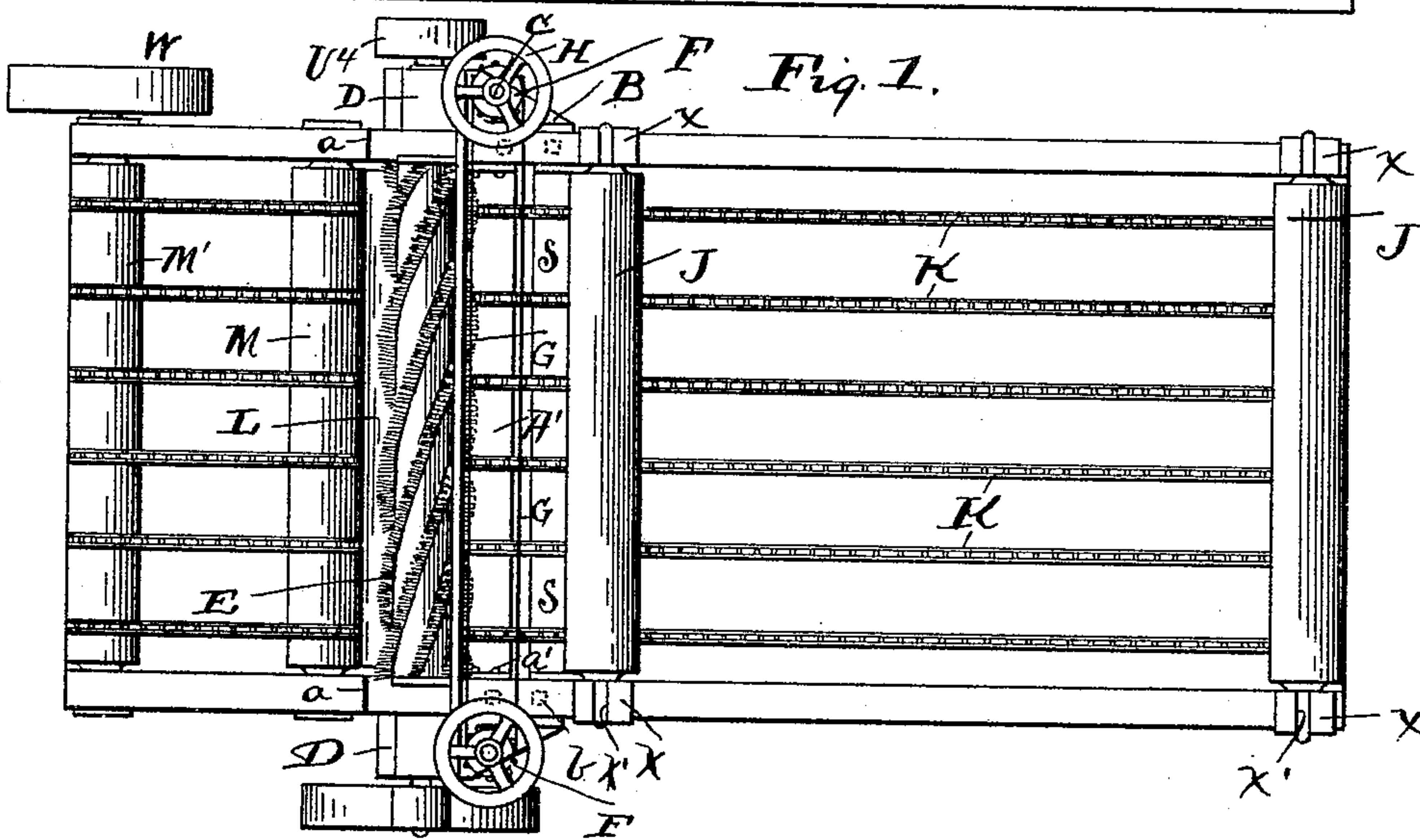
