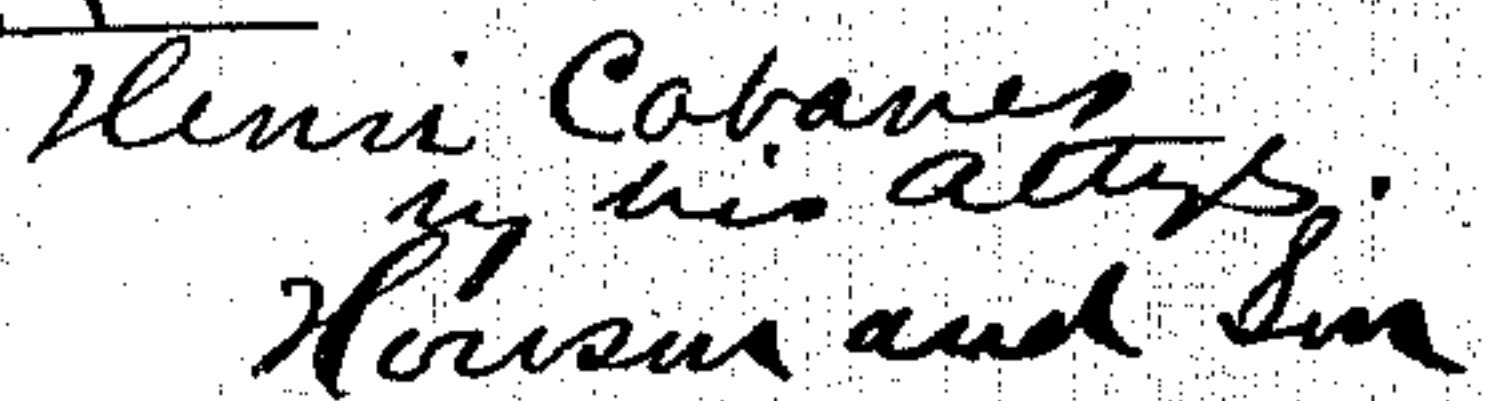


FIG. 1.



H. CABANES.
Bolting-Machines.

No. 144,739.

Patented Nov. 18, 1873.

Fig. 5.

