

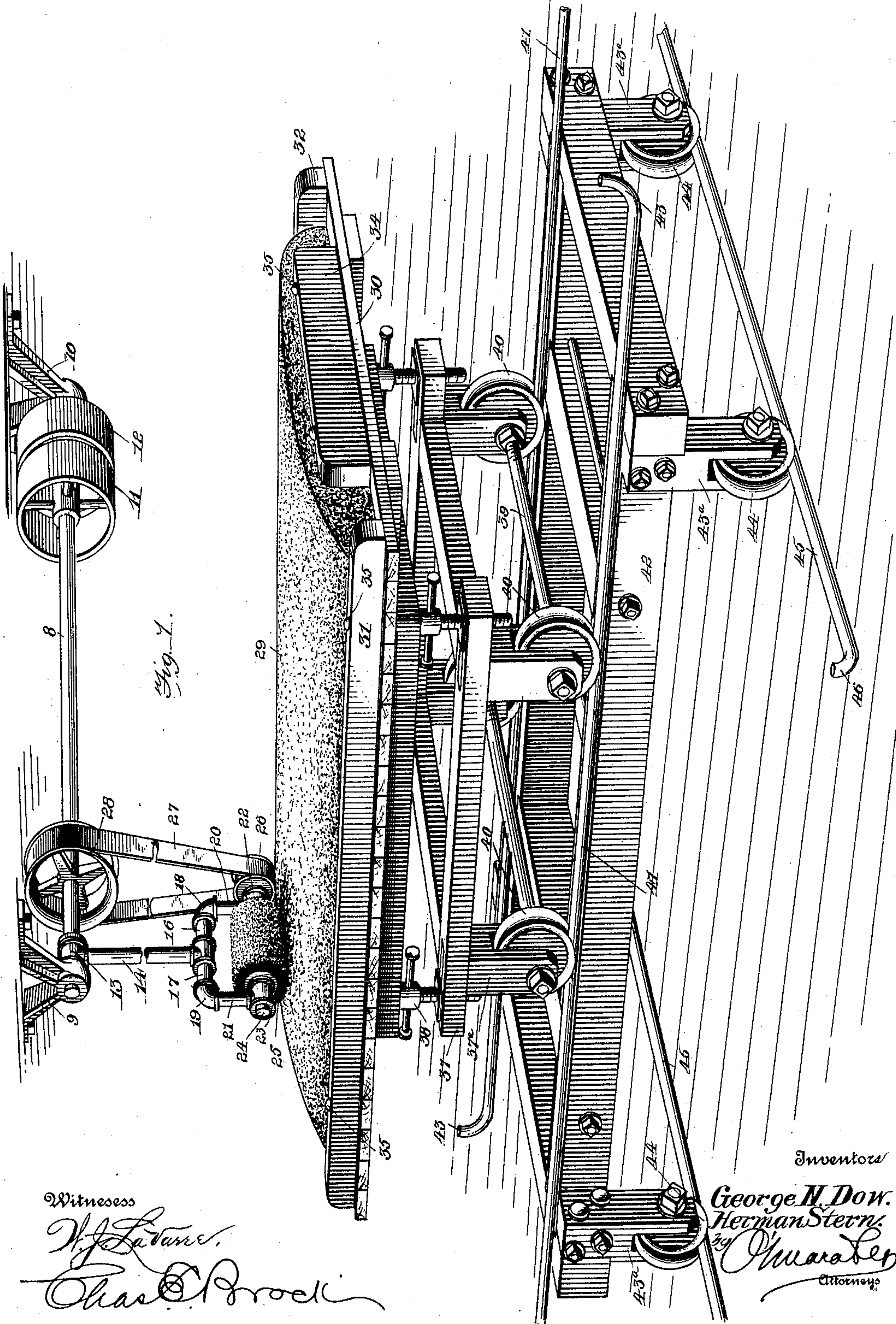
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3 Sheets—Sheet 1.

G. N. DOW & H. STERN.  
CUSHION CLEANING MACHINE.

No. 603,828.

Patented May 10, 1898.