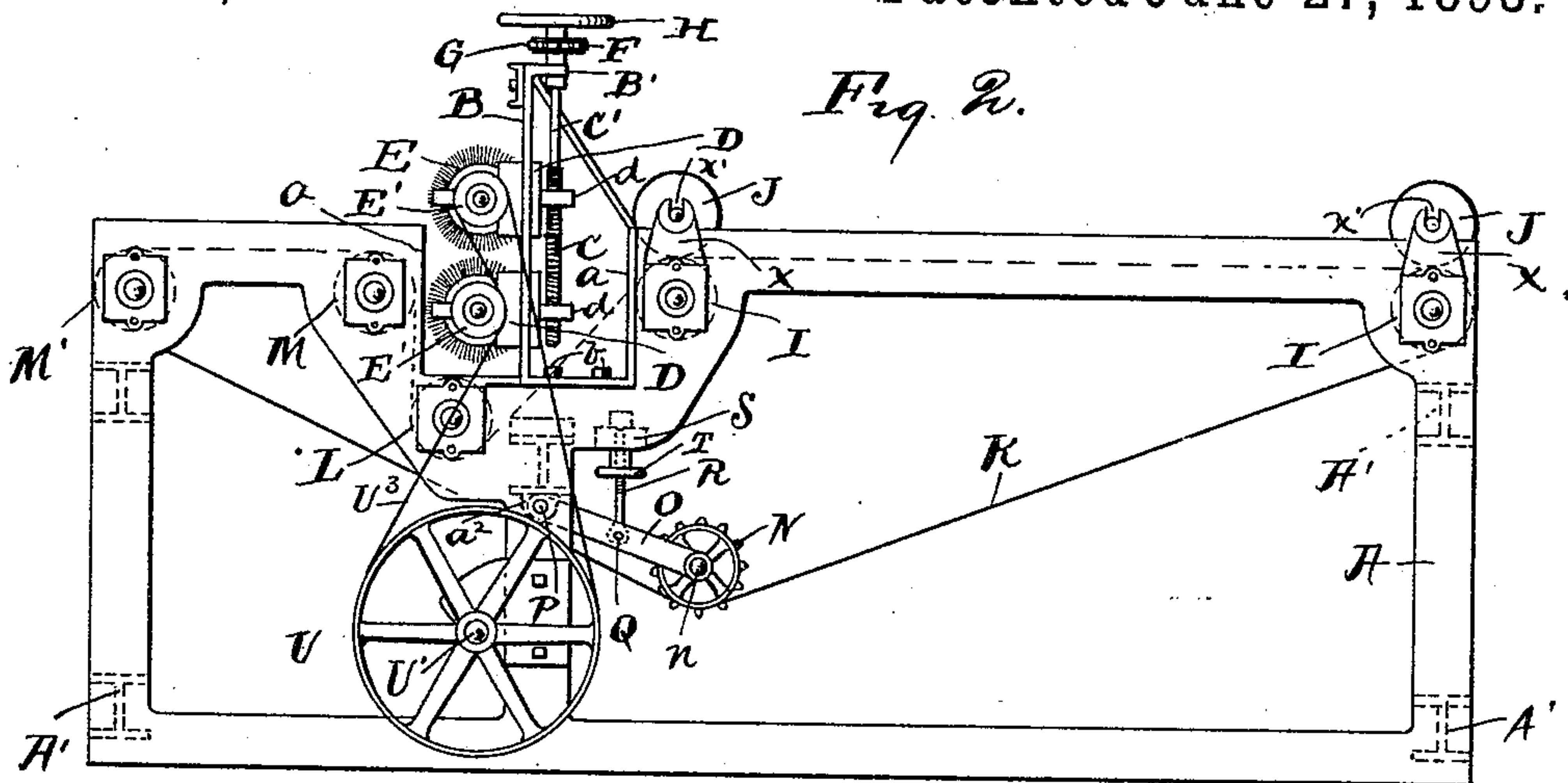