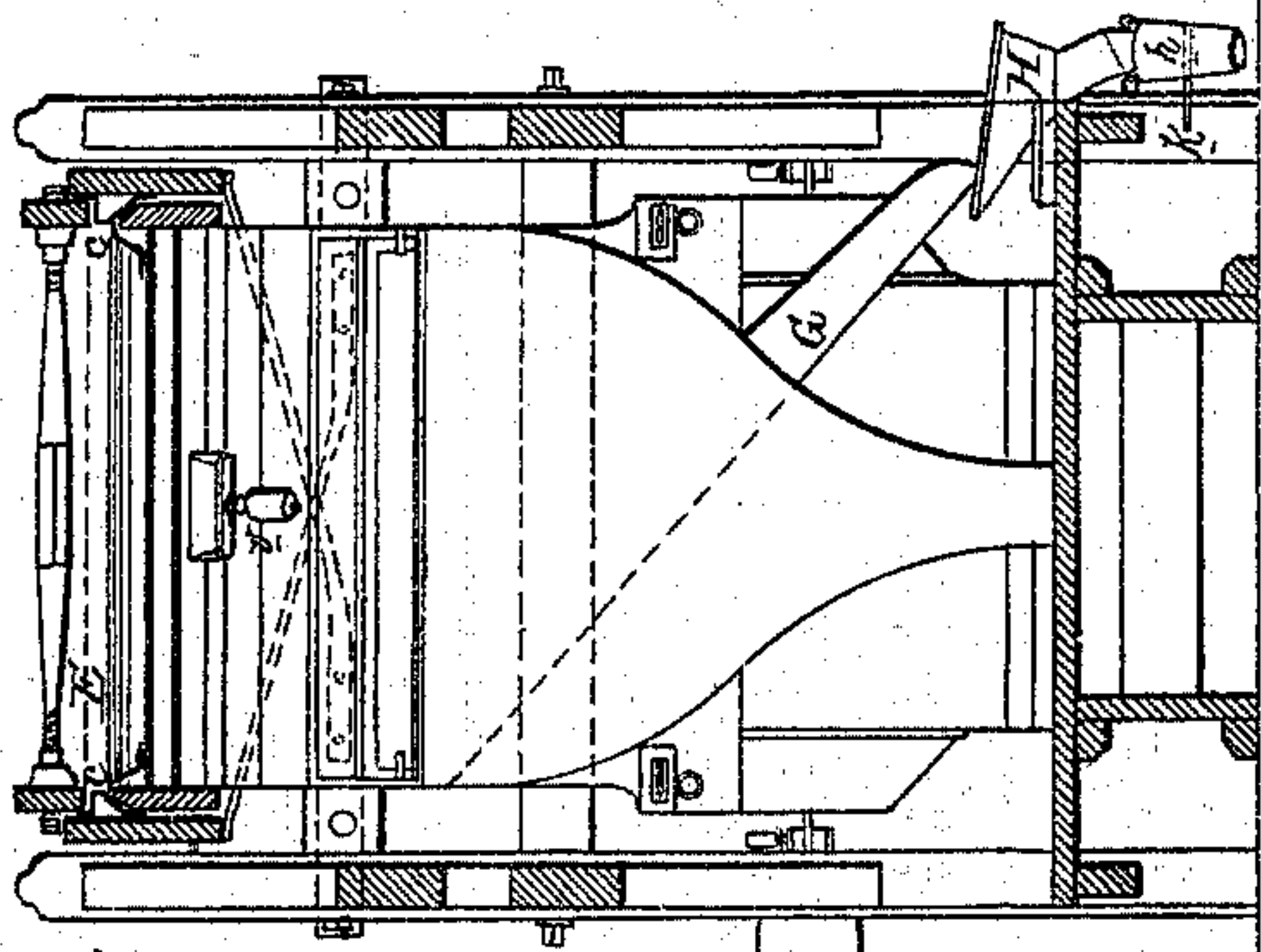