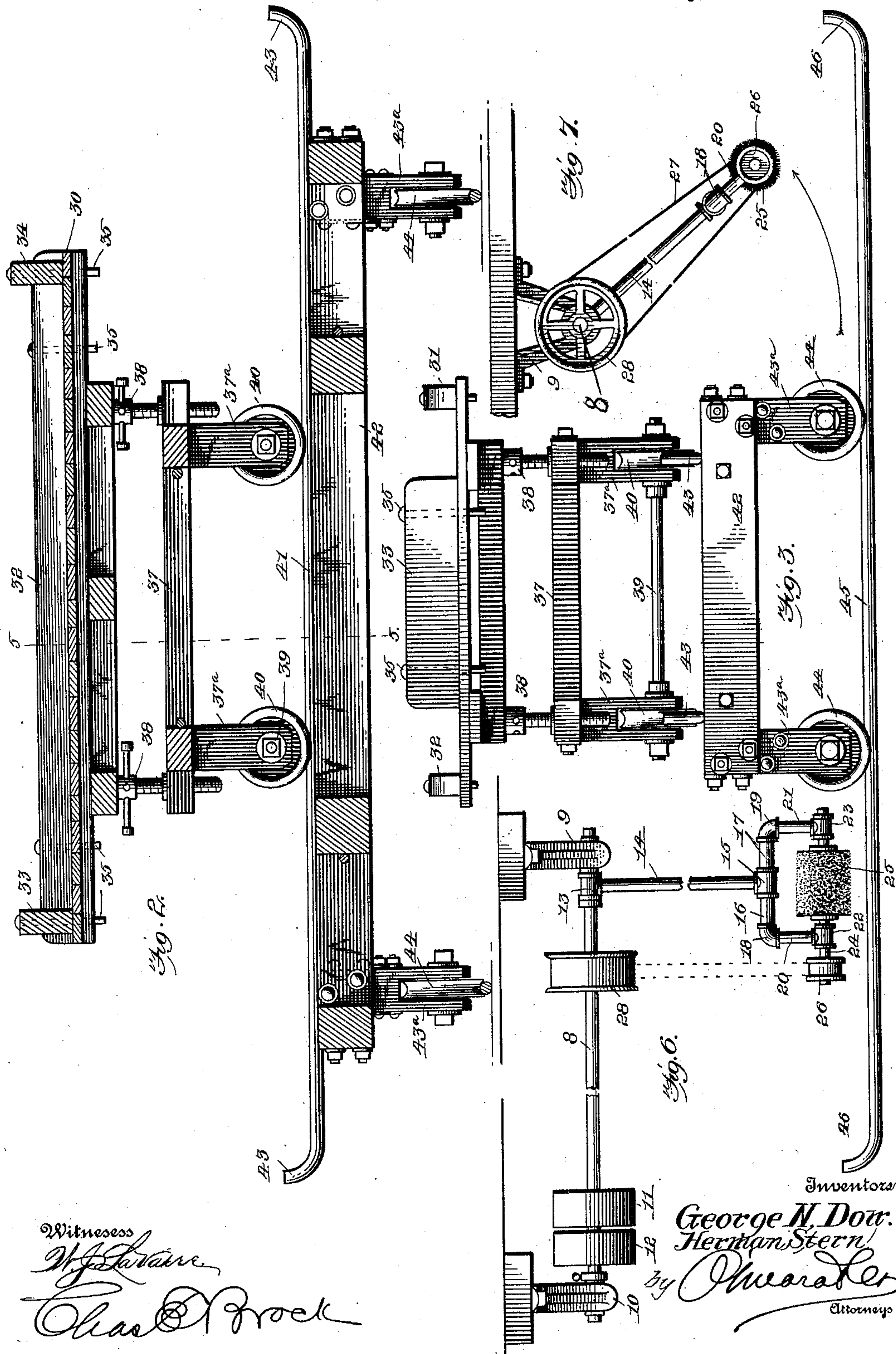
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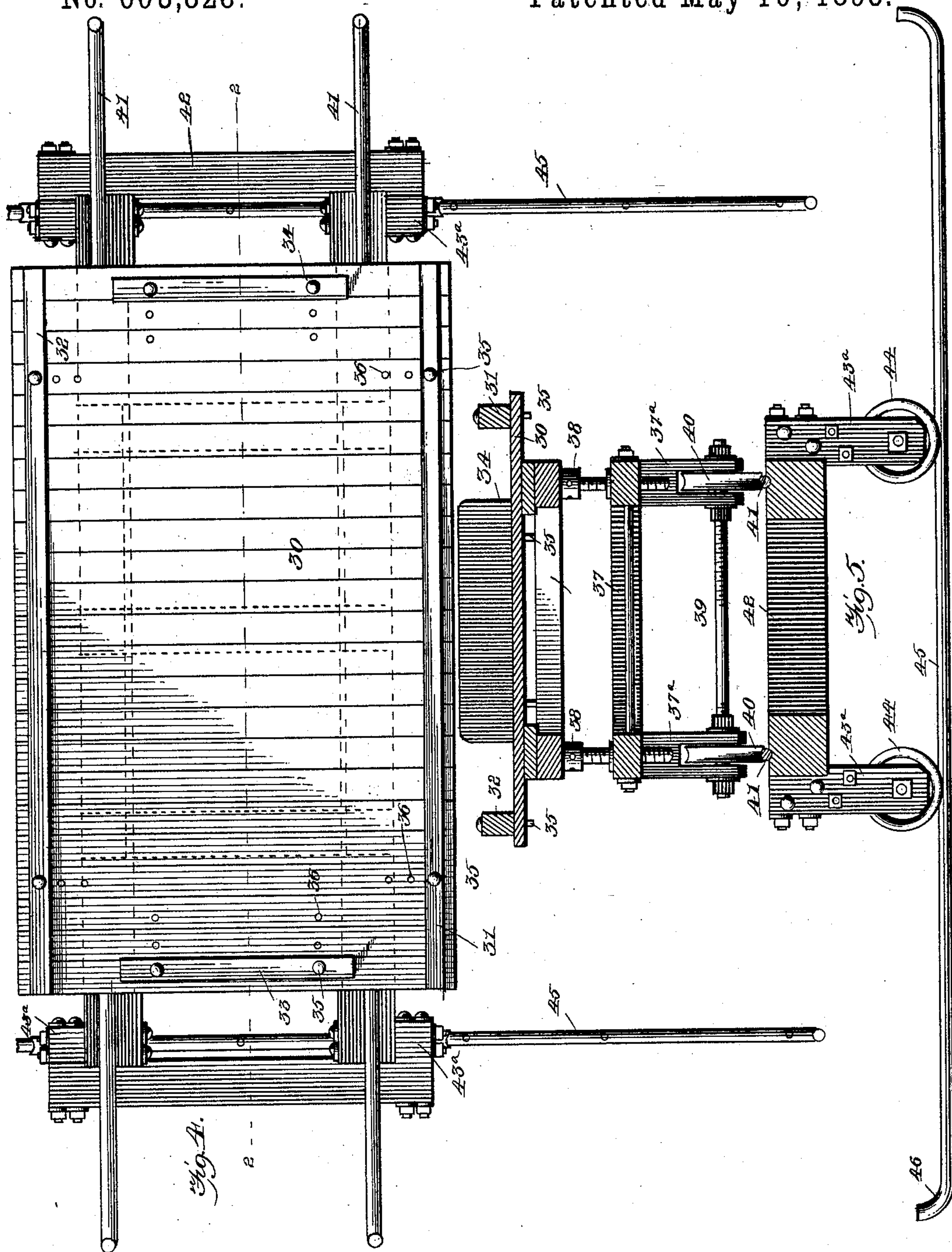
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Witness