(No Model.)

S. A. SAGUE.
BRUSHING MACHINE.

No. 500,219.

Patented June 27, 1893.



Witnesses,
E. B. Gilchrist
C. F. Davis

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UNITED STATES PATENT OFFICE.

SAMUEL A. SAGUE, OF CLEVELAND, OHIO.

BRUSHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 500,219, dated June 27, 1893.

Application filed June 16, 1892. Serial No. 436,955. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL A. SAGUE, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Brushing-Machines; 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 pertains to make and use the same.

My invention relates to improvements in brushing-machines more especially designed for use in a plant for the manufacture of so-called "galvanized" sheet iron and steel; and my invention consists in certain novel features of construction and combinations of parts which will be hereinafter described and pointed out in the claims.

A preferable construction of brushing machinery suitable for the purpose is illustrated in the accompanying drawings, wherein—

Figure 1 is a plan view of the same. Fig. 2 is a side elevation and Fig. 3 is a rear end elevation.

The supporting-frame of the machine comprises side-frames or members A and transverse bars or members A' that are bolted, as at a' , to the side-members. The top of side-frames A are offset downward as at a , and within said offsets are supported standards B that are rigidly secured to the side-frames, for instance, by means of bolts b , and at the upper end terminate, respectively, in a forwardly-projecting vertically-perforated lug or member B' through which passes the stem C' of a right and left-handed screw, C, that engages correspondingly internally screw-threaded forwardly-projecting ears d of sleeves D that are adapted to slide endwise up and down the respective standards B. Rigid with sleeves D are boxes, D', (see Fig. 3) that afford bearing for the trunnions of the pair of rotating brushes, E.

F represents sprocket-wheels operatively mounted preferably at or near the upper ends of the stems of screws C, the two sprocket-wheels being operatively connected with each other by an endless chain G. The stems of screws C, preferably at the upper extremity

thereof, have also operatively mounted thereon respectively a crank or hand-wheel, H. By manipulating the crank or hand-wheel of either screw C, the brushes of the pair of rotating brushes may be adjusted apart according to the thickness of the sheets or plates to be brushed and may be adjusted from time to time as required to accommodate the wear of the brushes.

At opposite ends of that portion of side-frames A that is forward of offsets a , is provided a pair of rollers I, J. The lower rollers I of said pairs of rollers have bearing in suitable boxes provided in the respective side-members A and are connected by endless-chains K, said rollers being provided with grooves and sprockets or projections adapted to receive said chains flush with the outer peripheral surface of the rollers.

Rollers I are located in the same or approximately the same horizontal plane with the lower rotating brush, and from the roller immediately forward of the lower rotating brush, chains K lead under a corresponding roller, L, that has bearing in side-frames A below the rotating brushes. From roller L the chains lead over a corresponding roller M immediately at the rear of the lower rotating brush. Thence chains K lead over a corresponding roller M' at the extreme rearward end of the supporting-frame whence the chains lead over tightening sprocket-wheels N, and thence back to roller I at the forward end of the supporting-frame. Tightening sprocket-wheels N are suitably mounted upon pins n that have bearing in the forward bifurcated ends of bars O that are pivotally connected with a rod P in common, said rod having bearing in lugs a^2 of a transverse member of the supporting frame.

Bars O are operatively connected with each other by a rod or bar Q that is adapted to be elevated or lowered, by means of a screw R, that is suitably connected with said rod or bar, preferably at the central portion of the latter, and extends upward into a cross-piece S (see Fig. 2) rigidly secured to the side-members of the supporting-frame and has a thumb-nut T mounted thereon just below

said cross-piece, by manipulating which nut in the one direction or the other, sprocket-wheels N are elevated or lowered to tighten or loosen chains K as required.

5 U represents a driving-pulley that is operatively mounted upon a shaft U' that extends transversely of the supporting-frame near the lower end thereof and has bearing in suitable boxes U² rigid with said supporting-frame,
10 said pulley being operatively connected with rotating brushes E by means of belt U³ and pulleys E' operatively mounted on the trunnions of said rotating brushes. Shaft U' preferably at its opposite end, has operatively
15 mounted thereon a pulley U⁴ to which power is communicated, for instance, from a counter-shaft overhead (not shown).