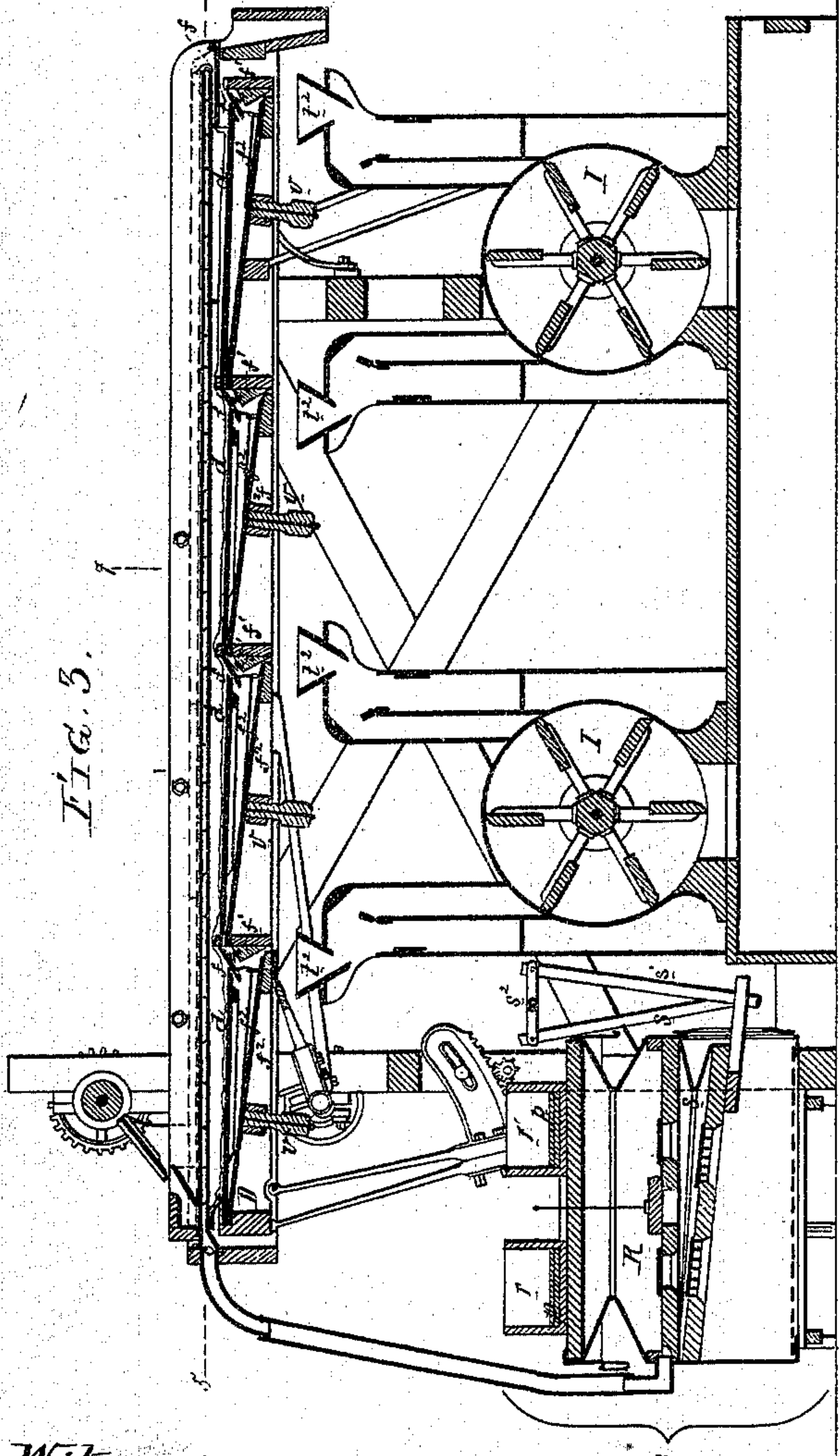