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# UNITED STATES PATENT OFFICE.

GEORGE N. DOW AND HERMAN STERN, OF CLEVELAND, OHIO.

## CUSHION-CLEANING MACHINE.

SPECIFICATION forming part of Letters Patent No. 603,828, dated May 10, 1898.

Application filed November 13, 1897. Serial No. 658,449. (No model.)

*To all whom it may concern:*

Be it known that we, GEORGE N. DOW and HERMAN STERN, citizens of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a new and useful Machine for Cleaning Seat and Back Cushions, of which the following is a specification.

Our invention is in the nature of a machine for cleaning the cushions of car seats and backs and any analogous fabrics or devices.

The object of our invention is to dispense with hand labor in cleaning the cushions of car seats and backs, and especially in the latter portion of the operation of cleaning such seats by a process known as the "French" process, and while dispensing with such laborious hand work to perform the necessary operations with greater speed, regularity, and accuracy.

In the French process practiced by us the coverings of the cushions, which are generally of plush, although not necessarily so, are first thoroughly dusted and then saturated with a solution by means of a sponge or otherwise. This solution loosens up all dirt on the fibers of which the fabric is composed, leaving the solution, or a large portion thereof, on the fabric mixed with loosened dirt. To remove this solution and loosened dirt with regularity, accuracy, and despatch is the object of our invention, although the mechanism may be employed for any analogous purpose.

With this and other objects in view our invention consists in a cleaning-machine for the cushions of seats and backs, comprising a rotary brush mounted at the end of a swinging arm in combination with a table upon which to clamp the cushion to be cleaned, mounted on grooved wheels, and a second table provided with grooved wheels running on transversely-placed round rails or bars secured to the floor or other support and carrying longitudinal round rails or bars upon which the wheels of the upper table are mounted.

Our invention further consists in the improved construction, arrangement, and combination of parts hereinafter fully described, and afterward specifically pointed out in the appended claims.