Rollers I I L M M' are operatively connected by means of endless chains K, and a trun-
20 nion of one of said rollers extends preferably outside the supporting-frame and has mounted thereon a driving-pulley, W. The zinc-coated or "galvanized" sheet or plate is fed between rollers I J at the forward end of the
25 machine; thence conveyed by means of endless chains K to and between rollers I J next forward of the rotating brushes, and thence to and between the latter and over rollers M M' preferably to and between a pair of calender-
30 ing or smoothing rolls (not shown). The trunnions of upper rollers J J have bearing in up-rights or standards X secured at the top of the side-members of the supporting-frames, said trunnions resting in the bottom of slots
35 X' in said posts or standards, by which construction they are movable vertically to accommodate themselves to the variations in thickness of the sheets or plates, their principal function, however being to hold the
40 sheet or plate in place and guide the same in its passage to the rotating-brushes, roller J that is located next forward of the upper rotating brush being adapted to prevent the rear end of the sheet or plate from being lifted
45 or bent upward during the passage of the sheet or plate between the brushes. The two pairs of rollers I J are preferably located such a distance apart that the sheet or plate will be received by the second pair of rollers be-
50 fore it has become disengaged by the first pair of rollers.

The brushing machine hereinbefore described, it will be observed, is exceedingly simple in construction.

55 Chains K leading over rollers I flush with the peripheral surface of the same, there is no liability of injury to the surface of the sheet or plate in its passage between rollers I and J.

What I claim is—

60 1. In a machine for brushing metallic sheets or plates, the combination with a pair of rotating brushes adjustable apart, of rollers and endless-chains leading over said rollers for conveying the sheet or plate to said brushes,
65 and rollers for guiding the sheet or plate in its passage to said brushes, said guiding-roll-

ers being movable vertically, substantially as and for the purpose set forth.

2. In a machine for brushing metallic sheets or plates, the combination with rotating
70 brushes, of rollers, and endless chains leading over said rollers for conveying the sheet or plate to and from said rotating brushes, of suitable means whereby said endless chains may be tightened or loosened simultaneously,
75 substantially as set forth.

3. In a machine for brushing metallic sheets or plates, the combination with rotating brushes and rollers and endless chains operatively connecting said rollers and adapted
80 to convey the sheet or plate to and from said rotating brushes, of mechanism for simultaneously tightening and loosening said endless-chains, the same comprising a sprocket-wheel for each chain, a rod or bar operatively
85 connecting said sprocket-wheels and means for elevating and lowering said rod or bar, substantially as set forth.

4. In a machine for brushing metallic sheets or plates, the combination with a pair of ro-
90 tating-brushes, of rollers, as at I I, located forward of the lower rotating brush, and rollers, as at M M' located rearward of said brush, a roller, as at L, located below said brush, and endless-chains operatively con-
95 necting said rollers, rollers I I and M M' being located in the same or approximately the same plane with the lower rotating brush, substantially as shown and described.

5. In a machine for brushing metallic sheets
100 or plates, the combination with a pair of rotating brushes, of rollers, as at I I, located forward of the lower rotating brush, and rollers as at M M' located rearward of said brush, a roller, as at L, located below said
105 brush, and endless-chains operatively connecting said rollers, rollers I I and M M' being located in the same or approximately the same plane with the lower rotating brush, and rollers, as at J J, located above rollers I
110 I, and adapted to engage the upper surface of the sheet or plate in its passage to the rotating-brushes, substantially as and for the purpose set forth.

6. In a machine for brushing metallic sheets
115 or plates, the combination with standards, as at B, and sleeves, as at D, movable up and down said standards, of a pair of rotating brushes, the bearings of the trunnions where-
120 of are rigid with said sliding-sleeves, and suitable mechanism connected with said sleeves whereby the latter may be adjusted apart, substantially as and for the purpose set forth.

7. In a machine for brushing metallic sheets
125 or plates, the combination with standards, as at B, and sleeves, as at D, adapted to be slid endwise of said standards, of a pair of rotating-brushes, the trunnions whereof have bearing in boxes rigid with said sliding-
130 sleeves, and suitable mechanism whereby sleeve D at each side of the machine may be

adjusted apart simultaneously, said mechanism comprising screws, C C, operatively connected with the respective sleeves, a sprocket-wheel, F, mounted on each screw, and an
5 endless chain operatively connecting said sprocket-wheels with each other, substantially as shown and described.

In testimony whereof I sign this specification, in the presence of two witnesses, this 21st day of April, 1892.

SAMUEL A. SAGUE.

Witnesses:

C. H. DORER,
WARD HOOVER.