Fig. 3.



Witnesses, Hubert Howson
Thomas McIlwain

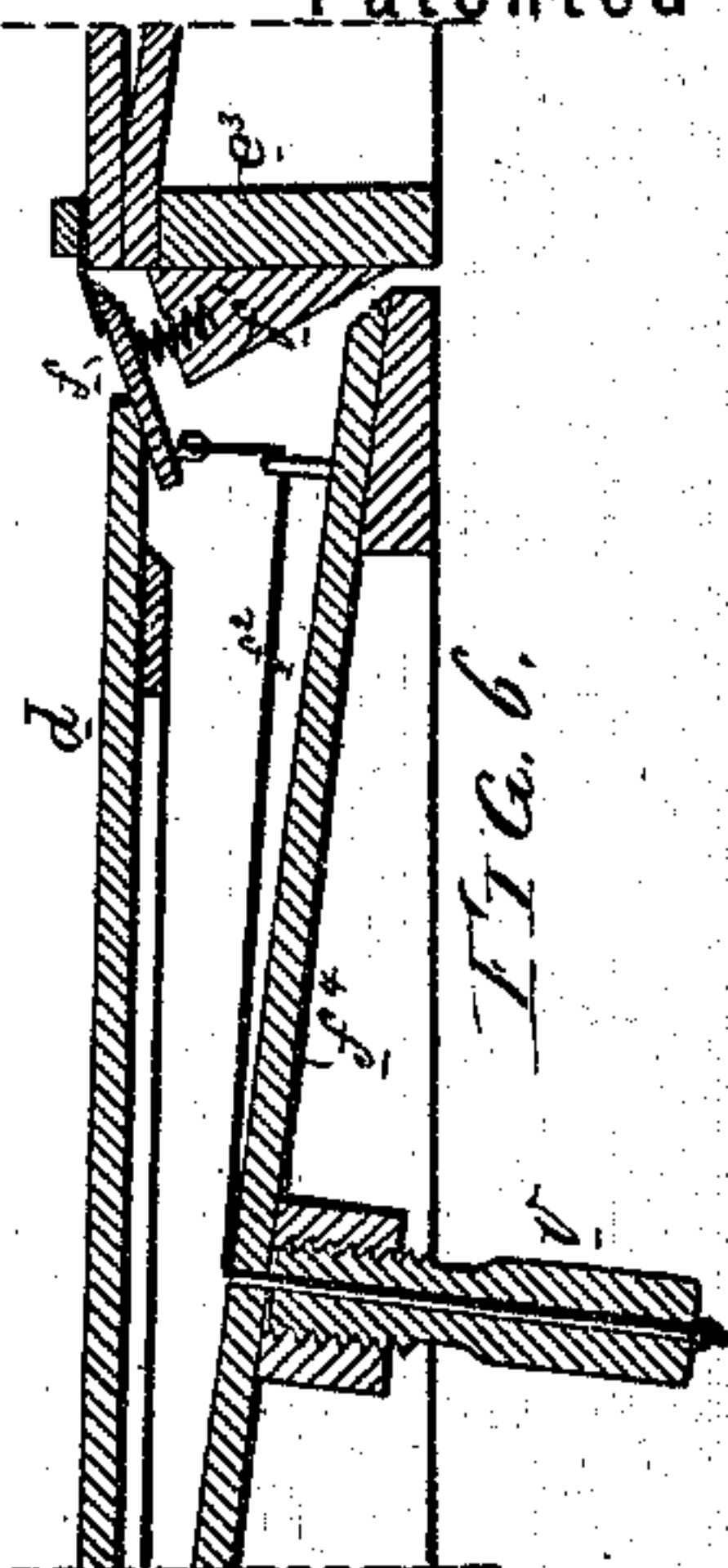
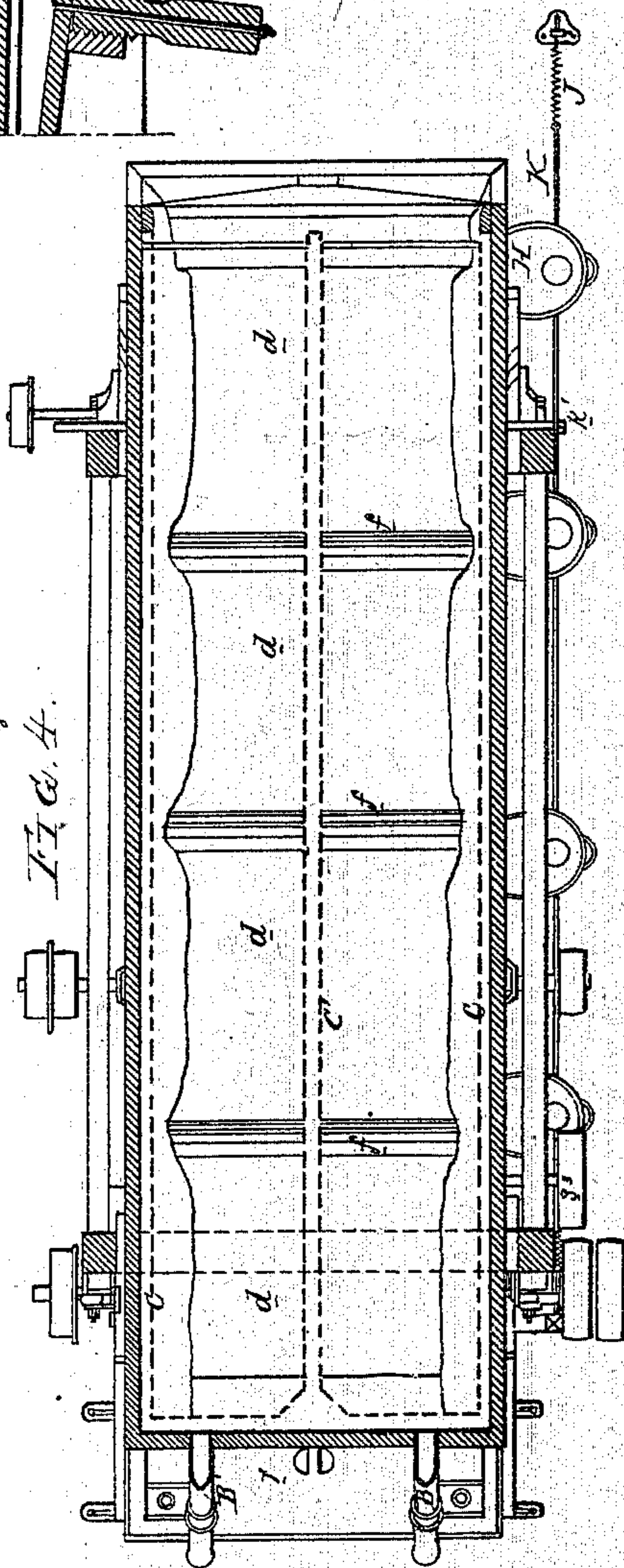


Fig. 4.



Henri Cabanes
By his Attys
Howson and Son

UNITED STATES PATENT OFFICE.

HENRI CABANES, OF BORDEAUX, FRANCE.

IMPROVEMENT IN BOLTING-MACHINES.

Specification forming part of Letters Patent No. 144,739, dated November 18, 1873; application filed April 14, 1873.

To all whom it may concern:

Be it known that I, HENRI CABANES, of Bordeaux, France, have invented Improvements in Sifting and Bolting Machines, of which the following is a specification:

My invention consists of certain improvements in bolting or winnowing machines, whereby they are rendered more effective in operation, and adapted for treating materials of different characters.