In order to enable others skilled in the art to which our invention most nearly apper-

tains to make and use the same, we will now proceed to describe its construction and operation, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a perspective view of a machine constructed in accordance with our invention, the cushion being in the proper position thereon to be cleaned by the rotating brush. Figure 2 is a longitudinal sectional view taken on the plane indicated by the dotted line 2 2 of Figure 4, the brush and its driving mechanism being omitted. Figure 3 is an end elevation of the machine with the brush and its driving mechanism omitted. Figure 4 is a top plan view thereof. Figure 5 is a transverse section taken on the plane indicated by the dotted line 5 5 of Figure 2. Figure 6 is a view of the rotary brush and its suspending and driving mechanism in side elevation. Figure 7 is a view of the same parts in end elevation.

Like numerals of reference mark the same parts wherever they occur in the various figures of the drawings.

Referring to the drawings by numerals, 8 is a line-shaft mounted in suitable hangers 9 and 10 and having mounted thereon fast and loose pulleys 11 and 12, by means of which, through any suitable belt, the shaft may be driven from any approved motor.

13 is a T-fitting mounted to swing loosely on the shaft 8, in which is fitted one end of a rod 14, secured to a similar T-fitting 15 at its opposite end. Branch pipes or rods 16 and 17 extend laterally from the fitting 15, upon the outer ends of which are secured elbows 18 and 19, which carry rods or pipe-sections 20 and 21, upon the outer ends of which are T-fittings 22 and 23, which form the bearings for a short shaft 24, upon which are mounted a rotary brush 25 and a pulley 26, driven by a belt 27, engaging over a pulley 28 on the shaft 8. The T-fitting 13 and pulley 28 being so attached to the shaft as to prevent longitudinal movement thereon, the rotation of the shaft will cause the rotary brush 25 to be rotated no matter to what position it may be swung on its suspending-rod 14.

29 indicates the cushion of a seat or back mounted upon the top of a table 30 and held in position by means of side clamps 31 and 32 and end clamps 33 and 34. These side



clamps and end clamps are adjustably secured to the table to suit different sizes of cushions by means of pins 35, which pass through the clamps into any one of several series of perforations 36 in the table.

The table 30 is supported upon a frame 37 by means of adjusting-screws 38 at each corner, whereby it may be accurately leveled up, the frame 37 being provided with depending forked bearings 37<sup>a</sup>, in which are journaled shafts 39, carrying grooved wheels 40, located between the prongs or branches of the bearings 37<sup>a</sup>. These grooved wheels are adapted to roll upon round rails or bars 41, secured longitudinally upon a framework 42, the ends 43 of said rails being turned upward to prevent the wheels being rolled off. The frame 42 is mounted upon depending forked bearings 43<sup>a</sup>, carrying grooved wheels 44, which are adapted to roll upon round rails or bars 45, said rails having their ends 46 turned upward to prevent the displacement endwise of the wheels 44. The rails 45 and wheels 44 are mounted transversely with relation to the length of the frame 42 and rails 41.

After the cushion has been thoroughly dusted and sponged or saturated with the solution hereinbefore referred to for the purpose of loosening up the dirt on the fibers of which its covering is composed it is placed in position upon the table 30 and secured in such position by the proper adjustment of the side and end clamps and screws 38. The rails 45 having been secured to the floor or other support in proper position, the cushion supported upon the table 30 will be in a position to be operated upon throughout its length and breadth by the rotating brush 25, which will be driven in the manner hereinbefore described from the shaft 8, and may be freely moved on its pivot like a pendulum to clean any part of the cushion within reach, the cushion being brought into position for the action of the brush by means of the adjustment of the table and its supports on the longitudinal and transverse rails. The brush is constantly swung back and forth during the cleaning operation and the location of

the cushion under it changed by moving the table as rapidly as any one section of the cushion has been cleaned.

By practical demonstration we have ascertained that the action of the rotary brush upon the cushion will thoroughly remove all solution and loosened dirt therefrom and leave the cushion in a renovated condition almost equal in appearance and cleanliness to a new cushion.

While we have illustrated and described the best means now known to us for carrying out our invention, we do not wish to be understood as restricting ourselves to the exact details of construction shown and described, but hold that any slight changes or variations, such as might suggest themselves to the ordinary mechanic, would properly fall within the limit and scope of our invention.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a cleaning-machine for seat and back cushions, the combination with a bottom frame mounted on transverse rails and carrying longitudinal rails on its top, of an upper frame mounted upon longitudinal rails, a table adjustably mounted upon said upper frame, and adjusting side and end clamps upon said table, substantially as described.

2. The combination with a line-shaft, of a T-fitting mounted loosely thereon, a pipe or rod secured in said fitting at right angles to the shaft, a T-fitting at the outer end of said pipe or rod, branch lateral pipe-sections or rods secured in the outer T-fitting, elbows secured at the outer ends of the lateral branches, pipe-sections extending forward from the elbows, T-fittings upon the outer ends of said sections, a shaft journaled in said T-fittings, and a rotary brush upon said shaft, substantially as described.

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Witnesses:

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