In the accompanying drawing I have shown my improvements as applied to an ordinary bolting-machine, Figure 1 being a side elevation, Fig. 2 a sectional elevation, Fig. 3 a longitudinal section, Fig. 4 a sectional plan, Fig. 5 a transverse sectional elevation, and Fig. 6 an enlarged detached view, of part of the apparatus.

A suitable frame-work supports the fan-exhausters I, the hoppers t^2 and discharge-chutes communicating therewith, and the sieve-frame D. Above the sieve-frame is stretched the bolting-cloth E, and below the latter extend three horizontal perforated pipes, C C'—one at each side and one at the center of the cloth. The frame D is divided, by transversed partitions e^3 , into four sections, Fig. 6, each of which has an inclined bottom, f^4 , extending nearly to the partition, and a horizontal, or nearly horizontal, plate, d , arranged above the bottom plate. Between the end of the plate d and the adjacent partition is a space, closed by a flap-valve, f , opening downward and bearing on a spring, which tends to keep it closed. A set-screw, v , connected, by a cord, f^2 , to the valve, serves as a means of depressing the latter to any desired extent.

Heretofore, in machines of this class the air could pass freely between the ends of the tables f^4 and the cross-pieces e^3 of the frame, through the opening provided for the escape of the material to the hoppers t^2 of the exhausters, while the want of parallelism between the tables f^4 and the bolting-cloth (forming a chamber of gradually-increasing depth) rendered the force and pressure of the air beneath the cloth unequal at different points. To remedy this the plates d are used, and the spaces between the edges of the plates and the cross-pieces e^4 are provided with valves, by which the openings may be regulated in size. Each valve

bears upon a spring, which tends to lift it, and may be depressed by a set-screw, v , connected to the valve by a cord. The valves are so adjusted that the openings shall be exactly proportioned to the amount of material which passes downward between the valves and plates d , the material thereby closing the opening to the downward passage of air, which can therefore pass only upward through the bolting-cloth, below which, owing to the plates d , there must exist a uniform pressure. As the process of cleaning and bolting is the same in this as in other well-known machines, it will not be necessary to describe it further.

The compressed air is furnished by a combined blower and regulator, A^3 , consisting of an upper reservoir-bellows, R, and two lower supply-bellows, S S', having suitable valves, and operated from any moving part of the apparatus. The reservoir R communicates, through pipes B B', with the perforated tubes C C', and has, at the top, boxes r r' for the reception of weights, by which the air may be maintained at any required pressure.

As the position of the movable top bellows depends upon the air within the same, the bellows may be made the means of insuring a regular and uniform speed of the apparatus, and may further be rendered available for separating the perfect and imperfect material. For this purpose the nozzles h of the delivery-chutes are movable, so as to conduct the material to either of two passages or receptacles, x x' , and are all connected to a bar, K, jointed to a lever, M. When the apparatus is operating at the proper speed, and the top of the bellows is elevated, it strikes the ends of the lever M and turns the nozzles h over the openings x , into which the properly-prepared material flows.

Should the apparatus operate too slowly, the top of the bellows will descend, and a spring, J, will draw the rod K in the direction of the arrows, turning the nozzles so as to direct the imperfectly-prepared material into the openings x' .

When the amount of material in the hopper T is reduced to an improper extent, a float, X, descends, operating its lever V' and a cord, q' , by which the rod K is moved longitudinally, so as to carry the nozzles over the openings x' . The blower and regulator A^3 may be secured

to an independent frame, so as to be applicable to any apparatus.

It will be evident that the blower-regulator A³ may be differently constructed, and that slide-valves closing two or more openings in the chutes may be substituted for the movable nozzles.

I claim—

1. The combination, in a bolting-machine, of an air-reservoir, the top or other part of which rises and falls as the pressure of air within the reservoir varies, and movable discharge chutes or valves, which are connected to the moving portion of the reservoir and adjusted thereby, substantially as and for the purpose set forth.

2. The combination, with the movable nozzles, of the float X in the hopper T, and intermediate mechanism, or its equivalent, as set forth.

3. The combination, with the bolting-cloth, of the frame D, plates *d*, and adjustable valves *f*.

4. The inclined plates *f*⁴, arranged below the plates *d*, as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HENRI CABANES.

Witnesses:

C. LALANDE,

U. DE LA PAUZE.